Contract Documents and Specifications

Lexington Fayette Urban County Government

Department of General Services

For

DWQ Headquarters and Operations Facility

134 West New Circle Road
Lexington, KY

Bid No. RFB 70-2025
GRW Project No. 5247-01

Prepared By:

GRW Inc.

August 15, 2025

Construction Document

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1. LFUCG Division of Water Quality Facility Renovation
2. Lexington Fayette Urban County Government.
3. Lexington, KY.
4. Owner Project No. RFB 70-2025.
5. Architect Project No. 5247-01.

6. GRW Engineering Architecture Geospatial. Inc.
7. 801 Corporate Drive.
8. Lexington, KY 40503
9. Phone: 859-223-3999.
10. Website: GRW | engineering | architecture | geospatial.
11. Issued: August 15, 2025.
12. Copyright 2025 GRW Engineering Architecture Geospatial. Inc.

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DIVISION 00

PROCUREMENT AND CONTRACTING REQUIREMENTS

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PART 1

ADVERTISEMENT FOR BIDS

1. INVITATION

Sealed proposals for the **LFUCG Department of Water Quality Headquarters & Operations Facility** will be received by the Lexington-Fayette Urban County Government (LFUCG) via Ion Wave until 2:00 p.m., local time, **September 22, 2025** for furnishing all labor and/or materials and performing all work as set forth by this advertisement, Ion Wave Q&A, conditions (general and special), specifications, and/or the drawings prepared by GRW Engineering Architecture and Geospatial, Inc. for Lexington-Fayette Urban County Government. Immediately following the scheduled closing time for reception of bids, all proposals which have been submitted in accordance with the above will be opened electronically and a bid tab sheet will be available via Ion Wave.

LFUCG will only be accepting bids on-line through Ion Wave for this solicitation. Base bid and alternate totals (if required) should be provided on the appropriate line items tab on Ion Wave. Submissions without line item totals (if required) may be rejected and deemed non-responsive. All forms normally provided with bid submission should be downloaded from Ion Wave, filled out and attached with bid submission. A copy of bid bond must be included with submission. THESE INSTRUCTIONS SUPERCEDE ALL OTHER BID SUBMISSION INSTRUCTIONS PROVIDED IN THIS PACKAGE. PLEASE SUBMIT ALL QUESTIONS VIA THE Q&A MODULE ON ION WAVE.

2. DESCRIPTION OF WORK

Consisting of the construction and/or furnishing of items as listed in the Bid Schedule beginning on page P-6, Part III, Form of Proposal, of this document, for the LFUCG Division of Water Quality Headquarters & Operation Facility, Lexington-Fayette County, Kentucky.

Specs and drawings are available on Ion Wave only.

3. OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Plans, Specifications, and Contract Documents shall be obtained from Ion Wave (LFUCG's electronic bidding system). Ion Wave can be accessed at https://lexingtonky.ionwave.net

4. METHOD OF RECEIVING BIDS

Bids will be received from Prime Contracting firms on a **Lump Sum** for total Project. Bidder must include a price for all bid items to be considered. **Bids shall be submitted in the manner and subject to the conditions as set forth and described in the Information for Bidders and Special Conditions.**

Bids/proposals should be submitted online via Ion Wave.

5. METHOD OF AWARD

The Contract, if awarded, will be to the lowest responsive and responsible bidder for the total project whose qualifications indicate the award will be in the best interest of the OWNER and whose bid/proposal complies with all the prescribed requirements. No Notice of Award will be given until the OWNER has concluded such investigation as deemed necessary to establish the responsibility, qualifications and financial ability of Bidders to do the work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not pass such investigation to the OWNER's satisfaction. The OWNER reserves the right to reject the Bid of any Bidder that is deemed to be unbalanced or front loaded. In analyzing Bids, the OWNER may take into consideration alternate and unit prices, if requested by the Bid forms.

6. BID WITHDRAWAL

No bidder may withdraw his bid for a period of ninety (90) calendar days after the closing date for receipt of bids. Errors and omissions will not be cause for withdrawal of bid without forfeit of bid bond.

7. BID SECURITY

If the bid is $50,000 or greater, bid shall be accompanied by a certified check or bid bond payable to the Lexington-Fayette Urban County Government in an amount not less than Five Percent (5%) of the base bid. Bid bond shall be executed by a Surety Company authorized to do business in the Commonwealth of Kentucky and countersigned by a licensed Kentucky Resident Agent, representing the Surety Company. Bid Bonds are not required for bids under $50,000. A cashier's check or irrevocable letter of credit is an acceptable form of bid security.

8. SUBMISSION OF BIDS

CONTRACTORS shall submit their bids via Ion Wave not later than 2:00 p.m. local time, **September 22, 2025**. Bids will remain sealed until **September 22, 2025**, 2:00 pm, the official Bid closure time. Bids will not be received after the scheduled closing time for receipt of

bids. Bid tab sheet will be immediately available after bid opening, under the Documents link on Ion Wave.

9. RIGHT TO REJECT

The Lexington-Fayette Urban County Government reserves the right to reject any and all bids and to waive all informalities and/or technicalities where the best interest of the Lexington-Fayette Urban County Government may be served.

10. NOTIFICATION TO THE LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT FOR AFFIRMATIVE ACTION PLAN AND CURRENT WORKFORCE

The successful bidder must submit the following to the Lexington-Fayette Urban County Government:

1. Affirmative Action Plan for his/her firm.
2. Current Workforce Analysis Form

Failure to submit this as required herein may result in disqualification of the Bidder from the award of the contract.

11. NOTICE CONCERNING MWDBE and VETERAN OWNED SMALL BUSINESS GOALS

The Lexington-Fayette Urban County Government has a Certified Minority and Women Business Enterprise seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

For assistance in locating certified DBEs, MBEs, WBEs, VOSBs and/or VOSBs, contact Sherita Miller at 859/258-3320 or by writing the address listed below:

Sherita Miller, MPA, CPSD
Minority Business Enterprise Liaison
Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, Kentucky 40507
smiller@lexingtonky.gov

12. PRE-BID CONFERENCE

A pre-bid conference is scheduled for August 26, 2025, 9:00 AM, at 134 West New Circle Road, Lexington, KY.

END OF SECTION

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PART II

INFORMATION FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS

The Lexington-Fayette Urban County Government (herein called the OWNER) invites bids from firms on the project described in the Advertisement for Bids. The OWNER will receive bids via Ion Wave, at the time and in the manner set forth in the Advertisement for Bids, and the Bids. The OWNER may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 90 days after the actual time and date of the bid opening, but OWNER may, in its sole discretion, release any bid and return the Bid Security prior to that date.

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not delivered as indicated above.

2. PREPARATION OF BID

All sections of the bid package requiring Contractor information must be filled in and uploaded in the Response Attachments tab in IonWave. Bid bonds must be uploaded also. All pricing must be submitted in the Line Items tab in IonWave.

3. SUBCONTRACTS

The bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this Contract must be acceptable to the OWNER. All proposed subcontractors must be identified on the Form of Proposal. Prior to the award of Contract, the OWNER or the OWNER'S representative will advise the CONTRACTOR of the acceptance and approval thereof or of any action necessary to be taken. Should any Subcontractor be rejected by the OWNER, the CONTRACTOR shall present a new name and/or firm to the OWNER at no change in the Contract Price.

4. QUALIFICATION OF BIDDER

The OWNER may make such investigations as the OWNER deems necessary to determine the ability of the bidder to perform the Work, and the bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the OWNER that such bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein. Conditional bids will not be accepted.

In evaluating Bids, OWNER shall consider the qualifications of the BIDDERS, whether or not the Bids comply with the prescribed requirements, and alternatives and unit prices, as requested. OWNER may consider maintenance requirements, performance data, and disruption or damage to private property. It is OWNER'S intent to accept alternatives by the bid forms, in the order in which they are listed in the Bid Form but OWNER may accept or decline them in order or combination. The contract, if awarded, will be awarded to the lowest responsive and qualified, responsible BIDDER based upon OWNER'S evaluation which indicates that the award will be in the best interest of OWNER and the general public.

In the event there is any question as to the bidder's qualifications and ability to complete the work, a final determination will be made in accordance with a fair evaluation by the Urban County Government of the above listed elements.

A. If the OWNER requires filling out a detailed financial statement, the bidder may provide its current certified financial statement(s) for the required time interval.

B. Corporate firms are required to be registered with the Office of the Secretary of State, Commonwealth of Kentucky.

C. Documents Required of CONTRACTOR - (1) A sworn statement signed by the President or owner of the Company regarding all current work in progress anywhere; (2) A document showing the percent of completion of each project and the total worth of each project; and (3) Documentation showing the percentage of the DBE employment levels on each project of the Bidder's current work force, and DBE participation levels for Subcontractors.

D. Optional OWNER Requirements - The OWNER, at its discretion, may require the BIDDER/CONTRACTOR to provide: (1) A current detailed financial statement for a period including up to 3 prior years. (2) Financial security or insurance in amounts and kinds acceptable to the OWNER to meet the financial responsibility requirements for the CONTRACTOR to indemnify the OWNER. (3) Additional information and/or DBE work force data, as well as DBE participation data.

Each bidder agrees to waive any claim it has or may have against the Owner and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.

5. BID SECURITY

A. Each bid must be accompanied by a bid bond prepared on a Form of Bid Bond and attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the OWNER, in the amount of 5% of the bid. Such bid bond will be returned to the unsuccessful bidder(s) only upon written request to the Director of Procurement within seven (7) days of opening of bids. Bid bond shall be made payable to the Lexington-Fayette Urban County Government. Bid security is not required for projects under $50,000.

B. Bonds shall be placed with an agent licensed in Kentucky with surety authorized to do business within the state. When the premium is paid for such coverage, the full commission payable shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.

6. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within ten (10) days after he has received notice of the acceptance of his bid, shall forfeit to the OWNER, as liquidated damages for such failure or refusal, the security deposited with his bid.

7. TIME OF COMPLETION AND LIQUIDATED DAMAGES

Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" from the OWNER and to fully complete the Project within the time as specified in the Contract. Bidder must agree also to pay **$500.00** per day thereafter deadline for substantial and final completion.

8. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

A. It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site(s) to become familiar with local conditions that may affect cost, progress, performance or furnishing of the work, (c) consider Federal, State and Local laws and regulations that may affect cost, progress, performance or furnishing of the work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Owner of all conflicts, errors or discrepancies in the Contract Documents.

B. Bidders should examine the requirements of Section 4 of the General Conditions for information pertaining to subsurface conditions, underground structures, underground facilities, and availability of lands, easements, and rights-of-way. The completeness of data, presented in the Contract Documents, pertaining to subsurface conditions, underground structures, and underground facilities for the purposes of bidding or construction is not assured. The Bidder will, at Bidder's

own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface and subsurface) which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents. On request in advance, OWNER will provide access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.

C. The submission of a Bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with every requirement of this paragraph; that without exception the Bid is premised upon furnishing and performing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents; and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

9. ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the Contract Documents will be made to any bidder orally. Every request for such interpretation should be in writing addressed to the Director of Procurement, who in turn will have an addendum issued under signature of the Project Manager for the Lexington-Fayette Urban County Government, and to be given consideration must be received at least seven (7) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be mailed by certified mail with return receipt requested, faxed or emailed to all prospective bidders. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

10. SECURITY FOR FAITHFUL PERFORMANCE

A. Simultaneously with his delivery of the executed Contracts, the CONTRACTOR shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for payment of all persons performing labor on the Project under this Contract and furnishing materials in connection with this Contract, as specified in the General Conditions. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the OWNER and authorized to do business in the Commonwealth of Kentucky.

B. All bonds required by this Contract and laws of this State shall be placed with agents licensed in the State of Kentucky. When the premium is paid for such coverages, the full commission shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.

C. **Contractor shall use standard Performance and Payment Bond forms such as documents provided with this contract book or AIA form A312-1984 (or later).**

11. POWER OF ATTORNEY

Attorney-in-fact who signs bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

12. TAXES AND WORKMEN'S COMPENSATION

The CONTRACTOR and subcontractor will be required to accept liability for payment of all payroll taxes, sales and use tax, and all other taxes or deductions required by local, state or federal law. Each shall carry Workmen's Compensation Insurance to the full amounts as required by Statutes and shall include the cost of all foregoing items in the proposal. The CONTRACTOR will not otherwise be reimbursed or compensated for such tax payments. The CONTRACTOR is urged to ascertain at his own risk his actual tax liability in connection with the execution or performance of his Contract.

13. LAWS AND REGULATIONS

The bidder's attention is directed to the fact that all applicable state laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the contract, the same as though herein written out in full.

14. EROSION AND SEDIMENT CONTROL AND PERMITS

The CONTRACTOR and Subcontractors performing work on projects on behalf of the OWNER shall also comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in “special” permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits as described in Part 4 General Conditions Paragraph 5.17.

15. PREVAILING WAGE LAW AND MINIMUM HOURLY RATES

Federal wage rates and regulations, if required for this Project, will be as described in the Special Conditions.

16. AFFIRMATIVE ACTION PLAN

The successful Bidder must submit the entire proposal with their bid, the following items to the Urban County Government:

1. Certification of Bid Proposal/DBE – see Part III

2. LFUCG MWDBE Participation Form – see Part III

3. Documentation Required for Good Faith Efforts and Outreach Plans – see Part III

A Work Force Analysis Form shall be submitted for each Contract. Failure to submit any of these items as required herein may result in disqualification of the Bidder from award of the Contract.

17. CONTRACT TIME

The number of calendar days within which the Work is to be substantially completed and ready for final payment (the Contract Time) is set forth in the Contract Agreement.

18. SUBSTITUTE OR "APPROVED EQUAL" ITEMS

The Contract, if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "approved equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "approved equal" item of material or equipment may be furnished or used by the CONTRACTOR if acceptable to the OWNER, application for such acceptance will not be considered by the OWNER until after the effective date of the Agreement. The procedure for submission of any such application by the CONTRACTOR and consideration by the OWNER is set forth in the General Conditions.

19. ALTERNATE BIDS

Bidders shall submit alternate bids/proposals only if and when such alternate bids/proposals have been specifically requested in an Invitation for Bids. If alternate bids/proposals are requested in an Invitation for Bids, the form of submission of such alternate bid and the conditions under which such alternate bids will be considered for award of a contract will be established in the Invitation.

Any Bidder who submits a bid incorporating an alternate proposal when alternate bids/proposals have not been requested in the Invitation for Bids shall have his/her bid rejected as non-responsive.

Any Bidder who submits a bid incorporating two (2) or more prices for an item or groups of items (unless such method of pricing is requested in the Invitation for Bids), or which imposes conditions for acceptance other than those established in the Invitation for Bids, shall have their bid rejected as non-responsive.

20. SIGNING OF AGREEMENT

When OWNER gives a Notice of Award to the successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within ten days thereafter, CONTRACTOR shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER with the required Bonds, Certificate of Insurance, and Power of Attorney. The OWNER will deliver one fully signed counterpart to CONTRACTOR at such time as it has been signed by the Mayor.

21. ASSISTANCE TO BE OFFERED TO DISADVANTAGED BUSINESS ENTERPRISE (MWDBE) CONTRACTORS AND VETERAN OWNED SMALL BUSINESSES

A. Outreach for MWDBE(s) and Veteran Owned Small Businesses (VOSB)

The Lexington-Fayette Urban County Government (LFUCG) maintains a database of MWDBE contractors and Veteran Owned Small Businesses. When a LFUCG construction project is advertised for bidding, notices are sent to companies registered at https://lexingtonky.ionwave.net. The notices describe the project and indicate the deadline for submitting bids.

If you wish to be added to the LFUCG MWDBE and Veteran contractor database, please contact:

Sherita Miller, MPA, CPSD
Minority Business Enterprise Liaison
Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

B. Bid Bond Assistance for MWDBE(s)

For those MWDBE contractors who wish to bid on LFUCG project, bid bond assistance is available. This bid bond assistance is in the form of a "Letter of Certification" which is accepted by the LFUCG's Division of Purchasing, in lieu of a bid bond. The "Letter of Certification" must be included in the bid package when it is submitted to the Division of Purchasing. The "Letter of Certification" will reference the specific project for which the bid is being submitted, and the time and date on which the bid is due. Bid bond assistance must be requested from the Lexington-Fayette Urban County Government's Division of Procurement.

C. Eligibility for Bid Bond Assistance for MWDBE(s)

In order to be eligible for any Bid bonding assistance, a MWDBE construction company must be owned or controlled at the level of 51% or more by a member or members of a minority group or females. Prior to receiving assistance, a statement providing evidence of ownership and control of the company by a member or members of a minority group or females must be signed by the Owner or corporate officer and by an attorney or accountant submitted to:

Sherita Miller, MPA, CPSD
Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov
859-258-3323

D. MWDBE and VETERAN OWNED SMALL BUSINESSES (VOSB)

The LFUCG will, upon request, assist prime contractors in the procurement of eligible DBE subcontractors in an effort to achieve a seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

For a list of eligible subcontractors, please contact:

Sherita Miller, MPA, CPSD
Minority Business Enterprise Liaision

Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov
859-258-3323

22. LFUCG NON-APPROPRIATION CLAUSE

Contractor acknowledges that the LFUCG is a governmental entity, and the contract validity is based upon the availability of public funding under the authority of its statutory mandate.

In the event that public funds are unavailable and not appropriated for the performance of the LFUCG's obligations under this contract, then this contract shall automatically expire without penalty to the LFUCG thirty (30) days after written notice to Contractor of the unavailability and non-appropriation of public funds. It is expressly agreed that the LFUCG shall not activate this non-appropriation provision for its convenience or to circumvent the requirements of this contract, but only as an emergency fiscal measure during a substantial fiscal crisis, which affects generally its governmental operations.

In the event of a change in the LFUCG's statutory authority, mandate and mandated functions, by state and federal legislative or regulatory action, which adversely affects the LFUCG's authority to continue its obligations under this contract, then this contract shall automatically terminate without penalty to the LFUCG upon written notice to Contractor of such limitation or change in the LFUCG's legal authority.

23. NOTICE OF CONTENTION

Vendors who respond to this invitation have the right to file a notice of contention associated with the bid process or to file a notice of appeal of the recommendation made by the Director of Procurement resulting from this invitation.

Notice of contention with the bid process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Procurement or (2) submitting a written request for a meeting with the Director of Procurement to explain his/her contention with the bid process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Procurement shall promptly respond in writing findings as to the compliance with bid processes. If, based on this review, a bid process irregularity is deemed to have occurred the Director of Procurement will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

Notice of appeal of a bid recommendation must be filed within 3 business days of the bid recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Procurement or (2) submitting a written request for a meeting with the Director of Procurement to explain the appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Procurement shall in writing, affirm or withdraw the recommendation.

END OF SECTION

PART III

FORM OF PROPOSAL

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PART III

Invitation to Bid No. 70-2025

LFUCG Department of Water Quality Headquarters & Operations Facility

1. FORM OF PROPOSAL

Place: Lexington, Kentucky

Date: _____

The following Form of Proposal shall be followed exactly in submitting a proposal for this Work.

This Proposal Submitted by _____

_____
(Name and Address of Bidding Contractor)

(Hereinafter called "Bidder"), organized and existing under the laws of the State of _____, doing business as _____ _____ "a corporation," "a partnership", or an "individual" as applicable.

To: Lexington-Fayette Urban County Government
(Hereinafter called "OWNER")
Office of the Director of Purchasing
200 East Main Street, 3rd Floor
Lexington, KY 40507

Gentlemen:

The Bidder, in compliance with your Invitation for Bids for the **LFUCG Department of Water Quality Headquarters & Operations Facility** having examined the Plans and Specifications with related documents, having examined the site for proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the lump sum and/or unit prices stated hereinafter. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this proposal is a part.

The Bidder hereby acknowledges receipt of the following addenda:

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Addendum No. _____ Date _____

Insert above the number and the date of any Addendum issued and received. If none has been issued and received, the word "NONE" should be inserted.

2. LEGAL STATUS OF BIDDER

Bidder _____

Date_____

* 1. A corporation duly organized and doing business under the laws of the State of _____, for whom _____, bearing the official title of _____, whose signature is affixed to this Bid/Proposal, is duly authorized to execute contracts.

* 2. A Partnership, all of the members of which, with addresses are: (Designate general partners as such)

_____

_____

_____

_____

_____

* 3. An individual, whose signature is affixed to this Bid/Proposal (please print name)

_____

_____

*(The Bidder shall fill out the appropriate form and strike out the other two.)

3. **BIDDERS AFFIDAVIT**

Comes the Affiant, _____, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is _____ and he/she is the individual submitting the bid or is the authorized representative of _____, the entity submitting the bid (hereinafter referred to as "Bidder").

2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.

3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.

4. Bidder has authorized the Division of Procurement to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.

5. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as the "Ethics Act."

6. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

_____ _____
Signature Printed Name

_____ _____
Title Date

Company Name _____

Address _____

Subscribed and sworn to before me by _____
(Affiant)

_____
(Title)

of _____ this _____ day of _____ , 20_____.
(Company Name)

_____
Notary Public
[seal of notary] My commission expires: _____

4. BID SCHEDULE – SCHEDULE OF VALUES

The Bidder agrees to perform all the Work described in the Specifications and shown on the Plans for the following proposed lump sum and/or unit prices, if applicable, which shall include the furnishing of all labor, materials, supplies, equipment and/or vehicle usage, services, all items of cost, overhead, taxes (federal, state, local), and profit for the Contractor and any Subcontractor involved, within the time set forth herein. If unit prices are applicable, Bidder must make the extensions and additions showing the total amount of bid.

Form of proposal must include unit bid prices written in words, unit price written in numbers and total amount bid (unit price x quantity) per line item OR bid may be considered non-responsive. In case of price discrepancy, unit bid price written in words will prevail followed by unit price written in numbers then total amount bid per line item.

If a discrepancy between the unit price and the item total exists, the unit price prevails except: If the unit price is illegible, omitted, or the same as the item total, item total prevails and the unit price is the quotient of the item total and the quantity.

If the unit price and the item total are illegible or are omitted, the bid may be determined nonresponsive. If a lump sum total price is illegible or is omitted, the bid may be determined nonresponsive.

For a unit price based bid, the sum of the item totals is the bid amount the Division uses for bid comparison.

The LFUCG's decision on the bid amount is final.

Bids will be evaluated based on the following weighted criteria:

1. Past record and performance on contracts with LFUCG with respect to control of cost, quality of work and ability to meet schedule. Provide General Contractor's Project Experiences with LFUCG or similar Government agency in the past 15 years with contact info (10 points);

2. Capacity. Provide General Contractor's number of current active projects with associated % of completion (15 points);

3. References: Provide at least two client references and one subcontractor/supplier reference for General Contractor, including references for all active projects listed above related to Capacity (20 points);

4. References: Provide at least one client reference for the following Subcontractors (5 pts);

- Plumbing
- Flooring
- Electrical

o Mechanical

o Tile

5. Cost of services (50 points).

Pricing should be submitted in the Line Items tab on IonWave. Pages P-8 must be fully executed and attached to bid submission or bid will be considered non-responsive.

Item No.	Description	Unit	Quantity
1.	LFUCG Department of Water Quality Headquarters & Operations Facility per plans and specifications.	LS	1
2.	Additive Alternate #1: Relocate the Vactor Building by plans and specifications as indicated per specification section 012300 3.1 A. Alternates	LS	1
3.	Additive Alternate #2: New Metal Decking per plans and specifications as indicated per specification section 012300 3.1 B.	LS	1
4.	Additive Alternate #3: Mechanical equipment preventative maintenance per plans and specifications as indicated per specification section 012300 3.1 C.	LS	1

LIST OF UNIT PRICES

The following List of Unit Prices is required by the Owner to be completely executed and submitted with each Bidder's Proposal. Each unit price shall include the furnishing of all labor, materials, supplies and services, and shall include all items of cost, overhead and profit for the Contractor and any Sub-Contractors involved, and shall be used uniformly, without modification, for either additions or deductions from the Bid. These unit prices as established shall also be used to determine the equitable adjustment of the Contract Price in connection with changes, or extra work performed under the Contract. The "Rules of Measurement" set forth in the Special Conditions shall govern where volume units are concerned.

DESCRIPTION OF WORK	UNIT
1. Removal of unsatisfactory soil and replacement with satisfactory soil material.	Cubic Yards
2. Mass rock excavation and replacement with satisfactory soil material.	Cubic Yards
3. Trench rock excavation and replacement with satisfactory soil material.	Cubic Yards
4. Cutting and patching concrete slabs on grade.	Square Feet
5. Miscellaneous and structural steel.	In place Weight
6. Steel Decking	Square Feet
7. Polymer Based (EFIS)	Square Feet
8. SBS Modified Roofing	Square Feet.
9. Non-Structural Metal Framing	Square Feet.
10. Gypsum Board	Square Feet
11. Ceramic Floor Tile	Square Feet
12. Ceramic Wall Tile	Square Feet
13. Porcelain Floor Tile	Square Feet
14. Acoustical Panel Ceilings	Square Feet.
15. Resinous Flooring	Square Feet
16. Linoleum Flooring	Square Feet
17. Tile Carpeting	Square Feet
18. Exterior Painting	Square Feet
19. Interior Painting	Square Feet
20. Solid Surface Countertops	Square Feet
21. Interior Furnishings	Per Cubical.
22. DGA Fill Compacted in Place	Per Ton
23. #2 Stone Fill Compacted in Place	Per Ton

24. S-2 diffuser with 5 feet flex duct	Each
25. S-4 Diffuser with 5 feet flex duct	Each
26. Duplex Receptacle w/ 25' of conduit / Wiring and connected to circuit	Each
27. GFCI Receptacle w/ 25' of conduit / Wiring and connected to circuit	Each
28. Comm Outlet (Type D1) with 15' of Conduit and 200' of cabling (1-CAT 6A cables)	Each
29. Comm Outlet (Type D2) with 15' of Conduit and 200' of cabling (2-CAT 6A cables)	Each
30. Comm Outlet (Type D3) with 15' of Conduit and 200' of cabling (3-CAT 6A cables)	Each
31. Comm Outlet (WAP) with 200' of cabling (1-CAT 6A cables)	Each
32. Exit Sign "X-1" with 25' of conduit / wiring And connection to circuit	Each
33. "L1" Luminaire	Each
34. "L1E" Luminaire	Each
35. "L2" Luminaire	Each
36. "L2E" Luminaire	Each
37. Fire Alarm Pull Station with 25' of conduit wiring and connection to circuit	Each
38. Smoke Detector with 25' of conduit wiring and connection to circuit	Each
39. Fire Alarm Audio/Visual with 25' of conduit wiring and connection to circuit	Each
40. Fire Alarm Duct Smoke Detector with 25' of conduit / wiring and connection to circuit	Each

Submitted by: _____

Firm

_____

Address

_____

City, State & Zip

Bid must be signed:
(original signature) _____

Signature of Authorized Company Representative – Title

_____

Representative/s Name (Typed or Printed)

_____

Area Code – Phone –Fax #

_____

E-Mail Address

OFFICIAL ADDRESS:

_____

_____

_____

_____ (Seal if Bid is by Corporation)

By signing this form you agree to ALL terms, conditions, and associated forms in this bid package

5. STATEMENT OF BIDDER'S QUALIFICATIONS

The following statement of the Bidder's qualifications is required to be filled in, executed, and submitted with the Proposal:

1. Name of Bidder: _____

2. Permanent Place of Business: _____

3. When Organized: _____

4. Where Incorporated: _____

5. Construction Plant and Equipment Available for this Project:

_____

_____

_____

_____

_____

_____

(Attach Separate Sheet If Necessary)

6. Financial Condition:

   If specifically requested by the OWNER, the apparent low Bidder is required to submit its latest three (3) years audited financial statements to the OWNER'S Division of Procurement within seven (7) calendar days following the bid opening.

7. In the event the Contract is awarded to the undersigned, surety bonds will be furnished by:

   _____(Surety)

   Signed: _____(Representative of Surety)

8. The following is a list of similar projects performed by the Bidder: (Attach separate sheet if necessary).

NAME	LOCATION	CONTRACT SUM

9. The Bidder has now under contract and bonded the following projects:

NAME	LOCATION	CONTRACT SUM

10. List Key Bidder Personnel who will work on this Project.

NAME	POSITION DESCRIPTION	NO. OF YEARS WITH BIDDER

11. DBE Participation on current bonded projects under contract:

SUBCONTRACTORS (LIST)	**PROJECT (SPECIFIC TYPE)**	**DBE**	**% of WORK**

(USE ADDITIONAL SHEETS IF NECESSARY)

12. We acknowledge that, if we are the apparent low Bidder, we will submit to the OWNER within 7 calendar days following the Bid Opening, a sworn statement on the OWNER'S form regarding all current work on hand and under contract, and a statement on the OWNER'S form of the experience of our officers, office management and field management personnel. Additionally, if requested by the OWNER, we will within 7 days following the request submit audited financial statements and loss history for insurance claims for the 3 most recent years (or a lesser period stipulated by the OWNER)—all in accordance with the Bid Documents.

Respectfully submitted:

_____
(Name of Contracting Firm)

BY: _____

TITLE: _____

DATE _____

6. LIST OF PROPOSED SUBCONTRACTORS

The following list of proposed subcontractors is required by the OWNER to be executed, completed and submitted with the BIDDER'S FORM OF PROPOSAL. All subcontractors are subject to approval of the Lexington-Fayette Urban County Government. Failure to submit this list completely filled out may be cause for rejection of bid.

BRANCH OF WORK-LIST	**DBE**	**% of Work**	**EACH MAJOR ITEM**
Electrical			
Fire Alarm			
Communications			
Security			
Mechanical/Plumbing			
Fire Protection			
Temperature/Controls			
Earth Moving & EPSC			
Storm Drainage			
Site Sanitary Sewers			
Site Concrete			
Asphalt Paving			
Chain Link Fencing & Gates			
Porous Unit Pavers			
Landscaping			
Structure Demolition			
Selective Demolition			
Cast in Place Concrete			
Masonry			

Steel Decking

Architectural Cabinets

Roofing

Polymer Based EFIS

Overhead Sectional Doors

Overhead Coiling Doors

Door Hardware

Non-Structural Framing / Gypsum

Ceramic Tiling

Acoustical Panel Ceilings

Resinous Flooring

Tile Carpeting

Painting

Signage

Toilet Accessories

Interior Furnishings

Metal Building Systems

LIST OF MATERIALS/ SUPPLIERS

Bidders are hereby advised that this list must be complete and submitted with the Bid.

Listing "as per plans and specifications", will not be considered as sufficient identification. Where more than one "Make or Brand" is listed for any one item, the Owner has the right to select the one to be used.

Item	Brand Name, Manufacturer and/or Supplier
Luminaires	
Lighting Controls	
Power Distribution Equipment	
Communications Equipment Racks	
Patch Panels	
Fire Alarm System	
Wiring Devices	
Rooftop Units	
Exhaust Fans	
Ductless Split Systems	
Site Concrete	
Asphalt Paving	
Porous Unit Pavers	
Chain Link Fencing & Gates	
Unit Masonry	
Cast Stone Masonry	
Architectural Cabinets	

SBS Modified Membrane Roofing

Snow Guards

Hollow Metal Doors and Frames

Flush Wood Doors

Overhead Sectional Doors

Overhead Coiling Doors

Ceramic Tiling

Acoustical Panel Ceilings

Resinous Flooring

Tile Carpeting

Painting

Signage

Plastic Toilet Compartments

Toilet Accessories

Metal Lockers

Solid Surface Counter Tops

Interior Furnishings

Metal Building Systems

7.

LEXINGTON

MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA, CPSD
Minority Business Enterprise Liaison
Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507
smiller@lexingtonky.gov
859-258-3323

OUR MISSION: The mission of the Minority Business Enterprise Program (MBEP) is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long- term economic viability of Lexington-Fayette Urban County Government.

To that end the urban county council adopted and implemented Resolution 272-2024 – a Certified Minority and Women Business Enterprise seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals:

Certified Disadvantaged Business Enterprise (DBE) *– a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as define by 49 CFR subpart 26.*

Certified Minority Business Enterprise (MBE) *– a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. Black American, Asian American, Hispanic American, Native American)*

Certified Women Business Enterprise (WBE) *– a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.*

Certified Veteran-Owned Small Business (VOSB) *– a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.*

Certified Service -Disabled Veteran Owned Small Business (SDVOSB) *– a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.*

The term "Certified" shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Procurement as having the appropriate credentials to make a determination as to the status of the business.
The following certifications are recognized and accepted by the MBEP:

Kentucky Transportation Cabinet (KYTC), Disadvantaged Business Enterprise (DBE)
Kentucky Minority and Women Business Enterprise (MWBE)
Women's Business Enterprise National Council (WBENC)
National Women Business Owners Corporation (NWBOC)
National Minority Supplier Development Council (NMSDC)
Tri-State Minority Supplier Development Council (TSMSDC)
U.S. Small Business Administration Veteran Small Business Certification (VetCert)
Kentucky Service- Disabled Veteran Owned Small Business (SDVOSB)

To comply with Resolution 272-2024, prime contractors, minority and women business enterprises, veteran owned small businesses, and service-disabled veteran owned small businesses must complete monthly contract compliance audits in the Diverse Business Management Compliance system, https://lexingtonky.diversitycompliance.com/

A list of organizations that certify and/or maintain lists of certified businesses (i.e. DBE, MBE, WBE, VOSB and/or SDVOSB) is available upon request by emailing, Sherita Miller, smiller@lexingtonky.gov.

LEXINGTON

LFUCG MWDBE PARTICIPATION FORM
Bid/RFP/Quote Reference #_____

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to the Division of Procurement for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWBE Company, Name, Address, Phone, Email	DBE/MBE WBE/VOSB/SDVOSB	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1.				
2.				
3.				
4.				

The undersigned company representative submits the above list of MDWBE and veteran firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

_____ _____

Company **Company Representative**

_____ _____

Date **Title**

LEXINGTON

LFUCG MWDBE SUBSTITUTION FORM

Bid/RFP/Quote Reference #_____

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to the Division of Procurement for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project. **Note: Form required if a subcontractor is being substituted on a contract.**

SUBSTITUTED DBE/MBE/WBE/VOSB Company Name, Address, Phone, Email	DBE/MBE/WBE/VOSB/SDVOSB Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1.					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

_____ _____

Company **Company Representative**

_____ _____

Date **Title**

LEXINGTON

DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS AND OUTREACH PLANS

As affirmed in Resolution Number 272-2024, the Urban County Council has adopted an annual aspirational goal of utilizing at least seventeen percent (17%) of public funds spend from certain discretionary agreements with certified Minority Business Enterprises (MBEs) and certified Woman Business Enterprises (WBEs); utilizing at least three percent (3%) of public funds from certain discretionary agreements with Certified Veteran-Owned Small Business and Certified Service-Disabled Veteran-Owned Small Businesses (VOSBs); and utilizing Disadvantaged Business Enterprises (DBEs) where applicable. Bidders should make every effort to achieve these goals.

Therefore, as an element of the responsiveness of the bid, all Bidders are required to submit documentation of their good faith and outreach efforts to ensure all businesses, including small and disadvantaged businesses such as minority-, woman-, and veteran-owned businesses, have an equal opportunity to compete for and participate in the performance of any subcontracts resulting from this procurement. Examples of good faith and outreach efforts that satisfy this requirement to encourage the participation of, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs include:

1. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women, and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to participate.

2. Attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year to meet new small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to partner with on LFUCG contracts and procurements.

3. Attended pre-bid/pre-proposal meetings that were scheduled by LFUCG to inform small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs of subcontracting opportunities.

4. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs.

5. Requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

6. Contacted organizations that work with small, DBE, MBE, WBE, and VOSB companies for assistance in finding certified DBEs, MBEs, WBEs, VOSB and/or SDVOSBs to work on this project. Those contacted and their responses must be a part of the bidder's outreach efforts documentation.

7. Sent written notices, by certified mail, email, or facsimile, to qualified, certified small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

8. Followed up initial solicitations by contacting small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs via tailored communications to determine their level of interest.

9. Provided the interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs with adequate and timely information about the plans, specifications, and requirements of the contract.

10. Selected portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs in order to increase the likelihood of subcontracting participation. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate small, DBE, MBE, WBE, VOSB and/or SDVOSB participation, even when the prime contractor may otherwise perform these work items with its own workforce.

11. Negotiated in good faith with interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection must be so noted in writing with a description as to why an agreement could not be reached.

12. Included documentation of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs that were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

    a. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a small business', DBE's MBE's, WBE's, VOSB's and/or SDVOSB's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy the participation goals.

13. Made an effort to offer assistance to or refer interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal.

14. Made efforts to expand the search for small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.

15. Other – any other evidence that the bidder submits that may demonstrate that the bidder has made reasonable efforts to include small, DBE, MBE, WBE, VOSB and/or SDVOSB participation.

Bidder must document, with specificity, each of the efforts it made to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs as subcontractors in the procurement, including the date on which each effort was made, the medium through which each effort was made, and the outcome of each effort.

Note: Failure to submit the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith and Outreach Efforts must be submitted with the Bid, regardless of the proposed level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation in the procurement. If the Good Faith and Outreach Effort documentation is not submitted with the bid response, the bid may be rejected.

OUTREACH EFFORTS EVALUATION

Outreach efforts demonstrated by the bidder or respondent will be evaluated on a pass/fail basis.

ATTACHMENT A – SMALL AND DISADVANTAGED, MINORITY-, WOMEN-, AND VETERAN-OWNED BUSINESS OUTREACH PLAN

Proposer Name:		**Date:**	
Project Name:		**Project Number:**	
Contact Name:		**Telephone:**	
Email:			

The mission of the Minority Business Enterprise Program is to facilitate the full participation of disadvantaged businesses, minority-, women-, veteran-, and service-disabled veteran-owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long -term economic viability of Lexington-Fayette Urban County Government.

To that end, small and disadvantaged businesses, including minority-, woman-, veteran-, and service-disabled veteran-owned businesses, must have an equal opportunity to be utilized in the performance of contracts with public funds spent from certain discretionary agreements. By submitting its offer, Bidder/Proposer certifies that it has taken, and if there are further opportunities will take, reasonable steps to ensure that small and disadvantaged businesses, including minority-, woman-, veteran-, and service-disabled veteran-owned businesses, are provided an equal opportunity to compete for and participate in the performance of any subcontracts resulting from this procurement.

The information submitted in response to this clause will not be considered in any scored evaluation. Failure to submit this form may cause the bid or proposal to be rejected.

Is the Bidder/ Proposer a certified firm? Yes ☐ No ☐

If yes, indicate all certification type(s):

DBE ☐ MBE ☐ WBE ☐ SBE ☐ VOSB/SDVOSB ☐

and supply a copy of the certificate and/or certification letter if not currently listed on the city's Minority Business Enterprise Program's (MBEP) certified list.

1. Include a list of firms that Bidder/ Proposer has had a contractual relationship with within the last two years that are minority-owned, woman-owned, veteran-owned or small businesses, regardless of their certification status.

Click or tap here to enter text.

2. Does Bidder/Proposer foresee any subcontracting opportunities for this procurement?

Yes ☐ No ☐

If no, please explain why in the field below. Do not complete the rest of this form and submit this first page with your bid and/or proposal. Click or tap here to enter text.

If yes, please complete the following pages and submit all pages with your bid and/or proposal.

Describe the steps Bidder/Proposer took to solicit small and disadvantaged businesses, including MBEs, WBEs, VOSBs, and SDVOSBs, for subcontracting opportunities for this procurement.

3. Check the good faith and outreach efforts the Bidder/Proposer used to encourage the participation of small and disadvantaged businesses including, MBEs, WBEs, VOSBs and SDVOSBs:

☐ Bidder placed advertisements in search of prospective small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs for the solicitation.

☐ Bidder attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year.

☐ Bidder attended pre-bid and/or pre-proposal meetings for this solicitation.

☐ Bidder sponsored an Economic Inclusion Outreach event.

☐ Bidder requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG.

☐ Bidder contacted organizations that work with small, DBE, MBE, WBE, VOSB and/or SDVOSB companies.

☐ Bidder sent written notices to certified small, DBE, MBE, WBE, VOSB and SDVOSB businesses.

☐ Bidder followed up to initial solicitations with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB.

☐ Bidder provided small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses interested in performing the solicited work with prompt access to the plans, specifications, scope of work, and requirements of the solicitation.

☐ Bidder made efforts to segment portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, including dividing sub-bid/partnership opportunities into economically feasible units/parcels, to facilitate participation.

☐ Bidder negotiated in good faith with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses.

☐ Bidder provided adequate rationale for rejecting any small business', DBEs, MBEs, WBEs, VOSBs or SDVOSBs for lack of qualifications.

☐ Bidder offered assistance in obtaining bonding, insurance, financial, equipment, or other resources to small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, in an effort to assist them in meeting project requirements.

☐ Bidder made efforts to expand the search for small businesses, DBEs MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.

☐ Bidder made other reasonable efforts to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation.

4. Bidder/Proposer must include documentation, including the date each effort was made, the medium through which each effort was made, and the outcome of each effort with this form, regardless of the level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation. Examples of required documentation include copies of email communications, copies of newspaper advertisements, or copies of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs or SDVOSBs.

Click or tap here to enter text.

For detailed information regarding outreach efforts that satisfy the MBE Program's requirements, please see "Documentation Required for Good Faith Efforts and Outreach Plans" page.

<u>Note</u>: The Bidder/Proposer must be willing to report the identity of each subcontractor and the value of each subcontract to MBEP if awarded a contract from this procurement.

Failure to submit the documentation requested may be cause for rejection of the bid. Bidders may include any other documentation deemed relevant to this requirement, which is subject to review by the MBE Liaison. Documentation of Good Faith and Outreach Efforts must be submitted with the bid, regardless of the proposed level of SBEs, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation in the procurement. If the Good Faith and Outreach Effort Form and associated documentation is not submitted with the bid response, the bid may be rejected.

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Company	**Company Representative**
Date	**Title**

4870-1925-6809, v. 1

8. AUTHENTICATION OF BID AND STATEMENT OF NON-COLLUSION, NON-CONFLICT OF INTEREST

I hereby swear (or affirm) under the penalty for false swearing:

1. That I am the Bidder (if the Bidder is an individual), a partner of the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);

2. That the attached bid has been arrived at by the Bidder independently, and has been submitted without collusion with, and without any agreement, understanding or planned common course of action, with any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition;

3. That the contents of the bid or bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished, with the bid or bids, and will not be communicated to any such person, prior to the official opening of the bid or bids;

4. That the Bidder is legally entitled to enter into the contracts with the Lexington-Fayette Urban County Government, and is not in violation of any prohibited conflict of interest;

5. (Applicable to corporation only) That as a foreign corporation, we are registered with the Secretary of State, Commonwealth of Kentucky, and authorized to do business in the State _____ or, that as a domestic corporation, we are in good standing with the Secretary of State, Commonwealth of Kentucky _____. Check the statement applicable.

6. This offer is for 60 calendar days from the date this bid is opened. In submitting the above, it is expressly agreed that, upon proper acceptance by the Lexington-Fayette Urban County Government of any or all items bid above, a contract shall thereby be created with respect to the items accepted.

7. That I have fully informed myself regarding the accuracy of the statements made in this statement.

8. That I certify that Subcontractors have not and will not be awarded to any firm(s) that have been debarred from noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

9. STATEMENT OF EXPERIENCE

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

_____

_____

_____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

_____

_____

_____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

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NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

* Include all officers, office management's, Affirmative Action officials, and field management personnel. (Attach separate sheets if necessary.)

10. EQUAL OPPORTUNITY AGREEMENT

Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

The Law

* Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
* Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and subcontractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
* Section 503 of the Rehabilitation Act of 1973 States:

  The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.
* Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal Contracts.
* Section 206 (A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

  The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors, and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the

benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractor may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped, and aged persons.

_____ _____

Signature Name of Business

The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, religion, sex (including pregnancy, sexual orientation or gender identity), national origin, disability, age, genetic information, political affiliation, or veteran status, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

The Kentucky equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any count, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

(1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;

(2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;

(3) The contract will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and

(4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.

The Act further provides:

KRS 45.610. Hiring minorities – Information required

(1) For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.

(2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.

KRS 45.620. Action against contractor – Hiring of minority contractor or subcontractor

(1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.

(2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 – 45.640.

(3) The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.

KRS 45.630 Termination of existing employee not required, when

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

It is recommended that all of the provisions quoted above to be included as special conditions in each contract. In the case of a contract exceeding $250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which

he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

11. EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY

It is the policy of _____

to assure that all applicants for employment and all employees are treated on a fair and equitable basis without regard to their race, religion, sex, color, handicap, natural origin or age.

Such action shall include employment, promotion, demotion, recruitment or recruitment advertising, layoff or termination, rates of pay and other forms of compensation, and selection for training, whether apprenticeship and/or on-the-job-training.

Furthermore, this company agrees to make special recruitment efforts to hire the protected class whenever feasible. This company also agrees to adhere to all applicable federal, state, and local laws relating to Equal Employment Opportunity for all individuals.

12. WORKFORCE ANALYSIS FORM

Name of Organization: _____

Categories	**Total**	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African-American (Not Hispanic or Latino		Native Hawaiian and Other Pacific Islander (Not Hispanic or		Asian (Not Hispanic or Latino		American Indian or Alaskan Native (not Hispanic or Latino		Two or more races (Not Hispanic or Latino		**Total**	
		M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**
Administrators																	
Professionals																	
Superintendents																	
Supervisors																	
Foremen																	
Technicians																	
Protective Service																	
Para-Professionals																	
Office/Clerical																	
Skilled Craft																	
Service/Maintenance																	
Total:																	

Prepared by: _____ **Date:** _____/_____/_____

(Name and Title)

Revised 2015-Dec-15

13. EVIDENCE OF INSURABILITY

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT CONSTRUCTION PROJECT
(Use separate form for each Agency or Brokerage agreeing to provide coverage)

Names Insured: _____ Employee ID: _____

Address: _____ Phone: _____

Project to be insured: _____

In lieu of obtaining certificates of insurance at this time, the undersigned agrees to provide the above Named Insured with the minimum coverage listed below. These are outlined in the Insurance and Risk Management of Part V (Special Conditions), including all requirements, and conditions:

Section Items	Coverage	Minimum Limits and Policy Requirements	Limits Provided To Insured	Name of Insurer	A.M. Best's Code	Rating
SC-2 – see provisions	CGL	$1,000,000 per occ. And $2,000,000 aggregate	$			
SC-2 – see provisions	AUTO	$1,000,000/per occ.	$			
SC-2 – see provisions	WC	Statutory w /endorsement as noted	$			
SC-2 – see provisions	EXC	$5,000.000 per occ.	$			

Section 2 includes required provisions, statements regarding insurance requirements, and the undersigned agrees to abide by all provisions for the coverage's checked above unless stated otherwise when submitting.

_____ _____
Agency or Brokerage Name of Authorized Representative

_____ _____
Street Address Title

_____ _____
City State Zip Authorized Signature

_____ _____
Telephone Number Date

NOTE: Authorized signatures may be the agent's if agent has placed insurance through an agency agreement with the insurer. If insurance is brokered, authorized signature must be that of authorized representative of insurer.

IMPORTANT: Contract may not be awarded if a completed and signed copy of this form for all coverage's listed above is not provided with the bid.

14. DEBARRED FIRMS

PROJECT NAME: _____

BID NUMBER: _____

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
LEXINGTON, KY

All prime Contractors shall certify that Subcontractors have not and will not be awarded to any firms that has been debarred for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

All bidders shall complete the attached certification in duplicate and submit both copies to the Owner with the bid proposal. The Owner (grantee) shall transmit one copy to the Lexington-Fayette Urban County Government, Division of Community Development, within fourteen (14) days after bid opening.

The undersigned hereby certifies that the firm of _____has not and will not award a subcontract, in connection with any contract award to it as the result of this bid, to any firm that has been debarred for noncompliance with the Federal labor Standards, Title VI of the civil Rights Act of 1964, Executive Order 11246 as amended or any Federal Law.

_____
Name of Firm Submitting Bid

_____
Signature of Authorized Official

_____
Title

_____
Date

15. DEBARMENT CERTIFICATION

All contractors/subcontractors shall complete the following certification and submit it with the bid proposal.

The contractor/subcontractor certifies in accordance with Executive Order 12549 (Debarment and Suspension 2/18/86) that to the best of its knowledge and belief, that it and its principals:

1) Are not presently debarred, suspended, proposed for debarment, declared negligible, or voluntarily excluded from covered transactions or contract by any Federal department or agency for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 as amended, Executive Order 11246 as amended or any other Federal law;

    a) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

    b) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(a) of this certification; and

    c) Have not within a three year period preceding this bid has one or more public (Federal, State or local) transactions or contracts terminated for cause or default.

2) Where the contractor is unable to certify to any of the statements in this certification, such prospective contractors shall attach an explanation to this certification form.

Firm Name: _____

Project: _____

Printed Name and Title of Authorized Representative: _____

Signature: _____

Date: _____

END OF SECTION

PART IV

GENERAL CONDITIONS

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14. Suspension of Work and Termination

14.1 OWNER May Suspend Work
14.2 OWNER May Terminate
14.3 CONTRACTOR'S Services Terminated
14.4 Payment After Termination
14.5 CONTRACTOR May Stop or Terminate

15. Miscellaneous

15.1 Claims for Injury or Damage
15.2 Non-Discrimination in Employment
15.3 Temporary Street Closing or Blockage
15.4 Percentage of Work Performed by Prime CONTRACTOR
15.5 Clean-up
15.6 General
15.7 Debris Disposal

END OF SECTION

PART IV

GENERAL CONDITIONS

1. DEFINITIONS

Wherever used in these General Conditions or the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

1.1 Addenda
Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bid Documents or the Contract Documents.

1.2 Agreement
The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3 Application for Payment
The form accepted by CONSULTANT which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

1.4 Bid
The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.5 Bidder
An individual, partnership, or corporation, who submit a Bid for a prime contract with the OWNER, for the Work described in the proposed Contract Documents.

1.6 Bonds
Bid, performance and payment bonds and other instruments of security.

1.7 Calendar Day
A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

1.8 Change Order
A document recommended by CONSULTANT, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

1.9 Contract Documents

The Advertisement for Bidders, Information for Bidders, Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Special Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements.

1.10 Contract Unit Price

The monies payable by OWNER to CONTRACTOR under the Contract Documents as stated in the Agreement. Unit Prices are to be firm for the term of this Contract.

1.11 Contract Time

The number of consecutive calendar days between the date of issuance of the Notice to Proceed and the contract completion date.

1.12 CONTRACTOR

The person, firm or corporation with whom OWNER has entered into the Agreement.

1.13 Defective

An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to CONSULTANT'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER).

1.14 Drawings

The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by CONSULTANT and are referred to in the Contract Documents.

1.15 Effective Date of the Agreement

The date indicated in the Agreement on which it becomes effective.

1.16 CONSULTANT

The Lexington-Fayette Urban County Government or its authorized representative.

1.17 Field Order

A documented order issued by CONSULTANT which orders minor changes in the Work, but which does not involve a change in the Contract Price or the Contract Time.

1.18 Giving Notice

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

1.19 Laws and Regulations

Laws, rules, regulations, ordinances, codes and/or orders.

1.20 Notice of Award

The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.21 Notice to Proceed

A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.

1.22 OWNER

The Lexington-Fayette Urban County Government.

1.23 Partial Utilization

Placing a portion of the Work in service for the purpose for which it is intended (or related purpose) before reaching Completion for all the Work.

1.24 Project

The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.25 Inspector

The authorized representative who is assigned to the site or any part thereof.

1.26 Shop Drawings

All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

1.27 Specifications

Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and

workmanship as applied to the Work and certain administrative details applicable thereto.

1.28 Standard Specifications

The "Standard Specifications for Road and Bridge Construction", Transportation Cabinet, Department of Highways, Commonwealth of Kentucky, current edition. MUTCD shall refer to the "Manual of Uniform Traffic Control Devices.

1.29 Subcontractor

An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.30 Special Conditions

The part of the Contract Documents which amends or supplements these General Conditions.

1.31 Supplier

A manufacturer, fabricator, supplier, distributor, materialman or vendor.

1.32 Underground Facilities

All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.33 Unit Price Work

An amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

1.34 Work

The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

1.35 Time Period

When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

2. PRELIMINARY MATTERS

2.1 Delivery of Bonds

When the CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER, such Bonds, Insurance Certificate, and Power of Attorney as CONTRACTOR may be required to furnish.

2.2 Copies of Documents

Owner shall furnish to CONTRACTOR up to three copies (unless otherwise specified in the Special Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

2.3 Commencement of Contract Time; Notice to Proceed

The Contract Time will commence to run on the day specified in the Notice to Proceed.

2.4 Starting the Project

CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

2.5 Before Starting Construction

Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to CONSULTANT any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from CONSULTANT before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or CONSULTANT for failure to report any conflict, error or discrepancy in the Contract Documents, unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

2.6 Submittal of Schedules

Within ten days after the effective date of the Agreement (unless otherwise specified) CONTRACTOR shall submit to CONSULTANT for review:

2.6.1 an estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

2.6.2 a preliminary schedule of Shop Drawing submissions; and

2.6.3 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into costs per labor and materials by specification

section to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission. Schedule of values shall be submitted on AIA G702/703 forms, or approved equal.

2.7 Preconstruction Conference

Before CONTRACTOR starts the Work at the proposed site, a conference attended by CONTRACTOR, CONSULTANT, EEO-Affirmative Action Officer, and other appropriate parties will be held to discuss the following issues: (1) The scheduling of the Work to be completed; (2) The procedures for handling shop drawings and other submittals; (3) The processing of applications for payment; (4) The establishment of an understanding among the involved parties in regard to the proposed project; (5) The establishment of procedures for effectively implementing the LFUCG's 10% minimum DBE goals; and (6) Requirement for Mechanic's Lien on Partial Applications for Payment.

2.8 Finalizing Schedules

At least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, CONSULTANT and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to CONSULTANT as providing orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on CONSULTANT responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility thereof. The finalized schedule of Shop Drawing submissions will be acceptable to CONSULTANT as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to CONSULTANT as to form and substance.

3. CONTRACT DOCUMENTS: INTENT, CONFLICTS, AMENDING AND REUSE

3.1 General

The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2 Intent

It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used

to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or CONSULTANT, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to CONSULTANT, or any of CONSULTANT'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4. Clarifications and interpretations of the Contract Documents shall be issued by CONSULTANT as provided in paragraph 8.4.

3.3 Conflicts

If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to CONSULTANT in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from CONSULTANT; however, CONTRACTOR shall not be liable to OWNER or CONSULTANT for failure to report any conflict, error or discrepancy in the Contract Documents unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order:

1. Agreement
2. Field and Change Orders
3. Addenda
4. Special Conditions
5. Instruction to Bidders
6. General Conditions
7. Specifications and Drawings

Figure dimension on drawings shall govern over scale dimensions and detailed Drawings shall govern over general Drawings.

3.4 Amending and Supplementing Contract Documents

The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof by means of a Change Order or a Field Order. Contract Price and Contract Time may only be changed by a Change Order.

3.5 Reuse of Documents

Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of CONSULTANT; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and CONSULTANT and specific written verification or adaptation by CONSULTANT.

4. AVAILABILITY OF LANDS; PHYSICAL CONDITIONS, REFERENCE POINTS

4.1 Availability of Lands

OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, rights-of-way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11. CONSULTANT shall determine if the claim is legitimate or not. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2 Physical Conditions

4.2.1 Explorations and Reports

Reference is made to the Special Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by CONSULTANT in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.

4.2.2 Existing Structures

Reference is made to the Special Conditions for identification of those drawings of physical conditions in or relating to existing surface and

subsurface structures (except Underground Facilities referred to in paragraph 4.3 which are at or contiguous to the site that have been utilized by CONSULTANT in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.

4.2.3 Report of Differing Conditions
If CONTRACTOR believes that:

4.2.3.1 any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2 any physical conditions uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the Contract Documents,

CONTRACTOR shall, promptly after becoming aware thereof and before performing and WORK in connection therewith (except in an emergency) notify OWNER and CONSULTANT in writing about the inaccuracy or difference.

4.2.4 CONSULTANT'S Review
CONSULTANT will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise CONTRACTOR of CONSULTANT'S findings and conclusions.

4.2.5 Possible Document Change
If CONSULTANT concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change I the Contract Documents is required, a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6 Possible Price and Time Adjustments
In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference.

4.3 Physical Conditions-Underground Facilities

4.3.1 Shown or Indicated
The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is

based on information and data furnished to OWNER or CONSULTANT by the owners of such underground facilities or by others. Unless it is otherwise expressly provided in the Special Conditions:

4.3.1.1 OWNER and CONSULTANT shall not be responsible for the accuracy or completeness of any such information or data; and,

4.2.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data; for locating all underground facilities shown or indicated in the Contract Documents; for coordination of the Work with the owners of such underground facilities during construction; and for the safety and protection thereof and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2 Not Shown or Indicated

If an underground facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and CONSULTANT. CONSULTANT will promptly review the underground facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such underground facility. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any underground facility that was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of.

4.4 Reference Points

OWNER shall provide engineering surveys to establish reference points for construction which in CONSULTANT'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to CONSULTANT whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by a Registered Land Surveyor.

5. CONTRACTOR'S RESPONSIBILITIES

5.1 Supervision

CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall assure that all CONTRACTOR personnel (including subcontractors, etc.) conduct themselves in a courteous and respectful manner toward the CONSULTANT and the general public. CONTRACTOR shall keep at the Project Site during the progress of the Work a competent project manager/superintendent and all necessary assistants, all of whom shall be satisfactory to OWNER. OWNER reserves the right to reject CONTRACTOR'S construction superintendent and project management personnel if they are unsatisfactory to OWNER and upon such rejection CONTRACTOR shall designate and provide competent successors. Failure to comply with this condition of the Contract will result in immediate suspension of the Work. Following a review by the Commissioner of Public Works, the Contract may be terminated (see GC section 14). CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

5.2 Superintendence

CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and CONSULTANT except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

5.3 Labor

CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. OWNER reserves the right to require CONTRACTOR to remove from the Project any of it's personnel, or subcontractor's personnel for violating LFUCG Policies, Rules or Regulations. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent given after prior written notice to CONSULTANT.

5.4 Start-Up and Completion of Work

Unless otherwise specified, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

5.5 Materials and Equipment

All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by CONSULTANT, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to CONSULTANT, or any of CONSULTANT'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

5.5.1 Not Clearly Specified or Indicated

In all instances where materials specified are obtainable in different sizes, weights, trade grades, qualities or finishes, etc., whose weights, trade grades, qualities or finishes, etc., are not clearly specified or indicated on the Drawings, the CONTRACTOR shall notify the CONSULTANT of all such instances at least five (5) days in advance of receiving the proposals. The CONSULTANT will then determine which size, weight, trade grade, quality, finish, etc., is required.

5.5.2 Coordination of Work

The CONTRACTOR shall see that for his own Work and for the work of each subcontractor, proper templates and patterns necessary for the coordination of the various parts of the Work are prepared. The CONTRACTOR shall furnish or require the Subcontractor to furnish such duplicates as will enable the Subcontractors to fit together and execute fully their respective portions of the Work.

5.6 Adjusting Progress Schedule

CONTRACTOR shall submit to CONSULTANT for acceptance (to the extent indicated in paragraph 2.8) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the Contract Documents applicable thereto.

5.7 Substitutes or "Or-Equal" Items

5.7.1 General

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by OWNER/CONSULTANT if sufficient information is submitted by CONTRACTOR to allow OWNER/CONSULTANT to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by OWNER/CONSULTANT will include the following. Requests for review of substitute items of material and equipment will not be accepted by OWNER/CONSULTANT from anyone, other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to OWNER/CONSULTANT for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by OWNER/CONSULTANT in evaluating the proposed substitute. OWNER/CONSULTANT may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

5.7.2 Substitutes

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to OWNER/CONSULTANT, if CONTRACTOR submits sufficient information to allow OWNER/CONSULTANT to determine that the substitute proposed is equivalent to that indicated or required by the Contract

Documents. The procedure for review by OWNER/CONSULTANT will be similar to that provided in paragraph 5.7.1 as applied by OWNER/CONSULTANT.

5.7.3 OWNER/CONSULTANT'S Approval

OWNER/CONSULTANT will be allowed a reasonable time within which to evaluate each proposed substitute. OWNER/CONSULTANT will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without OWNER/CONSULTANT'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. OWNER/CONSULTANT will record time required by OWNER/CONSULTANT and OWNER/CONSULTANT'S consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not OWNER/CONSULTANT accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of OWNER/CONSULTANT and OWNER/CONSULTANT'S consultants for evaluating each proposed substitute.

5.8 Subcontractors, Suppliers, and Others

5.8.1 Acceptable to CONSULTANT

CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and CONSULTANT as indicated in paragraph 5.8.2), whether initially or as a substitute, against whom OWNER or CONSULTANT may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

5.8.2 Objection After Due Investigation

If the Contract Documents require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and CONSULTANT and if CONTRACTOR has submitted a list thereof, OWNER'S or CONSULTANT'S acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute. No acceptance by

OWNER or CONSULTANT of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or CONSULTANT to reject defective Work.

5.8.3 Contractor Responsible for Acts of Subcontractors

The CONTRACTOR shall perform on the site, and with its own organization, work equivalent to at least fifty (50) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction and the Urban County project manager determines that the reduction would be to the advantage of the Urban County Government.

The CONTRACTOR shall, at the time he submits his proposal for the Contract, notify the OWNER in writing of the names of Subcontractors proposed for the Work. He shall not employ any Subcontractor without the prior written approval of the OWNER.

CONTRACTOR shall be fully responsible to OWNER and CONSULTANT for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER or CONSULTANT and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or CONSULTANT to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

5.8.4 Division of Specifications

The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

5.8.5 Agreement Between Contractor and Subcontractors

All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and CONSULTANT.

5.8.6 Statements and Comments by CONTRACTOR

Neither the CONTRACTOR, his employees, nor his subcontractors shall at any time make any statement or comment as

to the project scope, nature, intention, design, or construction method to any third party or parties without the explicit written consent of the OWNER.

Any third party requesting such information shall be referred to the OWNER or his representative.

Should there be any change from the original intent of the project as a result of any statement or comment by the contractor, his employees or subcontractors, contractor shall be held liable for any change in the scope, nature, design, or construction method and shall bear the full cost for the previously mentioned changes.

5.9 Patent Fees and Royalties

CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others.

5.10 Permits

Unless otherwise provided in the Special conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

5.11 Laws and Regulations

5.11.1 CONTRACTOR to Comply

CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor CONSULTANT shall be responsible for monitoring CONTRACTOR'S compliance with any Laws and Regulations.

5.11.2 Specifications and Drawings at Variance

If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give CONSULTANT prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.4. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws, or Regulations, and without such notice to CONSULTANT, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

Any party, firm or individual submitting a proposal pursuant to invitation must have paid all taxes owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

5.12 Taxes

CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work. Any party, firm or individual submitting a proposal pursuant to invitation must have paid all taxes owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

5.13 Use of Premises

5.13.1 Project Site

CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the staging areas or work site areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such

land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or CONSULTANT by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER and CONSULTANT harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER or CONSULTANT to the extent based on a claim arising out of CONTRACTOR'S performance of the Work.

5.13.2 Clean UP

During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

5.13.1 Loading of Structures

CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

5.14 Record Drawings

CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Change Orders, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to CONSULTANT for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to CONSULTANT for OWNER.

5.15 Shop Drawings and Samples

5.15.1 Shop Drawing Submittals

After checking and verifying all field measurements and after complying

with applicable procedures specified, CONTRACTOR shall submit to CONSULTANT for review and approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.8), or for other appropriate action if so indicated in the Special Conditions, five copies (unless otherwise specified) of all Shop Drawings, which will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as CONSULTANT may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable CONSULTANT to review the information as required.

5.15.2 Sample Submittals

CONTRACTOR shall also submit to CONSULTANT for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

5.15.3 Review by CONTRACTOR

Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

5.15.4 Notice of Variation

At the time of each submission, CONTRACTOR shall give CONSULTANT specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to CONSULTANT for review and approval of each such variation.

5.15.5 CONSULTANT'S Approval

CONSULTANT will review and approve with reasonable promptness Shop Drawings and samples, but CONSULTANT'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or

procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by CONSULTANT, and shall return the required number of corrected copies of Shop Drawings and submit, as required, new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by CONSULTANT on previous submittals.

5.15.6 Responsibility for Errors and Omissions

CONSULTANT'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called CONSULTANT'S attention to each such variation at the time of submission as required by paragraph 5.15.4 and CONSULTANT has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by CONSULTANT relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 5.15.3.

5.15.7 Cost of Related Work

Where a Shop or sample is required by the Specifications, any related Work performed prior to CONSULTANT'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

5.16 Continuing the Work

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolutions of any disputes or disagreements, except as permitted by paragraph 14.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

5.17 Erosion and Sediment Control

5.17.1 General Environmental Requirements

The CONTRACTOR and Subcontractors performing work on projects on behalf of the OWNER shall comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in "special" permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits.

Any fines or penalties resulting from the failure to comply with the terms of the federal, state or local permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

5.17.2 Stormwater Pollution Prevention

A. The CONTRACTOR shall exercise due care to prevent or minimize any damage to any stream or wetland from pollution by debris, sediment or other material. The operation of equipment and/or materials in a jurisdictional wetland is expressly prohibited. Water that has been used for washing or processing, or that contains oils, sediments or other pollutants shall not be discharged from the job site. Such waters shall be collected and properly disposed of by the CONTRACTOR in accordance with applicable local, state and federal law.

B. The CONTRACTOR is solely responsible for securing all required state and local permits associated with stormwater discharges from the project including, but not necessarily limited to the KY Notice of Intent to Disturb (NOI) for Coverage of Storm Water Discharges Associated with Construction Activities under the KPDES Storm Water General Permit KYR100000 and the LFUCG, Land Disturbance Permit. Permit application preparation and all required documentation are the responsibility of the CONTRACTOR. The CONTRACTOR is solely responsible for maintaining compliance with the stormwater pollution prevention plan or erosion and sediment control plan and ensuring the following:

a. That the Stormwater Pollution Prevention Plan (SWPPP) or erosion control plan is current and available for review on site;
b. That any and all stormwater inspection reports required by the permit are conducted by qualified personnel and are available for review onsite; and
c. That all best management practices (BMPs) are adequately maintained and effective at controlling erosion and preventing sediment from leaving the site.

C. The CONTRACTOR shall provide the necessary equipment and personnel to perform any and all emergency measures that may be required to contain any spillage or leakage and to remove materials, soils or liquids that become contaminated. The collected spill material shall be properly disposed at the CONTRACTOR's expense.

D. Upon completion of the work and with the concurrence of the OWNER, the CONTRACTOR must file a Notice of Termination (NOT) of Coverage Under the KPDES General Permit for Storm Water Discharges Associated with Construction Activity with the appropriate local and state authorities.

E. Any fines or penalties resulting from the failure to comply with the terms of the state or local stormwater permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

6. OTHER WORK

6.1 Related Work at Site

OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefor which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and, if such performance will involve additional expense to CONTRACTOR or requires additional time, a Change Order to the Contract will be negotiated.

6.2 Other Contractors or Utility Owners

CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of CONSULTANT and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

6.3 Delays Caused by Others

If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to CONSULTANT in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR'S Work except for latent or non-apparent defects and deficiencies in the other work.

6.4 Coordination

If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Special Conditions, and the specific matters to be covered by such authority and

responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Special Conditions.

7. OWNER'S RESPONSIBILITIES

7.1 Communications

OWNER shall issue all communications to CONTRACTOR through CONSULTANT.

7.2 Data and Payments

OWNER shall furnish the data required of OWNER under the Contract Documents promptly after they are due.

7.3 Lands, Easements, and Surveys

OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by CONSULTANT in preparing the Drawings and Specifications.

7.4 Change Orders

OWNER is obligated to execute Change Orders as indicated in paragraph 9.4.

7.5 Inspections, Tests and Approvals

OWNER'S responsibility in respect to certain inspections, tests and approvals is set forth in paragraph 13.3.

7.6 Stop or Suspend Work

In connection with OWNER'S right to stop Work or suspend Work, see paragraph 12.4 and 14.1 Paragraph 14.2 deals with OWNER'S rights to terminate services of CONTRACTOR under certain circumstances.

8. CONSULTANT'S STATUS DURING CONSTRUCTION

8.1 OWNER'S Representative

CONSULTANT will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of CONSULTANT as OWNER'S representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and CONSULTANT.

8.2 Visits to Site

CONSULTANT will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. CONSULTANT will not be required to make exhaustive or

continuous on-site inspections to check the quality or quantity of the Work. CONSULTANT'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations, CONSULTANT will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

8.3 Project Representation

CONSULTANT will provide an Inspector to assist CONSULTANT in observing the performance of the Work. If OWNER designates another agent to represent OWNER at the site who is not CONSULTANT'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be as provided in the Special Conditions.

8.4 Clarifications and Interpretations

CONSULTANT will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as CONSULTANT may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

8.5 Authorized Variations in Work

CONSULTANT may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order.

8.6 Rejecting Defective Work

CONSULTANT will have authority to disapprove or reject Work which CONSULTANT believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 12.3, whether or not the Work is fabricated, installed or completed.

8.7 Shop Drawings

In connection with CONSULTANT'S responsibility for Shop Drawings and samples, see paragraphs 5.15.1 through 5.16 inclusive.

8.8 Change Orders

In connection with CONSULTANT'S responsibilities as to Change Orders, see Articles 10, 11 and 12.

8.9 Payments

In connection with CONSULTANT'S responsibilities with respect to Applications for Payment, etc., see Article 13.

8.10 Determinations for Unit Prices

CONSULTANT will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR.

CONSULTANT will review with CONTRACTOR CONSULTANT'S preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise).

8.11 Decision on Disputes

CONSULTANT will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 10 and 11 in respect of changes in the Contract Price or Contract Time will be referred initially to CONSULTANT in writing with a request for a formal decision in accordance with this paragraph, which CONSULTANT will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered to CONSULTANT promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to CONSULTANT within sixty days after such occurrence unless CONSULTANT allows an additional period of time to ascertain more accurate data in support of the claim.

8.12 Limitations on CONSULTANT's Responsibilities

8.12.1 CONTRACTOR, Supplier, or Surety

Neither CONSULTANTS authority to act under this Article 8 or elsewhere in the Contract Documents nor any decision made by CONSULTANT in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of CONSULTANT to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

8.12.2 To Evaluate the Work

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives or like "effect" or "import" are used to describe a requirement, direction, review or judgment of CONSULTANT as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign CONSULTANT any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

8.12.3 CONTRACTOR'S Means, Methods, Etc.

CONSULTANT will not be responsible for CONTRACTOR'S means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and CONSULTANT will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the Contract Documents.

8.12.4 Acts of Omissions of CONTRACTOR

CONSULTANT will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9. CHANGES IN THE WORK

9.1 OWNER May Order Change

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Change Order. Upon receipt of such notice, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

9.2 Claims

Claims for an increase or decrease in the Contract Price or an extension or shortening or the Contract Time that should be allowed as a result of a Change Order will be settled as provided for in Article 10 or Article 11.

9.3 Work Not in Contract Documents

CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraph 3.4, except in the case of an emergency and except in the case of uncovering Work as provided in paragraph 12.3.4.

9.4 Change Orders

OWNER and CONTRACTOR shall execute appropriate Change Orders covering:

9.4.1 changes in the Work which are ordered by OWNER pursuant to paragraph 9.1, are required because of acceptance of defective Work under paragraph 12.7 or corrective defective Work under paragraph 12.8, or are agreed to by the parties;

9.4.2 changes in the Contract Price or Contract Time which are agreed to by the parties; and

9.4.3 changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by CONSULTANT pursuant to paragraph 8.11; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and REGULATIONS, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 5.16.

9.5 Notice of Change

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

10. CHANGE OF CONTRACT PRICE

10.1 Total Compensation

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

10.2 Claim for Increase or Decrease in Price

The Contract Price may only be changed by a Change Order. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the CONSULTANT promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless CONSULTANT allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by CONTRACTOR'S written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of the occurrence of said event.

10.3 Value of Work

The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

10.3.1 Unit Prices

Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of

the items involved (subject to the provisions of paragraphs 10.9.1. through 10.9.3, inclusive).

10.3.2 Lump Sum
By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 10.6.2.1).

10.3.3 Cost Plus Fee
On the basis of the Cost of the Work (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTOR'S fee for overhead and profit (determined as provided in paragraphs 10.6 and 10.7).

10.4 Cost of the Work

The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project; shall include only the following items; and shall not include any of the costs itemized in paragraph 10.5:

10.4.1 Payroll Costs
Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

10.4.2 Materials and Equipment Costs
Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

10.4.3 Subcontractor Costs

Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of CONSULTANT, which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR'S Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

10.4.4 Special Consultant Costs

Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

10.4.5 Supplemental Costs

10.4.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

10.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

10.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of CONSULTANT, and the costs of transportation, loading, unloading, installation, dismantling and removal shall be in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

10.4.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

10.4.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

10.4.5.6 Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR'S fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid a fee proportionate to that stated in paragraph 10.6.2 for services.

10.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

10.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

10.4.5.9 Cost of premiums for additional Bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by OWNER.

10.5 Not to Be Included in Cost of the Work

The term Cost of the Work shall not include any of the following:

10.5.1 Costs of Officers and Executives

Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of partnership and sole proprietorships), general

managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR'S principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by paragraph 10.4.4 - all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

10.5.2 Principal Office

Expenses of CONTRACTOR'S principal and branch offices other than CONTRACTOR'S office at the site.

10.5.3 Capital Expense

Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the Work and charges against CONTRACTOR for delinquent payments.

10.5.4 Bonds and Insurance

Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5.9 above).

10.5.5 Costs Due to Negligence

Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

10.5.6 Other Costs

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

10.6 Contractor's Fee

The CONTRACTOR'S Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

10.6.1 a mutually acceptable fixed fee; or if none can be agreed upon,

10.6.2 a fee based on the following percentages of the various portions of the Cost of the Work:

10.6.2.1 for costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR'S fee shall be fifteen percent;

10.6.2.2 for costs incurred under paragraph 10.4.3, the CONTRACTOR'S fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors shall be fifteen percent;

10.6.2.3 no fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;

10.6.2.4 the amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR'S Fee by an amount equal to ten percent of the net decrease; and

10.6.2.5 when both additions and credits are involved in any one change, the adjustment in CONTRACTOR'S fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.1 through 10.6.2.4, inclusive.

10.7 Itemized Cost Breakdown

Whenever the cost of any Work is to be determined pursuant to paragraph 10.4 or 10.5, CONTRACTOR will submit in form acceptable to CONSULTANT an itemized cost breakdown together with supporting data.

10.8 Cash Allowances

It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to CONSULTANT, CONTRACTOR agrees that:

10.8.1 Materials and Equipment

The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

10.8.2 Other Costs

CONTRACTOR'S costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

10.8.3 Change Order

Prior to final payment, an appropriate Change Order will be issued as recommended by CONSULTANT to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

10.9 Unit Price Work

10.9.1 General

Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by CONSULTANT in accordance with Paragraph 8.10.

10.9.2 Overhead and Profit

Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

10.9.3 Claim for Increase in Unit Price

Where the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement and there is no corresponding adjustment with respect to any other item of Work and if CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof, CONTRACTOR may make a claim for an increase in the Contract Price in accordance with Article 10.

11. CHANGE OF CONTRACT TIME

11.1 Change Order

The Contract Time may only be changed by a Change Order. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered to CONSULTANT promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless CONSULTANT allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by CONSULTANT in accordance with paragraph 8.11. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 11.1.

11.2 Justification for Time Extensions

The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 11.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 6, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

11.3 Time Limits

All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 11 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) for delay by either party.

12. WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

12.1 Warranty and Guarantee

CONTRACTOR warrants and guarantees to OWNER and CONSULTANT that all Work will be in accordance with the Contract Documents and will not be defective. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 12.

12.2 Access to Work

CONSULTANT and CONSULTANT'S representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

12.3 Tests and Inspections

12.3.1 Timely Notice

CONTRACTOR shall give CONSULTANT timely notice of readiness of the Work for all required inspections, tests or approvals.

12.3.2 Requirements and Responsibilities

The CONSULTANT may require such inspection and testing during the course of the Work as he/she deems necessary to ascertain and assure the integrity and acceptable quality of the materials incorporated and the work performed. Inspection presence may be either full-time or intermittent, and neither the presence nor absence at any time of the CONSULTANT or the INSPECTOR shall relieve the CONTRACTOR of sole responsibility for the acceptability and integrity of the Work or any part thereof.

The costs of sampling, testing, and inspection on-site to ascertain acceptability of the Work and materials will be borne by the OWNER except as otherwise provided. The OWNER will select a testing laboratory to perform such sampling and testing. Sampling and/or testing required by the CONTRACTOR or necessitated by failure of Work or materials to meet the above acceptability test shall be at the expense of the CONTRACTOR.

Inspection services may be performed by the employees of the OWNER or by others selected or designated by the OWNER or the CONSULTANT.

Sampling and/or testing required for manufacturing quality and/or process control, for certification that raw mineral materials or manufactured products are the quality specified in the contract, or to assure the acceptability for incorporation into the Work shall be borne by the CONTRACTOR or the material supplier.

Cost for inspection, sampling, testing, and approvals required by the laws or regulations of any public body having competent jurisdiction shall be borne by the CONTRACTOR or the material supplier.

Sampling and testing will be in accord with pertinent codes and regulations and with appropriate standards of the American Society of Testing Materials or other specified standards.

12.3.3 On-Site Construction Test and Other Testing

All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by CONSULTANT if so specified).

12.3.4 Covered Work

If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of CONSULTANT, it must, if requested by CONSULTANT, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given CONSULTANT timely notice of CONTRACTOR'S intention to cover the same and CONSULTANT has not acted with reasonable promptness in response to such notice.

12.3.5 CONTRACTOR'S Obligation

Neither observations by CONSULTANT nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the Contract Documents.

12.4 OWNER May Stop the Work

If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

12.5 Correction or Removal of Defective Work

If required by CONSULTANT, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by CONSULTANT, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

12.6 One Year Correction Period

If within one year after the date of Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement

(including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Change Order.

12.7 Acceptance of Defective Work

If, instead of requiring correction or removal and replacement of defective Work, OWNER prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER'S evaluation of and determination to accept such defective Work (such costs to be approved by CONSULTANT as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

12.8 OWNER May Correct Defective Work

If CONTRACTOR fails within a reasonable time after written notice of CONSULTANT to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by CONSULTANT in accordance with paragraph 12.5, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by CONSULTANT, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

13. PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values

The schedule of values established as provided in paragraph 2.8 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to CONSULTANT. Progress payments on account of Unit Price Work will be based on the number of units completed.

13.2 Application for Progress Payment

At least ten days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to CONSULTANT for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. OWNER shall, within thirty (30) calendar days of presentation to him of an approved Application for Payment, pay CONTRACTOR the amount approved by CONSULTANT. Monthly progress payments shall be ninety (90) percent of the sum obtained by applying the respective bid unit prices to the approved estimated quantities of work completed by the Contractor during the preceding month. The remaining ten (10) percent will be held by the Owner, as retainage. At such time as the CONSULTANT deems appropriate - based on the quality of work performed, progress of cleanup, and other pertinent factors - the rate of retainage, or the total amount retained, may be reduced; although, any reduction in retainage, below the ten (10) percent level, is made solely at the CONSULTANT's discretion. All remaining retainage held will be included in the final payment to the Contractor.

13.2.1 Waivers of Mechanic's Lien

With each Application for Payment OWNER may require CONTRACTOR to submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

13.2.1.1 Requirement for waivers of Mechanic's Lien on Partial Applications for Payment will be determined and communicated at the Preconstruction Conference.

13.2.1.2 Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.

13.2.1.3 When an application shows completion of an item, submit conditional final or full waivers.

13.2.1.4 Owner reserves the right to designate which entities involved in the Work must submit waivers.

13.2.1.5 Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

13.3 CONTRACTOR'S Warranty of Title

CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

13.4 Review of Applications for Progress Payment

13.4.1 Submission of Application for Payment

CONSULTANT will, after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing CONSULTANT'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

13.4.2 CONSULTANT'S Recommendation

CONSULTANT may refuse to recommend the whole or any part of any payment, if, in CONSULTANT'S opinion, it would be incorrect to make such representations to OWNER. CONSULTANT may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in CONSULTANT'S opinion to protect OWNER from loss because:

13.4.2.1 the Work is defective, or completed Work has been damaged requiring correction or replacement;

13.4.2.2 the Contract Price has been reduced by Written Amendment or Change Order;

13.4.2.3 OWNER has been required to correct defective Work or complete Work in accordance with paragraph 12.8; or

13.4.2.4 of CONSULTANT's actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1 through 14.2.9 inclusive.

13.5 Partial Utilization

OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and has been completed. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER that said part of the Work is complete and request that a Certificate of Completion be issued for that part of the Work.

13.6 Final Inspection

Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, CONSULTANT will make a final inspection with CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

13.7 Final Application for Payment

After CONTRACTOR has completed all such corrections to the satisfaction of CONSULTANT and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 5.14) and other documents - all as required by the Contract Documents, and after CONSULTANT has indicated that the Work is acceptable (subject to the provisions of paragraph 13.10), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to

furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

13.8 Final Payment and Acceptance

13.8.1 CONSULTANT'S Approval

If, on the basis of CONSULTANT'S observation of the Work during construction and final inspection, and CONSULTANT'S review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, CONSULTANT is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the Contract Documents have been fulfilled, CONSULTANT will, after receipt of the final Application for Payment, indicate in writing CONSULTANT'S recommendation of payment and present the Application to OWNER for payment. Thereupon CONSULTANT will give written notice to OWNER and CONTRACTOR that the Work is acceptable, subject to the provisions of paragraph 13.10. Otherwise, CONSULTANT will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application.

13.8.2 Delay in Completion of Work

If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of CONSULTANT, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 10 of Part II, Information for Bidders, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to CONSULTANT with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

13.8.3 Retainage

Retainage is not applicable to this project.

13.9 CONTRACTOR'S Continuing Obligation

CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by CONSULTANT, nor the issuance of a certificate of Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and

approval of a Shop Drawing or sample submission, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 13.10).

13.10 Waiver of Claims

The making and acceptance of final payment will constitute:

13.10.1 a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the Contract Documents; and

13.10.2 a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

14. SUSPENSION OF WORK AND TERMINATION

14.1 OWNER May Suspend Work

OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and CONSULTANT which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 10 and 11.

14.2 OWNER May Terminate

The OWNER may terminate the Work upon the occurrence of any one or more of the following events:

14.2.1 if CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;

14.2.2 if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against

CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

14.2.3 if CONTRACTOR makes a general assignment for the benefit of creditors;

14.2.4 if a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

14.2.5 if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

14.2.6 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.8 as revised from time to time);

14.2.7 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

14.2.8 if CONTRACTOR disregards the authority of CONSULTANT, or

14.2.9 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the

difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by CONSULTANT and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

14.2.10 If safety violations are observed and brought to the Contractors attention and Contractor fails to take immediate corrective measures any repeat of similar safety violations, Owner will order an immediate termination of contract. Note: it is the Contractor's responsibility to know proper safety measures as they pertain to construction and OSHA.

14.2.11 This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.

14.2.12 This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.

14.3 CONTRACTOR'S Services Terminated

Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

14.4 Payment After Termination

Upon seven days' written notice to CONTRACTOR, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs).

14.5 CONTRACTOR May Stop Work or Terminate

If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or CONSULTANT fails to act on any Application for Payment within sixty days after it is submitted, or OWNER fails for sixty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and CONSULTANT, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if CONSULTANT has failed to act on an Application

for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and CONSULTANT stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 5.16 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

15. MISCELLANEOUS

15.1 Claims for Injury or Damage

Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 15.1 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

15.2 Non-Discrimination in Employment

The CONTRACTOR shall comply with the following requirements prohibiting discrimination:

15.2.1 That no person (as defined in KRS 344.010) shall bid on Lexington-Fayette Urban County Government construction projects, or bid to furnish materials or supplies to the Lexington-Fayette Urban County Government, if, within six months prior to the time of opening of bids, said person shall have been found, by declamatory judgment action in Fayette Circuit Court, to be presently engaging in an unlawful practice, as hereinafter defined. Such declamatory judgment action may be brought by an aggrieved individual or upon an allegation that an effort at conciliation pursuant to KRS 344.200 has been attempted and failed, by the Lexington-Fayette County Human Rights Commission.

15.2.2 That it is an unlawful practice for an employer:

15.2.2.1 to fail or refuse to hire, or to discharge any individual or otherwise to discriminate against an individual, with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, age, or national origin; or

15.2.2.2 to limit, segregate or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee because of such individual's sex, race, color, religion, age, or national origin.

15.2.3 That it is an unlawful practice for an employer, labor organization, or joint-labor management committee controlling apprenticeship or other training or retraining, including on-the-job training programs to discriminate against an individual because of his race, color, religion, sex, age, or national origin in admission to, or employment in, any program established to provide apprenticeship or other training.

15.2.4 That a copy of this Ordinance shall be furnished all suppliers and made a part of all bid specifications.

15.2.5 This Ordinance shall take effect after it is signed, published and recorded, as required by law.

15.3 Temporary Street Closing or Blockage

The CONTRACTOR will notify the CONSULTANT at least 72 hours prior to making any temporary street closing or blockage. This will permit orderly notification to all concerned public agencies. Specific details and restrictions on street closure or blockage are contained in the Special Conditions.

15.4 Percentage of Work Performed by prime CONTRACTOR

The CONTRACTOR shall perform on site, and with its own organization, Work equivalent to at least fifty (50%) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction and the CONSULTANT determines that the reduction would be to the advantage of the OWNER.

15.5 Clean-up

Cleanup shall progress, to the greatest degree practicable, throughout the course of the Work. The Work will not be considered as completed, and final payment will not be made, until the right-of-way and all ground occupied or affected by the Contractor in connection with the Work has been cleared of all rubbish, equipment,

excess materials, temporary structures, and weeds. Rubbish and all waste materials of whatever nature shall be disposed of, off of the project site, in an acceptable manner. All property, both public and private, which has been damaged in the prosecution of the Work, shall be restored in an acceptable manner. All areas shall be draining, and all drainage ways shall be left unobstructed, and in such a condition that drift will not collect or scour be induced.

15.6 General

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 12.1, 12.3.5, 13.3, and 15.2 and all of the rights and remedies available to OWNER and CONSULTANT thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

15.7 Debris Disposal

For all LFUCG projects any trash, construction demolition debris, yard waste, dirt or debris of any kind that is removed from the project site must be disposed of in accordance with local, state, and federal regulations. The disposal site or facility must be approved in advance by the LFUCG and disposal documentation is required. The Contractor will be responsible for payment of any fines associated with improper disposal of material removed from the project site.

END OF SECTION

PART V
SPECIAL CONDITIONS
INDEX

1 BLASTING

2 RISK MANAGEMENT PROVISIONS –
INSURANCE AND INDEMNIFICATION

3 WAGE SCALE

4 WEATHER RELATED DELAYS

1. **<u>BLASTING</u>** – not applicable.

2. RISK MANAGEMENT PROVISIONS
INSURANCE AND INDEMNIFICATION

INDEMNIFICATION AND HOLD HARMLESS PROVISION

(1) It is understood and agreed by the parties that Contractor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.

(2) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.

(3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.

(4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.

(5) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.

FINANCIAL RESPONSIBILITY

BIDDER/CONTRACTOR understands and agrees that it shall, prior to final acceptance of its bid and the commencement of any work, demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions.

INSURANCE REQUIREMENTS

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AAND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Required Insurance Coverage

BIDDER/CONTRACTOR shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR. The cost of such insurance shall be included in any bid:

Coverage	**Limits**
General Liability (Insurance Services Office Form CG 00 01)	$1 million per occurrence, $2 million aggregate or $2 million combined single limit
Commercial Automobile Liability (Insurance Services Office Form CA 0001)	combined single, $1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	$100,000.00
Excess/Umbrella Liability	$2 million per occurrence

The policies above shall contain the following conditions:

a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.

b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.

c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement unless it is deemed not to apply by LFUCG.

d. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.

e. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

Deductibles and Self-Insured Programs

IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE. Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of BIDDER/CONTRACTOR's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If BIDDER/CONTRACTOR satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, BIDDER/CONTRACTOR agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

a. Latest audited financial statement, including auditor's notes.

b. Any records of any self-insured trust fund plan or policy and related accounting statements.

c. Actuarial funding reports or retained losses.

d. Risk Management Manual or a description of the self-insurance and risk management program.

e. A claim loss run summary for the previous five (5) years.

f. Self-Insured Associations will be considered.

Safety and Loss Control

CONTRACTOR shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and LFUCG.

Verification of Coverage

BIDDER/CONTRACTOR agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

Right to Review, Audit and Inspect

CONTRACTOR understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to insure compliance with these Insurance Requirements.

DEFAULT

BIDDER/CONTRACTOR understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging BIDDER/CONTRACTOR for any such insurance premiums purchased, or suspending or terminating the work.

00357187

3. WAGE SCALES – NOT APPLICABLE.

4. WEATHER RELATED DELAYS

A. The Project Completion date shall be established with the understanding that no extension of time will be granted for weather related delays that are within the average temperature or number of rain or snow days within a particular month. The average weather conditions shall be established by referencing the records of the National Oceanic and Atmospheric Administration (NOAA) and as defined herein.

B. Extensions of inclement weather shall be granted only when the work affected must be on schedule at the time of delay. No time will be granted for work which is behind schedule in excess of the actual delay caused by the weather, assuming the work had been on schedule.

C. Time granted for weather delays shall be requested on a monthly basis.

D. The weather experienced at the project site during the contract period must be found to be unusually severe, that is more severe than the adverse weather anticipated for the project location during any given month. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the contractor.

E. The anticipated adverse weather delays shall be based on the National Oceanic and Atmospheric Administration (NOAA) climatography ten year average for the Lexington Bluegrass Airport KY US location. The Mean Number of Days of daily precipitation using >= 0.10 will determine the base line for monthly anticipated adverse weather evaluations. The contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. Upon acknowledgement of the Notice to Proceed (NTP) and continuing throughout the contract, the contractor will record the occurrence of actual adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical path activities for 50 percent or more of the contractor's scheduled work date. The number of actual adverse weather delay days shall be calculated chronologically from the first to the last day of each month, and be recorded as full days. The number of actual adverse weather days greater than the number of anticipated adverse weather days, listed above, shall be the number of unusually severe weather days for the purposes of any contract extensions (actual adverse weather days - anticipated adverse weather days = unusually severe weather days.)

F. Definitions:

1. "Unusually severe weather" - weather that is more severe than the adverse weather anticipated for the season or location involved.

2. "Adverse weather" - atmospheric conditions at a definite time and place that are unfavorable to construction activities.

END OF SECTION

PART VI

CONTRACT AGREEMENT

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PART VI

CONTRACT AGREEMENT

THIS AGREEMENT, made on the _____ day of _____, 20____, by and between **Lexington-Fayette Urban County Government**, acting herein called "OWNER" and _____ , doing business as *(an individual) (a partnership) (a corporation) located in the City of _____, County of _____, and State of _____, hereinafter called "CONTRACTOR."

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of _____ Dollars and _____ Cents ($_____) quoted in the proposal by the CONTRACTOR, dated _____, hereby agree to commence and complete the construction described as follows:

1. SCOPE OF WORK

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, and the Special Conditions of the Contract, the Specifications and Contract Documents therefore as prepared by GRW Engineering Architecture Geospatial for the LFUCG Department of Water Quality Headquarters & Operations Facility project.

2. TIME OF COMPLETION

The time estimated and authorized by the OWNER for the proper execution of the Work by the Contract, in full, is hereby fixed as one hundred (365) days to substantial completion and an additional fourteen (14) days to final completion. The time shall begin in accordance with the Notice to Proceed provided by OWNER.

3. ISSUANCE OF WORK ORDERS

Notice to begin Work will be given in whole or for part of the Work as determined by the OWNER pending the availability of funds. The order of construction will be as determined after consultation between the CONTRACTOR and the OWNER.

4. THE CONTRACT SUM

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the Contract, as quoted in the proposal, subject to any additions and deductions, as provided therein.

5. PROGRESS PAYMENTS

The OWNER shall make payments on account of the Contract, as provided in accordance with the General Conditions, less the aggregate of previous payments.

6. ACCEPTANCE AND FINAL PAYMENT

Final payment shall be due within ninety (90) days after completion of the Work, provided the Work be then fully completed and the Contract fully accepted.

Before issuance of final certificate, the CONTRACTOR shall submit evidence satisfactory to the Owner that all payrolls, material bills, and other indebtedness connected with the Work has been paid.

If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the CONTRACTOR, the OWNER shall without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

7. THE CONTRACT DOCUMENTS

The Advertisement for Bids, Information for Bidders, the General Conditions, Performance and Payment Bonds, Contract Agreement, Special Conditions, Technical Specifications, any and all Addenda, and Proposal, Ion Wave Q&A, and Plan Drawings form the Contract, and they are fully a part of the Contract as if hereto attached or herein repeated.

8. EXTRA WORK

The OWNER, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the Work, the Contract Sum being adjusted accordingly. All such Work shall be executed and paid for in accordance with the General Conditions, which is a part of this Contract.

9. THE FOLLOWING IS AN ENUMERATION OF THE SPECIFICATIONS AND DRAWINGS (CONTRACT DOCUMENTS):

SPECIFICATIONS

SECTION NO.	TITLE
I	Advertisement for Bids
II	Information for Bidders
III	Form of Proposal
IV	General Conditions
V	Special Conditions
VI	Contract Agreement
VII	Performance and Payment Bonds
VIII	Addenda
IX	Technical Specifications and Drawings

IN WITNESSETH WHEREOF, the parties hereto have executed this Contract as of the date and year above written.

(Seal)

Lexington-Fayette Urban County Government.
Lexington, Kentucky
(Owner)

ATTEST:

_____ BY: _____
Clerk of the Urban County Council MAYOR

_____ _____
(Witness) (Title)

(Seal)

_____
(Contractor)

_____ BY: _____
(Secretary)*

_____ _____
(Witness) (Title)

_____
(Address and Zip Code)

IMPORTANT: *Strike out any non-applicable terms.

Secretary of the Owner should attest. If the CONTRACTOR is corporation, Secretary should attest. Give proper title of each person-executing Contract.

PART VII

PERFORMANCE AND PAYMENT BONDS

1. PERFORMANCE BOND

2. PAYMENT BOND

PART VII

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

_____
(Name of CONTRACTOR)

_____
(Address of CONTRACTOR)

a_____, hereinafter
(Corporation, Partnership, or Individual)

called Principal, and _____
(Name of Surety)

_____
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 East Main Street, Third Floor
Lexington, Kentucky 40507

hereinafter called "OWNER" in the penal sum of: _____ Dollars, ($_____), for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for **LFUCG Department of Water Quality Headquarters & Operations Facility** in accordance with drawings and specifications prepared by: **GRW Engineering Architecture Geospatial Inc.** which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever, Principal shall be, and declared by OWNER to be in default under the Contract, the OWNER having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

(1) Complete the Contract in accordance with its terms and conditions or

(2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for a Contract between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract Price", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Contract and any amendments thereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators or successors of OWNER.

IN WITNESS WHEREOF, this instrument is executed in _____ each one of which shall be
(number)
deemed an original, this the _____ day of _____, 20_____.

ATTEST:

_____
Principal

_____
(Principal) Secretary

BY: _____(s)

_____
(Address)

_____

_____
Witness as to Principal

_____
(Address)

_____ _____
Surety

ATTEST: BY: _____
Attorney-in-Fact

_____ _____
(Surety) Secretary (Address)

_____

(SEAL)

_____
Witness as to Surety

_____
(Address)

_____ TITLE: _____
Surety

_____

_____ BY: _____

TITLE: _____

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Contract.

PART VII

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENT: that

_____

(Name of Contractor)

_____

(Address of Contractor)

a _____, hereinafter

(Corporation, Partnership or Individual)

called Principal, and _____

(Name of Surety)

_____

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto:

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 East Main Street, Third Floor
Lexington, Kentucky 40507

Obligee, hereinafter called OWNER, for the use and benefit of claimants as hereinafter defined, in the amount of _____ Dollars ($_____) the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for **LFUCG Department of Water Quality Headquarters & Operations Facility** in accordance with drawings and specifications prepared by: **GRW Engineering Architecture Geospatial Inc,** which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The OWNER shall not be liable for the payment of any costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

   (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the OWNER, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the Work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the Work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, OWNER, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.

   (b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

   (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against aid improvement, whether or not claim for the amount of such lien be presented under and against this bond.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of
(number)

which shall be deemed an original, this the _____ day of _____, 20_____.

ATTEST:

_____
(Principal)

_____
(Principal) Secretary

(SEAL) BY: _____(s)

_____
(Address)

_____

_____
(Witness to Principal)

_____
(Address)

_____

_____
(Surety)

ATTEST:

BY: _____
(Attorney-in-Fact)

_____
(Surety) Secretary

(SEAL)

_____ _____
Witness as to Surety (Address)

_____ _____
(Address)

_____ _____

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Contract.

END OF SECTION

PART VIII

ADDENDA

All addenda issued during the bidding of the Project will be reproduced in the signed Contract Documents, on the pages following this heading sheet.

Addendum Number	Title	Date
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

IX. TECHNICAL SPECIFICATIONS

DOCUMENT 000107 - SEALS PAGE

1.1 DESIGN PROFESSIONALS OF RECORD

A. Architect:

1. James K Piper.
2. 4447.
3. Responsible for Divisions 01-49 Sections except where indicated as prepared by other design professionals of record.

B. Civil Engineer:

1. R. Derek Motsch.
2. 26439.
3. Responsible for Division 31 Division 33.

C. Landscape Architect:

1. Ramona Fry.
2. 661.
3. Responsible for Division 32.

D. Structural Engineer:

1. Matthew Craig.
2. 24113.
3. Responsible for Division 3, Division 4, Division 5 Division 13.

E. Fire-Protection Engineer:

1. Cory Sharrard.
2. 23106.
3. Responsible for Division 21.

F. Mechanical Engineer, Plumbing:

1. Cory Sharrard.
2. 23106.
3. Responsible for Division 22.

G. Mechanical Engineer, HVAC:

1. Christopher J Boggs.
2. 28306
3. Responsible for Division 23.

H. Electrical Engineer:

1. Patrick Baisden.
2. 22812.
3. Responsible for Division 26, Division 27, Division 28.

END OF DOCUMENT 000107

DOCUMENT 000115 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

A. Drawings: Drawings that will be enumerated in the Owner/Contractor Agreement as part of the Contract Documents are listed on the Table of Contents page of the separately bound drawing set titled LFUCG DWQ Headquarters & Operations Facility Volume 1, 2, and 3, dated August 15, 2025 as modified by subsequent Addenda and Modifications.

1. The words "Resource Drawing" or "For information" after the titles of drawings indicate that those drawings are not intended to be incorporated in the Contract Documents.

END OF DOCUMENT 000115

DOCUMENT 002513 - PREBID MEETINGS

1.1 PREBID MEETING

A. LFUCG / Architect will conduct a prebid meeting as indicated below:

1. Meeting Date: August 26, 2025.
2. Meeting Time: 9:00 a.m., local time.
3. Location, In-Person Meeting: 134 West New Circle Road, Lexington KY, 40505
4. Information provided during Prebid Meeting does not constitute a modification to the Procurement and Contracting Documents. Modifications to the Procurement and Contracting Documents are issued by written Addendum only.

B. Attendance:

1. Prime Bidders: Attendance at Prebid Meeting is recommended.
2. Subcontractors: Attendance at Prebid Meeting is recommended.
3. Notice: Bids will only be accepted from prime bidders represented on Prebid Meeting sign-in sheet.

C. Bidder Questions: Submit written questions to be addressed at Prebid Meeting minimum of two business days prior to meeting.

1. Submit requests for clarification or interpretation using form bound in Project Manual
2. Submit requests for substitution/prior approval using form bound in Project Manual

D. Agenda: Prebid Meeting agenda will include review of topics that may affect proper preparation and submittal of bids, including the following:

1. Procurement and Contracting Requirements:

a. Advertisement for Bids.
b. Instructions to Bidders.
c. Bidder qualifications.
d. Bonding.
e. Insurance.
f. Bid security.
g. Bid Form and attachments.
h. Bid submittal requirements.
i. Bid Submittal Checklist.
j. Notice of Award.

2. Communication during Bidding Period:

a. Obtaining documents.
b. Access to Project web-based bidding management software site.
c. Bidder's Requests for Information.
d. Bidder's Substitution Request/Prior Approval Request.
e. Addenda.

3. Contracting Requirements:

    a. Agreement.
    b. The General Conditions.
    c. The Supplementary Conditions.
    d. Other Owner requirements.

4. Construction Documents:

    a. Scope of Work.
    b. Temporary facilities.
    c. Use of site.
    d. Work restrictions.
    e. Alternates, allowances, and unit prices.
    f. Substitutions following award.

5. Separate Contracts:

    a. Work by Owner.
    b. Work of other Contracts.

6. Schedule:

    a. Project schedule.
    b. Contract Time.
    c. Liquidated damages.
    d. Other Bidder questions.

7. Site/facility visit or walkthrough.
8. Post-meeting addendum.

E. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes to attendees and others known by issuing office to have received a complete set of Procurement and Contracting Documents. Minutes of meeting are issued as Available Information and do not constitute a modification to the Procurement and Contracting Documents. Modifications to the Procurement and Contracting Documents are issued by written Addendum only.

1. Sign-in Sheet: Minutes will include list of meeting attendees.
2. List of Planholders: Minutes will include list of planholders.

1.2 SITE WALKTHROUGH

A. Site walkthrough will be conducted by members of Project team following the Prebid Meeting

B. Prospective bidders are encouraged to schedule a site investigation visit by contacting Architect.

C. The site will be open and available for additional investigation on August 28, 2025 and September 4, 2025 from 8:00AM to 12:00PM.

END OF DOCUMENT 002513

DOCUMENT 002600 - PROCUREMENT SUBSTITUTION PROCEDURES

1.1 DEFINITIONS

A. Procurement Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Procurement and Contracting Documents, submitted prior to receipt of bids in accordance with Instructions to Bidders.

B. Procurement Prior Approval Requests: Requests for approval of products or manufacturers from those required by the Contract Documents as defined by product selection procedures in Section 016000 "Product Requirements."

1. Procurement prior approval is required when products or manufacturers are listed in specifications under "Sole Product," "Sole Manufacturer," "Limited List of Products," or "Limited List of Manufacturers" introductory paragraphs.
2. Procurement prior approval is not required when products or manufacturers are listed in specifications under "Non-Limited List of Products" or "Non-Limited List of Manufacturers" introductory paragraphs.
3. Where use of "Sole Product," "Sole Manufacturer," "Limited List of Products," or "Limited List of Manufacturers" introductory paragraphs is not allowed by statute, procurement prior approval request is not required.

C. Substitution Requests: Requests for changes in products, materials, equipment, and methods of construction from those indicated in the Contract Documents, submitted following Contract award. See the General Conditions and Section 012500 "Substitution Procedures" for conditions under which Substitution requests will be considered following Contract award.

1.2 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.3 PROCUREMENT SUBSTITUTIONS

A. Procurement Substitutions, General: By submitting a bid, the Bidder represents that its bid is based on materials and equipment described in the Procurement and Contracting Documents, including Addenda. Bidders are encouraged to request approval of qualifying substitute materials and equipment when the Specifications Sections list materials and equipment by product or manufacturer name.

B. Procurement Substitution Requests will be received and considered by Owner when the following conditions are satisfied, as determined by Architect; otherwise requests will be returned without action:

1. Extensive revisions to the Contract Documents are not required.

2. Proposed changes are in keeping with general intent of the Contract Documents, including level of quality of the Work represented by requirements therein.
3. Request is fully documented and properly submitted.

1.4 SUBMITTALS

A. Procurement Substitution Request: Submit to Architect. Procurement Substitution Request must be made in writing **by** prime contract Bidder only in compliance with the following requirements:

1. Requests for substitution of materials and equipment will be considered if received no later than 10 days prior to date of bid opening.
2. Submittal Format, Electronic: Submit Procurement Substitution Request, using format provided on Project web-based bidding management software site.

a. Identify the product or the fabrication or installation method to be replaced in each request. Include related Specifications Sections and Drawing numbers.
b. Provide complete documentation on both the product specified and the proposed substitute, including the following information as appropriate:

1) List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
2) Product data, including drawings and descriptions of products and fabrication and installation procedures.
3) Point-by-point comparison of specified and proposed substitute product data, fabrication drawings, and installation procedures.
4) Copies of current, independent third-party test data of salient product or system characteristics.
5) Samples where applicable or when requested by Architect.
6) Detailed comparison of significant qualities of proposed substitute with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
7) Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
8) Research reports, where applicable, evidencing compliance with building code in effect for Project, from ICC-ES
9) Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will become necessary to accommodate proposed substitute.

c. Provide certification by manufacturer that proposed substitute is equal to or superior to that required by the Procurement and Contracting Documents, and that its in-place performance will be equal to or superior to product or equipment specified in the application indicated.
d. Bidder, in submitting the Procurement Substitution Request, waives the right to additional payment or an extension of Contract Time because of the failure of substitute to perform as represented in the Procurement Substitution Request.

B. Architect's Action:

1. Architect may request additional information or documentation necessary for evaluation of the Procurement Substitution Request. Architect will notify all Bidders of acceptance of proposed substitute by means of an Addendum to the Procurement and Contracting Documents.

C. Architect's approval of substitute during bidding does not relieve Contractor of the responsibility to submit required Shop Drawings and to comply with all other requirements of the Contract Documents.

END OF DOCUMENT 002600

DOCUMENT 003113 - PRELIMINARY SCHEDULES

1.1 PROJECT SCHEDULE

A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information, but do not affect Contract Time requirements. This Document and its attachments are not part of the Contract Documents.

B. Available Project information includes the following:

1. Project schedule.

C. Project schedule including design, procurement, and construction milestones is available for viewing as appended to this Document.

D. Related Requirements:

1. Document 004113 "Bid Form - Stipulated Sum (Single-Prime Contract)" for Contract Time.
2. Section 013200 "Construction Progress Documentation" for Contractor's construction schedule requirements.

END OF DOCUMENT 003113

DOCUMENT 003119 - EXISTING CONDITION INFORMATION

1.1 EXISTING CONDITION INFORMATION

A. This Document with its referenced attachments is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of the Bidders' own investigations. They are made available for Bidders' convenience and information. This Document and its attachments are not part of the Contract Documents.

B. Existing Drawings that include information on existing conditions, including previous construction at Project site are available for viewing at the office of Architect

C. Survey information that includes information on existing conditions, prepared by Shield Environmental, phase 1 ESA, dated November 27, 2023, is available for viewing at the office of Architect.

D. Geotechnical Report at the Vactor Building Add Alternate #1 site location conducted by LE Gregg on August 8, 2025, is available for viewing at the office of the Architect.

E. Related Requirements:

1. Document 002113 "Instructions to Bidders" for the Bidder's responsibilities for examination of Project site and existing conditions.
2. Document 003126 "Existing Hazardous Material Information" for hazardous materials reports that are made available to Bidders.
3. Document 002513 "Prebid Meetings" for site walkthrough.

END OF DOCUMENT 003119

DOCUMENT 003143 - PERMIT APPLICATION

1.1 PERMIT APPLICATION INFORMATION

A. This Document, with its referenced attachments, is part of the Procurement and Contracting Requirements for Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of the Bidders' own investigations. This Document and its attachments are not part of the Contract Documents.

B. Permit Application: The building permit for Project has been applied for by Architect. A copy of the Permit Application is appended to this Project Manual

END OF DOCUMENT 003143

DOCUMENT 004373 - PROPOSED SCHEDULE OF VALUES FORM

1.1 BID FORM SUPPLEMENT

A. A completed Proposed Schedule of Values form is required to be attached to the Bid Form.

1.2 PROPOSED SCHEDULE OF VALUES FORM

A. Proposed Schedule of Values Form: Provide a breakdown of the bid amount, including Alternates, in enough detail to facilitate continued evaluation of bid. Organize and label contents by section in accordance with the Project Manual table of contents.

1. Provide multiple line items for principal material and subcontract amounts in excess of five percent of the Contract Sum.

B. Arrange schedule of values using AIA Document G703-1992.

1. Copies of AIA standard forms may be obtained from the American Institute of Architects: https://www.aiacontracts.org/library: (800) 942-7732.

END OF DOCUMENT 004373

DOCUMENT 005100 - NOTICE OF AWARD

1.1 BID INFORMATION

A. Bidder:

B. Bidder's Address:

C. Project Name: LFUCG DWQ Headquarters & Operations Facility.

D. Project Location: 134 West New Circle Road, Lexington KY 40505.

E. Owner: Lexington Fayette Urban County Government.

F. Owner Project Number: RFP #48-2024.

G. Architect: GRW Engineering Architecture Geospatial.

H. Architect Project Number: 5247-01.

1.2 NOTICE OF AWARD OF CONTRACT

A. Notice: The above Bidder is hereby notified that their Bid, dated <Insert date>, for the above Contract has been considered and the Bidder is hereby awarded a Contract for the LFUCG DWQ Headquarters & Operations Facility.

B. Alternates Accepted: Accepted alternates are indicated in the Owner/Contractor Agreement.

C. Contract Sum: The Contract Sum including accepted alternates is:

1. Indicated in the Owner/Contractor Agreement.

1.3 EXECUTION OF CONTRACT

A. Contract Documents: Executable copies of the Contract Documents will be made available to the Bidder immediately. The Bidder must comply with the following conditions precedent within 10 days of the above date of issuance of the Notice:

1. Deliver to Owner three sets of fully executed copies of the Owner/Contractor Agreement
2. Deliver with the executed Owner/Contractor Agreement the Bonds and Certificates of Insurance required by the Contract Documents.

B. Compliance: Failure to comply with conditions of this Notice within the time specified will entitle Owner to consider the Bidder in default, annul this Notice, and declare the Bidder's Bid security forfeited.

1. Within 10 days after the Bidder complies with the conditions of this Notice, Owner will return to the Bidder one fully executed copy of the Owner/Contractor Agreement.

1.4 NOTIFICATION

A. This Notice is issued by:

1. Owner: Lexington Fayette Urban County Government.

2. Authorized Signature: _____.

3. Signed By: **<Insert authorized signatory name>**.

4. Title: **<Insert authorized signatory title>**.

END OF DOCUMENT 005100

DOCUMENT 006000 - PROJECT FORMS

1.1 FORM OF AGREEMENT AND GENERAL CONDITIONS

A. The following form of Owner/Contractor Agreement and form of the General Conditions to be used for Project:

1. AIA Document A101-2017 "Standard Form of Agreement between Owner and Contractor Where the Basis of Payment is a Stipulated Sum."

    a. The General Conditions for Project are AIA Document A201-2017 "General Conditions of the Contract for Construction."

2. The General Conditions are included in the Project Manual.
3. The Supplementary Conditions for Project are separately prepared and included in the Project Manual.

1.2 ADMINISTRATIVE FORMS

A. Administrative Forms: Additional administrative forms are specified in Division 01 General Requirements.

B. Copies of AIA standard forms may be obtained from AIA Contract Documents: https://aiacontracts.com.

C. Preconstruction Forms:

1. Form of Performance Bond and Labor and Material Bond: AIA Document A312-2010 "Performance Bond" and AIA Document A312-2010 "Payment Bond."
2. Form of Certificate of Insurance: AIA Document G715-2017 "Supplemental Attachment for ACORD Certificate of Insurance 25."

D. Information and Modification Forms:

1. Form for Requests for Information (RFIs): AIA Document G716-2004 "Request for Information (RFI)."
2. Form of Request for Proposal: AIA Document G709-2018 "Proposal Request."
3. Change Order Form: AIA Document G701-2017 "Change Order."
4. Form of Architect's Memorandum for Minor Changes in the Work: AIA Document G710-2017 "Architect's Supplemental Instructions."
5. Form of Change Directive: AIA Document G714-2017 "Construction Change Directive."

E. Payment Forms:

1. Schedule of Values Form: AIA Document G703-1992 "Continuation Sheet."
2. Payment Application, Lump Sum Project: AIA Document G702-1992 "Application and Certificate for Payment" and G703-1992 "Continuation Sheet."
3. Form of Contractor's Affidavit: AIA Document G706-1994 "Contractor's Affidavit of Payment of Debts and Claims".

4. Form of Affidavit of Release of Liens on Progress Payments: AIA Document G901-2022 "Conditional Waiver and Release on Progress Payment" and AIA Document G902-2022 "Unconditional Waiver and Release on Progress Payment".
5. Form of Affidavit of Release of Liens on Final Payments: AIA Document G903-2022 "Conditional Waiver and Release on Final Payment" and AIA Document G904-2022 "Unconditional Waiver and Release on Final Payment".
6. Form of Consent of Surety: AIA Document G707-1994 "Consent of Surety to Final Payment."

END OF DOCUMENT 006000

DOCUMENT 009113 - ADDENDA

1.1 ADDENDUM

A. Addendum No. One.

1.2 PROJECT INFORMATION

A. Project Name: LFUCG DWQ Headquarters & Operations Facility

B. Owner: Lexington Fayette Urban County Government.

C. Owner Project Number: RFP #48-2024.

D. Architect: GRW Engineering Architecture Geospatial.

E. Architect Project Number: 5247-01.

F. Date of Addendum: <Insert date of Addendum>.

1.3 NOTICE TO BIDDERS

A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

C. The date for receipt of bids is [unchanged by this Addendum] [changed to the following], at same time and location.

1. Bid Date: <Insert date>.

1.4 ATTACHMENTS

A. This Addendum includes no attachments.

B. This Addendum includes the following attached Documents and Specification Sections:

1. Document <Insert Document number and name>, dated <Insert date>, [(reissued)] [(new)].
2. Specification Section <Insert Section number and name>, dated <Insert date>, [(reissued)] [(new)].

C. This Addendum includes the following attached sheets:

1. General Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
2. Civil Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
3. Landscape Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
4. Structural Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
5. Architectural Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
6. Interiors Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
7. Fire-Protection Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
8. Plumbing Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
9. Mechanical Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
10. Electrical Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].
11. Telecommunications Sheet <Insert number>, dated <Insert date>, [(reissued)] [(new)].

D. This Addendum includes the attached Addendum Drawings:

1. Civil Addendum Drawing CAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.
2. Landscape Addendum Drawing LAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.
3. Structural Addendum Drawing SAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.
4. Architectural Addendum Drawing AAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.
5. Fire-Protection Addendum Drawing FAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.
6. Plumbing Addendum Drawing PAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.
7. Mechanical Addendum Drawing MAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.
8. Electrical Addendum Drawing EAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.
9. Telecommunications Addendum Drawing TAD-<Insert number>, dated <Insert date>, revising Sheet <Insert number>.

1.5 REVISIONS TO PREVIOUS ADDENDA

A. Addendum No. 1, Document:

1. Item <Insert number>: Document <Insert Document number and name>, [(not reissued)] [(reissued)] [(new document)].

    a. Paragraph <Insert number>: <Insert explanatory text>.

B. Addendum No. 1, Specification Section:

1. Item <Insert number>: Specification Section <Insert Section number and name>, [(not reissued)] [(reissued)] [(new document)].

    a. Paragraph <Insert number>: <Insert explanatory text>.

1.6 REVISIONS TO DIVISION 00 PROCUREMENT REQUIREMENTS AND CONTRACTING REQUIREMENTS

A. Document <Insert Document number and name>, (not reissued).

1. Paragraph <Insert number>: <Insert explanatory text>.

1.7 REVISIONS TO DIVISION 01 GENERAL REQUIREMENTS

A. Specification Section <Insert Section number and name>, (not reissued).

1. Paragraph <Insert number>: <Insert explanatory text>.

1.8 REVISIONS TO DIVISIONS 02 - 49 SPECIFICATION SECTIONS

A. Specification Section <Insert section number and name>, (not reissued).

1. Paragraph <Insert number>: <Insert explanatory text>.

1.9 REVISIONS TO DRAWING SHEETS

A. Sheet <Insert number> - <Insert title> (not reissued).

1. Drawing <Insert number>: <Insert explanatory text>.

END OF DOCUMENT 009113

DIVISION 01

GENERAL REQUIREMENTS

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Contractor's use of site and premises.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and Drawing conventions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 DEFINITIONS

A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.4 PROJECT INFORMATION

A. Project Identification: LFUCG DWQ Headquarters & Operations Facility.

1. Project Location: 134 West New Circle Road, Lexington KY.

B. Owner: Lexington Fayette Urban County Government, 200E. Main Street Lexington Ky.

1. Owner's Representative: Richard Dugas, EQPW Commissioners Office 200 E. Main Street, Lexington Ky, Phone: 859-280-8520.

C. Architect: GRW Engineering Architecture Geospatial, 801 Corporate Drive, Lexington KY,

1. Architect's Representative: David Vaught, Phone: 859 880-2503.

D. Architect's Consultants: Architect has retained the following design professionals, who have prepared designated portions of the Contract Documents:

1. Landscape Architecture: Element Design.

a. Landscape Architect Representative: Ramona Fry, Phone: 859-389-6533.

E. Web-Based Project Software: Project software will be used for purposes of managing communication and documents during the construction stage.

1. See Section 013100 "Project Management and Coordination." for requirements for using web-based Project software.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:

1. The project includes renovation and fit-up of approximately 67,873 square feet of business and storage space, one new vehicle storage building of approximately 4,960 square feet, structure demolition of one small canopy approximately 4,000 square feet including all below grade improvements in preparation for the new vehicle storage building, renovation of 17,200 square feet of covered parking canopies with small storage spaces and site improvements. The project also includes new HVAC roof top units and new light fixtures and other Work indicated in the Contract Documents.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.6 OWNER-FURNISHED/OWNER-INSTALLED (OFOI) PRODUCTS

A. The Owner will furnish and install products indicated.

1.7 CONTRACTOR'S USE OF SITE AND PREMISES

A. Unrestricted Use of Site: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. Limits on Use of Site: Limit use of Project site areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.8 COORDINATION WITH OCCUPANTS

A. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.

1.9 WORK RESTRICTIONS

A. Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work to between 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.

1. Weekend Hours: 7:00 a.m. to 5:00 p.m.
2. Hours for Utility Shutdowns: Coordinate utility shutdown with owner.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:

1. Notify Architect and Owner not less than two days in advance of proposed utility interruptions.

D. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.

1. Notify Architect and Owner not less than two days in advance of proposed disruptive operations.

E. Smoking and Controlled Substance Restrictions: Use of tobacco products and other controlled substances on Owner's property is not permitted.

F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

G. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.

1. Maintain list of approved screened personnel with Owner's representative.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.

C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.

2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012200 - UNIT PRICES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for unit prices.

B. Related Requirements:

1. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

1.3 DEFINITIONS

A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.4 PROCEDURES

A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, applicable taxes, overhead, and profit.

B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.

C. Owner reserves the right to reject Contractor's measurement of work-in-place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.

D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the Part 3 "Schedule of Unit Prices" Article contain requirements for materials described under each unit price.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICE

A. Unit Price No. 1: Removal of unsatisfactory soil and replacement with satisfactory soil material.

1. Description: Unsatisfactory soil excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required, in accordance with Section 312000 "Earth Moving."
2. Unit of Measurement: cubic yard of soil excavated, based on in-place surveys of volume before and after removal.

B. Unit Price No. 2: Mass rock excavation and replacement with satisfactory soil material.

1. Description: Classified mass rock excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required, in accordance with Section 312000 "Earth Moving."
2. Unit of Measurement: cubic yard of rock excavated, based on in-place surveys of volume before and after removal.

C. Unit Price No. 3: Trench rock excavation and replacement with satisfactory soil material.

1. Description: Classified trench rock excavation and disposal off-site and replacement with satisfactory fill material or engineered fill from off-site, as required, in accordance with Section 312000 "Earth Moving."
2. Unit of Measurement: cubic yard of rock excavated, based on survey of in-place surveys volume of before and after removal.

D. Unit Price No. 4: Cutting and patching of concrete slabs-on-grade.

1. Description: Cutting of new or existing concrete slabs-on-grade up to 6 inches thick, removal and excavation as required, and subsequent backfill, compaction, and patching of concrete in accordance with Section 017300 "Execution." not otherwise indicated in the Contract Documents.
2. Unit of Measurement: square feet of concrete removed.

E. Unit Price No. 5: Miscellaneous and structural steel.

1. Description: Miscellaneous lintels and other supports not otherwise indicated in the Contract Documents, in accordance with Section 051200 "Structural Steel Framing" and Section 055000 "Metal Fabrications."
2. Unit of Measurement: Cost in place of pounds of fabricated steel, as indicated on itemized invoice of steel supplier.

F. Unit Price No. 6: Steel Decking:

1. Description: Steel Decking in accordance with Section 053100 "Steel Decking."
2. Unit of Measurement: Square Feet.

G. Unit Price No. 7: Polymer Based (EFIS):

1. Description: Polymer Based (EFIS) in accordance with Section 072413 " Polymer Based (EFIS)."
2. Unit of Measurement: Square Feet.

H. Unit Price No. 8: SBS Modified Roofing:

1. Description: SBS Modified Roofing in accordance with Section 075216 " SBS Modified Roofing."
2. Unit of Measurement: Square Feet.

I. Unit Price No. 9: Non-Structural Metal Framing:

1. Description: Non-Structural Metal Framing in accordance with Section 092216 " Non-Structural Metal Framing"
2. Unit of Measurement: Square Feet.

J. Unit Price No. 10: Gypsum Board:

1. Description: Gypsum Board in accordance with Section 092900 "Gypsum Board"
2. Unit of Measurement: Square Feet.

K. Unit Price No. 11: Ceramic Floor Tile:

1. Description: Ceramic Floor Tile in accordance with Section 093013 "Ceramic Tiling"
2. Unit of Measurement: Square Feet.

L. Unit Price No. 12: Ceramic Wall Tile:

1. Description: Ceramic Wall Tile in accordance with Section 093013 "Ceramic Tiling"
2. Unit of Measurement: Square Feet.

M. Unit Price No. 13: Porcelain Floor Tile:

1. Description: Porcelain Floor Tile in accordance with Section 093013 "Ceramic Tiling"
2. Unit of Measurement: Square Feet.

N. Unit Price No. 14: Acoustical Panel Ceilings:

1. Description: Acoustical Panel Ceilings in accordance with Section 095113 "Acoustical Panel Ceilings"
2. Unit of Measurement: Square Feet.

O. Unit Price No. 15: Resinous Flooring:

1. Description: Resinous Flooring in accordance with Section 096723 "Resinous Flooring"
2. Unit of Measurement: Square Feet.

P. Unit Price No. 16: Linoleum Flooring:

1. Description: Linoleum Flooring in accordance with Section 096543 "Linoleum Flooring”
2. Unit of Measurement: Square Feet.

Q. Unit Price No. 17: Tile Carpeting:

1. Description: Tile Carpeting in accordance with Section 096813 "Tile Carpeting”
2. Unit of Measurement: Square Feet.

R. Unit Price No. 18: Exterior Painting:

1. Description: Exterior Painting in accordance with Section 099113 " Exterior Painting”
2. Unit of Measurement: Square Feet.

S. Unit Price No. 19: Interior Painting:

1. Description: Interior Painting in accordance with Section 099123 "Interior Painting”
2. Unit of Measurement: Square Feet.

T. Unit Price No. 20: Solid Surface Countertops:

1. Description: Solid Surface Countertops in accordance with Section 123661 "Solid Surface Countertops”
2. Unit of Measurement: Square Feet.

U. Unit Price No. 21: Interior Furnishings:

1. Description: Interior Furnishings in accordance with Section 125000 "Interior Furnishings”
2. Unit of Measurement: One standard cubical.

V. Unit Price No. 22: DGA Fill Compacted in Place:

1. Description: DGA Fill Compacted in Place in accordance with Section 312010 "Building Structure Excavation and Backfill”
2. Unit of Measurement: Ton.

W. Unit Price No. 23: No. 2 Stone Fill Compacted in Place:

1. Description: No. 2 Stone Fill Compacted in Place in accordance with Section 312010 "Building Structure Excavation and Backfill”
2. Unit of Measurement: Ton.

X. Unit Price No. 24: S-2 Diffuser with 5 Feet Flex Duct:

1. Description: S-2 Diffuser with 5 Feet Flex Duct in accordance with Section 233713 "Air Distribution Devices”
2. Unit of Measurement: Each

Y. Unit Price No. 25: S-4 Diffuser with 5 Feet Flex Duct:

1. Description: S-4 Diffuser with 5 Feet Flex Duct in accordance with Section 233713 "Air Distribution Devices”
2. Unit of Measurement: Each

Z. Unit Price No. 26: Duplex Receptacle w/ 25’ of conduit / wiring and connected to circuit:

1. Description: Duplex Receptacle w/ 25’ of conduit / wiring and connected to circuit in accordance with Section 26000 "Electrical”
2. Unit of Measurement: Each

AA. Unit Price No. 27: GFIC Receptacle w/ 25’ of conduit / wiring and connected to circuit:

1. Description: GFIC Receptacle w/ 25’ of conduit / wiring and connected to circuit in accordance with Section 26000 "Electrical”
2. Unit of Measurement: Each

BB. Unit Price No. 28: Comm. Outlet (Type D1) with 15’ of Conduit and 200’ of cabling (1-CAT 6A cables):

1. Description: Comm. Outlet (Type D1) with 15’ of Conduit and 200’ of cabling (1-CAT 6A cables):in accordance with Section 27000 "Communications”
2. Unit of Measurement: Each

CC. Unit Price No. 29: Comm. Outlet (Type D2) with 15’ of Conduit and 200’ of cabling (2-CAT 6A cables):

1. Description: Comm. Outlet (Type D2) with 15’ of Conduit and 200’ of cabling (2-CAT 6A cables):in accordance with Section 27000 "Communications”
2. Unit of Measurement: Each

DD. Unit Price No. 30: Comm. Outlet (Type D3) with 15’ of Conduit and 200’ of cabling (3-CAT 6A cables):

1. Description: Comm. Outlet (Type D3) with 15’ of Conduit and 200’ of cabling (3-CAT 6A cables):in accordance with Section 27000 "Communications”
2. Unit of Measurement: Each

EE. Unit Price No. 31: Comm. Outlet (WAP) with 200’ of cabling (1-CAT 6A cables):

1. Description: Comm. Outlet Comm. Outlet (WAP) with 200’ of cabling (1-CAT 6A cables):in accordance with Section 27000 "Communications”
2. Unit of Measurement: Each

FF. Unit Price No. 32: Exit Sign “X-1” with 25’ of conduit / wiring and connection to circuit:

1. Description: Exit Sign “X-1” with 25’ of conduit / wiring and connection to circuit in accordance with Section 260000 "Electrical”
2. Unit of Measurement: Each

GG. Unit Price No. 33: “L1” Luminaire:

1. Description: “L1” Luminaire in accordance with Section 265100 "LED Lighting”
2. Unit of Measurement: Each

HH. Unit Price No. 34: “L1E” Luminaire:

1. Description: “L1E” Luminaire in accordance with Section 265100 "LED Lighting”
2. Unit of Measurement: Each

II. Unit Price No. 35: “L2” Luminaire:

1. Description: “L2” Luminaire in accordance with Section 265100 "LED Lighting”
2. Unit of Measurement: Each

JJ. Unit Price No. 36: “L2E” Luminaire:

1. Description: “L2E” Luminaire in accordance with Section 265100 "LED Lighting”
2. Unit of Measurement: Each

KK. Unit Price No. 37: Fire Alarm Pull Station with 25’ of conduit / wiring and connection to circuit:

1. Description: Fire Alarm Pull Station with 25’ of conduit / wiring and connection to circuit in accordance with Section 283103 "Fire Alarm System Modifications”
2. Unit of Measurement: Each

LL. Unit Price No. 38: Smoke Detector with 25’ of conduit / wiring and connection to circuit:

1. Description: Smoke Detector with 25’ of conduit / wiring and connection to circuit in accordance with Section 283103 "Fire Alarm System Modifications”
2. Unit of Measurement: Each

MM. Unit Price No. 39: Fire Alarm Audio/Visual with 25’ of conduit / wiring and connection to circuit:

1. Description: Fire Alarm Audio/Visual with 25’ of conduit / wiring and connection to circuit in accordance with Section 283103 "Fire Alarm System Modifications”
2. Unit of Measurement: Each

NN. Unit Price No. 40: Fire Alarm Duct Smoke Detector with 25’ of conduit / wiring and connection to circuit:

1. Description: Fire Alarm Duct Smoke Detector with 25’ of conduit / wiring and connection to circuit in accordance with Section 283103 "Fire Alarm System Modifications”
2. Unit of Measurement: Each

END OF SECTION 012200

SECTION 012300 - ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.3 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.4 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include, as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation, whether or not indicated as part of alternate.

B. Execute accepted alternates under the same conditions as other Work of the Contract.

C. Schedule: A Part 3 "Schedule of Alternates" Article is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Add Alternate #1: Relocate the Vactor Building.

1. Base Bid: Vactor Building and site utilities shall be installed as indicated in the Construction Documents. The exterior structures canopy shall be demolished as indicated in the Construction Documents.

2. Alternate: Vactor Building, site grading and site utilities shall be relocated as indicated in Add Alternate #1 of the Construction Documents. The exterior structures canopy shall remain. Provide new exterior structures canopy finishes and utilities as indicated in Add Alternate #1 of the Construction Documents.

B. Add Alternate #2: New Metal Roof Decking.

1. Base Bid: Remove existing roofing material to existing lightweight concrete deck over insulation board and existing bar joist as indicated on Drawing Roof Level Demolition AD102 and as specified in Section 024119 "Selective Demolition."

2. Alternate: Remove existing lightweight concrete deck and insulation board. Existing bar joist to remain. Prepare bar joist for new metal decking and provide new metal decking over existing bar joist to remain. as indicated on Drawing Roof Level Demolition AD102 and as specified in Section 024119 " Selective Demolition."

C. Add Alternate #3: Mechanical Equipment Preventative Maintenance

1. Base Bid: General Contractor and Mechanical contractor shall provide a standard one-year construction warranty from date of substantial completion and manufacturer warranties as indicated in each specification section of the construction documents. Acceptance of Add Alternate #3 does not waive the base bid requirements. Add alternate #3 is in addition to the base bid requirements.

2. Alternate: Mechanical contractor shall include a preventative service maintenance contract for all mechanical equipment for a period of three years from the date of substantial completion. All preventative maintenance work shall be per manufacturers written installation and maintenance recommendations.

END OF SECTION 012300

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for substitutions.

B. Related Requirements:

1. Document 002600 "Procurement Substitution Procedures" for requirements for substitution requests prior to award of Contract.
2. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required to meet other Project requirements but may offer advantage to Contractor or Owner.

1.4 ACTION SUBMITTALS

A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Substitution Request Form: Use form acceptable to Architect.
2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.

b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.
g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project, from authorities having jurisdiction.
j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.

3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.7 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
b. Substitution request is fully documented and properly submitted.
c. Requested substitution will not adversely affect Contractor's construction schedule.
d. Requested substitution has received necessary approvals of authorities having jurisdiction.
e. Requested substitution is compatible with other portions of the Work.
f. Requested substitution has been coordinated with other portions of the Work.
g. Requested substitution provides specified warranty.
h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
b. Requested substitution does not require extensive revisions to the Contract Documents.
c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
d. Substitution request is fully documented and properly submitted.
e. Requested substitution will not adversely affect Contractor's construction schedule.

f. Requested substitution has received necessary approvals of authorities having jurisdiction.
g. Requested substitution is compatible with other portions of the Work.
h. Requested substitution has been coordinated with other portions of the Work.
i. Requested substitution provides specified warranty.
j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Requirements:

1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.
2. Section 013100 "Project Management and Coordination" for requirements for forms for contract modifications provided as part of web-based Project management software.

1.3 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710.

1.4 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.

2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include costs of labor and supervision directly attributable to the change.

d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
e. Quotation Form: Use forms acceptable to Architect.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use form acceptable to Architect.

1.5 ADMINISTRATIVE CHANGE ORDERS

A. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.

1.6 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Requirements:

1. Document 004373 "Proposed Schedule of Values Form" for requirements for furnishing proposed schedule of values with bid.
2. Section 012200 "Unit Prices" for administrative requirements governing the use of unit prices.
3. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
4. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.

2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:

    a. Project name and location.
    b. Owner's name.
    c. Owner's Project number.
    d. Name of Architect.
    e. Architect's Project number.
    f. Contractor's name and address.
    g. Date of submittal.

2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:

    a. Related Specification Section or division.
    b. Description of the Work.
    c. Name of subcontractor.
    d. Name of manufacturer or fabricator.
    e. Name of supplier.
    f. Change Orders (numbers) that affect value.
    g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.

        1) Labor.
        2) Materials.
        3) Equipment.

4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.

5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site.

6. Temporary Facilities: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.

7. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.

8. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect and paid for by Owner.

B. Payment Application Times: Submit Application for Payment to Architect by the first of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.

C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.

E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.

1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
3. Provide summary documentation for stored materials indicating the following:

a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

F. Transmittal: Submit One signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.

G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment

1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
2. When an application shows completion of an item, submit conditional final or full waivers.
3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.

H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:

1. List of subcontractors.
2. Schedule of values.
3. Contractor's construction schedule (preliminary if not final).
4. Certificates of insurance and insurance policies.
5. Performance and payment bonds.
6. Data needed to acquire Owner's insurance.

I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

    a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 017700 "Closeout Procedures."

2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Certification of completion of final punch list items.
3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
4. Updated final statement, accounting for final changes to the Contract Sum.
5. AIA Document G706.

6. AIA Document G706A.
7. AIA Document G707.
8. Evidence that claims have been settled.
9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
10. Final liquidated damages settlement statement.
11. Proof that taxes, fees, and similar obligations are paid.
12. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. RFIs.
4. Digital project management procedures.
5. Web-based Project management software package.
6. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Requirements:

1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.3 DEFINITIONS

A. BIM: Building Information Modeling.

B. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses, cellular telephone numbers, and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in Project meeting room, in temporary field office, and in prominent location in built facility. Keep list current at all times.

1.5 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

1.6 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

a. Use applicable Drawings as a basis for preparation of coordination drawings. Prepare sections, elevations, and details as needed to describe relationship of various systems and components.
b. Coordinate the addition of trade-specific information to coordination drawings in a sequence that best provides for coordination of the information and resolution of conflicts between installed components before submitting for review.
c. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
d. Indicate space requirements for routine maintenance and for anticipated replacement of components during the life of the installation.
e. Show location and size of access doors required for access to concealed dampers, valves, and other controls.
f. Indicate required installation sequences.
g. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Plenum Space: Indicate subframing for support of ceiling**,** raised access floor, and wall systems, mechanical and electrical equipment, and related Work. Locate components within plenums to accommodate layout of light fixtures and other components indicated on Drawings. Indicate areas of conflict between light fixtures and other components.
3. Mechanical Rooms: Provide coordination drawings for mechanical rooms, showing plans and elevations of mechanical, plumbing, fire-protection, fire-alarm, and electrical equipment.
4. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
5. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.
6. Mechanical and Plumbing Work: Show the following:

a. Sizes and bottom elevations of ductwork, piping, and conduit runs, including insulation, bracing, flanges, and support systems.
b. Dimensions of major components, such as dampers, valves, diffusers, access doors, cleanouts and electrical distribution equipment.
c. Fire-rated enclosures around ductwork.

7. Electrical Work: Show the following:

a. Runs of vertical and horizontal conduit 1-1/4 inches in diameter and larger.
b. Light fixture, exit light, emergency battery pack, smoke detector, and other fire-alarm locations.
c. Panel board, switchboard, switchgear, transformer, busway, generator, and motor-control center locations.
d. Location of pull boxes and junction boxes, dimensioned from column center lines.

8. Fire-Protection System: Show the following:

a. Locations of standpipes, mains piping, branch lines, pipe drops, and sprinkler heads.

9. Review: Architect will review coordination drawings to confirm that, in general, the Work is being coordinated, but not for the details of the coordination, which are Contractor's responsibility. If Architect determines that coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, Architect will so inform Contractor, who shall make suitable modifications and resubmit.
10. Coordination Drawing Prints: Prepare coordination drawing prints according to requirements in Section 013300 "Submittal Procedures."

C. Coordination Drawing Process: Prepare coordination drawings in the following manner:

1. Schedule submittal and review of Fire Sprinkler, Plumbing, HVAC, and Electrical Shop Drawings to make required changes prior to preparation of coordination drawings.
2. Commence routing of coordination drawing files with HVAC Installer, who will provide drawing plan files denoting approved ductwork. HVAC Installer will locate ductwork and piping on a single layer, using orange color. Forward drawings to Plumbing Installer.
3. Plumbing Installer will locate plumbing and equipment on a single layer, using blue color.
4. Fire Sprinkler Installer will locate piping and equipment, using red color. Fire Sprinkler Installer shall forward drawing files to Electrical Installer.
5. Electrical Installer will indicate service and feeder conduit runs and equipment in green color. Electrical Installer shall forward drawing files to Communications and Electronic Safety and Security Installer.
6. Communications and Electronic Safety and Security Installer will indicate cable trays and cabling runs and equipment in purple color. Communications and Electronic Safety and Security Installer shall forward completed drawing files to Contractor.
7. Contractor shall perform the final coordination review. As each coordination drawing is completed, Contractor will meet with Architect to review and resolve conflicts on the coordination drawings.

D. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:

1. File Preparation Format:

    a. Same digital data software program, version, and operating system as original Drawings.
    b. DWG, Version AutoCAD 2018, operating in Microsoft Windows operating system.

2. File Submittal Format: Submit or post coordination drawing files using PDF format.

3. Architect will furnish Contractor one set of digital data files of Drawings for use in preparing coordination digital data files.

    a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
    b. Digital Data Software Program: Drawings are available in Autodesk Revit 2024 operating in Microsoft Windows operating system.
    c. Contractor shall execute a data licensing agreement in the form of AIA Document C106

1.7 REQUEST FOR INFORMATION (RFI)

A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Owner name.
3. Owner's Project number.
4. Name of Architect.
5. Architect's Project number.
6. Date.
7. Name of Contractor.
8. RFI number, numbered sequentially.
9. RFI subject.
10. Specification Section number and title and related paragraphs, as appropriate.
11. Drawing number and detail references, as appropriate.
12. Field dimensions and conditions, as appropriate.
13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
14. Contractor's signature.

15. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Architect.

1. Attachments shall be electronic files in PDF format.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. The following Contractor-generated RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.
    c. Requests for approval of Contractor's means and methods.
    d. Requests for coordination information already indicated in the Contract Documents.
    e. Requests for adjustments in the Contract Time or the Contract Sum.
    f. Requests for interpretation of Architect's actions on submittals.
    g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.
3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

    a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Architect in writing within 5 days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log Use software log that is part of web-based Project management software. Software log with not less than the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect.
4. RFI number, including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.
8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within three days if Contractor disagrees with response.

1.8 DIGITAL PROJECT MANAGEMENT PROCEDURES

A. Use of Architect's Digital Data Files: Digital data files of Architect's BIM model and CAD drawings will be provided by Architect for Contractor's use during construction.

1. Digital data files may be used by Contractor in preparing coordination drawings, Shop Drawings, and Project Record Drawings.
2. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Contract Drawings.
3. Digital Drawing Software Program: Contract Drawings are available in Autodesk Revit 2024 and AutoCAD 2018.
4. Contractor shall execute a data licensing agreement in the form of AIA Document C106 Digital Data Licensing Agreement.

    a. Subcontractors and other parties granted access by Contractor to Architect's digital data files shall execute a data licensing agreement in the form of AIA Document C106.

B. Web-Based Project Management Software Package: Use Architect's web-based Project management software package for purposes of hosting and managing Project communication and documentation until Final Completion.

1. Web-based Project management software includes, at a minimum, the following features:

    a. Compilation of Project data, including Contractor, subcontractors, Architect, Architect's consultants, Owner, and other entities involved in Project. Include names of individuals and contact information.
    b. Access control for each entity for each workflow process, to determine entity's digital rights to create, modify, view, and print documents.
    c. Document workflow planning, allowing customization of workflow between project entities.
    d. Creation, logging, tracking, and notification for Project communications required in other Specification Sections, including, but not limited to, RFIs, submittals, Minor Changes in the Work, Construction Change Directives, and Change Orders.
    e. Track status of each Project communication in real time, and log time and date when responses are provided.
    f. Procedures for handling PDFs or similar file formats, allowing markups by each entity. Provide security features to lock markups against changes once submitted.
    g. Processing and tracking of payment applications.
    h. Processing and tracking of contract modifications.
    i. Creating and distributing meeting minutes.
    j. Document management for Drawings, Specifications, and coordination drawings, including revision control.
    k. Management of construction progress photographs.
    l. Mobile device compatibility, including smartphones and tablets.

C. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:

1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with submittal number or other unique identifier, including revision identifier.
3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.9 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of seven days prior to meeting.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Architect, within three days of the meeting.

B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner**,** Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:

a. Responsibilities and personnel assignments.
b. Tentative construction schedule.
c. Critical work sequencing and long lead items.
d. Designation of key personnel and their duties.
e. Lines of communications.
f. Use of web-based Project software.
g. Procedures for processing field decisions and Change Orders.
h. Procedures for RFIs.
i. Procedures for processing Applications for Payment.
j. Distribution of the Contract Documents.
k. Submittal procedures.
l. Preparation of Record Documents.
m. Use of the premises and existing building.
n. Work restrictions.
o. Working hours.
p. Owner's occupancy requirements.
q. Responsibility for temporary facilities and controls.

r. Procedures for moisture and mold control.
s. Procedures for disruptions and shutdowns.
t. Construction waste management and recycling.
u. Parking availability.
v. Office, work, and storage areas.
w. Equipment deliveries and priorities.
x. First aid.
y. Security.
z. Progress cleaning.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other Sections and when required for coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. Review of mockups.
i. Possible conflicts.
j. Compatibility requirements.
k. Time schedules.
l. Weather limitations.
m. Manufacturer's written instructions.
n. Warranty requirements.
o. Compatibility of materials.
p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner and Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

    a. Preparation of Record Documents.
    b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
    c. Procedures for completing and archiving web-based Project software site data files.
    d. Submittal of written warranties.
    e. Requirements for preparing operations and maintenance data.
    f. Requirements for delivery of material samples, attic stock, and spare parts.
    g. Requirements for demonstration and training.
    h. Preparation of Contractor's punch list.
    i. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
    j. Submittal procedures.
    k. Owner's partial occupancy requirements.
    l. Installation of Owner's furniture, fixtures, and equipment.
    m. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

E. Progress Meetings: Conduct progress meetings at monthly intervals.

1. Coordinate dates of meetings with preparation of payment requests.

2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule,

in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site use.
8) Temporary facilities and controls.
9) Progress cleaning.
10) Quality and work standards.
11) Status of correction of deficient items.
12) Field observations.
13) Status of RFIs.
14) Status of Proposal Requests.
15) Pending changes.
16) Status of Change Orders.
17) Pending claims and disputes.
18) Documentation of information for payment requests.

3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

F. Coordination Meetings: Conduct Project coordination meetings at regular intervals. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction

schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.

c. Review present and future needs of each contractor present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site use.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.
13) Status of RFIs.
14) Proposal Requests.
15) Change Orders.
16) Pending changes.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Startup construction schedule.
2. Contractor's Construction Schedule.
3. Construction schedule updating reports.
4. Daily construction reports.
5. Material location reports.
6. Site condition reports.
7. Unusual event reports.

B. Related Requirements:

1. Section 012900 "Payment Procedures" for schedule of values and requirements for use of cost-loaded schedule for Applications for Payment.
2. Section 014000 "Quality Requirements" for schedule of tests and inspections.

1.2 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.

C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine the critical path of Project and when activities can be performed.

D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

E. Event: The starting or ending point of an activity.

F. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

G. Resource Loading: The allocation of labor and equipment necessary for completing an activity as scheduled.

1.3 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file.
2. PDF file.

B. Startup construction schedule.

1. Submittal of cost-loaded startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports to contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for each activity, sorted in ascending order by activity number and then by early start date, or actual start date if known.
3. Total Float Report: List of activities sorted in ascending order of total float.
4. Earnings Report: Compilation of Contractor's total earnings from the Notice to Proceed until most recent Application for Payment.

E. Construction Schedule Updating Reports: Submit with Applications for Payment.

F. Daily Construction Reports: Submit at weekly intervals.

G. Material Location Reports: Submit at monthly intervals.

H. Site Condition Reports: Submit at time of discovery of differing conditions.

I. Unusual Event Reports: Submit at time of unusual event.

1.4 COORDINATION

A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities, and schedule them in proper sequence.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Computer Scheduling Software: Prepare schedules using current version of a program that is capable of managing construction schedules.

B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.

1. Contract completion date to not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

C. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Temporary Facilities: Indicate start and completion dates for the following as applicable:

    a. Securing of approvals and permits required for performance of the Work.
    b. Temporary facilities.
    c. Construction of mock-ups, prototypes and samples.
    d. Owner interfaces and furnishing of items.
    e. Interfaces with Separate Contracts.
    f. Regulatory agency approvals.
    g. Punch list.

3. Procurement Activities: Include procurement process activities for the following long lead-time items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

    a. HVAC Roof Top Units Equipment.

4. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
5. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
6. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.

7. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and Final Completion.

D. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
2. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
3. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
4. Work Restrictions: Show the effect of the following items on the schedule:

    a. Coordination with existing construction.
    b. Limitations of continued occupancies.
    c. Uninterruptible services.
    d. Partial occupancy before Substantial Completion.
    e. Use-of-premises restrictions.
    f. Provisions for future construction.
    g. Seasonal variations.
    h. Environmental control.

5. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:

    a. Structural completion.
    b. Temporary enclosure and space conditioning.
    c. Permanent space enclosure.
    d. Completion of mechanical installation.
    e. Completion of electrical installation.
    f. Substantial Completion.

E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion**.**

F. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.

1. See Section 012900 "Payment Procedures" for cost reporting and payment procedures.

G. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered Requests for Information.

3. Rejected or unreturned submittals.
4. Notations on returned submittals.
5. Pending modifications affecting the Work and the Contract Time.

H. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate Final Completion percentage for each activity.

I. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.

J. Distribution: Distribute copies of approved schedule to Architect**,** Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

1.6 STARTUP CONSTRUCTION SCHEDULE

A. Gantt-Chart Schedule: Submit startup, horizontal, Gantt-chart-type construction schedule within seven days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

1.7 GANTT-CHART SCHEDULE REQUIREMENTS

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's Construction Schedule within **30** days of date established for the Notice to Proceed.

1. Base schedule on the startup construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

1.8 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Testing and inspection.
8. Accidents.
9. Meetings and significant decisions.
10. Unusual events.
11. Stoppages, delays, shortages, and losses.
12. Meter readings and similar recordings.
13. Emergency procedures.
14. Orders and requests of authorities having jurisdiction.
15. Change Orders received and implemented.
16. Construction Change Directives received and implemented.
17. Services connected and disconnected.
18. Equipment or system tests and startups.
19. Partial completions and occupancies.
20. Substantial Completions authorized.

B. Material Location Reports: At monthly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List to be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site. Indicate the following categories for stored materials:

1. Material stored prior to previous report and remaining in storage.
2. Material stored prior to previous report and since removed from storage and installed.
3. Material stored following previous report and remaining in storage.

C. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

D. Unusual Event Reports: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain

of events, persons participating, responses by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

1. Submit unusual event reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Concealed Work photographs.
3. Periodic construction photographs.
4. Final Completion construction photographs.

B. Related Requirements:

1. Section 017700 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
2. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.
3. Section 024116 "Structure Demolition" for photographic documentation before building demolition operations commence.
4. Section 024119 "Selective Demolition" for photographic documentation before selective demolition operations commence.
5. Section 311000 "Site Clearing" for photographic documentation before site clearing operations commence.

1.2 INFORMATIONAL SUBMITTALS

A. Digital Photographs: Submit image files within three days of taking photographs.

1. Submit photos by uploading to web-based Project management software site.
2. Identification: Provide the following information with each image description in web-based Project management software site:

a. Name of Project.
b. Name and contact information for photographer.
c. Name of Architect
d. Name of Contractor.
e. Date photograph was taken.
f. Description of location, vantage point, and direction.

1.3 FORMATS AND MEDIA

A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 by 2400 pixels. Use flash in low light levels or backlit conditions.

B. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

C. Metadata: Record accurate date and time from camera.

D. File Names: Name media files with date and sequential numbering suffix.

1.4 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified photographer to take construction photographs.

B. General: Take photographs with maximum depth of field and in focus.

C. Preconstruction Photographs: Before commencement of the Work, take photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points, as directed by Architect.

1. Flag construction limits before taking construction photographs.
2. Take 20 photographs to show existing conditions adjacent to property before starting the Work.
3. Take 20 photographs of existing buildings either on or adjoining property, to accurately record physical conditions at start of construction.
4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.

D. Concealed Work Photographs: Before proceeding with installing work that will conceal other work, take photographs sufficient in number, with annotated descriptions, to record nature and location of concealed Work, including, but not limited to, the following:

1. Underground utilities.
2. Underslab services.
3. Piping.
4. Electrical conduit.
5. Waterproofing and weather-resistant barriers.

E. Periodic Construction Photographs: Take 20 photographs weekly coinciding with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

F. Final Completion Construction Photographs: Take 20 photographs after date of Substantial Completion for submission as Project Record Documents. Architect will inform photographer of desired vantage points.

G. Additional Photographs: Architect may request photographs in addition to periodic photographs specified. Additional photographs will be paid for by Change Order and are not included in the Contract Sum

1. Three days' notice will be given, where feasible.
2. In emergency situations, take additional photographs within 24 hours of request.

3. Circumstances that could require additional photographs include, but are not limited to, the following:

    a. Special events planned at Project site.
    b. Immediate follow-up when on-site events result in construction damage or losses.
    c. Photographs are to be taken at fabrication locations away from Project site. These photographs are not subject to unit prices or unit-cost allowances.
    d. Substantial Completion of a major phase or component of the Work.
    e. Extra record photographs at time of final acceptance.
    f. Owner's request for special publicity photographs.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013233

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

B. Related Requirements:

1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 013100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
3. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
4. Section 013233 "Photographic Documentation" for submitting preconstruction photographs, periodic construction photographs, and Final Completion construction photographs.
5. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
6. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
7. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
8. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.
9. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.

2. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.

    a. Submit revised submittal schedule as required to reflect changes in current status and timing for submittals.

3. Format: Arrange the following information in a tabular format:

    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal Category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Architect's final release or approval.

1.4 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Architect.
4. Name of Contractor.
5. Name of firm or entity that prepared submittal.
6. Names of subcontractor, manufacturer, and supplier.
7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier and alphanumeric suffix for resubmittals.
8. Category and type of submittal.
9. Submittal purpose and description.
10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
11. Drawing number and detail references, as appropriate.
12. Indication of full or partial submittal.
13. Location(s) where product is to be installed, as appropriate.
14. Other necessary identification.
15. Remarks.
16. Signature of transmitter.

B. Options: Identify options requiring selection by Architect.

C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

E. Submittals Utilizing Web-Based Project Software: Prepare submittals as PDF files or other format indicated by Project management software.

1.5 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project management software website. Enter required data in web-based software site to fully identify submittal.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
3. Resubmittal Review: Allow 15 days for review of each resubmittal.

4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.6 SUBMITTAL REQUIREMENTS

A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

    a. Wiring diagrams that show factory-installed wiring.
    b. Printed performance curves.
    c. Operational range diagrams.
    d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.

B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

    a. Identification of products.
    b. Schedules.
    c. Compliance with specified standards.
    d. Notation of coordination requirements.
    e. Notation of dimensions established by field measurement.
    f. Relationship and attachment to adjoining construction clearly indicated.
    g. Seal and signature of professional engineer if specified.

2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.

C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.

1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
2. Identification: Permanently attach label on unexposed side of Samples that includes the following:

    a. Project name and submittal number.
    b. Generic description of Sample.
    c. Product name and name of manufacturer.
    d. Sample source.
    e. Number and title of applicable Specification Section.
    f. Specification paragraph number and generic name of each item.

3. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.

    a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and

physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.

1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.

E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

G. Certificates:

1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
2. Installer Certificates: Submit written statements on manufacturer's letterhead, certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.

5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.
6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.

H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

    a. Name of evaluation organization.
    b. Date of evaluation.
    c. Time period when report is in effect.
    d. Product and manufacturers' names.
    e. Description of product.
    f. Test procedures and results.
    g. Limitations of use.

1.7 DELEGATED DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file paper copies of certificate, signed and

sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.8 CONTRACTOR'S REVIEW

A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp indication in web-based Project management software. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 ARCHITECT'S REVIEW

A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return.

1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action**.**

2. Submittals by Web-Based Project Management Software: Architect will indicate, on Project management software website, the appropriate action.

B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.

C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.

D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

E. Architect will return without review submittals received from sources other than Contractor.

F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes special procedures for alteration work.

1.2 DEFINITIONS

A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.

B. Consolidate: To strengthen loose or deteriorated materials in place.

C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.

D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.

F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.

G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.

H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.

I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.

J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.

K. Retain: To keep an element or detail secure and intact.

L. Strip: To remove existing finish down to base material unless otherwise indicated.

1.3 COORDINATION

A. Alteration Work Subschedule: A construction schedule coordinating the sequencing and scheduling of alteration work for entire Project, including each activity to be performed, and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for alteration work.

1. Schedule construction operations in sequence required to obtain best Work results.
2. Coordinate sequence of alteration work activities to accommodate the following:

    a. Owner's continuing occupancy of portions of existing building.
    b. Owner's partial occupancy of completed Work.
    c. Other known work in progress.
    d. Tests and inspections.

3. Detail sequence of alteration work, with start and end dates.
4. Utility Services: Indicate how long utility services will be interrupted. Coordinate shutoff, capping, and continuation of utility services.
5. Use of elevator and stairs.
6. Equipment Data: List gross loaded weight, axle-load distribution, and wheel-base dimension data for mobile and heavy equipment proposed for use in existing structure. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.

B. Pedestrian and Vehicular Circulation: Coordinate alteration work with circulation patterns within Project building(s) and site. Some work is near circulation patterns and adjacent to restricted areas. Circulation patterns cannot be closed off entirely and in places can be only temporarily redirected around small areas of work. Access to restricted areas may not be obstructed. Plan and execute the Work accordingly.

1.4 PROJECT MEETINGS FOR ALTERATION WORK

A. Preliminary Conference for Alteration Work: Before starting alteration work, conduct conference at Project site.

1. Attendees: In addition to representatives of Owner, Architect, and Contractor, testing service representative, specialists, and chemical-cleaner manufacturer(s) shall be represented at the meeting.
2. Agenda: Discuss items of significance that could affect progress of alteration work, including review of the following:

    a. Alteration Work Subschedule: Discuss and finalize; verify availability of materials, specialists' personnel, equipment, and facilities needed to make progress and avoid delays.
    b. Fire-prevention plan.
    c. Governing regulations.
    d. Areas where existing construction is to remain and the required protection.
    e. Hauling routes.
    f. Sequence of alteration work operations.
    g. Storage, protection, and accounting for salvaged and specially fabricated items.

h. Existing conditions, staging, and structural loading limitations of areas where materials are stored.
i. Qualifications of personnel assigned to alteration work and assigned duties.
j. Requirements for extent and quality of work, tolerances, and required clearances.
k. Embedded work such as flashings and lintels, special details, collection of waste, protection of occupants and the public, and condition of other construction that affects the Work or will affect the work.

3. Reporting: Record conference results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from conference.

B. Coordination Meetings: Conduct coordination meetings specifically for alteration work at monthly intervals. Coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner, Architect, and Contractor, each specialist, supplier, installer, and other entity concerned with progress or involved in planning, coordination, or performance of alteration work activities shall be represented at these meetings. All participants at conference shall be familiar with Project and authorized to conclude matters relating to alteration work.
2. Agenda: Review and correct or approve minutes of previous coordination meeting. Review other items of significance that could affect progress of alteration work. Include topics for discussion as appropriate to status of Project.

a. Alteration Work Subschedule: Review progress since last coordination meeting. Determine whether each schedule item is on time, ahead of schedule, or behind schedule. Determine how construction behind schedule will be expedited with retention of quality; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities are completed within the Contract Time.
b. Schedule Updating: Revise Contractor's Alteration Work Subschedule after each coordination meeting where revisions to schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
c. Review present and future needs of each entity present, including review items listed in the "Preliminary Conference for Alteration Work" Paragraph in this article and the following:

1) Interface requirements of alteration work with other Project Work.
2) Status of submittals for alteration work.
3) Access to alteration work locations.
4) Effectiveness of fire-prevention plan.
5) Quality and work standards of alteration work.
6) Change Orders for alteration work.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

1.5 MATERIALS OWNERSHIP

A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.

1. Carefully dismantle and salvage each item or object in a manner to prevent damage and protect it from damage, then promptly deliver it to Owner where directed at Project site.

1.6 INFORMATIONAL SUBMITTALS

A. Alteration Work Subschedule:

1. Submit alteration work subschedule within seven days of date established for commencement of alteration work.

B. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.

C. Alteration Work Program: Submit 30 days before work begins.

D. Fire-Prevention Plan: Submit 30 days before work begins.

1.7 QUALITY ASSURANCE

A. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.

1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.

B. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.

C. Safety and Health Standard: Comply with ANSI/ASSP A10.6.

1.8 STORAGE AND HANDLING OF SALVAGED MATERIALS

A. Salvaged Materials:

1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.
2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area on-site.
5. Protect items from damage during transport and storage.

B. Salvaged Materials for Reinstallation:

1. Repair and clean items for reuse as indicated.
2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.

C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.

D. Storage: Catalog and store items within a weathertight enclosure where they are protected from moisture, weather, condensation, and freezing temperatures.

1. Identify each item for reinstallation with a nonpermanent mark to document its original location. Indicate original locations on plans, elevations, sections, or photographs by annotating the identifying marks.
2. Secure stored materials to protect from theft.
3. Control humidity so that it does not exceed 85 percent. Maintain temperatures 5 deg F or more above the dew point.

E. Storage Space:

1. Owner will arrange for limited on-site location(s) for free storage of salvaged material. This storage space includes climate control for stored material.
2. Arrange for off-site locations for storage and protection of salvaged material that cannot be stored and protected on-site.

1.9 FIELD CONDITIONS

A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of measured drawings preconstruction photographs and preconstruction videotapes.

1. Comply with requirements specified in Section 013233 "Photographic Documentation."

B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

C. Size Limitations in Existing Spaces: Materials, products, and equipment used for performing the Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within existing spaces, areas, rooms, and openings, including temporary protection, by 12 inches or more.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION

A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.

1. Use only proven protection methods, appropriate to each area and surface being protected.
2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
3. Erect temporary barriers to form and maintain fire-egress routes.
4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
8. Provide supplemental sound-control treatment to isolate demolition work from other areas of the building.

B. Temporary Protection of Materials to Remain:

1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.

C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:

1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.

2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

F. Existing Roofing: Prior to the start of work in an area, install roofing protection as indicated on Drawings.

3.2 PROTECTION FROM FIRE

A. General: Follow fire-prevention plan and the following:

1. Comply with NFPA 241 requirements unless otherwise indicated.
2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.

    a. If combustible material cannot be removed, provide fire blankets to cover such materials.

B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:

1. Obtain Owner's approval for operations involving use of welding or other high-heat equipment. Use of open-flame equipment is not permitted. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed.

Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:

a. Train each fire watch in the proper operation of fire-control equipment and alarms.
b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work in each area to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
e. Maintain fire-watch personnel at each area of Project site until 60 minutes after conclusion of daily work.

C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.

D. Sprinklers: Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to sprinklers, shield them temporarily with guards.

1. Remove temporary guards at the end of work shifts, whenever operations are paused, and when nearby work is complete.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.

B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.

C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.

D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.

E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.4 GENERAL ALTERATION WORK

A. Have specialty work performed only by qualified specialists.

B. Ensure that supervisory personnel are present when work begins and during its progress.

C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs or video recordings. Comply with requirements in Section 013233 "Photographic Documentation."

D. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.

E. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.

1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 DEFINITIONS

A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of [**five**] **<Insert number>** previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.

1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).

D. Mockups: Physical assemblies of portions of the Work constructed to establish the standard by which the Work will be judged. Mockups are not Samples.

1. Mockups are used for one or more of the following:

a. Verify selections made under Sample submittals.
b. Demonstrate aesthetic effects.

c. Demonstrate the qualities of products and workmanship.
d. Demonstrate successful installation of interfaces between components and systems.
e. Perform preconstruction testing to determine system performance.

2. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
3. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.

E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria. Unless otherwise indicated, copies of reports of tests or inspections performed for other than the Project do not meet this definition.

F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) in accordance with 29 CFR 1910.7, by a testing agency accredited in accordance with NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

G. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" has the same meaning as the term "testing agency."

I. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work, to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

J. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work, to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect[**or Construction Manager**].

1.3 DELEGATED DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated Design Services Statement: Submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.4 CONFLICTING REQUIREMENTS

A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified is the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 ACTION SUBMITTALS

A. Mockup Shop Drawings:

1. Include plans, sections, elevations, and details, indicating materials and size of mockup construction.
2. Indicate manufacturer and model number of individual components.
3. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS

A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.

B. Qualification Data: For Contractor's quality-control personnel.

C. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
2. Primary wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.

D. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.

3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

F. Reports: Prepare and submit certified written reports and documents as specified.

G. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities and to coordinate Owner's quality-assurance and quality-control activities. Coordinate with Contractor's Construction Schedule.

B. Quality-Control Personnel Qualifications: Engage qualified personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.

1. Project quality-control manager may also serve as Project superintendent.

C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections, including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.
2. Special inspections required by authorities having jurisdiction and indicated on the Statement of Special Inspections.
3. Owner-performed tests and inspections indicated in the Contract Documents

E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring the Work into compliance with standards of workmanship established by Contract requirements and approved mockups.

F. Monitoring and Documentation: Maintain testing and inspection reports, including log of approved and rejected results. Include Work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming Work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.8 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, telephone number, and email address of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample-taking and testing and inspection.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement of whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, telephone number, and email address of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.

4. Statement of whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

1.9 QUALITY ASSURANCE

A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that is similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities be performed by entities who are recognized experts in those operations. Specialists will satisfy qualification requirements indicated and engage in the activities indicated.

1. Requirements of authorities having jurisdiction supersede requirements for specialists.

G. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:

1. Contractor's Responsibilities:

    a. Provide test specimens representative of proposed products and construction.
    b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.

2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups of size indicated.
2. Build mockups in location indicated or, if not indicated, as directed by Architect.
3. Notify Architect seven days in advance of dates and times when mockups will be constructed.
4. Employ supervisory personnel who will oversee mockup construction. Employ workers who will be employed to perform same tasks during the construction at Project.
5. Demonstrate the proposed range of aesthetic effects and workmanship.
6. Obtain Architect's approval of mockups before starting corresponding Work, fabrication, or construction.

    a. Allow seven days for initial review and each re-review of each mockup.

7. Promptly correct unsatisfactory conditions noted by Architect's preliminary review, to the satisfaction of the Architect, before completion of final mockup.
8. Approval of mockups by the Architect does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
9. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
10. Demolish and remove mockups when directed unless otherwise indicated.

L. Specialty Mockups: See Section 014339 "Mockups" for additional construction requirements for integrated exterior mockups and room mockups.

1.10 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
2. Costs for retesting and reinspecting construction that replaces or is necessitated by Work that failed to comply with the Contract Documents will be charged to Contractor

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.

1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
2. Engage a qualified testing agency to perform quality-control services.

    a. Contractor will not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections, and state in each report whether tested and inspected Work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform duties of Contractor.

E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

G. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspection equipment at Project site.

H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's Construction Schedule. Update and submit with each Application for Payment.

1. Schedule Contents: Include tests, inspections, and quality-control services, including Contractor- and Owner-retained services, commissioning activities, and other Project-required services paid for by other entities.
2. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.11 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner**,** as indicated in the Statement of Special Inspections attached to this Section, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures, and reviewing the completeness and adequacy of those procedures to perform the Work.
2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.

3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections, and stating in each report whether tested and inspected Work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's and authorities' having jurisdiction reference during normal working hours.

1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspection, sample-taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014001 – SPECIAL INSPECTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for Special Inspection as defined in Chapter 17 of the Kentucky Building Code.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

C. Perform Special Inspection as specified. Special Inspector personnel shall be in addition to the quality control inspections and inspectors required elsewhere in other Specifications.

D. The Owner will contract with an inspection company to provide Special Inspections including: soils construction, concrete construction, masonry construction, steel construction, and wood construction.

E. Special Inspection is required on the following structures:

1. DWQ Headquarters & Operations Facility – New construction (C.M.U., Concrete Foundation, Steel Deck)
2. Vactor Building
3. Exterior Structures – New Construction (C.M.U infill)

F. .

1.3 SUBMITTALS

A. Overall:

1. Prepare and submit certifications:

a. Contractor's Statement of Responsibility: Submit before the start of construction, acknowledging the following:

1) Awareness of the special requirements contained in the statement of special inspections.
2) Acknowledgement that control will be exercised by the contractor to ensure conformance with the construction documents.

3) Description of the procedures within the contractor's organization to exercise such control.
4) The method by and frequency of which reports are distributed to the persons in the contractor's organization exercising the control.
5) Identification and qualifications of the persons in the contractor's organization exercising such control and their positions within the organization.

b. Special Inspector’s Qualifications: Special Inspection Agency shall submit before the start of construction.
c. Special Inspector’s Final Certification: Special Inspection Agency shall submit after completion of inspections.

B. Fabricators:

1. Prepare and submit inspection reports:

a. Inspection of Fabricator’s Quality Control Procedures

2. Prepare and submit certifications:

a. Quality Control Certification
b. Fabrication Quality Control Procedures
c. Fabricators Certificate of Compliance: stating that the work was performed in accordance with the approved construction documents (submitted at the completion of such work).

C. Soils Construction:

1. Prepare and submit test reports:

a. Soil bearing capacity at foundations.
b. Controlled fill density at controlled fill for the structure.
c. Prepare and submit inspection reports:

1) Inspection of Placement of Controlled Fill: Prior to each placement of footing concrete.

D. Concrete Construction:

1. Prepare and submit test reports:

a. Compressive strength, slump, and air content. Concrete shall be tested once per day that concrete is placed plus once for every 100 yards of concrete placed thereafter for each structure.

2. Prepare and submit inspection reports:

a. Inspection of forms, installation of reinforcement and delivery tickets prior to each placement of concrete.

3. Prepare and submit certifications:

a. Cement
b. Aggregate
c. Admixtures
d. Reinforcement

E. Masonry Construction:

1. Prepare and submit test reports:

a. Mortar aggregate ratio and mortar air content: Test each once at beginning of project and once for each 5,000 s.f. of masonry thereafter.

2. Prepare and submit inspection reports:

a. Inspection of mortar proportioning once at beginning of projects and once for each 5,000 s.f. of masonry thereafter.
b. Inspection of placement of masonry, reinforcement, and grout prior to and during each placement of grout.

3. Prepare and submit certifications:

a. Masonry Units
b. Cement for Mortar
c. Sand for Mortar
d. Grout
e. Reinforcement

F. Steel Construction:

1. Prepare and submit inspection reports:

a. Inspection of marking and connection details for all members and connections – verify all steel members are installed in the correct locations and are connected in accordance with the construction documents and approved erection drawings.
b. Inspection of bolt pretensioning for each fully-pretensioned bolted connection.
c. Visual inspection of all non-pretensioned bolted connection.
d. Visual inspection of all field welds.

2. Prepare and submit certifications:

a. Certified Mill Test Reports (MTRs) for steel, bolts, nuts, washers and weld filler metal (for field welds).

1.4 QUALIFICATIONS

A. Use a qualified Special Inspector to perform Special Inspections required by this Section.

B. Special Inspector's qualifications shall include information which provides evidence of the knowledge and experience necessary to qualify a person as a Special Inspector for the category of work being certified.

C. The Special Inspector is a person employed by the Owner.

D. Special Inspectors perform their duties independent from the construction quality control staff employed by the Contractor.

E. More than one Special Inspector may be required to provide the varied knowledge and experience necessary to adequately inspect all of the categories of work requiring Special Inspection.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR

A. The Special Inspector shall observe the Work and perform tests to ensure conformance with the design drawings and specifications, and the applicable workmanship provisions of the Kentucky Building Code:

1. Reviewed shop drawings may be used only as an aid to inspection.

a. The Special Inspector shall observe activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
b. The Special Inspector shall submit timely inspection reports; weekly at a maximum.

B. The Special Inspector shall obtain from the contractor all certifications required to be submitted as part of the special inspection requirements (e.g. Contractor's Statement of Responsibility, Fabricators' Quality Control Plans, Material Certifications, etc.) and submit them along with the field inspections and tests that the Special Inspector performs. Special Inspection submittals by the Special Inspector include ALL items included above, not just the ones that the Special Inspector prepares.

C. The Special Inspector shall cooperate with the Contractor and provide timely service, keep records of all inspections, and furnish them in a timely manner to the Engineer/Architect, and Contractor as construction progresses.

D. Discrepancies shall be brought to the immediate attention of the Contractor for correction. If discrepancies are not corrected, the discrepancies shall be brought to the attention of the Engineer/Architect prior to the completion of that phase of work.

E. Inspection Reports shall include the following:

1. Name, address, and telephone number of Special Inspector performing the inspection and making the report.
2. Qualifications and Certifications of the Special Inspector performing the inspection and making the report.
3. Dates and locations of samples and tests or inspections, date of report.

4. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
5. Description of the Work, identification of products, Specification Section, tests, and inspection methods.
6. Complete test or inspection data.
7. Test and inspection results and an interpretation of test results.
8. Statement on condition of substrates and their acceptability for installation of the the next phase of work – according to the Construction Documents.
9. Statement that products being installed at site comply with requirements.
10. Comments and professional opinion on whether tested, inspected, or installed Work complies with the Contract Document requirements.
11. Statement whether conditions, products, and installation may affect warranty of any products installed, according to the Construction Documents.
12. Other required inspections and/or tests indicated in individual Specification Sections.

F. Special Inspector's Final Certificates shall state that all items requiring Special Inspection and Testing were fulfilled and are in conformance with the approved design and shop drawings, specifications, approved change orders, and the applicable provisions of the Kentucky Building Code.

1. Items that were not in conformance and any unresolved discrepancies shall be itemized in the report.

a. Final report shall be bound, divided by construction type, and in chronological order.
b. Final Report shall be prepared by, sealed, and signed by the Special Inspector.

3.2 DUTIES AND RESPONSIBILITIES OF THE CONTRACTOR

A. Notify the Special Inspector with adequate advance notice when construction is ready to be inspected.

B. Provide Special Inspector access to plans, specifications, shop drawings, and change orders at the jobsite.

C. Submit required certifications (e.g. Contractor's Statement of Responsibility, Fabricators' Quality Control Plans, Material Certifications, etc.) to Special Inspector.

D. Provide Special Inspector access to work, including equipment with operator when necessary. Access to equipment includes, but is not limited to, man lifts, excavation equipment, etc.

E. Provide samples of materials to be tested in required quantities.

F. Provide storage space for Structural Testing/Inspection Agency's exclusive use, such as for storing and curing concrete testing samples. If required by the Special Inspector, Contractor shall provide cure box with electricity, water, and blankets for curing concrete specimens.

G. Provide labor to assist the Structural Testing/Inspection Agency in performing tests/inspections.

H. Retain at the jobsite all Special Inspection records submitted by the Special Inspector and provide these records for review by the Engineer/Architect and Building Inspector upon request.

I. Maintain a discrepancy log on site. Log shall list each discrepancy documented by the Special Inspector, state the date of discovery and Special Inspector's report number. Provide room for the Special Inspector to sign and date when said discrepancy is corrected. No work containing discrepancy shall be covered prior to having reinspection and approval by the Special Inspector.

J. Cooperate with the Special Inspector, Engineer/Architect, and Building Inspector in resolving any Special Inspection related coordination or quality problems.

K. Resolve non-conforming work before additional work is done that would make it difficult to resolve non-conforming work.

L. Costs of additional retesting that are required due to non-conforming work may be charged to the Contractor.

M. Neither the observation of the Engineer/Architect in the administration of the contract, nor tests/inspections by the Testing/Inspection Agency, nor approvals by persons other than the Engineer/Architect shall relieve the Contractor from his obligation to perform the work in accordance with the Contract Documents.

END OF SECTION 014001

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms, including "requested," "authorized," "selected," "required," and "permitted," have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms, including "shown," "noted," "scheduled," and "specified," have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Industry Organizations, List: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; (see FGIA).
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; www.concrete.org.
9. ACP - American Clean Power; (Formerly: American Wind Energy Association); www.cleanpower.org.
10. ACPA - American Concrete Pipe Association; www.concretepipe.org.
11. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
12. AF&PA - American Forest & Paper Association; www.afandpa.org.
13. AGA - American Gas Association; www.aga.org.
14. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
15. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
16. AI - Asphalt Institute; www.asphaltinstitute.org.
17. AIA - American Institute of Architects (The); www.aia.org.
18. AISC - American Institute of Steel Construction; www.aisc.org.
19. AISI - American Iron and Steel Institute; www.steel.org.
20. AITC - American Institute of Timber Construction; (see PLIB).
21. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
22. AMPP - Association for Materials Protection and Performance; www.ampp.org.
23. ANSI - American National Standards Institute; www.ansi.org.
24. AOSA/SCST - Association of Official Seed Analysts (The)/Society of Commercial Seed Technologists (The); www.analyzeseeds.com.
25. APA - APA - The Engineered Wood Association; www.apawood.org.
26. APA - Architectural Precast Association; www.archprecast.org.
27. API - American Petroleum Institute; www.api.org.
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.

29. ASA - Acoustical Society of America; www.acousticalsociety.org.
30. ASCE - American Society of Civil Engineers; www.asce.org.
31. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (see ASCE).
32. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
33. ASME - ASME International; [**American Society of Mechanical Engineers (The)**]; www.asme.org.
34. ASSE - ASSE International; (American Society of Sanitary Engineering); www.asse-plumbing.org.
35. ASSP - American Society of Safety Professionals; www.assp.org.
36. ASTM - ASTM International; www.astm.org.
37. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
38. AVIXA - Audiovisual and Integrated Experience Association; www.avixa.org.
39. AWI - Architectural Woodwork Institute; www.awinet.org.
40. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
41. AWPA - American Wood Protection Association; www.awpa.com.
42. AWS - American Welding Society; www.aws.org.
43. AWWA - American Water Works Association; www.awwa.org.
44. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
45. BIA - Brick Industry Association (The); www.gobrick.com.
46. BICSI - BICSI, Inc.; www.bicsi.org.
47. BIFMA - Business and Institutional Furniture Manufacturer's Association; www.bifma.org.
48. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
49. BWF - Badminton World Federation; www.bwfbadminton.com.
50. CARB - California Air Resources Board; www.arb.ca.gov.
51. CDA - Copper Development Association Inc.; www.copper.org.
52. CE - Conformite Europeenne (European Commission); www.ec.europa.eu/growth/single-market/ce-marking.
53. CEA - Canadian Electricity Association; www.electricity.ca.
54. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
55. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
56. CGA - Compressed Gas Association; www.cganet.com.
57. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
58. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
59. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
60. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
61. CPA - Composite Panel Association; www.compositepanel.org.
62. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
63. CRRC - Cool Roof Rating Council; www.coolroofs.org.
64. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
65. CSA - CSA Group; www.csagroup.org.
66. CSI - Cast Stone Institute; www.caststone.org.
67. CSI - Construction Specifications Institute (The); www.csiresources.org.
68. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
69. CTA - Consumer Technology Association; www.cta.tech.
70. CTI - Cooling Technology Institute; www.coolingtechnology.org.
71. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
72. DHA - Decorative Hardwoods Association; www.decorativehardwoods.org.

73. DHI - Door and Hardware Institute; www.dhi.org.
74. ECIA - Electronic Components Industry Association; www.ecianow.org.
75. EIMA - EIFS Industry Members Association; www.eima.com.
76. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
77. EOS/ESD - EOS/ESD Association, Inc.; Electrostatic Discharge Association; www.esda.org.
78. ESTA - Entertainment Services and Technology Association; www.esta.org.
79. EVO - Efficiency Valuation Organization; www.evo-world.org.
80. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
81. FGIA - Fenestration and Glazing Industry Alliance; https://fgiaonline.org.
82. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
83. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
84. FM Approvals - FM Approvals LLC; www.fmapprovals.com.
85. FM Global - FM Global; www.fmglobal.com.
86. FRSA - Florida Roofing and Sheet Metal Contractors Association, Inc.; www.floridaroof.com.
87. FSA - Fluid Sealing Association; www.fluidsealing.com.
88. FSC - Forest Stewardship Council U.S.; www.fscus.org.
89. GA - Gypsum Association; www.gypsum.org.
90. GS - Green Seal; www.greenseal.org.
91. HI - Hydraulic Institute; www.pumps.org.
92. HMMA - Hollow Metal Manufacturers Association; (see NAAMM).
93. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
94. IAS - International Accreditation Service; www.iasonline.org.
95. ICC - International Code Council; www.iccsafe.org.
96. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
97. ICPA - International Cast Polymer Association (The); www.theicpa.com.
98. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
99. IEC - International Electrotechnical Commission; www.iec.ch.
100. IEEE SA - IEEE Standards Association; https://standards.ieee.org.
101. IES - Illuminating Engineering Society; www.ies.org.
102. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
103. IGMA - Insulating Glass Manufacturers Alliance; (see FGIA).
104. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.org.
105. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
106. Intertek - Intertek Group; www.intertek.com.
107. ISA - International Society of Automation (The); www.isa.org.
108. ISFA - International Surface Fabricators Association; www.isfanow.org.
109. ISO - International Organization for Standardization; www.iso.org.
110. ITU - International Telecommunication Union; www.itu.int.
111. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
112. LPI - Lightning Protection Institute; www.lightning.org.
113. MBMA - Metal Building Manufacturers Association; www.mbma.com.
114. MCA - Metal Construction Association; www.metalconstruction.org.
115. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
116. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
117. MHI - Material Handling Industry; www.mhi.org.
118. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
119. MPI - Master Painters Institute; www.paintinfo.com.

120. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry, Inc.; www.msshq.org.
121. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
122. NACE - NACE International; (National Association of Corrosion Engineers International); (see AMPP).
123. NADCA - National Air Duct Cleaners Association; www.nadca.com.
124. NAIMA - North American Insulation Manufacturers Association; www.insulationinstitute.org.
125. NALP - National Association of Landscape Professionals; www.landscapeprofessionals.org.
126. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
127. NBI - New Buildings Institute; www.newbuildings.org.
128. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
129. NCMA - National Concrete Masonry Association; www.ncma.org.
130. NEBB - National Environmental Balancing Bureau; www.nebb.org.
131. NECA - National Electrical Contractors Association; www.necanet.org.
132. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
133. NEMA - National Electrical Manufacturers Association; www.nema.org.
134. NETA - InterNational Electrical Testing Association; www.netaworld.org.
135. NFHS - National Federation of State High School Associations; www.nfhs.org.
136. NFPA - National Fire Protection Association; www.nfpa.org.
137. NFPA - NFPA International; (see NFPA).
138. NFRC - National Fenestration Rating Council; www.nfrc.org.
139. NGA - National Glass Association; www.glass.org.
140. NHLA - National Hardwood Lumber Association; www.nhla.com.
141. NLGA - National Lumber Grades Authority; www.nlga.org.
142. NOFMA - National Oak Flooring Manufacturers Association; (see NWFA).
143. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
144. NRCA - National Roofing Contractors Association; www.nrca.net.
145. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
146. NSF - NSF International; www.nsf.org.
147. NSI - Natural Stone Institute; www.naturalstoneinstitute.org.
148. NSPE - National Society of Professional Engineers; www.nspe.org.
149. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
150. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
151. NWFA - National Wood Flooring Association; www.nwfa.org.
152. NWRA - National Waste & Recycling Association; www.wasterecycling.org.
153. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
154. PDI - Plumbing & Drainage Institute; www.pdionline.org.
155. PLASA - PLASA; www.plasa.org.
156. PLIB - Pacific Lumber Inspection Bureau; www.plib.org.
157. PVCPA - Uni-Bell PVC Pipe Association; www.uni-bell.org.
158. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
159. RFCI - Resilient Floor Covering Institute; www.rfci.com.
160. RIS - Redwood Inspection Service; (see WWPA).
161. SAE - SAE International; www.sae.org.
162. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
163. SDI - Steel Deck Institute; www.sdi.org.
164. SDI - Steel Door Institute; www.steeldoor.org.
165. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.

166. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (see ASCE).
167. SIA - Security Industry Association; www.securityindustry.org.
168. SJI - Steel Joist Institute; www.steeljoist.org.
169. SMA - Screen Manufacturers Association; www.smainfo.org.
170. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
171. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
172. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
173. SPIB - Southern Pine Inspection Bureau; www.spib.org.
174. SPRI - Single Ply Roofing Industry; www.spri.org.
175. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
176. SSINA - Specialty Steel Industry of North America; www.ssina.com.
177. SSPC - SSPC: The Society for Protective Coatings; (see AMPP).
178. STI/SPFA - Steel Tank Institute/Steel Plate Fabricators Association; www.steeltank.com.
179. SWI - Steel Window Institute; www.steelwindows.com.
180. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
181. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
182. TCNA - Tile Council of North America, Inc.; www.tcnatile.com.
183. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.kbcdco.tema.org.
184. TIA - Telecommunications Industry Association (The); www.tiaonline.org.
185. TMS - The Masonry Society; www.masonrysociety.org.
186. TPI - Truss Plate Institute; www.tpinst.org.
187. TPI - Turfgrass Producers International; www.turfgrasssod.org.
188. TRI - Tile Roofing Industry Alliance; www.tileroofing.org.
189. ULSE - UL Standards & Engagement Inc.; www.ulse.org.
190. UL - UL Solutions Inc.; www.ul.com.
191. USAV - USA Volleyball; www.usavolleyball.org.
192. USGBC - U.S. Green Building Council; www.usgbc.org.
193. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
194. WA - Wallcoverings Association; www.wallcoverings.org.
195. WCLIB - West Coast Lumber Inspection Bureau; (see PLIB).
196. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
197. WDMA - Window & Door Manufacturers Association; www.wdma.com.
198. WI - Woodwork Institute; www.woodworkinstitute.com.
199. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
200. WWPA - Western Wood Products Association; www.wwpa.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. DIN - Deutsches Institut fur Normung e.V.; www.din.de.
2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
3. ICC - International Code Council; www.iccsafe.org.
4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. CPSC - U.S. Consumer Product Safety Commission; www.cpsc.gov.
2. DOC - U.S. Department of Commerce; www.commerce.gov.
3. DOD - U.S. Department of Defense; www.defense.gov.
4. DOE - U.S. Department of Energy; www.energy.gov.
5. DOJ - U.S. Department of Justice; www.ojp.usdoj.gov
6. DOS - U.S. Department of State; www.state.gov.
7. EPA - United States Environmental Protection Agency; www.epa.gov.
8. FAA - Federal Aviation Administration; www.faa.gov.
9. GPO - U.S. Government Publishing Office; www.gpo.gov.
10. GSA - U.S. General Services Administration; www.gsa.gov.
11. HUD - U.S. Department of Housing and Urban Development; www.hud.gov.
12. LBNL - Lawrence Berkeley National Laboratory; Energy Technologies Area; www.lbl.gov/.
13. NIST - National Institute of Standards and Technology; www.nist.gov.
14. OSHA - Occupational Safety & Health Administration; www.osha.gov.
15. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
16. USACE - U.S. Army Corps of Engineers; www.usace.army.mil.
17. USDA - U.S. Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
18. USDA - U.S. Department of Agriculture; Rural Utilities Service; www.usda.gov.
19. USP - U.S. Pharmacopeial Convention; www.usp.org.
20. USPS - United States Postal Service; www.usps.com.

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from U.S. Government Publishing Office; www.govinfo.gov.
2. DOD - U.S. Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.dsp.dla.mil/Specs-Standards/.
3. DSCC - Defense Supply Center Columbus; (see FS).
4. FED-STD - Federal Standard; (see FS).
5. FS - Federal Specification; Available from DLA Document Services; www.dsp.dla.mil/Specs-Standards/.

    a. Available from Defense Standardization Program; www.dsp.dla.mil.
    b. Available from U.S. General Services Administration; www.gsa.gov.
    c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.

6. MILSPEC - Military Specifications and Standards; (see DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (see USAB).

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following

list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. BEARHFTI; California Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; (see BHGS).
2. BHGS; State of California Bureau of Household Goods and Services; (Formerly: California Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation); www.bhgs.dca.ca.gov.
3. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.oal.ca.gov/publications/ccr/.
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/Main-Page.aspx.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; https://tfsweb.tamu.edu/.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 014339 - MOCKUPS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Integrated exterior mockups.
2. Room mockups.

B. Related Requirements:

1. Section 014000 "Quality Requirements" for quality assurance requirements for aesthetic and workmanship mockups specified in other Sections.

1.2 DEFINITIONS

A. Integrated Exterior Mockups: Mockups of the exterior envelope constructed on-site as part of permanent construction, consisting of multiple products, assemblies, and subassemblies.

B. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes; doors; windows; millwork; casework; specialties; furnishings and equipment; and lighting as indicated.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, testing and inspecting agency representative, and installers of major systems whose Work is included in integrated exterior and room mockups.
2. Review coordination of equipment and furnishings provided by the Owner for room mockups.
3. Review locations and extent of mockups.
4. Review testing procedures to be performed on mockups.
5. Review and finalize schedule for mockups, and verify availability of materials, personnel, equipment, and facilities needed to complete mockups and maintain schedule for the Work.

1.4 ACTION SUBMITTALS

A. Shop Drawings: For integrated exterior and room mockups.

1. Include plans, elevations, sections, and mounting attachment and support details.
2. Indicate manufacturer and model number of individual components, subassemblies, and assemblies.

3. Include site location drawing.

B. Delegated Design Submittal: For temporary structural supports for mockups not attached to building structure, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.5 QUALITY ASSURANCE

A. Build mockups to do the following:

1. Verify selections made under Sample submittals.
2. Demonstrate aesthetic effects.
3. Demonstrate the qualities of products and workmanship.
4. Demonstrate acceptable coordination between components and systems.
5. Perform preconstruction testing, such as window air- and water-leakage testing.

B. Fabrication: Before fabricating or installing portions of the Work requiring mockups, build mockups for each form of construction and finish required. Use materials and installation methods as required for the Work.

1. Build mockups of size indicated.
2. Build mockups in location indicated or, if not indicated, as directed by Architect.
3. Employ supervisory personnel who will oversee mockup construction. Employ workers who will be employed to perform same tasks during the construction at Project.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed unless otherwise indicated.

C. Notifications:

1. Notify Architect seven days in advance of the dates and times when mockups will be constructed.
2. Notify Architect 14 days in advance of the dates and times when mockups will be tested.
3. Allow seven days for initial review and each re-review of each mockup.

D. Approval: Obtain Architect's approval of mockups before starting fabrication or construction of corresponding Work.

1. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 COORDINATION

A. Coordinate schedule for construction of mockups, so construction, testing, and review of mockups do not impact Project schedule.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design support structure for free-standing mockups.

2.2 INTEGRATED EXTERIOR MOCKUPS

A. Construct integrated exterior mockups as indicated on Drawings. Construct mockups to demonstrate constructability, coordination of trades, and sequencing of Work; and to ensure materials, components, subassemblies, assemblies, and interfaces integrate into a system complying with indicated performance and aesthetic requirements.

B. Design and construct foundation and superstructure to support free-standing integrated exterior mockups.

C. Build integrated exterior mockups using installers and construction methods that will be used in completed construction.

D. Use specified products that have been approved by Architect. Coordinate installation of materials and products specified in individual Specification Sections that include Work included in integrated exterior mockups.

E. The Work of integrated exterior mockups includes, but is not limited to, the following:

1. Masonry veneer.
2. Air and weather barriers.
3. Thermal insulation.
4. Through-wall flashing.
5. Flashing and sheet metal trim.
6. Joint sealants.
7. Metal wall panels.
8. Aluminum-framed entrances and storefront.
9. Glazing.

F. Photographic Documentation: Document construction of integrated exterior mockups with photographs in accordance with Section 013233 "Photographic Documentation." Provide photographs showing details of interface of different materials and assemblies.

1. Document testing procedures, including water leakage and other deficiencies. Photograph modifications to component interfaces intended to correct deficiencies.

G. Provide and document modifications to construction details and interfaces between components and systems required to properly sequence the Work, or to pass performance testing requirements. Obtain Architect's approval for modifications.

H. Retain approved mockups constructed in place. Incorporate fully into the Work.

2.3 ROOM MOCKUPS

A. Build room mockups according to approved mockup Shop Drawings to evaluate constructability, demonstrate the coordination of trades and sequencing of Work, and to demonstrate aesthetic requirements. Include each visible finish, component, and equipment item within room mockups; include operable lighting.

B. Provide room mockups of the following rooms:

1. Office Space.
2. Locker Room.
3. Kitchen / Break Area.
4. Multi-Purpose Training Room.

C. The Work of room mockups includes, but is not limited to, the following:

1. Millwork and casework.
2. Doors and frames.
3. Access doors and frames.
4. Glazing.
5. Metal framing.
6. Gypsum board.
7. Ceramic tiling.
8. Acoustical ceilings.
9. Resilient flooring.
10. Painting.
11. Registers and grilles.
12. Wiring devices.
13. Lighting.

PART 3 - EXECUTION

END OF SECTION 014339

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Requirements:

1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES

A. Installation, removal, and use charges for temporary facilities to be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, testing agencies, and authorities having jurisdiction.

B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use with metering. Provide connections and extensions of services and metering as required for construction operations.

C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use with metering. Provide connections and extensions of services and metering as required for construction operations.

1.3 INFORMATIONAL SUBMITTALS

A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

B. Implementation and Termination Schedule: Within 15 days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.

C. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.

D. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

E. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold. Describe delivery, handling,

storage, installation, and protection provisions for materials subject to water absorption or water damage.

1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and requirements for replacing water-damaged Work.
2. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.
3. Indicate methods to be used to avoid trapping water in finished work.

F. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste-handling procedures.
5. Other dust-control measures.

G. Noise and Vibration Control Plan: Identify construction activities that may impact the occupancy and use of existing spaces within the building or adjacent existing buildings, whether occupied by others, or occupied by Owner. Include the following:

1. Methods used to meet the goals and requirements of Owner.
2. Concrete cutting method(s) to be used.
3. Location of construction devices on the site.
4. Show compliance with the use and maintenance of quieted construction devices for the duration of the Project.
5. Indicate activities that may disturb building occupants and that are planned to be performed during non-standard working hours as coordinated with Owner.
6. Indicate locations of sensitive areas or other areas requiring special attention as identified by Owner. Indicate means for complying with Owner's requirements.

1.4 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

C. Accessible Temporary Egress: Comply with applicable provisions in the DOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

1.5 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top rails

B. Fencing Windscreen Privacy Screen: Polyester fabric scrim with grommets for attachment to chain-link fence, sized to height of fence, in color selected by Architect from manufacturer's standard colors.

C. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less in accordance with ASTM E84 and passing NFPA 701 Test Method 2.

2.2 TEMPORARY FACILITIES

A. Field Offices:

1. Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating, Cooling, and Dehumidifying Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction and clean HVAC system as required in Section 017700 "Closeout Procedures."

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed.

a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.

2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

3.3 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

C. Water Service:

1. Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

D. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

1. Use of Permanent Toilets: Use of Owner's existing or new toilet facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

E. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

1. Provide temporary dehumidification systems when required to reduce ambient and substrate moisture levels to level required to allow installation or application of finishes and their proper curing or drying.

F. Electric Power Service:

1. Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

H. Telephone Service: Provide temporary telephone service in common-use facilities for use by all construction personnel. Install land-based telephone line(s) for each field office.

1. Provide additional telephone lines for the following:

2. At each telephone, post a list of important telephone numbers.

a. Police and fire departments.

b. Ambulance service.
c. Contractor's home office.
d. Contractor's emergency after-hours telephone number.
e. Architect's office.
f. Engineers' offices.
g. Owner's office.
h. Principal subcontractors' field and home offices.

I. Electronic Communication Service: Provide secure WiFi wireless connection to internet with provisions for access by Architect and Owner.

3.4 SUPPORT FACILITIES INSTALLATION

A. Comply with the following:

1. Provide construction for temporary field offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible in accordance with ASTM E136. Comply with NFPA 241.
2. Utilize designated area within existing building for temporary field offices.
3. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Temporary Use of Planned Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas in accordance with Section 312000 "Earth Moving."
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course in accordance with Section 321216 "Asphalt Paving."

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain, including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

E. Storage and Staging: Use designated areas of Project site for storage and staging needs.

F. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

G. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated on Drawings.
2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.

    a. Provide temporary, directional signs for construction personnel and visitors.

3. Maintain and touch up signs, so they are legible at all times.

H. Waste Disposal Facilities:

1. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
2. Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

3. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 011000 "Summary."

C. Temporary Erosion and Sedimentation Control:

1. Comply with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent and requirements specified in Section 311000 "Site Clearing."

2. Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, in accordance with erosion- and sedimentation-control Drawings requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

    a. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
    b. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
    c. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
    d. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

E. Tree and Plant Protection:

1. Comply with requirements specified in Section 015639 "Temporary Tree and Plant Protection."
2. Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals, so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using materials approved by authorities having jurisdiction.

G. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.

H. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.

I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

J. Temporary Egress: Provide temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction. Provide signage directing occupants to temporary egress.

K. Covered Walkway: Erect protective, covered walkway for passage of individuals through or adjacent to Project site. Coordinate with entrance gates, other facilities, and obstructions. Comply with regulations of authorities having jurisdiction.

1. Provide overhead decking, protective enclosure walls, handrails, barricades, warning signs, exit signs, lights, safe and well-drained walkways, and similar provisions for protection and safe passage.
2. Paint and maintain appearance of walkway for duration of the Work.

L. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

M. Temporary Partitions: Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate areas occupied by Owner from fumes and noise.

1. Construct dustproof partitions with two layers of 6-mil polyethylene sheet on each side. Cover floor with two layers of 6-mil polyethylene sheet, extending sheets 18 inches up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant-treated plywood.

2. Where fire-resistance-rated temporary partitions are indicated or are required by authorities having jurisdiction, construct partitions according to the rated assemblies.
3. Insulate partitions to control noise transmission to occupied areas.
4. Seal joints and perimeter. Equip partitions with gasketed dustproof doors and security locks where openings are required.
5. Protect air-handling equipment.
6. Provide walk-off mats at each entrance through temporary partition.

N. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition in accordance with requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign, stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 MOISTURE AND MOLD CONTROL

A. Moisture and Mold Protection: Protect stored materials and installed Work in accordance with Moisture and Mold Protection Plan.

B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Period: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard and replace stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.

D. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective and require replacing.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    c. Remove and replace materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.7 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. The Work of this Section Includes: General protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for temporary controls, utilities, support facilities, temporary site fencing, and, if applicable, temporary erosion and sedimentation controls if not specified in Section 311000 "Site Clearing".
2. Section 311000 "Site Clearing" for removing existing trees and shrubs and for temporary erosion- and sedimentation-control measures if not specified in Section 015000 "Temporary Facilities and Controls".
3.

1.2 DEFINITIONS

A. Caliper: Diameter of a trunk measured by a diameter tape or the average of the smallest and largest diameters at a height 6 inches above the ground for trees up to and including 4-inch size at this height and as measured at a height of 12 inches above the ground for trees larger than 4-inch size.

B. Caliper (DBH): Diameter breast height; diameter of a trunk as measured by a diameter tape or the average of the smallest and largest diameters at a height 54 inches above the ground line for trees with caliper of 8 inches or greater as measured at a height of 12 inches above the ground.

C. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

D. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings or defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated.

E. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:

a. Tree-service firm's personnel and equipment needed to make progress and avoid delays.
b. Arborist's responsibilities.
c. Quality-control program.
d. Coordination of Work and equipment movement with the locations of protection zones.
e. Trenching by hand or with air spade within protection zones.
f. Field quality control.

1.4 ACTION SUBMITTALS

A. Product Data:

1. General protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction

B. Shop Drawings:

1. Include plans, elevations, and sections showing trees and plants to be protected, locations of protection-zone fencing and signage, and the relationship between equipment-movement routes and material storage locations with protection zones.
2. Detail fabrication and assembly of protection-zone fencing and signage.
3. Indicate extent of utility boring and trenching by hand or with air spade within protection zones.

C. Samples: For each type of the following:

1. Organic Mulch: 1-quart volume of organic mulch; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch.
2. Protection-Zone Fencing: Assembled Samples of manufacturer's standard size made from full-size components.
3. Protection-Zone Signage: Full-size Samples of each size and text, ready for installation.

D. Tree-Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.

1. Species and size of tree.
2. Location on site plan. Include unique identifier for each.
3. Reason for pruning.
4. Description of pruning to be performed.
5. Description of maintenance following pruning.

E. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

F. Mitigation Requirements: As required by jurisdiction or as developed by arborist, for mitigation of damage to trees and other plantings.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Statements: For arborist and tree service firm.

B. Certification: From arborist, certifying that trees indicated to remain have been protected during construction in accordance with recognized standards and that trees were promptly and properly treated and repaired when damaged.

C. Maintenance Recommendations: From arborist, for care and protection of trees affected by construction during and after completing the Work.

D. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1. Use sufficiently detailed photographs or video recordings.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

E. Quality-control program.

1.6 QUALITY ASSURANCE

A. Tree-Service Firm Qualifications: An experienced tree-service firm that has successfully completed temporary tree- and plant-protection work similar to that required for this Project and that will assign an experienced, qualified arborist to Project site during execution of the Work.

B. Quality-Control Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work without damaging trees and plantings. Include dimensioned diagrams for placement of protection-zone fencing and signage, the arborist's and tree-service firm's responsibilities, instructions given to workers on the use and care of protection zones, and enforcement of requirements for protection zones.

1.7 FIELD CONDITIONS

A. The following practices are prohibited within protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Moving or parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

D. Take precautions to protect plants from airborne contaminants, such as paint or fireproofing overspray.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Backfill Soil: Planting soil of suitable moisture content and granular texture for placing around tree; free of stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris, and other extraneous materials harmful to plant growth.

1. Planting Soil: Planting soil as specified in Section 329113 "Soil Preparation"

B. Organic Mulch: Free from deleterious materials and suitable as a top dressing for trees and shrubs, consisting of one of the following:

1. Type: Shredded hardwood.
2. Size Range: 3 inche maximum, 1/2 inch minimum.
3. Color: Natural.

C. Protection-Zone Fencing: Fencing fixed in position and meeting one of the following requirements: Previously used materials may be used when approved by Architect.

1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or stainless steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 96 inches apart.

    a. Height: 48 inches.
    b. Color: High-visibility orange, nonfading.

2. Gates: Single-swing access gates matching material and appearance of fencing, to allow for maintenance activities within protection zones; leaf width 36 inches.

D. Protection-Zone Signage: Shop-fabricated, rigid plastic or metal sheet with attachment holes prepunched and reinforced; legibly printed with nonfading lettering and as follows:

1. Size and Text: As indicated on Drawings.
2. Lettering: 3-inch high minimum, white characters on red background.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

B. Prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain. Tie a 1-inch blue vinyl tape around each tree trunk at 54 inches above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

3.3 TREE PROTECTION

A. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.

1. Apply 2-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.
2. Install temporary root-protection matting over mulch to the extent indicated.

3.4 PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

1. Plastic Fencing: Stretch fabric taut and secure to posts without bows or sags.

B. Protection-Zone Signage: Install protection-zone signage in visibly prominent locations in a manner approved by Architect. Install one sign spaced approximately every 20 ft. on protection-zone fencing, but no fewer than four signs with each facing a different direction.

C. Maintain protection zones free of weeds and trash.

D. Maintain hydration of plants to assure plant survival.

E. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.

1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.5 EXCAVATION

A. General: Excavate at edge of protection zones and for trenches indicated within protection zones in accordance with requirements in Section 312000 "Earth Moving" unless otherwise indicated.

B. Trenching within Protection Zones: Where utility trenches are required within protection zones, excavate under or around tree roots by hand or with air spade, or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning. If excavating by hand, use narrow-tine spading forks to comb soil and expose roots.

3.6 ROOT PRUNING

A. Prune tree roots that are affected by temporary and permanent construction. Prune roots as follows:

1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
2. Cut Ends: Do not paint cut root ends.
3. Temporarily support and protect roots from damage until they are permanently covered with soil.
4. Cover exposed roots with burlap and water regularly.
5. Backfill as soon as possible in accordance with requirements in Section 312000 "Earth Moving."

B. Root Pruning at Edge of Protection Zone: Prune tree roots 12 inches outside of the protection zone by cleanly cutting all roots to the depth of the required excavation.

C. Root Pruning within Protection Zone: Clear and excavate by hand or with air spade to the depth of the required excavation to minimize damage to tree root systems. If excavating by hand, use narrow-tine spading forks to comb soil to expose roots. Cleanly cut roots as close to excavation as possible.

3.7 CROWN PRUNING

A. Prune branches that are affected by temporary and permanent construction. Prune branches as directed by arborist.

1. Prune to remove only broken, dying, or dead branches unless otherwise indicated. Do not prune for shape unless otherwise indicated.
2. Do not remove or reduce living branches to compensate for root loss caused by damaging or cutting root system.
3. Pruning Standards: Prune trees in accordance with ANSI A300 (Part 1).

    a. Type of Pruning: Cleaning raising reducing and thinning where indicated.
    b. Specialty Pruning: Structural restoration vista espalier pollarding palm and utility where indicated.

B. Unless otherwise directed by arborist and acceptable to Architect, do not cut tree leaders.

C. Cut branches with sharp pruning instruments; do not break or chop.

D. Do not paint or apply sealants to wounds.

E. Provide subsequent maintenance pruning during Contract period as recommended by arborist.

F. Chip removed branches and spread over areas identified by Architect.

3.8 REGRADING

A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by arborist unless otherwise indicated.

1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.

C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

D. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

3.9 FIELD QUALITY CONTROL

A. Inspections: Engage a qualified arborist to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

3.10 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Architect.

1. Submit details of proposed pruning and repairs.
2. Perform repairs of damaged trunks, branches, and roots within 24 hours in accordance with arborist's written instructions.
3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.

B. Trees: Remove and replace trees indicated to remain that are more than **25** percent dead or in an unhealthy condition or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.

1. Small Trees: Provide new trees of same size and species as those being replaced for each tree that measures 4 inches or smaller in caliper size.
2. Large Trees: Provide one new tree(s) of 4-inch caliper size for each tree being replaced that measures more than 6 inches in caliper size.

    a. Species: As selected by Architect.

3. Plant and maintain new trees as specified in Section 329300 "Plants."

C. Soil Aeration: Where directed by Architect, aerate surface soil compacted during construction. Aerate 10 ft beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch diameter holes a minimum of 12 inches deep at o.c. Backfill holes with an equal mix of augered soil and sand.

END OF SECTION 015639

SECTION 015723 - TEMPORARY STORM WATER POLLUTION CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Temporary stormwater pollution controls.

1.3 STORMWATER POLLUTION PREVENTION PLAN

A. The Stormwater Pollution Prevention Plan (SWPPP) is part of the Contract Documents and is bound into this Project Manual.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, and earthwork subcontractor.
2. Review requirements of the SWPPP, including permitting process, worker training, and inspection and maintenance requirements.

1.5 INFORMATIONAL SUBMITTALS

A. Stormwater Pollution Prevention Plan (SWPP): Within 15 days of date established for commencement of the Work, submit completed SWPPP.

B. EPA authorization under the EPA's "2017 Construction General Permit (CGP)."

C. Stormwater Pollution Prevention (SWPP) Training Log: For each individual performing Work under the SWPPP.

D. Inspection reports.

1.6 QUALITY ASSURANCE

A. Stormwater Pollution Prevention Plan (SWPPP) Coordinator: Experienced individual or firm with a record of successful water pollution control management coordination of projects with similar requirements.

1. SWPPP Coordinator shall complete and finalize the SWPPP form.
2. SWPPP Coordinator shall be responsible for inspections and maintaining of all requirements of the SWPPP.

B. Installers: Trained as indicated in the SWPPP.

PART 2 - PRODUCTS

2.1 TEMPORARY STORMWATER POLLUTION CONTROLS

A. Provide temporary stormwater pollution controls as required by the SWPPP.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with all best management practices, general requirements, performance requirements, reporting requirements, and all other requirements included in the SWPPP.

B. Locate stormwater pollution controls in accordance with the SWPPP.

C. Conduct construction as required to comply with the SWPPP and that minimize possible contamination or pollution or other undesirable effects.

1. Inspect, repair, and maintain SWPPP controls during construction.

a. Inspect all SWPPP controls not less than every seven days, and after each occurrence of a storm event, as outlined in the SWPPP.

D. Remove SWPPP controls at completion of construction and restore and stabilize areas disturbed during construction.

END OF SECTION 015723

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. The Work of This Section Includes: Administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.

B. Related Requirements:

1. Section 011000 "Summary" for Contractor requirements related to Owner-furnished products.
2. Section 012500 "Substitution Procedures" for requests for substitutions.
3. Section 014200 "References" for applicable industry standards for products specified.
4. Section 017700 "Closeout Procedures" for submitting warranties.

1.2 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products unless otherwise indicated.
3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

1. Evaluating Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the

specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.

C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.

D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:

1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
2. Data indicating compliance with the requirements specified in "Comparable Products" Article.

E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."

F. Substitution: Refer to Section 012500 "Substitution Procedures" for definition and limitations on substitutions.

1.3 QUALITY ASSURANCE

A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1. Resolution of Compatibility Disputes between Multiple Contractors:

a. Contractors are responsible for providing products and construction methods compatible with products and construction methods of other contractors.
b. If a dispute arises between the multiple contractors over concurrently selectable but incompatible products, Architect will determine which products will be used.

B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.

1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is inconspicuous.
2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:

a. Name of product and manufacturer.
b. Model and serial number.
c. Capacity.
d. Speed.
e. Ratings.

3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

1.4 COORDINATION

A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.

C. Storage:

1. Provide a secure location and enclosure at Project site for storage of materials and equipment.
2. Store products to allow for inspection and measurement of quantity or counting of units.
3. Store materials in a manner that will not endanger Project structure.
4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
7. Protect stored products from damage and liquids from freezing.
8. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.6 PRODUCT WARRANTIES

A. Warranties specified in other Sections are to be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of Owner or endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of Owner or endorsed by manufacturer to Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in Specifications establish salient characteristics of products.
6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by Architect, whose determination is final.

B. Product Selection Procedures:

1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

   a. Sole product may be indicated by the phrase "Subject to compliance with requirements, provide the following."

2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.

   a. Sole manufacturer/source may be indicated by the phrase "Subject to compliance with requirements, provide products by the following."

3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.

   a. Limited list of products may be indicated by the phrase "Subject to compliance with requirements, provide one of the following."

4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.

   a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."
   b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.

5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.

   a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."

6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.

a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.

7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.

C. Visual Matching Specification: Where Specifications require the phrase "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

E. Sustainable Product Selection: Where Specifications require product to meet sustainable product characteristics, select products complying with indicated requirements. Comply with requirements in Division 01 sustainability requirements Section and individual Specification Sections.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:

1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
3. Evidence that proposed product provides specified warranty.

4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation within **seven** days of receipt of a request for a comparable product. Architect will notify Contractor of approval or rejection of proposed comparable product within **15** days of receipt of request, or **seven** days of receipt of additional information or documentation, whichever is later.

1. Architect's Approval of Submittal: Marked with approval notation from Architect's action stamp. See Section 013300 "Submittal Procedures."
2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

C. Submittal Requirements, Two-Step Process: Approval by Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:

1. Construction layout.
2. Field engineering.
3. Installation.
4. Cutting and patching.
5. Coordination of Owner's portion of the Work.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.
9. Correction of the Work.

B. Related Requirements:

1. Section 011000 "Summary" for coordination of Owner-furnished products, and limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
4. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 PREINSTALLATION MEETINGS

A. Cutting and Patching Conference: Conduct conference at Project site.

1. Prior to commencing work requiring cutting and patching, review extent of cutting and patching anticipated and examine procedures for ensuring satisfactory result from cutting and patching work. Inform Architect of scheduled meeting. Require representatives of each entity directly concerned with cutting and patching to attend, including the following:

a. Contractor's superintendent.
b. Trade supervisor responsible for cutting operations.
c. Trade supervisor(s) responsible for patching of each type of substrate.
d. Mechanical, electrical, and utilities subcontractors' supervisors, to the extent each trade is affected by cutting and patching operations.

2. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

B. Layout Conference: Conduct conference at Project site.

1. Prior to establishing layout of new and existing perimeter and structural column grid(s), review building location requirements. Review benchmark, control point, and layout and dimension requirements. Inform Architect of scheduled meeting. Require representatives of each entity directly concerned with Project layout to attend, including the following:

a. Contractor's superintendent.
b. Contractor's personnel responsible for performing Project surveying and layout.
c. Professional surveyor responsible for performing site survey serving as basis for Project design.

2. Review meanings and intent of dimensions, notes, terms, graphic symbols, and other layout information indicated on the Drawings.
3. Review requirements for including layouts on Shop Drawings and other submittals.
4. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For land surveyor.

B. Certified Surveys: Submit two copies signed by land surveyor.

C. Certificates: Submit certificate signed by land surveyor, certifying that location and elevation of improvements comply with requirements.

D. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

E. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

1.5 CLOSEOUT SUBMITTALS

A. Final Property Survey: Submit 2 copies showing the Work performed and record survey data.

1.6 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:

    a. Primary operational systems and equipment.
    b. Fire separation assemblies.
    c. Air or smoke barriers.
    d. Fire-suppression systems.
    e. Plumbing piping systems.
    f. Mechanical systems piping and ducts.
    g. Control systems.
    h. Communication systems.
    i. Fire-detection and -alarm systems.
    j. Conveying systems.
    k. Electrical wiring systems.
    l. Operating systems of special construction.

3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

a. Water, moisture, or vapor barriers.
b. Membranes and flashings.
c. Exterior curtain-wall construction.
d. Sprayed fire-resistive material.
e. Equipment supports.
f. Piping, ductwork, vessels, and equipment.
g. Noise- and vibration-control elements and systems.

4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Comply with requirements specified in other Sections.

1. For projects requiring compliance with sustainable design and construction practices and procedures, use products for patching that comply with sustainable design requirements.

B. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.

C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect promptly.

B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

E. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb, and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces, unless otherwise indicated on Drawings.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure satisfactory results as judged by Architect. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.

F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.

G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.

3.6 CUTTING AND PATCHING

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.

C. Temporary Support: Provide temporary support of Work to be cut.

D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 011000 "Summary."

F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.

G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
6. Proceed with patching after construction operations requiring cutting are complete.

H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

    a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
    b. Restore damaged pipe covering to its original condition.

3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.

    a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.

4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.

5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.

I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, in accordance with regulations.

    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces in accordance with written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls." And Section 017419 "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

C. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

A. Repair or remove and replace damaged, defective, or nonconforming Work. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.

C. Restore permanent facilities used during construction to their specified condition.

D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

B. Related Requirements:

1. Section 011200 "Multiple Contract Summary" for coordination of responsibilities for waste management.
2. Section 042000 "Unit Masonry" for disposal requirements for masonry waste.
3. Section 044313.13 "Anchored Stone Masonry Veneer" for disposal requirements for excess stone and stone waste.
4. Section 044313.16 "Adhered Stone Masonry Veneer" for disposal requirements for excess stone and stone waste.
5. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.

C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner’s property.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 30 days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Use Form CWM-7 for construction waste and Form CWM-8 for demolition waste. Include the following information:

1. Material category.
2. Generation point of waste.
3. Total quantity of waste in tons.
4. Quantity of waste salvaged, both estimated and actual in tons.
5. Quantity of waste recycled, both estimated and actual in tons.
6. Total quantity of waste recovered (salvaged plus recycled) in tons.
7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

G. Qualification Data: For waste management coordinator and refrigerant recovery technician.

H. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

I. Refrigerant Recovery: Comply with requirements in Section 024116 "Structure Demolition" Section 024119 "Selective Demolition" for refrigerant recovery submittals.

1.7 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements. Superintendent may serve as Waste Management Coordinator.

B. Refrigerant Recovery Technician Qualifications: Universal certified by EPA-approved certification program.

C. Refrigerant Recovery Technician Qualifications: Comply with requirements in Section 024116 "Structure Demolition." Section 024119 "Selective Demolition."

D. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

E. Waste Management Conference(s): Conduct conference(s) at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of each contractor and waste management coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.

B. Waste Identification: Indicate anticipated types and quantities of demolition site-clearing and construction waste generated by the Work. Use Form CWM-1 for construction waste and Form CWM-2 for demolition waste. Include estimated quantities and assumptions for estimates.

C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Use Form CWM-3 for construction waste and Form CWM-4 for demolition waste. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work in compliance with Section 024116 "Structure Demolition." Section 024119 "Selective Demolition."
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there were no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Use Form CWM-5 for construction waste and Form CWM-6 for demolition waste. Include the following:

1. Total quantity of waste.
2. Estimated cost of disposal (cost per unit). Include transportation and tipping fees and cost of collection containers and handling for each type of waste.
3. Total cost of disposal (with no waste management).
4. Revenue from salvaged materials.
5. Revenue from recycled materials.
6. Savings in transportation and tipping fees by donating materials.
7. Savings in transportation and tipping fees that are avoided.
8. Handling and transportation costs. Include cost of collection containers for each type of waste.
9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling of 50 percent by weight of total nonhazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and

demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials including the following:

1. Demolition Waste:

    a. Asphalt paving.
    b. Concrete.
    c. Concrete reinforcing steel.
    d. Brick.
    e. Concrete masonry units.
    f. Wood studs.
    g. Wood joists.
    h. Plywood and oriented strand board.
    i. Wood paneling.
    j. Wood trim.
    k. Structural and miscellaneous steel.
    l. Rough hardware.
    m. Roofing.
    n. Insulation.
    o. Doors and frames.
    p. Door hardware.
    q. Windows.
    r. Glazing.
    s. Metal studs.
    t. Gypsum board.
    u. Acoustical tile and panels.
    v. Carpet.
    w. Carpet pad.
    x. Demountable partitions.
    y. Equipment.
    z. Cabinets.
    aa. Plumbing fixtures.
    bb. Piping.
    cc. Supports and hangers.
    dd. Valves.
    ee. Sprinklers.
    ff. Mechanical equipment.
    gg. Refrigerants.
    hh. Electrical conduit.
    ii. Copper wiring.
    jj. Lighting fixtures.
    kk. Lamps.
    ll. Ballasts.
    mm. Electrical devices.
    nn. Switchgear and panelboards.
    oo. Transformers.

2. Construction Waste:

    a. Masonry and CMU.
    b. Lumber.

c. Wood sheet materials.
d. Wood trim.
e. Metals.
f. Roofing.
g. Insulation.
h. Carpet and pad.
i. Gypsum board.
j. Piping.
k. Electrical conduit.
l. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:

1) Paper.
2) Cardboard.
3) Boxes.
4) Plastic sheet and film.
5) Polystyrene packaging.
6) Wood crates.
7) Wood pallets.
8) Plastic pails.

m. Construction Office Waste: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following construction office waste materials:

1) Paper.
2) Aluminum cans.
3) Glass containers.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Distribute waste management plan to everyone concerned within three days of submittal return.

2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 SALVAGING DEMOLITION WASTE

A. Comply with requirements in Section 024116 "Structure Demolition" and Section 024119 "Selective Demolition" for salvaging demolition waste.

B. Salvaged Items for Reuse in the Work: Salvage items for reuse and handle as follows:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store items in a secure area until installation.
4. Protect items from damage during transport and storage.
5. Install salvaged items to comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make items functional for use indicated.

C. Salvaged Items for Sale and Donation: Not permitted on Project site.

D. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area designated by Owner.
5. Protect items from damage during transport and storage.

E. Doors and Hardware: Brace open end of door frames. Except for removing door closers, leave door hardware attached to doors.

F. Equipment: Drain tanks, piping, and fixtures. Seal openings with caps or plugs. Protect equipment from exposure to weather.

G. Plumbing Fixtures: Separate by type and size.

H. Lighting Fixtures: Separate lamps by type and protect from breakage.

I. Electrical Devices: Separate switches, receptacles, switchgear, transformers, meters, panelboards, circuit breakers, and other devices by type.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

A. General: Recycle paper and beverage containers used by on-site workers.

B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Contractor.

C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.

    a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.4 RECYCLING DEMOLITION WASTE

A. Asphalt Paving: Grind asphalt to maximum 1-1/2-inch size.

1. Crush asphaltic concrete paving and screen to comply with requirements in Section 312000 "Earth Moving" for use as general fill.

B. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.

C. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.

1. Pulverize concrete to maximum 1-1/2-inch size.
2. Crush concrete and screen to comply with requirements in Section 312000 "Earth Moving" for use as satisfactory soil for fill or subbase.

D. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.

1. Pulverize masonry to maximum 1-1/2-inch size.

E. Wood Materials: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

F. Metals: Separate metals by type.

1. Structural Steel: Stack members according to size, type of member, and length.
2. Remove and dispose of bolts, nuts, washers, and other rough hardware.

G. Asphalt Shingle Roofing: Separate organic and glass-fiber asphalt shingles and felts. Remove and dispose of nails, staples, and accessories.

H. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location. Remove edge trim and sort with other metals. Remove and dispose of fasteners.

I. Acoustical Ceiling Panels and Tile: Stack large clean pieces on wood pallets and store in a dry location.

J. Metal Suspension System: Separate metal members, including trim and other metals from acoustical panels and tile, and sort with other metals.

K. Carpet and Pad: Roll large pieces tightly after removing debris, trash, adhesive, and tack strips.

L. Carpet Tile: Remove debris, trash, and adhesive.

1. Stack tile on pallet and store clean, dry carpet in a closed container or trailer provided by carpet reclamation agency or carpet recycler.

M. Piping: Reduce piping to straight lengths and store by material and size. Separate supports, hangers, valves, sprinklers, and other components by material and size.

N. Conduit: Reduce conduit to straight lengths and store by material and size.

O. Lamps: Separate lamps by type and store according to requirements in 40 CFR 273.

3.5 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

D. Paint: Seal containers and store by type.

3.6 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn waste materials.

3.7 ATTACHMENTS

A. Form CWM-1 for construction waste identification.

B. Form CWM-2 for demolition waste identification.

C. Form CWM-3 for construction waste reduction work plan.

D. Form CWM-4 for demolition waste reduction work plan.

E. Form CWM-5 for cost/revenue analysis of construction waste reduction work plan.

F. Form CWM-6 for cost/revenue analysis of demolition waste reduction work plan.

G. Form CWM-7 for construction waste reduction progress report.

H. Form CWM-8 for demolition waste reduction progress report.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final Completion procedures.
3. List of incomplete items.
4. Submittal of Project warranties.
5. Final cleaning.

B. Related Requirements:

1. Section 012900 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
2. Section 013233 "Photographic Documentation" for submitting Final Completion construction photographic documentation.
3. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
4. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
5. Section 017900 "Demonstration and Training" for requirements to train Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.2 DEFINITIONS

A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of cleaning agent.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.4 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.6 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
5. Submit testing, adjusting, and balancing records.
6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
6. Advise Owner of changeover in utility services.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.

8. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
9. Complete final cleaning requirements.
10. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
2. Results of completed inspection will form the basis of requirements for Final Completion.

1.7 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:

1. Submit a final Application for Payment in accordance with Section 012900 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list will state that each item has been completed or otherwise resolved for acceptance.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
4. Submit pest-control final inspection report.
5. Submit Final Completion photographic documentation.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.8 LIST OF INCOMPLETE ITEMS

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first and [proceeding from lowest floor to highest floor, listed by room or space number.
2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
3. Include the following information at the top of each page:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Contractor.
    e. Page number.

4. Submit list of incomplete items in the following format:

    a. PDF Electronic File: Architect**,** will return annotated file.
    b. Web-Based Project Software Upload: Utilize software feature for creating and updating list of incomplete items (punch list).

1.9 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

    1. Submit on digital media acceptable to Architect.

E. Warranties in Paper Form:

    1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
    2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
    3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.

F. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

    a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
    b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    c. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
    d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    e. Remove snow and ice to provide safe access to building.
    f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    g. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    h. Clean flooring, removing debris, dirt, and staining; clean in accordance with manufacturer's instructions.
    i. Vacuum and mop concrete.
    j. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean in accordance with manufacturer's instructions if visible soil or stains remain.
    k. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.

l. Remove labels that are not permanent.
m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
p. Clean ducts, blowers, and coils

q. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
r. Clean strainers.
s. Leave Project clean and ready for occupancy.

C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.

D. Construction Waste Disposal: Comply with waste-disposal requirements in Section 015000 "Temporary Facilities and Controls." and Section 017419 "Construction Waste Management and Disposal."

3.2 CORRECTION OF THE WORK

A. Complete repair and restoration operations required by "Correction of the Work" Article in Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory manuals.
2. Emergency manuals.
3. Systems and equipment operation manuals.
4. Systems and equipment maintenance manuals.
5. Product maintenance manuals.

B. Related Requirements:

1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.2 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.3 CLOSEOUT SUBMITTALS

A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operation and maintenance manuals in the following format:

1. Submit on digital media acceptable to Architect. Enable reviewer comments on draft submittals.

C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.

D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.

1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

E. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.4 FORMAT OF OPERATION AND MAINTENANCE MANUALS

A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.

3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. Enclose title pages and directories in clear plastic sleeves.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.

    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.5 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual to contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Construction Manager.
7. Name and contact information for Architect.
8. Name and contact information for Commissioning Authority.
9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
10. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation in accordance with ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.6 EMERGENCY MANUALS

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

B. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

E. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

1.7 SYSTEMS AND EQUIPMENT OPERATION MANUALS

A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.8 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.

C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

H. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

I. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of maintenance manuals.

1.9 PRODUCT MAINTENANCE MANUALS

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

D. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

E. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record specifications.
3. Record Product Data.
4. Miscellaneous record submittals.

B. Related Requirements:

1. Section 017300 "Execution" for final property survey.
2. Section 017700 "Closeout Procedures" for general closeout procedures.
3. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set(s) of marked-up record prints.

B. Record Specifications: Submit annotated PDF electronic files and one paper copies of Project's Specifications, including addenda and Contract modifications.

C. Record Product Data: Submit annotated PDF electronic files and directories and one paper copies of each submittal.

1.4 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data,

whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.
d. Record and check the markup before enclosing concealed installations.
e. Cross-reference record prints to corresponding photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Depths of foundations.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Actual equipment locations.
h. Duct size and routing.
i. Locations of concealed internal utilities.
j. Changes made by Change Order or Construction Change Directive.
k. Changes made following Architect's written orders.
l. Details not on the original Contract Drawings.
m. Field records for variable and concealed conditions.
n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Same digital data software program, version, and operating system as for the original Contract Drawings.
2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
3. Refer instances of uncertainty to Architect for resolution.
4. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.

a. See Section 013100 "Project Management and Coordination" for requirements related to use of Architect's digital data files.

b. Architect will provide data file layer information. Record markups in separate layers.

C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:

a. Project name.
b. Date.
c. Designation "PROJECT RECORD DRAWINGS."
d. Name of Architect.
e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

B. Format: Submit record specifications as scanned PDF electronic file(s) of marked-up paper copy of Specifications.

1.6 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

C. Format: Submit Record Product Data as scanned PDF electronic file(s) of marked-up paper copy of Product Data.

1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as scanned PDF electronic file(s) of marked-up miscellaneous record submittals.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1. Instruction in operation and maintenance of systems, subsystems, and equipment.
2. Demonstration and training video recordings.

1.2 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.

1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

B. Qualification Data: For instructor.

C. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.3 CLOSEOUT SUBMITTALS

A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.

1. Identification: On each copy, provide an applied label with the following information:

a. Name of Project.
b. Name and address of videographer.
c. Name of Architect.
d. Name of Construction Manager.
e. Name of Contractor.
f. Date of video recording.

2. Transcript:

a. Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links

to corresponding training components. Include name of Project and date of video recording on each page.

3. At completion of training, submit complete training manual(s) for Owner's use prepared in same paper and PDF file format required for operation and maintenance manuals specified in Section 017823 "Operation and Maintenance Data."

1.4 QUALITY ASSURANCE

A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.

B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

1.5 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.6 INSTRUCTION PROGRAM

A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.

B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:

1. Basis of System Design, Operational Requirements, and Criteria: Include the following:

    a. System, subsystem, and equipment descriptions.
    b. Performance and design criteria if Contractor is delegated design responsibility.
    c. Operating standards.
    d. Regulatory requirements.
    e. Equipment function.
    f. Operating characteristics.

g. Limiting conditions.
h. Performance curves.

2. Documentation: Review the following items in detail:

a. Emergency manuals.
b. Systems and equipment operation manuals.
c. Systems and equipment maintenance manuals.
d. Product maintenance manuals.
e. Project Record Documents.
f. Identification systems.
g. Warranties and bonds.
h. Maintenance service agreements and similar continuing commitments.

3. Emergencies: Include the following, as applicable:

a. Instructions on meaning of warnings, trouble indications, and error messages.
b. Instructions on stopping.
c. Shutdown instructions for each type of emergency.
d. Operating instructions for conditions outside of normal operating limits.
e. Sequences for electric or electronic systems.
f. Special operating instructions and procedures.

4. Operations: Include the following, as applicable:

a. Startup procedures.
b. Equipment or system break-in procedures.
c. Routine and normal operating instructions.
d. Regulation and control procedures.
e. Control sequences.
f. Safety procedures.
g. Instructions on stopping.
h. Normal shutdown instructions.
i. Operating procedures for emergencies.
j. Operating procedures for system, subsystem, or equipment failure.
k. Seasonal and weekend operating instructions.
l. Required sequences for electric or electronic systems.
m. Special operating instructions and procedures.

5. Adjustments: Include the following:

a. Alignments.
b. Checking adjustments.
c. Noise and vibration adjustments.
d. Economy and efficiency adjustments.

6. Troubleshooting: Include the following:

a. Diagnostic instructions.
b. Test and inspection procedures.

7. Maintenance: Include the following:

    a. Inspection procedures.
    b. Types of cleaning agents to be used and methods of cleaning.
    c. List of cleaning agents and methods of cleaning detrimental to product.
    d. Procedures for routine cleaning.
    e. Procedures for preventive maintenance.
    f. Procedures for routine maintenance.
    g. Instruction on use of special tools.

8. Repairs: Include the following:

    a. Diagnosis instructions.
    b. Repair instructions.
    c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
    d. Instructions for identifying parts and components.
    e. Review of spare parts needed for operation and maintenance.

1.7 PREPARATION

A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."

B. Set up instructional equipment at instruction location.

1.8 INSTRUCTION

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

B. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

    1. Schedule training with Owner, through Architect, with at least seven days' advance notice.

C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

D. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017900

Contract Documents and Specifications

Lexington Fayette Urban County Government

Department of General Services

For

DWQ Headquarters and Operations Facility

134 West New Circle Road
Lexington, KY

Bid No. RFB 70-2025
GRW Project No. 5247-01

Prepared By:

GRW Inc.

August 15, 2025

Construction Document

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****

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1.1 PROJECT MANUAL

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1. LFUCG Division of Water Quality Facility Renovation
2. Lexington Fayette Urban County Government.
3. Lexington, KY.
4. Owner Project No. RFB 70-2025.
5. Architect Project No. 5247-01.

6. GRW Engineering Architecture Geospatial. Inc.
7. 801 Corporate Drive.
8. Lexington, KY 40503
9. Phone: 859-223-3999.
10. Website: GRW | engineering | architecture | geospatial.
11. Issued: August 15, 2025.
12. Copyright 2025 GRW Engineering Architecture Geospatial. Inc.

END OF DOCUMENT 000102

DIVISION 02

EXISTING CONDITIONS

SECTION 024116 - STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARYs

A. The Work of this Section Includes:

1. Demolition and removal of buildings or structures.
2. Demolition and removal of site improvements.
3. Abandoning in-place below-grade construction.
4. Removing below-grade construction.
5. Disconnecting, capping or sealing, and abandoning in-place site utilities.

B. Related Requirements:

1. Section 011000 "Summary" for use of the premises and phasing requirements.
2. Section 013200 "Construction Progress Documentation" for preconstruction photographs taken before building demolition.
3. Section 024119 "Selective Demolition" for partial demolition of buildings, structures, and site improvements.
4. Section 311000 "Site Clearing" for site clearing and removal of above- and below-grade site improvements that are not part of building demolition.
5. Section 012300 “Alternates” for scope of work added or removed from base bid documents.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner as indicated. Include fasteners or brackets needed for reattachment elsewhere.

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be demolished.
2. Review and finalize building demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
3. Review and finalize protection requirements.
4. Review procedures for noise control and dust control.
5. Review procedures for protection of adjacent buildings.
6. Review storage, protection, and accounting for items to be salvaged and returned to Owner.

1.5 INFORMATIONAL SUBMITTALS

A. Engineering Survey: Submit engineering survey of condition of building.

B. Survey of Existing Conditions: Submit survey.

C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property**,** for environmental protection, for dust control and , for noise control. Indicate proposed locations and construction of barriers.

1. Adjacent Buildings: Detail special measures proposed to protect adjacent buildings to remain including means of egress from those buildings.

D. Schedule of Building Demolition Activities: Indicate the following:

1. Detailed sequence of demolition work, with starting and ending dates for each activity.
2. Temporary interruption of utility services. Indicate how long services will be interrupted.
3. Coordination for shutoff and capping or re-routing of utility services.

E. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed in accordance with EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.6 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.7 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Universal certified by an EPA-approved certification program.

1.8 FIELD CONDITIONS

A. Buildings to be demolished will be vacated and their use discontinued before start of the Work.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Hazardous Materials:

1. It is not expected that hazardous materials will be encountered in the Work.

a. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

D. On-site sale of removed items or materials is not permitted.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

2.2 SOIL MATERIALS

A. Satisfactory Soils: Comply with requirements in Section 312000 "Earth Moving."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during building demolition operations.

D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video, measured drawings and templates. Comply with Section 013233 "Photographic Documentation."

1. Inventory and record the condition of items to be removed and salvaged. Photograph or video conditions that might be misconstrued as damage caused by removal.
2. Photograph or video existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by demolition operations or removal of items for salvage.

3.2 PREPARATION

A. Existing Facilities: Protect adjacent walkways, loading docks, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.

B. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent unexpected movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of demolition.

C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction and as indicated. Comply with requirements in Section 015000 "Temporary Facilities and Controls."

1. Protect adjacent buildings and facilities from damage due to demolition activities.
2. Protect existing site improvements, appurtenances, and landscaping to remain.
3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
5. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
6. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.
7. Erect and maintain dustproof partitions and temporary enclosures to limit dust, noise, and dirt migration to occupied portions of adjacent buildings.

D. Existing Utilities to Remain: Maintain utility services to remain and protect against damage during demolition operations.

1. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.
2. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and authorities having jurisdiction.

a. Provide at least 72 hours' notice to occupants of affected buildings if shutdown of service is required during changeover.

E. Existing Utilities to Be Disconnected: Locate, identify, disconnect, and seal or cap off utilities serving buildings and structures to be demolished.

1. Arrange to shut off utilities with utility companies.
2. If disconnection of utility services will affect adjacent occupied buildings, then provide temporary utilities that bypass buildings and structures to be demolished and that maintain continuity of service to other buildings and structures.
3. Cut off pipe or conduit a minimum of 24 inches below grade at or outside the building or structure to be demolished and cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing in accordance with requirements of authorities having jurisdiction.
4. Do not start demolition work until utility disconnecting and sealing have been completed and verified in writing by authorities having jurisdiction.

F. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment in accordance with 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 DEMOLITION, GENERAL

A. General: Demolish indicated buildings and site improvements completely. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Do not use cutting torches until work area is cleared of flammable materials. Maintain portable fire-suppression devices during flame-cutting operations.
2. Maintain fire watch during and for at least 12 hours after flame-cutting operations.
3. Maintain adequate ventilation when using cutting torches.
4. Locate building demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.
2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

C. Explosives: Use of explosives is not permitted.

3.4 DEMOLITION BY MECHANICAL MEANS

A. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.

B. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

1. Remove structural framing members and lower to ground by method suitable to minimize ground impact and dust generation.

C. Below-Grade Construction:

1. Demolish foundation systems and other below-grade construction that are within footprint of new construction and extending 5 ft. outside footprint indicated for new construction. Abandon below-grade construction outside this area.

a. Remove below-grade construction, including basements, foundation systems, and footings, completely below grade.

D. Existing Utilities:

1. Demolish existing utilities and below-grade utility structures that are within 5 ft. outside footprint indicated for new construction. Abandon utilities outside this area.

a. Fill abandoned utility structures with satisfactory soil materials in accordance with backfill requirements in Section 312000 "Earth Moving."

3.5 SITE RESTORATION

A. Below-Grade Areas:

1. Rough grade below-grade areas ready for further excavation or new construction.
2. Completely fill below-grade areas and voids resulting from building demolition operations with satisfactory soil materials in accordance with backfill requirements in Section 312000 "Earth Moving."

B. Site Grading: Uniformly rough grade area of demolished construction to a smooth surface, free from irregular surface changes. Provide a smooth transition between adjacent existing grades and new grades.

3.6 REPAIRS

A. Promptly repair damage to adjacent buildings caused by demolition operations.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction. and recycle or dispose of them in accordance with Section 017419 "Construction Waste Management and Disposal."

1. Do not allow demolished materials to accumulate on-site.

2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Do not burn demolished materials.

3.8 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by building demolition operations. Return adjacent areas to condition existing before building demolition operations began.

1. Clean roadways of debris caused by debris transport.

END OF SECTION 024116

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. The Work of this Section Includes:

1. Demolition and removal of selected portions of exterior or interior of building or structure and site elements.
2. Removal and salvage of existing items for delivery to Owner and removal of existing items for reinstallation.

B. Related Requirements:

1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
2. Section 015639 "Temporary Tree and Plant Protection" for temporary protection of existing trees and plants that are affected by selective demolition.
3. Section 017300 "Execution" for cutting and patching procedures.
4. Section 013516 "Alteration Project Procedures" for general protection and work procedures for alteration projects.
5. Section 311000 "Site Clearing" for site clearing and removal of above- and below-grade improvements not part of selective demolition.
6. Section 330500 "Common Work Results for Utilities" for removal of site utility systems piping, equipment, and components.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner as indicated.

C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage; prepare for reuse; and reinstall where indicated.

D. Existing to Remain: Existing items of construction that are not to be removed.

1.3 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 COORDINATION

A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.5 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site.

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
5. Review areas where existing construction is to remain and requires protection.
6. Review and finalize protection requirements.
7. Review procedures for noise control and dust control.
8. Review storage, protection, and accounting for items to be removed for salvage or reinstallation.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Statements: For refrigerant recovery technician.

B. Engineering Survey: Submit engineering survey of condition of building.

C. Survey of Existing Conditions: Submit survey.

D. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property**,** for environmental protection , for dust control and , for noise control. Indicate proposed locations and construction of barriers.

E. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
2. Temporary interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed in accordance with EPA regulations. Include name and address of technician and date refrigerant was recovered.

G. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 QUALITY ASSURANCE

A. Refrigerant Recovery Technician Qualifications: Universal certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

A. Owner will not occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

D. Hazardous Materials:

1. It is not expected that hazardous materials will be encountered in the Work.

a. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. On-site sale of removed items or materials is not permitted.

1.10 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties. Notify warrantor before proceeding. Existing warranties include the following:

B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at Project closeout.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.

C. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

D. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

E. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video, measured drawings and templates. Comply with Section 013233 "Photographic Documentation."

1. Inventory and record the condition of items to be removed for salvage or reinstallation. Photograph or video conditions that might be misconstrued as damage caused by removal.
2. Photograph or video existing conditions of adjoining construction including finish surfaces, that might be misconstrued as damage caused by selective demolition operations or removal of items for salvage or reinstallation.

3.2 PREPARATION

A. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

B. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
4. Cover and protect furniture, furnishings, and equipment that have not been removed.
5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location and cleaned and reinstalled in their original locations after selective demolition operations are complete.

D. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment in accordance with 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND BUILDING SYSTEMS

A. Existing Services/Systems to Remain: Maintain utilities and building systems and equipment to remain and protect against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utilities and building systems serving areas to be selectively demolished.

1. Arrange to shut off utilities with utility companies.
2. If disconnection of utilities and building systems will affect adjacent occupied parts of the building, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to those parts of the building.
3. Demolish and remove existing building systems, equipment, and components indicated on Drawings to be removed.

    a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    b. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
    c. Equipment to Be Removed: Disconnect and cap services and remove equipment and components.

4. Abandon existing building systems, equipment, and components indicated on Drawings to be abandoned in place.

    a. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
    b. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.

5. Remove and reinstall/salvage existing building systems, equipment, and components indicated on drawings to be removed and reinstalled or removed and salvaged:

    a. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment and components; when appropriate, reinstall, reconnect, and make equipment operational.
    b. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and components and deliver to Owner.

3.4 SALVAGE/REINSTALL

A. Removed and Salvaged Items:

1. Clean salvaged items.
2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
3. Store items in a secure area until delivery to Owner.
4. Transport items to Owner's storage area on-site.
5. Protect items from damage during transport and storage.

B. Removed and Reinstalled Items:

1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

3.5 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.

Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.

3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain fire watch during and for at least 24 hours after flame-cutting operations.
6. Maintain adequate ventilation when using cutting torches.
7. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
8. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
9. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.

2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

A. Concrete:

1. Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
2. Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.

B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.

C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break up and remove.

D. Resilient Floor Coverings: Remove floor coverings and adhesive in accordance with recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings."

E. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Section 075216 "Styrene Butadiene Styrene (SBS) Modified Bituminous Membrane Roofing" for new roofing requirements.

1. Remove existing roof membrane, flashings, copings, and roof accessories.
2. Remove existing roofing system down to substrate.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

3.8 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

DIVISION 03

CONCRETE

SECTION 033010 - CAST-IN-PLACE CONCRETE FOUNDATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes cast-in-place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1. Footings (including anchor rods).

B. Related Sections:

1. Division 01 Section “Special Inspection” for coordinating special inspections.
2. Division 13 Section “Metal Building Systems”
3. Division 31 Section "Building Foundation Excavation and Backfill" for Foundation Excavations.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1. Indicate amounts of mixing water to be withheld for later addition at Project site.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Include bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps,

mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement.

D. Construction Joint Layout:

1. Location of construction joints is subject to approval of the Architect/Engineer.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specifications for Structural Concrete"
2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement and Anchor Rods: Deliver, store, and handle steel reinforcement and anchor rods to prevent bending and damage.

B. Foundation Insulation: Deliver materials in original, unopened packages with manufacturers' labels intact and clearly identifying products.

1. Store materials inside and under cover; keep them dry and protected from weather, direct sunlight, surface contamination, aging, corrosion, damaging temperatures, construction traffic, and other causes.
2. Stack insulation board flat and off the ground.
3. Protect plastic insulation against ignition at all times.
4. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

2.2 REINFORCEMENT ACCESSORIES

A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

2.3 ANCHOR RODS FOR STEEL COLUMNS

A. Unheaded Anchor Rods: ASTM F 1554, Grade 36.

1. Configuration: Straight, threaded each end with three sets nut and washer each and one plate washer each as indicated.
2. Nuts: ASTM A 563 heavy-hex carbon steel.
3. Plate Washers: ASTM A 36/A 36M carbon steel.
4. Washers: ASTM F 436, Type 1, hardened carbon steel.
5. Finish: Plain.

2.4 FOUNDATION INSULATION

A. Molded, Rigid Cellular Polystyrene Board Insulation: Comply with ASTM C 578, Type VI; EIFS manufacturer's requirements; and EIMA's "EIMA Guideline Specification for Expanded Polystyrene (EPS) Insulation Board" for most stringent requirements for material performance and qualities of insulation, including dimensions and permissible variations, and the following:

1. Aging: Before cutting and shipping, age insulation in block form by air drying for not less than six weeks or by another method approved by EIMA that produces equivalent results.
2. Flame-Spread and Smoke-Developed Indexes: 25 and 450 or less, respectively, per ASTM E 84.
3. Dimensions: Provide insulation board in thickness indicated.
4. Foam Shapes: Provide with profiles and dimensions indicated on Drawings.

2.5 CONCRETE MATERIALS

A. Cementitious Material:

1. Portland Cement: ASTM C 150 Type I/II.

a. Fly Ash: ASTM C 618, Class F.

B. Normal-Weight Aggregates: ASTM C 33.

1. Maximum Coarse-Aggregate Size: ¾” inch nominal.

2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M and potable.

2.6 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.

2.7 CURING MATERIALS

A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

B. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

C. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

D. Water: Potable.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

2.8 RELATED MATERIALS

A. Bonding Agent: ASTM C 1059/C 1059M, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

B. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

2.9 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash: 25 percent.
2. Combined Fly Ash and Pozzolan: 25 percent.

C. Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use water-reducing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, and concrete with a water-cementitious materials ratio below 0.50.

2.10 CONCRETE MIXTURES FOR BUILDING FOUNDATIONS:

A. Footings: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 3500 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.55.
3. Slump Limit: 4 inches plus or minus 1 inch at point of placement.
4. Air Content: Natural Air.

B. Foundation Walls: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 4500 psi at 28 days.
2. Maximum Water-Cementitious Materials Ratio: 0.45.
3. Slump Limit: 4 inches plus or minus 1 inch at point of placement.
4. Air Content: 6 percent, plus or minus 1.5 percent at point of placement.

2.11 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.12 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information to special inspector.

1. When air temperature is between 85 and 90 deg F reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 347 as abrupt or gradual, as follows:

1. Class A, 1/8 inch for smooth-formed finished surfaces.
2. Class B, 1/4 inch for rough-formed finished surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces.

1. Do not use rust-stained steel form-facing material.

F. Locate temporary openings in forms at inconspicuous locations.

G. Form openings required in the Work. Determine sizes and locations from trades providing such items.

H. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

I. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

J. Coat contact surfaces of forms with form-release agent according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.3 REMOVING AND REUSING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations and curing and protection operations need to be maintained.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material shall not be reused for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect/Engineer.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.5 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect/Engineer. If no construction joints are indicated then contact Architect/Engineer for locations.

1. Place joints perpendicular to main reinforcement. Continue reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of strip placements of floors and slabs.

2. Space vertical joints in walls as indicated but not less than 24'-0" apart. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
3. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

C. Contraction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect/Engineer. If no contraction joints are indicated then contact Architect/Engineer for locations.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect.

C. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.

D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.

2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

3.7 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view in the finished work.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view in the finished work.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching the requirements for formed finishes.

3.8 MISCELLANEOUS CONCRETE ITEMS

A. Filling In: Fill in holes and openings left in concrete structures after work of other trades is in place unless otherwise indicated. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.9 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period,

moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.

D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

a. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

a. Removal: After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.

3.10 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect/Engineer. Remove and replace concrete that cannot be repaired and patched to Architect/Engineer's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete. Limit cut depth to 3/4 inch. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.03 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish blending with adjacent finished concrete. Cure in same manner as adjacent concrete.
5. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Architect/Engineer's approval using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used subject to Architect/Engineer's approval.

3.11 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a special inspector to perform field tests and inspections and prepare test reports. Coordinate work to allow for special inspections. Contact and communicate with special inspector as required in Division 01 “Special Inspections”.

END OF SECTION

DIVISION 04

MASONRY

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Mortar and grout.
3. Steel reinforcing bars.
4. Masonry-joint reinforcement.
5. Ties and anchors.
6. Embedded flashing.
7. Miscellaneous masonry accessories.

B. Products Installed but not Furnished under This Section:

1. Cast-stone trim in unit masonry.

1.3 DEFINITIONS

A. CMU(s): Concrete masonry unit(s).

B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For the following:

1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
2. Reinforcing Steel: Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315. Show elevations of reinforced walls.
3. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.

C. Samples for Initial Selection:

1. Decorative CMUs, in the form of small-scale units.
2. Colored mortar.
3. Weep holes/cavity vents.

D. Samples for Verification: For each type and color of the following:

1. Exposed CMUs.
2. Pigmented and colored-aggregate mortar. Make Samples using same sand and mortar ingredients to be used on Project.
3. Weep holes and cavity vents.
4. Accessories embedded in masonry.

1.6 INFORMATIONAL SUBMITTALS

A. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, model numbers, lot numbers, batch numbers, source of supply, and other information as required to identify materials used. Include mix proportions for mortar and grout and source of aggregates.

1. Submittal is for information only. Receipt of list does not constitute approval of deviations from the Contract Documents unless such deviations are specifically brought to the attention of Architect and approved in writing.

B. Qualification Data: For testing agency.

C. Material Certificates: For each type and size of the following:

1. Masonry units.

a. Include data on material properties and material test reports substantiating compliance with requirements.
b. For brick, include size-variation data verifying that actual range of sizes falls within specified tolerances.
c. For exposed brick, include test report for efflorescence according to ASTM C 67.
d. For masonry units used in structural masonry, include data and calculations establishing average net-area compressive strength of units.

2. Cementitious materials. Include name of manufacturer, brand name, and type.
3. Mortar admixtures.
4. Grout mixes. Include description of type and proportions of ingredients.
5. Reinforcing bars.
6. Joint reinforcement.
7. Anchors, ties, and metal accessories.

D. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91/C 91M for air content.
2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

E. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to TMS 602/ACI 530.1/ASCE 6.

F. Cold-Weather and Hot-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with requirements.

1.7 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C 1093 for testing indicated.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Build mockups for typical exterior wall in sizes approximately 48 inches (1200 mm) long by 48 inches (1200 mm) high by full thickness, including face and backup wythes and accessories.

    a. Include a sealant-filled joint at least 16 inches (400 mm) long in mockup.
    b. Include lower corner of window opening, framed with cast stone trim, at upper corner of exterior wall mockup. Make opening approximately 12 inches (300 mm) wide by 16 inches (400 mm) high.
    c. Include through-wall flashing installed for a 24-inch (600-mm) length in corner of exterior wall mockup approximately 16 inches (400 mm) down from top of mockup, with a 12-inch (300-mm) length of flashing left exposed to view (omit masonry above half of flashing).
    d. Include CMU, dampproofing, insulation, veneer anchors, flashing, and weep holes in exterior masonry-veneer wall mockup.

2. Clean one-half of exposed faces of mockups with masonry cleaner as indicated.
3. Protect accepted mockups from the elements with weather-resistant membrane.
4. Approval of mockups is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; and aesthetic qualities of workmanship.

    a. Approval of mockups is also for other material and construction qualities specifically approved by Architect in writing.
    b. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

5. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.

E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.9 FIELD CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches down both sides of walls, and hold cover securely in place.
2. Where one wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe, and hold cover in place.

B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least three days after building masonry walls or columns.

C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, from single source from single manufacturer for each product required.

B. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from single manufacturer for each cementitious component and from single source or producer for each aggregate.

2.2 PERFORMANCE REQUIREMENTS

A. Provide structural unit masonry that develops indicated net-area compressive strengths at 28 days.

1. Determine net-area compressive strength of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to TMS 602/ACI 530.1/ASCE 6.

2.3 UNIT MASONRY, GENERAL

A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.

B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work.

2.4 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.
2. Provide square-edged units for outside corners unless otherwise indicated.

B. Integral Water Repellent: Provide units made with integral water repellent for exposed units.

1. Integral Water Repellent: Liquid polymeric, integral water-repellent admixture that does not reduce flexural bond strength. Units made with integral water repellent, when tested according to ASTM E 514/E 514M as a wall assembly made with mortar containing integral water-repellent manufacturer's mortar additive, with test period extended to 24 hours, shall show no visible water or leaks on the back of test specimen.

C. CMUs: ASTM C 90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 1900 psi.
2. Density Classification: Normal weight.
3. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.
4. Exposed Faces: Provide color and texture matching the range represented by Architect's sample.

2.5 MASONRY LINTELS

A. General: Provide one of the following:

B. Masonry Lintels: Prefabricated or built-in-place masonry lintels made from bond beam CMUs matching adjacent CMUs in color, texture, and density classification, with reinforcing bars placed as indicated and filled with coarse grout. Cure precast lintels before handling and installing. Temporarily support built-in-place lintels until cured.

2.6 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150/C 150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

1. Alkali content shall not be more than 0.1 percent when tested according to ASTM C 114.

B. Hydrated Lime: ASTM C 207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

D. Masonry Cement: ASTM C 91/C 91M.

E. Mortar Cement: ASTM C 1329/C 1329M.

F. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C 979/C 979M. Use only pigments with a record of satisfactory performance in masonry mortar.

G. Colored Cement Products: Packaged blend made from portland cement and hydrated lime or masonry cement and mortar pigments, all complying with specified requirements, and containing no other ingredients.

1. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
2. Pigments shall not exceed 10 percent of portland cement by weight.
3. Pigments shall not exceed 5 percent of masonry cement or mortar cement by weight.

H. Aggregate for Mortar: ASTM C 144.

1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
3. White-Mortar Aggregates: Natural white sand or crushed white stone.
4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

I. Aggregate for Grout: ASTM C 404.

J. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

K. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs containing integral water repellent from same manufacturer.

L. Water: Potable.

M. Mortar Color:

1. Exposed Brick Locations: Basis of Design, Glen-Gery Brick G501 or Equal. Color to be provided to Architect for final selection and approval.
2. Exposed CMU Locations: Color to match CMU field color. Color to be provided to Architect for review and approval.

2.7 REINFORCEMENT

A. Uncoated-Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

B. Reinforcing Bar Positioners: Wire units designed to fit into mortar bed joints spanning masonry unit cells and to hold reinforcing bars in center of cells. Units are formed from 0.148-inch steel wire, hot-dip galvanized after fabrication. Provide units designed for number of bars indicated.

C. Masonry-Joint Reinforcement, General: ASTM A 951/A 951M.

1. Interior Walls: Hot-dip galvanized carbon steel.
2. Exterior Walls: Hot-dip galvanized carbon steel.
3. Wire Size for Side Rods: 0.148-inch diameter.

4. Wire Size for Cross Rods: 0.148-inch diameter.
5. Wire Size for Veneer Ties: 0.187-inch diameter.
6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches o.c.
7. Provide in lengths of not less than 10 feet, with prefabricated corner and tee units.

D. Masonry-Joint Reinforcement for Single-Wythe Masonry: Ladder or truss type with single pair of side rods.

E. Masonry-Joint Reinforcement for Multiwythe Masonry:

1. Ladder type with one side rod at each face shell of hollow masonry units more than 4 inches wide, plus two side rods at each wythe of masonry 4 inches wide or less.
2. Tab type, either ladder or truss design, with one side rod at each face shell of backing wythe and with rectangular tabs sized to extend at least halfway through facing wythe, but with at least 5/8-inch cover on outside face.
3. Adjustable (two-piece) type, either ladder or truss design, with one side rod at each face shell of backing wythe and with separate adjustable ties with pintle-and-eye connections having a maximum horizontal play of 1/16 inch and maximum vertical adjustment of 1-1/4 inches . Size ties to extend at least halfway through facing wythe but with at least 5/8-inch cover on outside face. Ties have hooks or clips to engage a continuous horizontal wire in the facing wythe.

2.8 TIES AND ANCHORS

A. General: Ties and anchors shall extend at least 1-1/2 inches into veneer but with at least a 5/8-inch cover on outside face.

B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:

1. Mill-Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M, with ASTM A 641/A 641M, Class 1 coating.
2. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M, with ASTM A 153/A 153M, Class B-2 coating.
3. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304.
4. Galvanized-Steel Sheet: ASTM A 653/A 653M, Commercial Steel, G60 zinc coating.
5. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
6. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304.
7. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
8. Stainless-Steel Bars: ASTM A 276 or ASTM A 666, Type 304.

C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches wide.

1. Z-shaped ties with ends bent 90 degrees to provide hooks not less than 2 inches long may be used for masonry constructed from solid units.
2. Where wythes do not align or are of different materials, use adjustable ties with pintle-and-eye connections having a maximum adjustment of 1-1/4 inches.
3. Wire: Fabricate from 3/16-inch diameter, hot-dip galvanized steel wire.

D. Rigid Anchors: Fabricate from steel bars 1-1/2 inches wide by 1/4 inch thick by 24 inches long, with ends turned up 2 inches or with cross pins unless otherwise indicated.

1. Corrosion Protection: Hot-dip galvanized to comply with ASTM A 153/A 153M.

E. Adjustable Masonry-Veneer Anchors:

1. General: Provide anchors that allow vertical adjustment but resist a 100-lbf load in both tension and compression perpendicular to plane of wall without deforming or developing play in excess of 1/16 inch.
2. Fabricate wire ties from 0.187-inch diameter, hot-dip galvanized-steel wire unless otherwise indicated.
3. Contractor's Option: Unless otherwise indicated, provide any of the adjustable masonry-veneer anchors specified.

2.9 EMBEDDED FLASHING MATERIALS

A. Metal Flashing: Provide metal flashing complying with Section 076200 "Sheet Metal Flashing and Trim" and as follows:

1. Copper: ASTM B 370, Temper H00, cold-rolled copper sheet, 16-oz./sq. ft. (4.9-kg/sq. m) weight or 0.0216 inch (0.55 mm) thick or ASTM B 370, Temper H01, high-yield copper sheet, 12-oz./sq. ft. (3.7-kg/sq. m) weight or 0.0162 inch (0.41 mm) thick.
2. Fabricate continuous flashings in sections 96 inches (2400 mm) long minimum, but not exceeding 12 feet (3.7 m). Provide splice plates at joints of formed, smooth metal flashing.
3. Fabricate through-wall metal flashing embedded in masonry from copper, with ribs at 3-inch (76-mm) intervals along length of flashing to provide an integral mortar bond.
4. Fabricate through-wall flashing with drip edge unless otherwise indicated. Fabricate by extending flashing 1/2 inch (13 mm) out from wall, with outer edge bent down 30 degrees and hemmed.
5. Fabricate metal drip edges for ribbed metal flashing from plain metal flashing of same metal as ribbed flashing and extending at least 3 inches (76 mm) into wall with hemmed inner edge to receive ribbed flashing and form a hooked seam. Form hem on upper surface of metal so that completed seam sheds water.
6. Fabricate metal expansion-joint strips from copper to shapes indicated.
7. Solder metal items at corners.

B. Application: Unless otherwise indicated, use the following:

1. Where flashing is indicated to receive counterflashing, use metal flashing.
2. Where flashing is indicated to be turned down at or beyond the wall face, use metal flashing.
3. Where flashing is partly exposed and is indicated to terminate at the wall face, use metal flashing with a drip edge.
4. Where flashing is fully concealed, use metal flashing.

C. Solder and Sealants for Sheet Metal Flashings: As specified in Section 076200 "Sheet Metal Flashing and Trim."

D. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.10 MISCELLANEOUS MASONRY ACCESSORIES

A. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 or PVC, complying with ASTM D 2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

B. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D 226/D 226M, Type I (No. 15 asphalt felt).

C. Weep/Cavity Vent Products: Use the following unless otherwise indicated:

1. Cellular Plastic Weep/Vent: One-piece, flexible extrusion made from UV-resistant polypropylene copolymer, full height and width of head joint and depth 1/8 inch (3 mm) less than depth of outer wythe, in color selected from manufacturer's standard.

a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1) Advanced Building Products Inc.
2) Heckmann Building Products, Inc.
3) Hohmann & Barnard, Inc.

D. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Heckmann Building Products, Inc.
b. Hohmann & Barnard, Inc.
c. Mortar Net USA, Ltd.

2. Configuration: Provide one of the following:

a. Strips, not less than 1-1/2 inches (38 mm) thick and 10 inches (250 mm) high, with dimpled surface designed to catch mortar droppings and prevent weep holes from clogging with mortar.

2.11 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

2.12 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.

1. For masonry below grade or in contact with earth, use Type S.
2. For reinforced masonry, use Type N.
3. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions; and for other applications where another type is not indicated, use Type N.

D. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.

1. Mix to match Architect's sample.
2. Application: Use colored-aggregate mortar for exposed mortar joints with the following units:

    a. Decorative CMUs.
    b. Cast-stone trim units.

E. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.
2. Proportion grout in accordance with ASTM C 476.
3. Provide grout with a slump of 8 to 11 inches as measured according to ASTM C 143/C 143M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
2. Verify that foundations are within tolerances specified.
3. Verify that reinforcing dowels are properly placed.
4. Verify that substrates are free of substances that impair mortar bond.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.

B. Build chases and recesses to accommodate items specified in this and other Sections.

C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match construction immediately adjacent to opening.

D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.

F. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested according to ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

3.3 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch
2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch.
3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet, or 1/2-inch maximum.

2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2-inch maximum.
3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 1/2-inch maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2-inch maximum.
6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet or 1/2-inch maximum.
7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
5. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

3.4 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in bond pattern (shown on drawings); do not use units with less-than-nominal 4-inch horizontal face dimensions at corners or jambs.

C. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

E. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

F. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below, and rod mortar or grout into core.

G. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

A. Lay CMU as follows:

1. Bed face shells in mortar and make head joints of depth equal to bed joints.
2. Bed webs in mortar in all courses of piers, columns, and pilasters.
3. Bed webs in mortar in grouted masonry, including starting course on footings.
4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.
5. Fully bed units and fill cells with mortar at anchors and ties as needed to fully embed anchors and ties in mortar.

B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Set cast-stone trim units in full bed of mortar with full vertical joints. Fill dowel, anchor, and similar holes.

1. Clean soiled surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
2. Allow cleaned surfaces to dry before setting.
3. Wet joint surfaces thoroughly before applying mortar.
4. Rake out mortar joints for pointing with sealant.

D. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

E. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

F. Cut joints flush where indicated to receive dampproofing, cavity wall insulation unless otherwise indicated.

3.6 CAVITY WALLS

A. Bond wythes of cavity walls together as follows:

1. Masonry-Joint Reinforcement: Installed in horizontal mortar joints.

a. Where bed joints of both wythes align, use ladder-type reinforcement extending across both wythes or tab-type reinforcement.
b. Where bed joints of wythes do not align, use adjustable-type (two-piece-type) reinforcement with continuous horizontal wire in facing wythe attached to ties.

c. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable-type (two-piece-type) reinforcement with continuous horizontal wire in facing wythe attached to ties to allow for differential movement regardless of whether bed joints align.

B. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

3.7 ANCHORED MASONRY VENEERS

A. Anchor masonry veneers to concrete and masonry backup with masonry-veneer anchors to comply with the following requirements:

1. Fasten screw-attached anchors to concrete and masonry backup with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
2. Locate anchor sections to allow maximum vertical differential movement of ties up and down.

3.8 MASONRY-JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch on exterior side of walls, 1/2 inch elsewhere. Lap reinforcement a minimum of 6 inches.

1. Space reinforcement not more than 16 inches o.c.
2. Space reinforcement not more than 8 inches o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches above and below wall openings and extending 12 inches beyond openings in addition to continuous reinforcement.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

E. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.9 CONTROL AND EXPANSION JOINTS

A. General: Install control- and expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.

B. Form control joints in concrete masonry using the following method:

1. Install preformed control-joint gaskets designed to fit standard sash block.

C. Form control joints in brick as follows:

1. Build in compressible joint fillers where indicated.
2. Form open joint full depth of brick wythe and of width indicated, but not less than 3/8 inch for installation of sealant and backer rod specified in Section 079200 "Joint Sealants."

D. Provide horizontal, pressure-relieving joints by either leaving an airspace or inserting a compressible filler of width required for installing sealant and backer rod specified in Section 079200 "Joint Sealants," but not less than 3/8 inch.

1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry.

3.10 LINTELS

A. Install steel lintels where indicated.

B. Provide masonry lintels where shown and where openings of more than 12 inches for brick-size units and 24 inches for block-size units are shown without structural steel or other supporting lintels.

C. Provide minimum bearing of 8 inches at each jamb unless otherwise indicated.

3.11 FLASHING, WEEP HOLES, AND CAVITY VENTS

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated. Install cavity vents at shelf angles, ledges, and other obstructions to upward flow of air in cavities, and where indicated.

B. Install flashing as follows unless otherwise indicated:

1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches (200 mm), and through inner wythe to within 1/2 inch (13 mm) of the interior face of wall in exposed masonry. Where interior face of wall is to receive furring or framing, carry flashing completely through inner wythe and turn flashing up approximately 2 inches (50 mm) on interior face.
3. At lintels and shelf angles, extend flashing a minimum of 6 inches (150 mm) into masonry at each end. At heads and sills, extend flashing 6 inches (150 mm) at ends and turn up not less than 2 inches (50 mm) to form end dams.

C. Install weep holes in exterior wythes and veneers in head joints of first course of masonry immediately above embedded flashing.

1. Use specified weep/cavity vent products to form weep holes.
2. Space weep holes 24 inches (600 mm) o.c. unless otherwise indicated.

D. Place cavity drainage material in airspace behind veneers to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.

E. Install cavity vents in head joints in exterior wythes at spacing indicated. Use specified weep/cavity vent products to form cavity vents.

1. Close cavities off vertically and horizontally with blocking in manner indicated. Install through-wall flashing and weep holes above horizontal blocking.

3.12 REINFORCED UNIT MASONRY INSTALLATION

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and that of other loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches.

3.13 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

B. Inspections: Special inspections according to Level B in TMS 402/ACI 530/ASCE 5.

1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.
3. Place grout only after inspectors have verified proportions of site-prepared grout.

C. Testing Prior to Construction: One set of tests.

D. Testing Frequency: One set of tests for each 5000 sq. ft. of wall area or portion thereof.

E. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C 140 for compressive strength.

F. Mortar Test (Property Specification): For each mix provided, according to ASTM C 780. Test mortar for compressive strength.

G. Grout Test (Compressive Strength): For each mix provided, according to ASTM C 1019.

H. Prism Test: For each type of construction provided, according to ASTM C 1314 at 7 days and at 28 days.

3.14 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
6. Clean concrete masonry by applicable cleaning methods indicated in NCMA TEK 8-4A.
7. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

3.15 MASONRY WASTE DISPOSAL

A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.

B. Excess Masonry Waste: Remove excess clean masonry waste and legally dispose of off Owner's property.

END OF SECTION 042000

SECTION 047200 - CAST STONE MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Trim units.
2. Mortar materials.
3. Accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For cast stone units, include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: Show fabrication and installation details for cast stone units. Include dimensions, details of reinforcement and anchorages if any, and indication of finished faces.

1. Include building elevations showing layout of units and locations of joints and anchors.

C. Samples for Initial Selection: For colored mortar.

D. Samples for Verification:

1. For each color and texture of cast stone required, 4 inches in size.
2. For each trim shape required, 4 inches in length.
3. For colored mortar, make Samples using same sand and mortar ingredients to be used on Project.

E. Full-Size Samples: For each color texture engraving and shape of cast stone unit required.

1. Make available for Architect's review at Project site
2. Approved Samples may be installed in the Work.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For[manufacturer

1. Include copies of material test reports, indicating compliance of cast stone with ASTM C1364.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer of cast stone units similar to those indicated for this Project, that has sufficient production capacity to manufacture required units, and is a plant certified by CSI.

B. Furnish cast stone for installation in mockups specified in Section 042000 "Unit Masonry."

C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Build mockup for typical wall / column installation including accessories.

    a. Size: As described in specification section 042000 Masonry Mockup.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Coordinate delivery of cast stone with unit masonry work to avoid delaying the Work and to minimize the need for on-site storage.

B. Pack, handle, and ship cast stone units in suitable packs or pallets.

1. Lift with wide-belt slings; do not use wire rope or ropes that might cause staining. Move cast stone units if required, using dollies with wood supports.
2. Store cast stone units on wood skids or pallets with nonstaining, waterproof covers, securely tied. Arrange to distribute weight evenly and to prevent damage to units. Ventilate under covers to prevent condensation.

C. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

D. Store mortar aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

1.6 PROJECT CONDITIONS

A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements in TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until cast stone has dried, but no fewer than seven days after completing cleaning.

B. Hot-Weather Requirements: Comply with hot-weather construction requirements in TMS 602.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Cast Stone: Obtain cast stone units from single source from single manufacturer.

2.2 CAST STONE MATERIALS

A. General: Comply with ASTM C1364.

B. Portland Cement: ASTM C150/C150M, Type I or Type III, containing not more than 0.60 percent total alkali when tested according to ASTM C114. Provide natural color or white cement as required to produce cast stone color indicated.

C. Fine Aggregates: Natural sand or crushed stone complying with ASTM C33/C33M, gradation and colors as needed to produce required cast stone textures and colors.

D. Color Pigment: ASTM C979/C979M, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.

E. Admixtures: Use only admixtures specified or approved in writing by Architect.

1. Do not use admixtures that contain more than 0.1 percent water-soluble chloride ions by mass of cementitious materials. Do not use admixtures containing calcium chloride.
2. Use only admixtures that are certified by manufacturer to be compatible with cement and other admixtures used.
3. Water-Reducing Admixture: ASTM C494/C494M, Type A.
4. Water-Reducing, Retarding Admixture: ASTM C494/C494M, Type D.
5. Water-Reducing, Accelerating Admixture: ASTM C494/C494M, Type E.

F. Reinforcement:

1. Deformed steel bars complying with ASTM A615/A615M, Grade 40 Use galvanized or epoxy-coated reinforcement when covered with less than 1-1/2 inches of cast stone material.

    a. Epoxy Coating: ASTM A775/A775M.
    b. Galvanized Coating: ASTM A767/A767M.

2. Plain-Steel, Welded-Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from as-drawn steel wire into flat sheets.
3. Galvanized-Steel, Welded-Wire Reinforcement: ASTM A1064/A1064M, plain, fabricated from galvanized-steel wire into flat sheets.
4. Fiber Reinforcement: ASTM C1116/C1116M.

G. Embedded Anchors and Other Inserts: Fabricated from stainless steel complying with ASTM A240/A240M, ASTM A276/A276M, or ASTM A666, Type 304

2.3 CAST STONE UNITS

A. Capital Cast Stone or approved equal.

B. Cast Stone Units: Comply with ASTM C1364.

1. Units are manufactured using the manufacturer's selected method.

2. Trim units including belt courses and water tables, items as indicated on Drawings.

C. Fabricate units with sharp arris and accurately reproduced details, with indicated texture on all exposed surfaces unless otherwise indicated.

1. Slope exposed horizontal surfaces 1:12 to drain unless otherwise indicated.
2. Provide raised fillets at backs of sills and at ends indicated to be built into jambs.
3. Provide drips on projecting elements unless otherwise indicated.

D. Fabrication Tolerances:

1. Variation in Cross Section: Do not vary from indicated dimensions by more than 1/8 inch.
2. Variation in Length: Do not vary from indicated dimensions by more than 1/360 of the length of unit or 1/8 inch, whichever is greater, but in no case by more than 1/4 inch.
3. Warp, Bow, and Twist: Not to exceed 1/360 of the length of unit or 1/8 inch, whichever is greater.
4. Location of Grooves, False Joints, Holes, Anchorages, and Similar Features: Do not vary from indicated position by more than 1/8 inch on formed surfaces of units and 3/8 inch on unformed surfaces.

E. Cure Units as Follows:

1. Cure units in enclosed, moist curing room at 95 percent relative humidity and temperature of 100 deg F for 12 hours or 70 deg F for 16 hours.
2. Keep units damp and continue curing to comply with one of the following:

    a. No fewer than five days at mean daily temperature of 70 deg F or above.
    b. No fewer than seven days at mean daily temperature of 50 deg F or above.

F. Acid etch units after curing to remove cement film from surfaces to be exposed to view.

G. Colors and Textures: As selected by Architect from manufacturer's full range.

2.4 MORTAR MATERIALS

A. Provide mortar materials that comply with Section 042000 "Unit Masonry."

B. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

C. Hydrated Lime: ASTM C207, Type S.

D. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

E. Masonry Cement: ASTM C91/C91M.

F. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C979/C979M. Use only pigments with a record of satisfactory performance in masonry mortar.

G. Colored Cement Products: Packaged blend made from portland cement and hydrated lime masonry cement or mortar cement and mortar pigments, all complying with specified requirements, and containing no other ingredients.

1. Colored Portland Cement-Lime Mix:

2. Colored Masonry Cement:

3. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
4. Pigments do not exceed 10 percent of portland cement by weight.
5. Pigments do not exceed 5 percent of masonry cement or mortar cement by weight.

H. Aggregate for Mortar: ASTM C144.

1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
3. White-Mortar Aggregates: Natural white sand or crushed white stone.
4. Colored Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

I. Water: Potable.

2.5 ACCESSORIES

A. Anchors: Type and size indicated, fabricated from Type 304 stainless steel complying with ASTM A240/A240M, ASTM A276/A276M, or ASTM A666

B. Dowels: 1/2-inch- diameter round bars, fabricated from Type 304 stainless steel complying with ASTM A240/A240M, ASTM A276/A276M, or ASTM A66

C. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by

cast stone manufacturer and expressly approved by cleaner manufacturer for use on cast stone and adjacent masonry materials.

1. Prosoco Sure Klean, as recommended by cast stone manufacturer or approved equal

2.6 MORTAR MIXES

A. Comply with requirements in Section 042000 "Unit Masonry" for mortar mixes.

B. Do not use admixtures including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Use portland cement-lime masonry cement or mortar cement mortar unless otherwise indicated.

C. Comply with ASTM C270, Proportion Specification.

1. For setting mortar, use Type N.
2. For pointing mortar, use Type N

D. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.

1. Pigments do not exceed 10 percent of portland cement by weight.
2. Pigments do not exceed 5 percent of masonry cement or mortar cement by weight.
3. Mix to match Architect's sample.
4. Application: Use pigmented mortar for exposed mortar joints.

E. Colored-Aggregate Mortar: Produce required mortar color by using colored aggregates and natural color or white cement as necessary to produce required mortar color.

1. Mix to match Architect's sample.
2. Application: Use colored-aggregate mortar for exposed mortar joints.

2.7 SOURCE QUALITY CONTROL

A. Engage a qualified independent testing agency to sample and test cast stone units according to ASTM C1364.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SETTING CAST STONE IN MORTAR

A. Set cast stone as indicated in TMS 604.

B. Install cast stone units to comply with requirements in Section 042000 "Unit Masonry."

C. Set cast stone as indicated on Drawings. Set units accurately in locations indicated, with edges and faces aligned according to established relationships and indicated tolerances.

1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
2. Coordinate installation of cast stone with installation of flashing specified in other Sections.

D. Wet joint surfaces thoroughly before applying mortar or setting in mortar.

E. Set units in full bed of mortar with full head joints unless otherwise indicated.

1. Set units with joints 1/4 to 3/8 inch wide unless otherwise indicated.
2. Build anchors and ties into mortar joints as units are set.
3. Fill dowel holes and anchor slots with mortar.
4. Fill collar joints solid as units are set.
5. Build concealed flashing into mortar joints as units are set.
6. Keep head joints in copings and between other units with exposed horizontal surfaces open to receive sealant.
7. Keep joints at shelf angles open to receive sealant.

F. Rake out joints for pointing with mortar to depths of not less than 3/4 inch. Rake joints to uniform depths with square bottoms and clean sides. Scrub faces of units to remove excess mortar as joints are raked.

G. Point mortar joints by placing and compacting mortar in layers not greater than 3/8 inch. Compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.

H. Tool exposed joints slightly concave when thumbprint hard. Use a smooth plastic jointer larger than joint thickness.

I. Rake out joints for pointing with sealant to depths of not less than 3/4 inch. Scrub faces of units to remove excess mortar as joints are raked.

J. Point joints with sealant to comply with applicable requirements in Section 079200 "Joint Sealants."

1. Prime cast stone surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.

K. Provide sealant joints at head joints of copings and other horizontal surfaces; at expansion, control, and pressure-relieving joints; and at locations indicated.

1. Keep joints free of mortar and other rigid materials.

2. Build in compressible foam-plastic joint fillers where indicated.
3. Form joint of width indicated, but not less than 3/8 inch.
4. Prime cast stone surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.
5. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.3 SETTING ANCHORED CAST STONE WITH SEALANT-FILLED JOINTS

A. Set cast stone as indicated in TMS 604.

B. Set cast stone as indicated on Drawings. Set units accurately in locations indicated, with edges and faces aligned according to established relationships and indicated tolerances.

1. Install anchors, supports, fasteners, and other attachments indicated or necessary to secure units in place.
2. Shim and adjust anchors, supports, and accessories to set cast stone in locations indicated with uniform joints.

C. Keep cavities open where unfilled space is indicated between back of cast stone units and backup wall; do not fill cavities with mortar or grout.

D. Fill anchor holes with sealant.

1. Where dowel holes occur at pressure-relieving joints, provide compressible material at ends of dowels.

E. Set cast stone supported on clip or continuous angles on resilient setting shims. Use material of thickness required to maintain uniform joint widths. Hold shims back from face of cast stone a distance at least equal to width of joint.

F. Keep joints free of mortar and other rigid materials. Remove temporary shims and spacers from joints after anchors and supports are secured in place and cast stone units are anchored. Do not begin sealant installation until temporary shims and spacers are removed.

1. Form open joint of width indicated, but not less than 3/8 inch

G. Prime cast stone surfaces to receive sealant and install compressible backer rod in joints before applying sealant unless otherwise indicated.

H. Prepare and apply sealant of type and at locations indicated to comply with applicable requirements in Section 079200 "Joint Sealants."

3.4 INSTALLATION TOLERANCES

A. Variation from Plumb: Do not exceed 1/4 inch in 20 ft. maximum.

B. Variation from Level: Do not exceed 1/4 inch in 20 ft. maximum.

C. Variation in Joint Width: Do not vary joint thickness more than 1/8 inch in 36 inches or one-fourth of nominal joint width, whichever is less.

D. Variation in Plane between Adjacent Surfaces (Lipping): Do not vary from flush alignment with adjacent units or adjacent surfaces indicated to be flush with units by more than 1/16 inch, except where variation is due to warpage of units within tolerances specified.

3.5 ADJUSTING AND CLEANING

A. Remove and replace stained and otherwise damaged units and units not matching approved Samples. Cast stone may be repaired if methods and results are approved by Architect.

B. Replace units in a manner that results in cast stone matching approved Samples, complying with other requirements, and showing no evidence of replacement.

C. In-Progress Cleaning: Clean cast stone as work progresses.

1. Remove mortar fins and smears before tooling joints.
2. Remove excess sealant immediately, including spills, smears, and spatter.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed cast stone as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample; leave one sample uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of cast stone.
3. Protect adjacent surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
4. Wet surfaces with water before applying cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
5. Clean cast stone by methods described in Cast Stone Institute Technical Bulletin #39.

END OF SECTION 047200

DIVISION 05

METALS

SECTION 053100 - STEEL DECKING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof deck.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for framing deck openings with miscellaneous steel shapes.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Roof deck.

B. Shop Drawings:

1. Include layout and types of deck panels, anchorage details, reinforcing channels, pans, cut deck openings, special jointing, accessories, and attachments to other construction.

1.3 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Product Certificates: For each type of steel deck.

C. Test and Evaluation Reports:

1. Product Test Reports: For tests performed by a qualified testing agency, indicating that each of the following complies with requirements:

a. Power-actuated mechanical fasteners.

2. Research Reports: For steel deck, from ICC-ES showing compliance with the building code.

D. Field Quality-Control Submittals:

1. Field quality-control reports.

E. Qualification Statements: For testing agency.

1.4 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel in accordance with SDI QA/QC and the following welding codes:

1. AWS D1.1/D1.1M.
2. AWS D1.3/D1.3M.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect steel deck from corrosion, deformation, and other damage during delivery, storage, and handling.

B. Store products in accordance with SDI MOC3. Stack steel deck on platforms or pallets and slope to provide drainage. Protect with a waterproof covering and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. AISI Specifications: Comply with calculated structural characteristics of steel deck in accordance with AISI S100.

2.2 ROOF DECK

A. Type B Deck

B. Fabrication of Roof Deck: Fabricate panels, without top-flange stiffening grooves, to comply with SDI RD and with the following:

1. Prime-Painted Steel Sheet: ASTM A1008/A1008M, Structural Steel (SS), Grade 33 minimum, shop primed with manufacturer's standard baked-on, rust-inhibitive primer.

    a. Color: Manufacturer's standard
2. Deck Profile: Type B Profile
3. Profile Depth: 1-1/2 inches .
4. Design Uncoated-Steel Thickness: 0.0295 inch (0.75 mm).
5. Span Condition: As indicated
6. Side Laps: Overlapped or interlocking seam at Contractor's option.

2.3 ACCESSORIES

A. Provide manufacturer's standard accessory materials for deck that comply with requirements indicated.

B. Mechanical Fasteners: Corrosion-resistant, low-velocity, power-actuated or pneumatically driven carbon-steel fasteners; or self-drilling, self-threading screws.

C. Side-Lap Fasteners: Corrosion-resistant, hexagonal washer head; self-drilling, carbon-steel screws, No. 10 (4.8-mm) minimum diameter.

D. Flexible Closure Strips: Vulcanized, closed-cell, synthetic rubber.

E. Miscellaneous Sheet Metal Deck Accessories: Steel sheet, minimum yield strength of 33,000 psi, not less than 0.0359-inch design uncoated thickness, of same material and finish as deck; of profile indicated or required for application.

F. Column Closures, End Closures, Z-Closures, and Cover Plates: Steel sheet, of same material, finish, and thickness as deck unless otherwise indicated.

G. Weld Washers: Uncoated steel sheet, shaped to fit deck rib, 0.0598 inch thick, with factory-punched hole of 3/8-inch minimum diameter.

H. Shear Stud Connectors: ASTM A108, AISI C-1015 through C-1020, headed-stud type, cold-finished carbon steel; AWS D1.1/D1.1M, Type B.

I. Repair Paint: Manufacturer's standard rust-inhibitive primer of same color as primer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine supporting frame and field conditions for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Install deck panels and accessories in accordance with SDI C, SDI NC, and SDI RD, as applicable; manufacturer's written instructions; and requirements in this Section.

B. Install temporary shoring before placing deck panels if required to meet deflection limitations.

C. Locate deck bundles to prevent overloading of supporting members.

D. Place deck panels on supporting frame and adjust to final position with ends accurately aligned and bearing on supporting frame before being permanently fastened. Do not stretch or contract side-lap interlocks.

E. Place deck panels flat and square and fasten to supporting frame without warp or deflection.

F. Cut and neatly fit deck panels and accessories around openings and other work projecting through or adjacent to deck.

G. Provide additional reinforcement and closure pieces at openings as required for strength, continuity of deck, and support of other work.

H. Comply with AWS requirements and procedures for manual shielded metal arc welding, appearance and quality of welds, and methods used for correcting welding work.

I. Mechanical fasteners may be used in lieu of welding to fasten deck. Locate mechanical fasteners and install in accordance with deck manufacturer's written instructions.

J. Shear Stud Connectors: Prepare steel surfaces as recommended by manufacturer of shear connectors. Weld using end welding of headed-stud shear connectors in accordance with AWS D1.1/D1.1M and manufacturer's written instructions.

3.3 INSTALLATION OF ROOF DECK

A. Side-Lap and Perimeter Edge Fastening: Fasten side laps and perimeter edges of panels between supports, at intervals not exceeding the lesser of one-half of the span or 18 inches, and as follows:

1. Mechanically fasten with self-drilling, No. 10 diameter or larger, carbon-steel screws.

B. End Bearing: Install deck ends over supporting frame with a minimum end bearing of 1-1/2 inches, with end joints as follows:

1. End Joints: Lapped 2 inches (50 mm) minimum

C. Miscellaneous Roof-Deck Accessories: Install ridge and valley plates, finish strips, end closures, and reinforcing channels in accordance with deck manufacturer's written instructions. mechanically fasten to substrate to provide a complete deck installation.

3.4 REPAIR

A. Repair Painting:

1. Wire brush and clean rust spots and abraded areas on both surfaces of prime-painted deck immediately after installation, and apply repair paint.
2. Apply repair paint, of same color as adjacent shop-primed deck, to bottom surfaces of deck exposed to view.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Tests and Inspections:

1. Special inspections and qualification of welding special inspectors for cold-formed steel floor and roof deck in accordance with quality-assurance inspection requirements of SDI QA/QC.

    a. Field welds will be subject to inspection.

2. Steel decking will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

END OF SECTION 053100

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Miscellaneous framing and supports.
2. Shelf angles.
3. Structural-steel door frames.
4. Miscellaneous steel trim.
5. Loose bearing and leveling plates.

B. Products furnished, but not installed, under this Section include the following:

1. Loose steel lintels.
2. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.
3. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.

C. Related Requirements:

1. Section 033010 “Cast-In-Place Concrete Foundations” for installing anchor bolts, steel pipe sleeves, slotted-channel inserts, wedge-type inserts, and other items cast into concrete.

2. Section 042000 "Unit Masonry" for installing loose lintels, anchor bolts, and other items built into unit masonry.

3. Section 083613 “Sectional Doors” for sectional door specification and framing.

4. Section 133419 “Metal Building Systems” for primary, secondary building framing, and framed openings.

1.2 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written instructions to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of metal fabrications that are anchored to or that receive other work. Furnish setting, drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Nonslip aggregates and nonslip-aggregate surface finishes.
2. Fasteners.
3. Shop primers.
4. Shrinkage-resisting grout.
5. Metal downspout boots.

B. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide Shop Drawings for the following:

1. Miscellaneous framing and supports for applications where framing and supports are not specified in other Sections.
2. Structural-steel door frames.
3. Miscellaneous steel trim
4. Loose steel lintels.

C. Delegated Design Submittals: For Sectional Door Faming and Mount in PEMB framed openings, as specified in Section 083613 “Sectional Doors” and coordinated with Section 0133419 “Metal Building Systems,” including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Welding certificates.

B. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

C. Research Reports: For post-installed anchors.

D. Delegated design engineer qualifications.

1.5 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel in accordance with the following welding codes:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

1.6 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of walls, floor slabs, decks, and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design steel motor mount for selected Sectional Doors as specified in Section 083613 “Sectional Doors” and coordinated with Section 0133419 “Metal Building Systems.”

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces

2.2 METALS

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

B. Steel Plates, Shapes, and Bars: ASTM A36/A36M.

C. Galvanized Steel Plates, Shapes and Bars:
1. Galvanized Steel: ASTM A653/A653M, structural steel, Grade 33, with G90 coating; 0.108-inch

.

D. Steel Tubing: ASTM A500/A500M, cold-formed steel tubing.

E. Steel Pipe: ASTM A53/A53M, Standard Weight (Schedule 40) unless otherwise indicated.

F. Zinc-Coated Steel Wire Rope: ASTM A741.

1. Wire Rope Fittings: Hot-dip galvanized-steel connectors with capability to sustain, without failure, a load equal to minimum breaking strength of wire rope with which they are used.

G. Stainless Steel Wire Rope: Wire rope manufactured from stainless steel wire complying with ASTM A492, Type 316.

1. Wire Rope Fittings: Stainless steel connectors, Type 316, with capability to sustain, without failure, a load equal to minimum breaking strength of wire rope with which they are used.

H. Steel Prestressing Strand: ASTM A416/A416M, Grade 270, low-relaxation, seven-wire, with 0.9-lb/sq. ft. zinc coating.

1. Steel Prestressing Strand Fittings: Hot-dip galvanized-steel anchors and connectors with capability to sustain, without failure, a load equal to minimum breaking strength of steel prestressing strand with which they are used.
2. Galvanized Steel: ASTM A653/A653M, structural steel, Grade 33, with G90 coating; 0.108-inch (2.8-mm nominal thickness.

2.3 FASTENERS

A. General: Unless otherwise indicated, provide Type 304 stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.

B. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A307, Grade A; with hex nuts, ASTM A563; and, where indicated, flat washers.

C. High-Strength Bolts, Nuts, and Washers: ASTM F3125/F3125M, Grade A325, Type 3, heavy-hex steel structural bolts; ASTM A563, Grade DH3, heavy-hex carbon-steel nuts; and where indicated, flat washers.

D. Anchor Bolts: ASTM F1554, Grade 36, of dimensions indicated; with nuts, ASTM A563; and, where indicated, flat washers.

1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.

E. Anchors, General: Capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing in accordance with ASTM E488/E488M, conducted by a qualified independent testing agency.

F. Cast-in-Place Anchors in Concrete: Either threaded or wedge type unless otherwise indicated; galvanized ferrous castings, either ASTM A47/A47M malleable iron or ASTM A27/A27M cast steel. Provide bolts, washers, and shims as needed, all hot-dip galvanized per ASTM F2329/F2329M.

G. Post-Installed Anchors: Torque-controlled expansion anchors or chemical anchors.

1. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.
2. Material for Exterior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 (A1) stainless steel bolts, ASTM F593, and nuts, ASTM F594

2.4 MISCELLANEOUS MATERIALS

A. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.

1. Use primer that contains pigments that make it easily distinguishable from zinc-rich primer.

B. Shop Primer for Galvanized Steel: Primer formulated for exterior use over zinc-coated metal and compatible with finish paint systems indicated.

C. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

D. Concrete: Comply with requirements in Section 033000 "Cast-in-Place Concrete" for normal-weight, air-entrained concrete with a minimum 28-day compressive strength of 3000 psi.

2.5 FABRICATION, GENERAL

A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

D. Form exposed work with accurate angles and surfaces and straight edges.

E. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.

G. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.

H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

2.6 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.

B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

1. Fabricate units from slotted channel framing where indicated.
2. Furnish inserts for units installed after concrete is placed.

C. Fabricate supports for operable partitions and sectional doors from continuous steel channels of sizes indicated with attached bearing plates, anchors, and braces as indicated or recommended by sectional door manufacturer or PEMB manufacturer. Drill or punch bottom flanges of beams to receive sectional door track hanger rods; locate holes where indicated on sectional door Shop Drawings.
1. Where wood nailers are attached to channels with bolts or lag screws, drill or punch holes at 24 inches o.c.

D. Prime miscellaneous framing and supports with zinc-rich primer where indicated.

2.7 SHELF ANGLES

A. Fabricate shelf angles from steel angles of sizes indicated and for attachment to concrete framing. Provide horizontally slotted holes to receive 3/4-inch bolts, spaced not more than 6 inches from ends and 24 inches o.c., unless otherwise indicated.

1. Provide mitered and welded units at corners.
2. Provide open joints in shelf angles at expansion and control joints. Make open joint approximately 2 inches larger than expansion or control joint.

B. For cavity walls, provide vertical channel brackets to support angles from backup masonry and concrete.

C. Galvanize and prime shelf angles located in exterior walls.

D. Prime shelf angles located in exterior walls with zinc-rich primer**.** Furnish wedge-type concrete inserts, complete with fasteners, to attach shelf angles to cast-in-place concrete.

2.8 STRUCTURAL-STEEL DOOR FRAMES

A. Fabricate structural-steel door frames from steel shapes, plates, and bars of size and to dimensions indicated, fully welded together, with 5/8-by-1-1/2-inch steel channel stops, unless otherwise indicated. Plug-weld built-up members and continuously weld exposed joints. Secure removable stops to frame with countersunk machine screws, uniformly spaced at not more than 10 inches o.c. Reinforce frames and drill and tap as necessary to accept finish hardware.

1. Provide with integrally welded steel strap anchors for securing door frames into adjoining concrete or masonry.

B. Extend bottom of frames to floor elevation indicated with steel angle clips welded to frames for anchoring frame to floor with expansion shields and bolts.

C. Galvanize and prime steel frames.

D. Prime exterior steel frames with zinc-rich primer.

2.9 MISCELLANEOUS STEEL TRIM

A. Unless otherwise indicated, fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible.

B. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.

1. Provide with integrally welded steel strap anchors for embedding in concrete or masonry construction.

C. Galvanize and prime miscellaneous steel trim.

D. Prime miscellaneous steel trim with zinc-rich primer.

2.10 LOOSE BEARING AND LEVELING PLATES

A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.

B. Galvanize bearing and leveling plates.

C. Prime plates with zinc-rich primer.

2.11 LOOSE STEEL LINTELS

A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.

B. Size loose lintels to provide bearing length at each side of openings equal to one-twelfth of clear span, but not less than 8 inches unless otherwise indicated.

C. Galvanize and prime loose steel lintels located in exterior walls.

D. Prime loose steel lintels located in exterior walls with zinc-rich primer.

2.12 STEEL WELD PLATES AND ANGLES

A. Provide steel weld plates and angles not specified in other Sections, for items supported from concrete construction as needed to complete the Work. Provide each unit with no fewer than two integrally welded steel strap anchors for embedding in concrete.

2.13 GENERAL FINISH REQUIREMENTS

A. Finish metal fabrications after assembly.

B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

2.14 STEEL AND IRON FINISHES

A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.

1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

B. Preparation for Shop Priming Galvanized Items: After galvanizing, thoroughly clean galvanized surfaces of grease, dirt, oil, flux, and other foreign matter, and treat with metallic phosphate process.

C. Shop prime iron and steel items not indicated to be galvanized unless they are to be embedded in concrete, sprayed-on fireproofing, or masonry, or unless otherwise indicated.

D. Preparation for Shop Priming: Prepare surfaces to comply with requirements indicated below:

1. Exterior Items: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
2. Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
3. Other Steel Items: SSPC-SP 3, "Power Tool Cleaning."
4. Galvanized-Steel Items: SSPC-SP 16, "Brush-off Blast Cleaning of Coated and Uncoated Galvanized Steel, Stainless Steels, and Non-Ferrous Metals."

E. Shop Priming: Apply shop primer to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting of Steel," for shop painting with approval of Architect

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.

C. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

F. Corrosion Protection: Coat concealed surfaces of aluminum that come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:

1. Cast Aluminum: Heavy coat of bituminous paint.
2. Extruded Aluminum: Two coats of clear lacquer.

3.2 INSTALLATION OF MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

B. Anchor supports for sectional doors and light fixtures securely to, and rigidly brace from, building structure.

C. Anchor shelf angles securely to existing construction with anchor bolts .

D. Support steel girders on solid grouted masonry, concrete, or steel pipe columns. Secure girders with anchor bolts embedded in grouted masonry or concrete or with bolts through top plates of pipe columns.

1. Where grout space under bearing plates is indicated for girders supported on concrete or masonry, install as specified in "Installing Bearing and Leveling Plates" Article.

E. Install pipe columns on concrete footings with grouted baseplates. Position and grout column baseplates as specified in "Installation of Bearing and Leveling Plates" Article.

1. Grout baseplates of columns supporting steel girders after girders are installed and leveled.

3.3 INSTALLATION OF SHELF ANGLES

A. Install shelf angles as required to keep masonry level, at correct elevation, and flush with vertical plane.

3.4 INSTALLATION OF STRUCTURAL-STEEL DOOR FRAMES

A. Fasten structural steel door frames to the floor slab by means of angle clips and expansion bolts. Anchor door jambs to adjacent construction in accordance with shop drawing details.

3.5 INSTALLATION OF MISCELLANEOUS STEEL TRIM

A. Anchor to concrete construction to comply with manufacturer's written instructions.

3.6 INSTALLATION OF LOOSE BEARING AND LEVELING PLATES

A. Clean concrete and masonry bearing surfaces of bond-reducing materials, and roughen to improve bond to surfaces. Clean bottom surface of plates.

B. Set bearing and leveling plates on wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts. Do not remove wedges or shims but, if protruding, cut off flush with edge of bearing plate before packing with shrinkage-resistant grout. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

3.7 REPAIRS

A. Touchup Painting:

1. Immediately after erection, clean field welds, bolted connections, and abraded areas. Paint uncoated and abraded areas with same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

Apply by brush or spray to provide a minimum 2.0-mil dry film thickness.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION 055000

DIVISION 06

WOOD, PLASTIC, AND COMPOSITES

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Rooftop equipment bases and support curbs.
3. Wood blocking and nailers.
4. Wood furring.
5. Plywood backing panels.

1.3 DEFINITIONS

A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.

B. Dimension Lumber: Lumber of 2 inches nominal or greater size but less than 5 inches nominal size in least dimension.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
3. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium
2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.

D. Application: Treat items indicated on Drawings, and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

2. Wood sills, sleepers, blocking, furring, and similar concealed members in contact with masonry or concrete.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. General: Where fire-retardant-treated materials are indicated, materials shall comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.

1. Treatment shall not promote corrosion of metal fasteners.
2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
4. Design Value Adjustment Factors: Treated lumber shall be tested according to ASTM D 5664, and design value adjustment factors shall be calculated according to ASTM D 6841.

C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.

D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.

1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece

E. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not bleed through, contain colorants, or otherwise adversely affect finishes.

F. Application: Treat items indicated on Drawings, and the following:

1. Plywood backing panels.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
4. Furring.

B. Dimension Lumber Items: Construction or No. 2 grade lumber of any species.

C. Concealed Boards: 19 percent maximum moisture content of any of the following species and grades:

1. Mixed southern pine or southern pine, No. 2 grade; SPIB.
2. Hem-fir or hem-fir (north), Construction or No. 2 Common grade; NLGA, WCLIB, or WWPA.
3. Spruce-pine-fir (south) or spruce-pine-fir, Construction or No. 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
4. Eastern softwoods, No. 2 Common grade; NELMA.
5. Northern species, No. 2 Common grade; NLGA.
6. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

F. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.5 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: Plywood, DOC PS 1, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Nails, Brads, and Staples: ASTM F 1667.

C. Screws for Fastening to Metal Framing: ASTM C 1002, length as recommended by screw manufacturer for material being fastened.

D. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

E. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 as appropriate for the substrate.

1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

2.7 METAL FRAMING ANCHORS

- Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.

1. Use for interior locations unless otherwise indicated.

B. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.

1. Use for wood-preservative-treated lumber and where indicated.

C. Stainless-Steel Sheet: ASTM A 666, Type 304.

1. Use for exterior locations and where indicated.

2.8 MISCELLANEOUS MATERIALS

A. Adhesives for Gluing Furring to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate furring, nailers, blocking,**,**]and similar supports to comply with requirements for attaching other construction.

C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.

D. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

E. Do not splice structural members between supports unless otherwise indicated.

F. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.

G. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

H. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

1. Use inorganic boron for items that are continuously protected from liquid water.
2. Use copper naphthenate for items not continuously protected from liquid water.

I. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

J. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

K. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 WOOD BLOCKING AND NAILER INSTALLATION

A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.

C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 WOOD FURRING INSTALLATION

A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.

3.4 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 064116 - PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Plastic-laminate-clad architectural cabinets.
2. Cabinet hardware and accessories.
3. Miscellaneous materials.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing cabinets that are concealed within other construction before cabinet installation.

1.2 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to support loads imposed by installed and fully loaded cabinets.

B. Hardware Coordination: Distribute copies of approved hardware schedule specified in Section 087100 "Door Hardware" to manufacturer of architectural cabinets; coordinate Shop Drawings and fabrication with hardware requirements.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data:

1. Plastic-laminate-clad architectural cabinets.
2. Cabinet hardware and accessories.
3. Miscellaneous materials.

B. Product Data Submittals: For each product.

C. Shop Drawings:

1. Include plans, elevations, sections, and attachment details.
2. Show large-scale details.

3. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
4. Show locations and sizes of cutouts and holes for items installed in plastic-laminate architectural cabinets.

D. Samples: For each exposed product and for each color and texture specified, in manufacturer's or manufacturer's standard size.

E. Samples for Initial Selection: For each type of exposed finish.

F. Samples for Verification: For the following:

1. Plastic Laminates: 8 by 10 inches, for each type, color, pattern, and surface finish required.

a. Provide one sample applied to core material with specified edge material applied to one edge.

b. Provide edge banding on one edge.

2. Exposed Cabinet Hardware and Accessories: One full-size unit for each type and finish.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer and Installer

B. Product Certificates: For each type of product.

C. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

A. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.7 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

1. Manufacturer's Certification: Licensed participant in AWI's Quality Certification Program.

B. Installer Qualifications: Manufacturer of products Licensed participant in AWI's Quality Certification Program.

C. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Build mockups of typical architectural cabinets as shown on Drawings.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver cabinets until painting and similar finish operations that might damage architectural cabinets have been completed in installation areas. Store cabinets in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.9 FIELD CONDITIONS

A. Environmental Limitations without Humidity Control: Do not deliver or install cabinets until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels planned for building occupants during the remainder of the construction period.

B. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements before being enclosed/concealed by construction, and indicate measurements on Shop Drawings.

C. Established Dimensions: Where cabinets are indicated to fit to other construction, establish dimensions for areas where cabinets are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of cabinets indicated for construction, finishes, installation, and other requirements.

1. Provide labels and certificates from AWI certification program indicating that woodwork and installation complies with requirements of grades specified.

B. Architectural Woodwork Standards Grade: Premium.

C. Type of Construction: Face frame.

D. Door and Drawer-Front Style: Reveal overlay.

1. Reveal Dimension: 1/2 inch.

E. High-Pressure Decorative Laminate: ISO 4586-3, grades as indicated or if not indicated, as required by quality standard.

1. Wilsonart, High Pressure Laminate

F. Exposed Surfaces:

1. Plastic-Laminate Grade: VGS.
2. Edges: Grade VGS
3. Pattern Direction: Horizontally for drawer fronts, doors, and fixed panels

G. Semiexposed Surfaces:

1. Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, ISO 4586-3

    a. Edges of Plastic-Laminate Shelves: PVC T-mold matching laminate in color, pattern, and finish
    b. Edges of Thermally Fused Laminate Panel Shelves: PVC or polyester edge banding.
    c. For semiexposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, ISO 4586-3, grade to match exposed surface.

2. Drawer Sides and Backs: Solid-hardwood lumber
3. Drawer Bottoms: Hardwood plywood.

H. Dust Panels: 1/4-inch plywood or tempered hardboard above compartments and drawers unless located directly under tops.

I. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, ISO 4583-3, grade to match exposed surface.

J. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.

1. Join subfronts, backs, and sides with glued rabbeted joints supplemented by mechanical fasteners or glued dovetail joints.

K. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

1. As selected by Architect from laminate manufacturer's full range in the following categories:

    a. Solid colors, matte finish.
    b. Solid colors with core same color as surface**,** matte finish.
    c. Wood grains, matte finish.
    d. Patterns, matte finish.

2.2 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Wood Moisture Content: 5 to 10 percent.

B. Composite Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.

1. Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130.
2. Particleboard (Medium Density): ANSI A208.1, Grade M-2-Exterior Glue.
3. Softwood Plywood: DOC PS 1, medium-density overlay.
4. Thermally Fused Laminate (TFL) Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of ISO 4586

2.3 CABINET HARDWARE AND ACCESSORIES

A. Cabinet Hardware: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 087100 "Door Hardware."

1. Hardware Resources or equal.

B. Frameless Concealed Hinges (European Type): ANSI/BHMA A156.9, B01602, 170 degrees of opening**,** self-closing.

C. Wire Pulls: Back mounted, solid metal, 4 inche long.

D. Catches: Push-in magnetic catches, ANSI/BHMA A156.9, B03131

E. Adjustable Shelf Standards and Supports: ANSI/BHMA A156.9, B0407; with shelf rests,

F. Shelf Rests: ANSI/BHMA A156.9, B04013; metal

G. Drawer Slides: ANSI/BHMA A156.9.

1. Heavy-Duty (Grade 1HD-100 and Grade 1HD-200): Side mount.
    a. Type: Full overtravel extension.
    b. Material: Galvanized steel ball bearing
    c. Motion Feature: Self-closing mechanism.
2. General-purpose drawers more than 3 inches high, but not more than 6 inches high and not more than 24 inches wide, provide 75 lb load capacity.

H. Door and Drawer Silencers: ANSI/BHMA A156.16, L03011.

I. Grommets for Cable Passage: 2-inch OD, molded-plastic grommets and matching plastic caps with slot for wire passage.

1. Color: Black.

J. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A156.18 for ANSI/BHMA finish number indicated.

1. Satin Stainless Steel: ANSI/BHMA 630.

K. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in ANSI/BHMA A156.9.

2.4 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

C. Adhesive for Bonding Plastic Laminate: Type I, waterproof type as selected by fabricator to comply with requirements.

1. Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.

2.5 FABRICATION

A. Fabricate architectural cabinets to dimensions, profiles, and details indicated.

B. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

C. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.

3.2 INSTALLATION

A. Architectural Woodwork Standards Grade: Install cabinets to comply with quality standard grade of item to be installed.

B. Assemble cabinets and complete fabrication at Project site to extent that it was not completed in the shop.

C. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with wafer-head cabinet installation screws.

D. Install cabinets level, plumb, and true in line to a tolerance of 1/8 inch in 96 inches using concealed shims.

1. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
2. Install cabinets without distortion so doors and drawers fit openings and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
3. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. with No. 10 wafer-head screws sized for not less than 1-1/2-inch penetration into wood framing, blocking, or hanging strips.

3.3 ADJUSTING AND CLEANING

A. Repair damaged and defective cabinets, where possible, to eliminate functional and visual defects. Where not possible to repair, replace architectural cabinets. Adjust joinery for uniform appearance.

B. Clean, lubricate, and adjust hardware.

C. Clean cabinets on exposed and semiexposed surfaces.

END OF SECTION 064116

DIVISION 07

THERMAL AND MOISTURE PROTECTION

SECTION 070150.19 - PREPARATION FOR REROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. The Work of This Section Includes:

1. Full roof tear-off.
2. Base flashing removal.
3. Disposal.

B. Related Requirements:

1. Section 011000 "Summary" for use of premises and for phasing requirements.
2. Section 015000 "Temporary Facilities and Controls" for temporary construction and environmental-protection measures for reroofing preparation.

1.2 DEFINITIONS

A. EPS: Molded (expanded) polystyrene.

B. Full Roof Tear-off: Removal of existing roofing system down to existing concrete fill.

C. OSB: Oriented strand board.

D. Partial Roof Tear-off: Removal of selected components and accessories from existing roofing system.

E. Roofing Terminology: Definitions in ASTM D1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to work of this Section.

F. Roof Re-Cover Preparation: Existing roofing system is to remain and be prepared for new roof installed over it.

1.3 PREINSTALLATION MEETINGS

A. Preliminary Roofing Conference: Before starting removal Work, conduct conference at Project site.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing tear-off, including, but not limited to, the following:

a. Reroofing preparation, including roofing system manufacturer's written instructions.
b. Temporary protection requirements for existing roofing system components that are to remain.
c. Existing roof drains and roof drainage during each stage of reroofing, and roof-drain plugging and plug removal.
d. Construction schedule and availability of materials, Installer's personnel, equipment, and facilities needed to avoid delays.
e. Existing roof deck conditions requiring Architect notification.
f. Existing roof deck removal procedures and Owner notifications.
g. Condition and acceptance of existing roof deck and base flashing substrate for reuse.
h. Structural loading limitations of roof deck during reroofing.
i. Base flashings, special roofing details, drainage, penetrations, equipment curbs, and condition of other construction that affect reroofing.
j. HVAC shutdown and sealing of air intakes.
k. Shutdown of fire-suppression, -protection, and -alarm and -detection systems.
l. Asbestos removal and discovery of asbestos-containing materials.
m. Governing regulations and requirements for insurance and certificates if applicable.
n. Existing conditions that may require Architect notification before proceeding.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

1. Include certificate that Installer is approved by warrantor of existing roofing system.
2. Include certificate that Installer is licensed to perform asbestos abatement.

B. Field Test Reports: Fastener pull-out test report.

C. Photographs or Video: Show existing conditions of adjoining construction and site improvements, including exterior and interior finish surfaces, that might be misconstrued as having been damaged by reroofing operations.

1. Submit before Work begins.

D. Landfill Records: Indicate receipt and acceptance of demolished roofing materials and hazardous wastes, such as asbestos-containing materials, by a landfill facility licensed to accept them.

1.6 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with governing EPA notification regulations before beginning roofing removal.
2. Comply with hauling and disposal regulations of authorities having jurisdiction.

1.7 FIELD CONDITIONS

A. Existing Roofing System: EPDM roofing.(Multiple Roofing Systems)

B. Owner will not occupy portions of building immediately below reroofing area.

1. Conduct reroofing so Owner's operations are not disrupted.
2. Provide Owner with not less than 72 hours' written notice of activities that may affect Owner's operations.
3. Coordinate work activities daily with Owner so Owner has adequate advance notice to place protective dust and water-leakage covers over sensitive equipment and furnishings, shut down HVAC and fire-alarm or -detection equipment if needed, and evacuate occupants from below work area.
4. Before working over structurally impaired areas of deck, notify Owner to evacuate occupants from below affected area.

    a. Verify that occupants below work area have been evacuated before proceeding with work over impaired deck area.

C. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations.

D. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

E. Conditions existing at time of inspection for bidding will be maintained by Owner as far as practical.

1. Construction Drawings and Project Manual for existing roofing system are provided for Contractor's convenience and information, but they are not a warranty of existing conditions. They are intended to supplement rather than serve in lieu of Contractor's own investigations. Contractor is responsible for conclusions derived from existing documents.

F. Limit construction loads on existing roof areas to remain, and existing roof areas scheduled to be reroofed to **<Insert load>** for rooftop equipment wheel loads and **<Insert load>** for uniformly distributed loads.

G. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering existing roofing system or building.

1. Remove only as much roofing in one day as can be made watertight in the same day.

H. Hazardous Materials:

1. It is not expected that hazardous materials, such as asbestos-containing materials, will be encountered in the Work.

2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner.

    a. Hazardous materials will be removed by Owner under a separate contract.

PART 2 - PRODUCTS

2.1 TEMPORARY PROTECTION MATERIALS

A. EPS Insulation: ASTM C578.

B. Plywood: DOC PS 1, Grade CD, Exposure 1.

C. OSB: DOC PS 2, Exposure 1.

2.2 TEMPORARY ROOFING MATERIALS

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A. Design and selection of materials for temporary roofing are Contractor's responsibilities.

2.3 INFILL AND REPLACEMENT MATERIALS

A. Use infill materials matching existing roofing system materials unless otherwise indicated.

B. Steel deck is specified in Section 053100 "Steel Decking." (Add Alternate One)

C. Wood blocking, curbs, and nailers are specified in Section 061000 "Rough Carpentry."

D. Fasteners: Factory-coated steel fasteners with metal or plastic plates listed in FM Approvals' RoofNav, and acceptable to new roofing system manufacturer.

2.4 AUXILIARY REROOFING MATERIALS

A. General: Use auxiliary reroofing preparation materials recommended by roofing system manufacturer for intended use and compatible with components of new roofing system.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protection of In-Place Conditions:

1. Protect existing roofing system that is not to be reroofed.
2. Loosely lay 1-inch minimum thick, EPS insulation over existing roofing in areas not to be reroofed.

    a. Loosely lay 15/32-inch plywood or OSB panels over EPS. Extend EPS past edges of plywood or OSB panels a minimum of 1 inch.

3. Limit traffic and material storage to areas of existing roofing that have been protected.
4. Maintain temporary protection and leave in place until replacement roofing has been completed. Remove temporary protection on completion of reroofing.
5. Comply with requirements of existing roof system manufacturer's warranty requirements.

B. Seal or isolate windows that may be exposed to airborne substances created in removal of existing materials.

C. Shut off rooftop utilities and service piping before beginning the Work.

D. Test existing roof drains to verify that they are not blocked or restricted.

1. Immediately notify Architect of any blockages or restrictions.

E. Coordinate with Owner to shut down air-intake equipment in the vicinity of the Work.

1. Cover air-intake louvers before proceeding with reroofing work that could affect indoor air quality or activate smoke detectors in the ductwork.

F. During removal operations, have sufficient and suitable materials on-site to facilitate rapid installation of temporary protection in the event of unexpected rain.

3.2 ROOF TEAR-OFF

A. Notify Owner each day of extent of roof tear-off proposed for that day and obtain authorization to proceed

B. Lower removed roofing materials to ground and onto lower roof levels, using dust-tight chutes or other acceptable means of removing materials from roof areas.

C. Remove aggregate ballast from roofing.

D. Remove loose aggregate from aggregate-surfaced, built-up bituminous roofing using a power broom.

E. Remove pavers and accessories from roofing.

1. Store and protect pavers and accessories for reuse in manner not to exceed structural loading limitations of roof deck.
2. Discard cracked pavers.

F. Remove ballast, protection mat, and EPS insulation from protected roofing membrane.

1. Discard EPS insulation that is damaged or exceeds 8 lb/cu. ft.

G. Full Roof Tear-off: Remove existing roofing and other roofing system components down to the existing concrete fill.

1. Remove substrate board vapor retarder roof insulation and cover board.
2. Remove base flashings and counter flashings.
3. Remove perimeter edge flashing and gravel stops.
4. Remove copings.
5. Remove expansion-joint covers.
6. Remove flashings at pipes, curbs, mechanical equipment, and other penetrations.
7. Remove wood blocking, curbs, and nailers.
8. Bitumen and felts that are firmly bonded to concrete decks are permitted to remain if felts are dry.

    a. Remove unadhered bitumen, unadhered felts, and wet felts.

9. Remove fasteners from deck or cut fasteners off slightly above deck surface.

3.3 DECK PREPARATION

A. Inspect deck after tear-off of roofing system.

B. If broken or loose fasteners that secure deck panels to one another or to structure are observed, or if deck appears or feels inadequately attached, immediately notify Architect.

1. Do not proceed with installation until directed by Architect.

C. If deck surface is unsuitable for receiving new roofing or if structural integrity of deck is suspect, immediately notify Architect.

1. Do not proceed with installation until directed by Architect.

3.4 INFILL MATERIALS INSTALLATION

A. Immediately after roof tear-off, and inspection and repair, if needed, of deck, fill in tear-off areas to match existing roofing system construction.

1. Installation of wood blocking, curbs, and nailers is specified in Section 061000 "Rough Carpentry."

B. Install new roofing patch over roof infill area.

1. If new roofing is installed the same day tear-off is made, roofing patch is not required.

3.5 BASE FLASHING REMOVAL

A. Remove existing base flashings.

1. Clean substrates of contaminants, such as asphalt, sheet materials, dirt, and debris.

B. Do not damage metal counterflashings that are to remain.

1. Replace metal counterflashings damaged during removal with counterflashings of same metal, weight or thickness, and finish as existing.

C. Inspect parapet sheathing, wood blocking, curbs, and nailers for deterioration and damage.

1. If parapet sheathing, wood blocking, curbs, or nailers have deteriorated, immediately notify Architect.

2. If parapet framing, wood blocking, curbs, or nailers have deteriorated, immediately notify Architect.

D. When directed by Architect, replace parapet framing, wood blocking, curbs, and nailers to comply with Section 061000 "Rough Carpentry."

3.6 DISPOSAL

A. Collect demolished materials and place in containers.

1. Promptly dispose of demolished materials.
2. Do not allow demolished materials to accumulate on-site.
3. Storage or sale of demolished items or materials on-site is not permitted.

B. Transport and legally dispose of demolished materials off Owner's property.

END OF SECTION 070150.19

SECTION 071113 - BITUMINOUS DAMPPROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cold-applied, emulsified-asphalt dampproofing.

B. Related Requirements:

1. Section 033000 "Cast-in-Place Concrete" for bituminous vapor retarders under slabs-on-grade.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 FIELD CONDITIONS

A. Weather Limitations: Proceed with application only when existing and forecasted weather conditions permit dampproofing to be performed according to manufacturers' written instructions.

B. Ventilation: Provide adequate ventilation during application of dampproofing in enclosed spaces. Maintain ventilation until dampproofing has cured.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Source Limitations: Obtain primary dampproofing materials and primers from single source from single manufacturer. Provide protection course and auxiliary materials recommended in writing by manufacturer of primary materials.

2.2 PERFORMANCE REQUIREMENTS

A. VOC Content: Products are to comply with VOC content limits of authorities having jurisdiction unless otherwise indicated.

2.3 COLD-APPLIED, EMULSIFIED-ASPHALT DAMPPROOFING

A. Basis of Design: W.R. Meadows, or equal

B. Trowel Coats: ASTM D1227, Type II, Class 1.

C. Fibered Brush and Spray Coats: ASTM D1227, Type II, Class 1.

D. Brush and Spray Coats: ASTM D1227, Type III, Class 1.

2.4 AUXILIARY MATERIALS

A. Furnish auxiliary materials recommended in writing by dampproofing manufacturer for intended use and compatible with bituminous dampproofing.

B. Emulsified-Asphalt Primer: ASTM D1227, Type III, Class 1, except diluted with water as recommended in writing by manufacturer.

C. Patching Compound: Asbestos-free fibered mastic of type recommended in writing by dampproofing manufacturer.

D. ASTM D6506, semirigid sheets of fiberglass or mineral-reinforced-asphaltic core, pressure laminated between two asphalt-saturated fibrous liners.

1. Thickness: Nominal 1/4 inch.
2. Adhesive: Rubber-based solvent type recommended in writing by waterproofing manufacturer for protection course type.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for surface smoothness, maximum surface moisture content, and other conditions affecting performance of the Work.

B. Proceed with application only after substrate construction and penetrating work have been completed and unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean, prepare, and treat substrates according to manufacturer's written instructions. Provide clean, dust-free, and dry substrates for dampproofing application.

B. Mask or otherwise protect adjoining exposed surfaces from being stained, spotted, or coated with dampproofing. Prevent dampproofing materials from entering and clogging weep holes and drains.

C. Clean substrates of projections and substances detrimental to dampproofing work; fill voids, seal joints, and remove bond breakers if any.

D. Apply patching compound to patch and fill tie holes, honeycombs, reveals, and other imperfections**;**

3.3 INSTALLATION, GENERAL

A. Comply with manufacturer's written instructions for dampproofing application, cure time between coats, and drying time before backfilling unless otherwise indicated.

1. Apply dampproofing to provide continuous plane of protection.
2. Apply additional coats if recommended in writing by manufacturer or to achieve a smooth surface and uninterrupted coverage.

B. Where dampproofing footings and foundation walls, apply from finished-grade line to top of footing; extend over top of footing and down a minimum of 6 inches over outside face of footing.

1. Extend dampproofing 12 inches onto intersecting walls and footings, but do not extend onto surfaces exposed to view when Project is completed.
2. Install flashings and corner protection stripping at internal and external corners, changes in plane, construction joints, cracks, and where indicated as "reinforced," by embedding an 8-inch- wide strip of asphalt-coated glass fabric in a heavy coat of dampproofing. Dampproofing coat for embedding fabric is in addition to other coats required.

3.4 INSTALLATION OF COLD-APPLIED, EMULSIFIED-ASPHALT DAMPPROOFING

A. Concrete Foundations and Parged Masonry Foundation Walls: Apply two brush or spray coats at not less than 1.5 gal./100 sq. ft. (0.6 L/sq. m) for first coat and 1 gal./100 sq. ft. (0.4 L/sq. m) for second coat

3.5 INSTALLATION OF PROTECTION COURSE

A. Install protection course over completed-and-cured dampproofing. Comply with dampproofing-material and protection-course manufacturers' written instructions for attaching protection course.

1. Support protection course over cured coating with spot application of adhesive type recommended in writing by protection-board manufacturer.
2. Install protection course on same day of dampproofing installation (while coating is tacky) to ensure adhesion.

3.6 PROTECTION

A. Protect installed insulation drainage panels from damage due to UV light, harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where panels are

subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

B. Correct dampproofing that does not comply with requirements; repair substrates, and reapply dampproofing.

END OF SECTION 071113

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Extruded polystyrene foam-plastic board insulation.
2. Polyisocyanurate foam-plastic board insulation.
3. Glass-fiber blanket insulation.

B. Related Requirements:

1. Section 042000 "Unit Masonry" for insulation installed in masonry cells.
2. Section 075216 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing"

1.2 ACTION SUBMITTALS

A. Product Data:

1. Molded (expanded) polystyrene foam-plastic board insulation.
2. Polyisocyanurate foam-plastic board insulation.
3. Glass-fiber blanket insulation.

1.3 INFORMATIONAL SUBMITTALS

A. Installer's Certification: Listing type, manufacturer, and R-value of insulation installed in each element of the building thermal envelope.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

B. Protect foam-plastic board insulation as follows:

1. Do not expose to sunlight except to necessary extent for period of installation and concealment.
2. Protect against ignition at all times. Do not deliver foam-plastic board materials to Project site until just before installation time.
3. Quickly complete installation and concealment of foam-plastic board insulation in each area of construction.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indexes less than 25 and 450 when tested in accordance with ASTM E84.

B. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches and wider in width.

C. Thermal-Resistance Value (R-Value): R-value as indicated on Drawings in accordance with ASTM C518.

2.2 EXTRUDED POLYSTYRENE FOAM-PLASTIC BOARD INSULATION

A. Extruded Polystyrene Board Insulation, Type IV: ASTM C578, Type IV, 25-psi minimum compressive strength; unfaced.

1. Basis of Design: Johns Manville or equal

2.3 POLYISOCYANURATE FOAM-PLASTIC BOARD INSULATION

A. Polyisocyanurate Board Insulation, Foil Faced: ASTM C1289, foil faced, Type I, Class 1 or 2.

1. Design Basis: Johns Manville or equal.

2.4 GLASS-FIBER BLANKET INSULATION

A. Glass-Fiber Blanket Insulation, Unfaced Interior Sound: ASTM C665, Type I; passing ASTM E136 for combustion characteristics.

B.

1. Design Basis: Johns Manville or equal.

C. Glass-Fiber Blanket Insulation, Kraft Faced: ASTM C665, Type II (nonreflective faced), Class C (faced surface not rated for flame propagation); Category 1 (membrane is a vapor barrier).

1. Design Basis: Johns Manville or equal.

2.5 INSULATION FASTENERS

A. Adhesively Attached, Spindle-Type Anchors: Plate welded to projecting spindle; capable of holding insulation of specified thickness securely in position with self-locking washer in place.

B. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch- thick galvanized-steel sheet, with beveled edge for increased stiffness, sized as required to hold insulation securely in place, but not less than 1-1/2 inches square or in diameter.

C. Anchor Adhesive: Product with demonstrated capability to bond insulation anchors securely to substrates without damaging insulation, fasteners, or substrates.

2.6 ACCESSORIES

A. Insulation for Miscellaneous Voids:

1. Glass-Fiber Insulation: ASTM C764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of 5, per ASTM E84.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and applications.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

C. Install insulation with manufacturer's R-value label exposed after insulation is installed.

D. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

E. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.3 INSTALLATION OF SLAB INSULATION

A. On vertical slab edge and foundation surfaces, set insulation units using manufacturer's recommended adhesive according to manufacturer's written instructions.

1. If not otherwise indicated, extend insulation a minimum of 24 inches below exterior grade line.

B. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

1. If not otherwise indicated, extend insulation a minimum of 24 inches in from exterior walls.

3.4 INSTALLATION OF FOUNDATION WALL INSULATION

A. Butt panels together for tight fit.

B. Anchor Installation: Install board insulation on concrete substrates by adhesively attached, spindle-type insulation anchors as follows:

1. Fasten insulation anchors to concrete substrates with insulation anchor adhesive according to anchor manufacturer's written instructions.
2. Space anchors according to insulation manufacturer's written instructions for insulation type, thickness, and application.

C. Adhesive Installation: Install with adhesive or press into tacky waterproofing or dampproofing according to manufacturer's written instructions.

3.5 INSTALLATION OF CAVITY-WALL INSULATION

A. Foam-Plastic Board Insulation: Install pads of adhesive spaced approximately 24 inches o.c. both ways on inside face and as recommended by manufacturer.

1. Fit courses of insulation between **wall ties and other** obstructions, with edges butted tightly in both directions, and with faces flush.
2. Press units firmly against inside substrates.
3. Supplement adhesive attachment of insulation by securing boards with two-piece wall ties designed for this purpose and specified in Section 042000 "Unit Masonry."

3.6 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

A. Blanket Insulation: Install in cavities formed by framing members according to the following requirements:

1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
4. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.

5. Vapor-Retarder-Faced Blankets: Tape joints and ruptures in vapor-retarder facings, and seal each continuous area of insulation to ensure airtight installation.

    a. Exterior Walls: Set units with facing placed toward interior of construction.
    b. Interior Walls: Set units with facing placed toward areas of high humidity

B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

    1. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft..

3.7 PROTECTION

A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.

B. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

SECTION 072413 - POLYMER-BASED EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Polymer-based exterior insulation and finish system (EIFS).

1. EIFS-clad barrier-wall assemblies that are field applied over substrate.

1.2 DEFINITIONS

A. Definitions in ASTM E2110 apply to Work of this Section.

B. EIFS: Exterior insulation and finish system(s).

C. IBC: International Building Code.

D. Polymer-Based Exterior Insulation and Finish System: Class PB EIFS, as defined in ASTM E2568.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each EIFS component, trim, and accessory.

B. Samples: For each exposed product and for each color and texture specified, 8 inches square in size.

C. Samples for Initial Selection: For each type of finish-coat color and texture indicated.

1. Include similar Samples of exposed accessories involving color selection.

D. Samples for Verification: 24-inch square panels for each type of finish-coat color and texture indicated, prepared using same tools and techniques intended for actual work, including custom trim, each profile, and an aesthetic reveal.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Manufacturer Certificates: Signed by EIFS manufacturer, certifying the following:

1. EIFS substrate is acceptable to EIFS manufacturer.
2. Accessory products installed with EIFS, including joint sealants, flashing, water-resistant barriers, trim, whether or not furnished by EIFS manufacturer and whether or not specified in this Section, are acceptable to EIFS manufacturer.

C. Product Certificates: For cementitious materials and aggregates and for insulation, from manufacturer.

D. Product Test Reports: For each EIFS assembly and component, for tests performed by a qualified testing agency.

E. Field quality-control reports.

F. Sample Warranty: For manufacturer's special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For EIFS to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An installer who is certified in writing by AWCI International as qualified to install Class PB EIFS using trained workers.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, to set quality standards for materials and execution, and to set quality standards for fabrication and installation.

1. Build mockup of typical wall area as shown on Drawings.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original, unopened packages with manufacturers' labels intact and clearly identifying products.

B. Store materials inside and under cover; keep them dry and protected from weather, direct sunlight, surface contamination, aging, corrosion, damaging temperatures, construction traffic, and other causes.

1. Stack insulation board flat and off the ground.
2. Protect plastic insulation against ignition at all times. Do not deliver plastic insulating materials to Project site before installation time.
3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.9 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions and ambient outdoor air, humidity, and substrate temperatures permit EIFS to be applied, dried, and cured according to manufacturers' written instructions and warranty requirements.

1. Proceed with installation of adhesives or coatings only when ambient temperatures have remained, or are forecast to remain, above 40 deg F for a minimum of 24 hours before, during, and after application. Do not apply EIFS adhesives or coatings during rainfall.

1.10 WARRANTY

A. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace components of EIFS that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Bond integrity and weathertightness.
b. Deterioration of EIFS finishes and other EIFS materials beyond normal weathering.

2. Warranty coverage includes the following EIFS components:

a. EIFS finish, including base coats, finish coats, and reinforcing mesh.
b. Insulation installed as part of EIFS**,** including buildouts.
c. Insulation adhesive and mechanical fasteners.
d. EIFS accessories, including trim components and flashing.

3. Warranty Period: **10** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 POLYMER-BASED EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)

A. <Double click here to find, evaluate, and insert list of manufacturers and products.>

B. Source Limitations: Obtain EIFS from single source from single EIFS manufacturer and from sources approved by EIFS manufacturer as tested and compatible with EIFS components.

2.2 PERFORMANCE REQUIREMENTS

A. EIFS Performance: Comply with ASTM E2568 and with the following:

1. Weathertightness: Resistant to water penetration from exterior.

2. Impact Performance: ASTM E2568, Standard impact resistance.

3. Abrasion Resistance of Finish Coat: Sample consisting of 1-inch- thick EIFS mounted on 1/2-inch- thick gypsum board; cured for a minimum of 28 days and shows no cracking, checking, or loss of film integrity after exposure to 528 quarts of sand when tested in accordance with ASTM D968, Method A.
4. Mildew Resistance of Finish Coat: Sample applied to 2-by-2-inch clean glass substrate; cured for 28 days and shows no growth when tested in accordance with ASTM D3273 and evaluated in accordance with ASTM D3274.

2.3 EIFS MATERIALS

A. Flexible-Membrane Flashing: Cold-applied, self-adhering, self-healing, rubberized-asphalt and polyethylene-film composite sheet or tape and primer; EIFS manufacturer's standard or product recommended in writing by EIFS manufacturer.

B. Insulation Adhesive: EIFS manufacturer's standard formulation designed for indicated use; compatible with substrate and complying with the following:

1. Job-mixed formulation of portland cement, complying with ASTM C150/C150M, Type I, and polymer-based adhesive specified for base coat.

C. Molded, (Expanded) Rigid Cellular Polystyrene Board Insulation: Comply with ASTM E2430/E2430M, unless otherwise noted, and the following:

1. Flame-Spread and Smoke-Developed Indexes: 25 and 450 or less, respectively, in accordance with ASTM E84.
2. Dimensions: Provide insulation boards of not more than 24 by 48 inches, with thickness indicated on Drawings.
3. Foam Buildouts: Provide with profiles and dimensions indicated on Drawings.

D. Reinforcing Mesh: Balanced, alkali-resistant, open-weave, glass-fiber mesh treated for compatibility with other EIFS materials, made from continuous multi-end strands with retained mesh tensile strength of not less than 120 lbf/in. in accordance with ASTM E2098/E2098M and the following:

1. Reinforcing Mesh for EIFS, General: Not less than weight required to comply with impact-performance level specified in "Performance Requirements" Article.
2. Strip-Reinforcing Mesh: Not less than As recommended by EIFS manufacturer.
3. Detail-Reinforcing Mesh: Not less than As recommended by EIFS manufacturer.
4. Corner-Reinforcing Mesh: As recommended by EIFS manufacturer.

E. Base Coat: EIFS manufacturer's standard mixture complying with the following:

1. Job-mixed formulation of portland cement complying with ASTM C150/C150M, Type I, white or natural color; and manufacturer's standard polymer-emulsion adhesive designed for use with portland cement.

F. Water-Resistant Base Coat: EIFS manufacturer's standard waterproof formulation complying with the following:

1. Job-mixed formulation of portland cement complying with ASTM C150/C150M, Type I, white or natural color; and manufacturer's standard polymer-emulsion adhesive designed for use with portland cement.

G. Mechanical Fasteners: EIFS manufacturer's standard corrosion-resistant fasteners, consisting of thermal cap, standard washer and shaft attachments, and fastener indicated below; designed to resist Project's design loads; capable of pulling fastener head below surface of insulation board; and complying with the following:

1. For attachment to steel studs from 0.033 to 0.112 inch in thickness, provide steel drill screws complying with ASTM C954.
2. For attachment to light-gage steel framing members not less than 0.0179 inch in thickness, provide steel drill screws complying with ASTM C1002.
3. For attachment to wood framing members and plywood sheathing, provide steel drill screws complying with ASTM C1002, Type W.
4. For attachment to masonry and concrete substrates, provide sheathing dowel in form of a plastic wing-tipped fastener with thermal cap, sized to fit insulation thickness indicated and to penetrate substrate to depth required to secure anchorage.

H. Primer: EIFS manufacturer's standard factory-mixed, elastomeric-polymer primer for preparing base-coat surface for application of finish coat.

I. Finish Coat: EIFS manufacturer's standard acrylic-based coating complying with the following:

1. Factory-mixed formulation of polymer-emulsion binder, colorfast mineral pigments, sound stone particles, and fillers.
2. Factory-mixed formulation of polymer-emulsion binder, colorfast mineral pigments, and fillers used with stone particles for embedding in finish coat to produce an applied-aggregate finish.

    a. Aggregate: Marble chips of size and color to match Architect's sample

3. Colors: Match Architect's sample
4. Textures: Match Architect's sample

J. Sealer: Manufacturer's waterproof, clear acrylic-based sealer for protecting finish coat.

K. Water: Potable.

L. Trim Accessories: Type as designated or required to suit conditions indicated and to comply with EIFS manufacturer's written instructions; manufactured from UV-stabilized PVC; and complying with ASTM D1784 and ASTM C1063.

1. Casing Bead: Prefabricated, one-piece type for attachment behind insulation, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg.
2. Drip Screed/Track: Prefabricated, one-piece type for attachment behind insulation, with face leg extended to form a drip, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg.
3. Expansion Joint: Closed-cell polyethylene backer rod and elastomeric sealant, 3/4-inch minimum.

4. Windowsill Flashing: Prefabricated type for both flashing and sloping sill over framing beneath windows; with end and back dams; designed to direct water to exterior.
5. Parapet Cap Flashing: Type for both flashing and covering parapet top, with design complying with ASTM C1397 and ANSI/SPRI/FM 4435/ES-1.

2.4 MIXING

A. Comply with EIFS manufacturer's requirements for combining and mixing materials. Do not introduce admixtures, water, or other materials, except as recommended by EIFS manufacturer. Mix materials in clean containers. Use materials within time period specified by EIFS manufacturer or discard.

2.5 SOURCE QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform shop tests and inspections indicated below and to prepare test reports:

1. Shop welds are subject to testing and inspection.
2. Testing and inspecting agency will interpret tests and report whether tested Work complies with or deviates from requirements.
3. Correct deficiencies in or replace EIFS prefabricated panels that test reports and inspections indicate do not comply with requirements.
4. Additional testing and inspection, at Contractor's expense, will be performed to determine compliance of corrected Work with requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roof edges, wall framing, flashings, openings, substrates, and junctures at other construction for suitable conditions where EIFS will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Begin coating application only after surfaces are dry.
2. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Protect contiguous work from moisture deterioration and soiling caused by application of EIFS. Provide temporary covering and other protection needed to prevent spattering of exterior finish coats on other work.

B. Protect EIFS, substrates, and wall construction behind them from inclement weather during installation. Prevent penetration of moisture behind EIFS and deterioration of substrates.

C. Prepare and clean substrates to comply with EIFS manufacturer's written instructions to obtain optimum bond between substrate and adhesive for insulation.

1. Concrete Substrates: Provide clean, dry, neutral-pH substrate for insulation installation. Verify suitability of substrate by performing bond and moisture tests recommended by EIFS manufacturer.

3.3 INSTALLATION OF EIFS, GENERAL

A. Comply with ASTM C1397, ASTM E2511, and EIFS manufacturer's written instructions for installation of EIFS as applicable to each type of substrate.

3.4 APPLICATION OF SUBSTRATE PROTECTION

A. Flexible-Membrane Flashing: Apply and lap to shed water; seal at openings, penetrations, and terminations. Prime substrates with flashing primer if required and install flashing.

3.5 INSTALLATION OF TRIM

A. Trim: Apply trim accessories at perimeter of EIFS, at expansion joints, and elsewhere as indicated. Coordinate with installation of insulation.

1. Drip Screed/Track: Use at bottom edges of EIFS unless otherwise indicated.
2. Windowsill Flashing: Use at windows unless otherwise indicated.
3. Expansion Joint: Use where indicated on Drawings.
4. Casing Bead: Use at other locations.
5. Parapet Cap Flashing: Use where indicated on Drawings.

3.6 INSTALLATION OF INSULATION

A. Board Insulation: Adhesively and mechanically attach insulation to substrate in compliance with ASTM C1397 and the following:

1. Sheathing: Apply adhesive to insulation by notched-trowel method in a manner that results in coating the entire surface of sheathing with adhesive once insulation is adhered to substrate. Apply adhesive to a thickness of not less than 1/4 inch for factory mixed and not less than 3/8 inch for field mixed, measured from surface of insulation before placement.
2. Concrete or Masonry: Apply adhesive by ribbon-and-dab method.
3. Press and slide insulation into place. Apply pressure over entire surface of insulation to accomplish uniform contact, high initial grab, and overall level surface.
4. Allow adhered insulation to remain undisturbed for not less than 24 hours, before beginning rasping and sanding insulation or before applying base coat and reinforcing mesh.

5. Mechanically attach insulation to substrate. Install top surface of fastener heads flush with plane of insulation. Install fasteners into or through substrates with the following minimum penetration:

    a. Steel Framing: 5/16 inch.
    b. Wood Framing: 1 inch.
    c. Concrete and Masonry: 1 inch.

6. Apply insulation over dry substrates in courses, with long edges of boards oriented horizontally.
7. Begin first course of insulation from a level base line and work upward.
8. Begin first course of insulation from screed/track and work upward. Work from perimeter casing beads toward interior of panels if possible.
9. Stagger vertical joints of insulation boards in successive courses to produce running bond pattern. Locate joints, so no piece of insulation is less than 12 inches wide or 6 inches high. Offset joints not less than 6 inches from corners of window and door openings

    a. Adhesive Attachment: Offset joints of insulation not less than 6 inches from horizontal and 4 inches from vertical joints in sheathing.
    b. Mechanical Attachment: Offset joints of insulation from horizontal joints in sheathing.

10. Interlock ends at internal and external corners.
11. Abut insulation tightly at joints within and between each course to produce flush, continuously even surfaces without gaps or raised edges between boards. If gaps greater than 1/16 inch occur, fill with insulation cut to fit gaps exactly; insert insulation without using adhesive or other material.
12. Cut insulation to fit openings, corners, and projections precisely and to produce edges and shapes complying with details indicated.
13. Rasp or sand flush entire surface of insulation to remove irregularities projecting more than 1/16 inch from surface of insulation and to remove yellowed areas due to sun exposure; do not create depressions deeper than 1/16 inch. Prevent airborne dispersal and immediately collect insulation raspings or sandings.
14. Cut aesthetic reveals in outside face of insulation with high-speed router and bit configured to produce grooves, rabbets, and other features that comply with profiles and locations indicated. Do not reduce insulation thickness at aesthetic reveals to less than 3/4 inch.
15. Install foam buildouts and attach to structural substrate by adhesive and mechanical fastening.
16. Interrupt insulation for expansion joints where indicated.
17. Form joints for sealant application by leaving gaps between adjoining insulation edges and between insulation edges and dissimilar adjoining surfaces. Make gaps wide enough to produce joint widths indicated after encapsulating joint substrates with base coat and reinforcing mesh.
18. Form joints for sealant application with back-to-back casing beads for joints within EIFS and with perimeter casing beads at dissimilar adjoining surfaces. Make gaps between casing beads and between perimeter casing beads and adjoining surfaces of width indicated.
19. Before installing insulation and before applying field-applied reinforcing mesh, fully wrap board edges. Cover edges of board and extend encapsulating mesh not less than 2-1/2 inches over front and back face unless otherwise indicated on Drawings.

20. Treat exposed edges of insulation as follows:

    a. Except for edges forming substrates of sealant joints, encapsulate with base coat, reinforcing mesh, and finish coat.
    b. Encapsulate edges forming substrates of sealant joints within EIFS or between EIFS and other work with base coat and reinforcing mesh.
    c. At edges trimmed by accessories, extend base coat, reinforcing mesh, and finish coat over face leg of accessories.

21. Coordinate installation of flashing and insulation to produce wall assembly that does not allow water to penetrate behind flashing and EIFS lamina.

B. Expansion Joints: Install at locations indicated, where required by EIFS manufacturer, and as follows:

1. At expansion joints in substrates behind EIFS.
2. Where EIFS adjoin dissimilar substrates, materials, and construction, including other EIFS.
3. At floor lines in multilevel wood-framed construction.
4. Where wall height or building shape changes.
5. Where EIFS manufacturer requires joints in long continuous elevations.

3.7 APPLICATION OF BASE COAT

A. Water-Resistant Base Coat: Apply full-thickness coverage to exposed insulation and to exposed surfaces of sloped shapes parapets foam buildouts and to other surfaces indicated on Drawings.

B. Base Coat: Apply full coverage to exposed insulation and foam buildouts with not less than 1/16-inch dry-coat thickness.

C. Reinforcing Mesh: Embed reinforcing mesh in wet base coat to produce wrinkle-free installation with mesh continuous at corners, overlapped not less than 2-1/2 inches or otherwise treated at joints to comply with ASTM C1397. Do not lap reinforcing mesh within 8 inches of corners. Completely embed mesh, applying additional base-coat material if necessary, so reinforcing-mesh color and pattern are invisible.

D. Double-Layer Reinforcing-Mesh Application: Where indicated or required, apply second base coat and second layer of reinforcing mesh, overlapped not less than 2-1/2 inches or otherwise treated at joints to comply with ASTM C1397 in same manner as first application. Do not apply until first base coat has cured.

E. Additional Reinforcing Mesh: Apply strip-reinforcing mesh around openings, extending 4 inches beyond perimeter. Apply additional 9-by-12-inch strip-reinforcing mesh diagonally at corners of openings (re-entrant corners). Apply 8-inch- wide, strip-reinforcing mesh at both inside and outside corners unless base layer of mesh is lapped not less than 4 inches on each side of corners.

1. At aesthetic reveals, apply strip-reinforcing mesh not less than 8 inches wide.
2. Embed strip-reinforcing mesh in base coat before applying first layer of reinforcing mesh.

F. Foam Buildouts: Fully embed reinforcing mesh in base coat.

G. Double Base-Coat Application: Where indicated, apply second base coat in same manner and thickness as first application, except without reinforcing mesh. Do not apply until first base coat has cured.

3.8 APPLICATION OF FINISH COAT

A. Primer: Apply over dry base coat.

B. Finish Coat: Apply full-thickness coverage over dry primed base coat, maintaining a wet edge at all times for uniform appearance, to produce a uniform finish of color and texture matching approved sample and free of cold joints, shadow lines, and texture variations.

1. Embed aggregate in finish coat to produce a uniform applied-aggregate finish of color and texture matching approved sample.

C. Sealer Coat: Apply over dry finish coat, in number of coats and thickness required by EIFS manufacturer.

3.9 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. As stipulated in Ch. 17 of the IBC.

B. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

C. EIFS Tests and Inspections: In accordance with ASTM E2568.

D. EIFS will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

3.10 CLEANING AND PROTECTION

A. Remove temporary covering and protection of other work. Promptly remove coating materials from window and door frames and other surfaces outside areas indicated to receive EIFS coatings.

END OF SECTION 072413

SECTION 075216 – SBS MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. The project plans, details and general Contract requirements apply to this Section.

1.2 SUMMARY

A. Items Included:

1. Substrate board.
2. Vapor retarder.
3. Roof insulation.
4. Cover panel.
5. SBS modified bituminous membrane roofing.
6. Walktread.

B. Related Sections:

1. Section 061053 "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking, and for wood-based, structural-use roof deck panels.
2. Section 07 62 00 "Sheet Metal Flashing and Trim" for sop and field formed metal roof flashings and counter flashings.
3. Section 07 71 00 "Roof Specialties" for premanufactured metal copings, roof edge fascia, gravel stops, reglets, roof edge flashings, and counter flashings.
4. Section 07 92 00 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 PREINSTALLATION MEETINGS

A. Pre-installation Roofing Conference at Jobsite: Hold a meeting with the Owner, Construction Manager, Architect, Roofing Contractor, Roofing Manufacturer's Representative, and other applicable trades to discuss the means and methods related to roofing installation. The Roofing Contractor shall examine the substrate that will receive the specified roofing materials and confirm its suitability for attachment of the specified roofing system.

1.4 SUBMITTAL OF ALTERNATE SYSTEMS

A. Consideration of Alternate Systems: Submit primary roof systems to be considered as equals to the specified roof system no less than 10 days prior to bid date. Primary roof systems which have been reviewed and accepted as equals to the specified roof system will be listed in an addendum prior to bid date; only then will equals be accepted at bidding. Submittals shall include the following:

1. Two 3 inch x 5 inch samples of the primary roofing and flashing sheets.
2. Latest edition of the roofing system manufacturer's specifications and installation instructions.

3. Evidence that the manufacturer of the proposed roofing system utilizes a quality management system that is ISO 9001 certified. Documentation of ISO 9001 certification of foreign subsidiaries without domestic certification will not be accepted.
4. Evidence and description of manufacturer's quality control/quality assurance program for the primary roofing products supplied. The quality assurance program description shall include all methods of testing for physical and mechanical property values. Provide confirmation of manufacturer's certificate of analysis for reporting the tested values of the actual material being supplied for the project prior to issuance of the specified guarantee.
5. Descriptive list of the materials proposed for use.
6. Evidence of Underwriters' Laboratories Class acceptance of the proposed roofing system (including mopping asphalt or cold adhesive) without additional requirements for gravel or coatings.
7. Evidence that the roof configuration (including fastening of insulation) has been tested by an accredited independent testing agency to meet the design wind load pressure indicated in Part 1.07 C2.
8. The roof membrane configuration shall be approved by FM Global for Class 1-SH (severe hail) exposure.
9. Letter from the proposed primary roofing manufacturer confirming that a phased roof application, with only the modified bitumen base ply in place for a period of up to 10 weeks, is acceptable and approved for this project.
10. List of 3 of the proposed primary roofing manufacturer's projects, located in the United States, of equal size and degree of difficulty which have been performing successfully for a period of at least 10 years.
11. Letter from the proposed primary roofing manufacturer confirming that the filler content in the elastomeric blend of the proposed roof membrane and flashing components does not exceed 35% in weight.
12. Complete list of material physical and mechanical properties for each sheet including: weights and thicknesses; low temperature flexibility; peak load; ultimate elongation; dimensional stability; compound stability; high temperature stability; granule embedment and resistance to thermal shock for foil faced products.
13. Evidence that the roof system shall pass 500 cycles of ASTM D5849 Resistance to Cyclic Joint Displacement (fatigue) at 14°F (-10°C). Passing results shall show no signs of membrane cracking or interply delamination after 500 cycles. The roof system shall pass 200 cycles of ASTM D5849 after heat conditioning performed in accordance with ASTM D5147.
14. Sample copy of the proposed guarantee.

B. Technical Product Data: Submit the manufacturer’s technical product data sheets for each type of product.

C. Shop Drawings: Include plans, sections, and shop drawings/details for all applicable conditions.

D. Product Samples: Submit product samples of the specified base, finish, flashing reinforcing, and flashing membrane plies.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data:

1. Installer: Submit written confirmation that they have a minimum of 2 years of experience in successfully installing the same or similar roofing materials and be certified in writing by the roofing materials manufacturer to install the primary roofing products.
2. Manufacturer: Submit written confirmation that the manufacturer of the primary roofing products has been successfully producing the specified types of primary products for not less than 10 years with a consistent composition for a minimum of 5 years.

B. System Qualification:

1. Intent to Warrant Letter: Submit a signed letter on the roof membrane manufacturer's letterhead, confirming that specified roofing system complies with the guarantee requirements indicated in Part 1.11 and the criteria indicated in Part 2.2 Roof Membrane Sheet Materials.
2. Cyclic Fatigue: Submit confirmation that the proposed roof system will pass 500 cycles of ASTM D5849 Resistance to Cyclic Joint Displacement (fatigue) at 14˚F (-10˚C), and 200 cycles after heat conditioning (performed in accordance with ASTM D5147), showing no signs of membrane cracking or interply delamination.
3. Sample Guarantee: Submit a sample copy of the manufacturer's proposed Guarantee.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: Submit the manufacturer's care and maintenance guide.

B. Executed Guarantee: Provide the Owner with an executed version of the specified guarantee.

1.7 QUALITY ASSURANCE

A. Fire Rating: Submit evidence of exterior fire-test exposure by an approved third-party testing agency in accordance with ASTM E108 or UL 790 guidelines.

1. Class C

B. Hail Rating: Submit evidence by FM Global that the roof configuration has been tested to meet the following specified hail resistance design.

1. Class 1-SH (severe hail) exposure.

C. Wind Uplift Rating: Submit evidence by an approved third-party testing agency that the roof configuration has been tested to meet the following specified wind uplift design.

1. Class 1, windstorm construction.
2. Minimum design wind load pressure as indicated on drawings.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture,

approval or listing agency markings, and directions for storing and mixing with other components.

B. Storage: Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing manufacturer.

1. Protect stored liquid material from direct sunlight, heat, open fire, ignition sources, oxidizing agents, strong acids, and strong alkalis.
2. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protection: Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Comply with the insulation manufacturer's written instructions for handling, storing, and protecting materials during installation.

D. Handling: Handle and place roofing materials and equipment in a manner to avoid permanent deflection of deck.

1.9 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing to be installed in accordance with manufacturer's written instructions and warranty requirements.

B. Membrane Protection: Provide protection against staining and mechanical damage for newly applied roofing and adjacent surfaces throughout this project.

C. Debris Removal: Remove all debris daily from the project site and take to a legal dumping area authorized to receive such materials.

D. Site Condition: Complete, to the owner's satisfaction, all job site clean-up including building interior, exterior and landscaping where affected by the construction.

1.10 GUARANTEE

A. Manufacturer’s Guarantee: Provides that the Manufacturer will repair leaks through the covered roofing materials due to material or workmanship defects, subject to certain exclusions, during the specified time period. Refer to guarantee for complete coverage and restrictions.

B. Special Project Warranty: Submit roofing contractor’s warranty signed by the Installer, including all components of the roofing and insulation system for the following warranty period:

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturer: A roof system by the following manufacturer is approved for application.

1. Siplast, Inc. or Approved Equal

2.2 ROOFING MEMBRANE SHEET MATERIALS

Siplast, Paradiene 20 base ply or approved equal.

Siplast Paradiene 30 finish ply or approved equal.

2.3 BASE FLASHING SHEET MATERIALS

A. Flashing Reinforcing Ply and Cant Backer: An ASTM D6163, Type I, Grade S homogenous membrane with a glass-fiber reinforcing mat impregnated/saturated and coated each side with SBS modified bitumen blend with a factory applied polymer modified asphalt self-adhesive on the back surface of the sheet to provide full adhesion to the total surface area of the substrate. The back side of the base ply shall be surfaced with a removable film.

1. Paradiene 20 SA by Siplast, Inc. or approved equal.

2. Paradiene 30 SA by Siplast, Inc or approved equal.

2.4 PRIMERS

A. Asphalt Primer: Primer shall meet ASTM D41 criteria.

1. PA-1125 Asphalt Primer by Siplast, Inc. or approved equal.

B. Low VOC Asphalt Primer: Primer shall meet ASTM D41 criteria and South Coast Air Quality District and Ozone Transport Commission requirements.

1. PA-917 Primer by Siplast, Inc. or approved equal.

C. Primer for Self-Adhesive Membranes: Primer for self-adhesive membranes shall be a single component, water-based resinous primer formulated to condition masonry, wood, plywood, concrete, asphaltic, and gypsum surfaces to facilitate adhesion of self-adhesive membranes.

1. TA-119 Primer by Siplast, Inc. or approved qual.

2.5 AUXILIARY ROOFING MATERIALS

A. Roofing Asphalt: ASTM D312, Type [III or IV].

B. Cold-Applied Asphalt Adhesive: An asphalt, solvent blend conforming to ASTM D4479, Type II requirements.

1. PA-311 R Adhesive by Siplast, Inc.

C. Membrane Adhesive: A single-component, moisture curing, low-odor adhesive designed for application of the specified roof membrane system.

1. SFT Adhesive by Siplast, Inc.

D. Asphalt Roofing Cement: An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D4586 Type II requirements.

1. PA-1021 Plastic Cement by Siplast, Inc.

E. Flashing Cement: A slump resistant, asphalt cutback flashing adhesive, reinforced with non-asbestos fibers, conforming to ASTM D4586 Type II requirements.

1. PA-828 Flashing Cement by Siplast, Inc.

F. Flashing Cement: A single-component, moisture curing, low-odor adhesive formulated in a grade for application of flashing materials.

1. SFT Cement by Siplast, Inc.

G. Sealant: A moisture-curing, self-leveling elastomeric sealant designed for roofing applications.

1. PS-209 Elastomeric Sealant

H. Sealant: A moisture-curing, non-slumping elastomeric sealant designed for roofing applications.

1. PS-715 NS Elastomeric Sealant

I. Ceramic Granules: No. 11 grade specification ceramic granules of color scheme matching the granule surfacing of the finish ply.

2.6 SUBSTRATE BOARD

Provide protection board as recommended by manufacture.

2.7 ROOF INSULATION

4” base polyisocyanurate with tapered insulation and ½” protection board.

2.8 INSULATION COVER PANEL

½” protection board per roofing manufactures recommendation.

2.9 INSULATION ACCESSORIES

A. Insulation Fasteners: The insulation fasteners shall provide attachment required to meet the specified uplift performance and to restrain the insulation panels against the potential for ridging.

B. Insulation Adhesive: single or dual component low-rise polyurethane foam adhesive designed specifically for the adhesion of roof insulation to substrate, as well as subsequent layers of insulation. Acceptable manufacturers are as follows:

1. Para-Stik by Siplast, Inc.
2. Parafast Insulation Adhesive by Siplast, Inc.
3. Insta Stik Quik Set Commercial Roofing Adhesive by DuPont, Inc.
4. OlyBond500 Insulation Adhesive by OMG, Inc.
5. Millennium One-Step Insulation Adhesive by H. B. Fuller

C. Insulation Cant Strips: A cant strip composed of expanded volcanic minerals combined with waterproofing binders, meeting ASTM C728 criteria. The top surface shall be pre-treated with an asphalt based coating. The face of the cant shall have a nominal 4 inch dimension.

D. Tapered Edge Strips: A tapered panel composed of expanded volcanic minerals combined with waterproofing binders. The top surface shall be pre-treated with an asphalt based coating. The panels shall have a dimension sufficient to provide for a smooth transition and provide proper support for the membrane layer or subsequent layer of insulation when there are transitions of 1/4 inch or greater.

2.10 WALKWAYS

A. Walktread: A granule-surfaced polymer modified bitumen sheet material reinforced with a prefabricated, puncture resistant polyester core, having a thickness of 0.217 in (5.5 mm) and a width of 30 inches (76.2 cm).

1. Paratread by Siplast, Inc. or approved equal.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Substrate Qualification: The installing contractor shall examine all substrates where the specified roofing and flashing system will be applied and confirm their suitability to receive the specified roofing materials.

3.2 PREPARATION

A. Sweep or vacuum all surfaces, removing all loose aggregate and foreign substances prior to commencement of roofing.

B. Primer for Self-Adhesive Flashing Reinforcing Ply: Apply the specified tacky primer by roller or spray in an even film. Refer to the manufacturer's literature for the approved rate of application over various substrate types. Allow the primer to dry until it leaves a slightly sticky surface without transfer when touched. Cutting or alteration of the primer is not permitted.

C. Asphaltic Primer: Prime metal and concrete and masonry surfaces with a uniform coating of the specified asphalt primer according to the manufacturer's published application rate. Cutting or alteration of the primer is not permitted.

3.3 INSTALLATION OF ROOFING, GENERAL GUIDLEINES

A. Asphalt Heating and Application: Do not heat asphalt to or above its flash point. Avoid heating at or above the FBT, should conditions make this impractical, heating must be no more than 25ºF below the EVT and no more than 25ºF above EVT. Follow the asphalt manufacturer's published maximum heating temperature and minimum application temperature guidelines. Ensure that all moppings do not exceed a maximum of 25 lb/sq. Mopping shall be total in coverage, leaving no breaks or voids.

B. Adhesive Application: Apply membrane cold adhesive by roller, squeegee or spray unit in a smooth, even, continuous layer without breaks or voids. Utilize an application rate for each ply as published by the roof membrane manufacturer. Double the adhesive application rate at the end laps of granule surfaced sheets. Where solvent-based adhesive is applied, refer to the manufacturer's inter-ply flashing detail at the locations that are to receive the specified catalyzed acrylic resin primer/flashing system. Cutting or alteration of the adhesive is not permitted.

C. General Appearance: Ensure that the finished roofing application has an aesthetically pleasing overall appearance and is acceptable to the Owner.

3.4 INSTALLATION OF SUBSTRATE BOARD

A. Install substrate panels with end joints offset and edges in moderate contact in accordance with the panel manufacturer's requirements. Install only as many panels as can be made watertight within the same work day.

1. Mechanically attach the panels to the substrate, using the specified fasteners, at a rate of 1 fastener per square feet of panel area per 4' x 8' panel. Increase the fastening frequency by 50% at the perimeter of the roof and mechanically attach the corners at the rate of 1 fastener per 1 square foot of panel area (32 per 4-foot by 8-foot panel).

3.5 INSTALLATION OF INSULATION AND COVERBOARD

A. Install insulation panels with end joints offset with edges in moderate contact in accordance with the insulation manufacturer's requirements. Where insulation is installed in two or more layers, stagger joints between layers. Maintain a maximum panel size of 4 feet by 4 feet for polyisocyanurate / fiberboard insulation applied in insulation adhesive or hot asphalt. Install only as much insulation as can be made watertight within the same work day.

B. Crickets: Construct crickets of tapered insulation panels in a layout as indicated on the roof plan.

C. Tapered Edge at Transitions: Field-cut, shape and install tapered edge strip at transitions of 1/4 inch or greater between substrate components to provide a smooth transition and proper support for the subsequent insulation layer or membrane/flashing system components.

3.6 APPLICATION OF BITUMINOUS ROOFING MEMBRANE

A. Apply all layers of roofing with side laps running parallel/perpendicular to the direction of the slope. Exert sufficient pressure on the roll during application to ensure prevention of air pockets, wrinkles, creases or fishmouths. Refer to the manufacturer's guidelines for maximum sheet lengths and special fastening of the head laps where the roof deck slope exceeds 1/2 inch per foot.

3.7 APPLICATION OF FLASHING AND STRIPPING

A. Modified Bitumen Flashing System: Apply the specified base flashing materials in accordance with the manufacturer's standard details. Notify the design team immediately of any flashing heights below 8 inches. For torch applied base flashings, apply a 12-inch self-adhesive cant backing sheet extending 6 inches onto the field of the roof area and a minimum of 6 inches up the vertical surface utilizing minimum 3 inch laps. Set the non-combustible cant into place dry prior to installation of the roof membrane base ply and subsequent flashing system. Flash walls and curbs using the reinforcing sheet and flashing membrane. Exert pressure on the flashing sheet during application to ensure complete contact with the vertical/horizontal surfaces, preventing air pockets. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9 inch centers. (See the manufacturer's schematic for visual interpretation).

3.8 APPLICATION OF SEALANT

A. Apply a smooth continuous bead of the specified sealant at the exposed finish ply edge transition to metal flashings incorporated into the roof system.

3.9 APPLICATION OF WALKTREAD

A. Cut the specified walktread into maximum 5 foot lengths and allow to relax until flat. Adhere the sheet using the specified plastic cement. Apply the specified cement in a 3/8 inch thickness to the back of the product in 5 inch by 5 inch spots in accordance with the pattern as supplied by the walktread manufacturer. Walk-in each sheet after application to ensure proper adhesion. Use a minimum spacing of 2 inches between sheets to allow for proper drainage.

3.10 FIELD QUALITY CONTROL

A. Notify the manufacturer of job completion in order to schedule a final inspection date. Hold a meeting at the completion of the project, attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the manufacturer's representative. Complete, sign, and send the punch list form to the manufacturer's headquarters.

B. Leave all areas around job site free of debris, roofing materials, equipment and related items after completion of job.

C. Complete all post installation procedures and meet the manufacturer's requirements for issuance of the specified guarantee.

END OF SECTION 07 52 16

SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Copings.
2. Roof-edge specialties.
3. Roof-edge drainage systems.
4. Reglets and counterflashings.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
2. Section 077200 "Roof Accessories" for set-on-type curbs, equipment supports, roof hatches, vents, and other manufactured roof accessory units.
3. Section 077253 "Snow Guards" for manufactured snow guard devices.
4. Section 079200 "Joint Sealants" for field-applied sealants between roof specialties and adjacent materials.

C. Preinstallation Conference: Conduct conference at Project site

1. Meet with Owner, Architect, Owner's insurer if applicable, roofing-system testing and inspecting agency representative, roofing Installer, roofing-system manufacturer's representative, Installer, structural-support Installer, and installers whose work interfaces with or affects roof specialties, including installers of roofing materials and accessories.
2. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
3. Review special roof details, roof drainage, and condition of other construction that will affect roof specialties.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Copings.
2. Roof-edge specialties.
3. Roof-edge drainage systems.
4. Reglets and counterflashings.

B. Product Data Submittals: For each product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

C. Shop Drawings: For roof specialties.

1. Include plans, elevations, expansion-joint locations, keyed details, and attachments to other work. Distinguish between plant- and field-assembled work.
2. Include details for expansion and contraction; locations of expansion joints, including direction of expansion and contraction.
3. Indicate profile and pattern of seams and layout of fasteners, cleats, clips, and other attachments.
4. Detail termination points and assemblies, including fixed points.
5. Include details of special conditions.

D. Samples: For each type of roof specialty and for each color and texture specified.

E. Samples for Initial Selection: For each type of roof specialty indicated with factory-applied color finishes.

F. Samples for Verification:

1. Include Samples of each type of roof specialty to verify finish and color selection, in manufacturer's standard sizes.
2. Include copings roof-edge specialties roof-edge drainage systems reglets and counterflashings made from 12-inch lengths of full-size components in specified material, and including fasteners, cover joints, accessories, and attachments.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer.

B. Product Certificates: For each type of roof specialty.

C. Product Test Reports: For copings and roof-edge flashings, for tests performed by a qualified testing agency.

D. Sample Warranty: For manufacturer's special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing specialties to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are FM Approvals listed for specified class

1.6 MOCKUPS

A. Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.

1. Build mockup of typical roof edge as part of Integrated Exterior Mockup specified in Section 014000 "Quality Requirements"
2. Build mockup of typical roof edge, including gutter and downspout coping, approximately 10 feet long, including supporting construction, seams, attachments, underlayment, and accessories.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not store roof specialties in contact with other materials that might cause staining, denting, or other surface damage. Store roof specialties away from uncured concrete and masonry.

B. Protect strippable protective covering on roof specialties from exposure to sunlight and high humidity, except to extent necessary for the period of roof-specialty installation.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify profiles and tolerances of roof-specialty substrates by field measurements before fabrication, and indicate measurements on Shop Drawings.

B. Coordination: Coordinate roof specialties with flashing, trim, and construction of parapets, roof deck, roof and wall panels, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.9 WARRANTY

A. Special Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:

    a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
    b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
    c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Roof specialties to withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

B. FM Approvals' Listing: Manufacture and install copings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-90. Identify materials with FM Approvals' markings.

C. SPRI Wind Design Standard: Manufacture and install copings tested in accordance with SPRI ES-1 and capable of resisting the following design pressures:

1. Design Pressure: As indicated on Drawings.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F material surfaces.

2.2 COPINGS

A. Metal Copings: Manufactured coping system consisting of metal coping cap in section lengths not exceeding 12 feet, concealed anchorage; with corner units, end cap units, and concealed splice plates with finish matching coping caps.

1. Design Basis: Pac Clad, Pac Continuous Cleat Coping or approved equal.
2. Metallic-Coated Steel Sheet Coping Caps: Zinc-coated (galvanized) steel, nominal 0.034-inch thickness.

a. Surface: Smooth, flat finish.
b. Finish: Two-coat fluoropolymer
c. Color: As selected by Architect from manufacturer's full range.

3. Corners: Factory mitered and continuously welded
4. Coping-Cap Attachment Method: face and back leg hooked to continuous cleat, fabricated from coping-cap material.
a. Face-Leg Cleats: Concealed, continuous galvanized-steel sheet.

2.3 ROOF-EDGE SPECIALTIES

A. One-Piece Gravel Stops: Manufactured, one-piece, metal gravel stop in section lengths not exceeding 12 feet, with a horizontal flange and vertical leg**,** drain-through fascia terminating in a drip edge, and concealed splice plates of same material, finish, and shape as gravel stop. Provide matching corner units.

1. Design Basis: Pac Clad.

2. Formed Aluminum Sheet Gravel Stops: Aluminum sheet, 0.040 inch

    a. Surface: Smooth, flat finish.
    b. Finish: Two-coat fluoropolymer

3. Corners: Factory mitered and clinched and sealed watertight.
4. Accessories: Fascia extenders with continuous hold-down cleats

2.4 ROOF-EDGE DRAINAGE SYSTEM

A. Design Basis: Pac Clad Petersen: Pac-Tite Gold Gutters: IGG-1 or approved equal.

B. Gutters: Manufactured in uniform section lengths not exceeding 12 feet, with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.

1. Aluminum Sheet: 0.063 inch thick.
2. Gutter Profile: IGG-1 per design basis in accordance with SMACNA's "Architectural Sheet Metal Manual."
3. Corners: Factory mitered and mechanically clinched and sealed watertight.
4. Gutter Supports: Manufacturer's standard supports as selected by Architect with finish matching the gutters.

C. Downspouts: Corrugated rectangular complete with mitered elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.

1. Formed Aluminum: 0.032 inch thick.

D. Aluminum Finish: Two-coat fluoropolymer

2.5 REGLETS AND COUNTERFLASHINGS

A. Design Basis: ATAS International or approved equal

B. Reglets: Manufactured units formed to provide secure interlocking of separate reglet and counterflashing pieces, from the following exposed metal:

1. Zinc-Coated Steel: Nominal 0.028-inch thickness.
2. Corners: Factory mitered and continuously welded.
3. Masonry Type, Embedded: Provide reglets with offset top flange for embedment in masonry mortar joint.

C. Counterflashings: Manufactured units of heights to overlap top edges of base flashings by 4 inches and in lengths not exceeding 12 feet designed to snap into reglets or through-wall-flashing receiver and compress against base flashings with joints lapped, from the following exposed metal:

1. Zinc-Coated Steel: Nominal **0.028-inch** thickness.

D. Accessories:

1. Flexible-Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where reglet is provided separate from metal counterflashing.
2. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing lower edge.

E. Zinc-Coated Steel Finish: Two-coat fluoropolymer

1. Color: As selected by Architect from manufacturer's full range.

2.6 MATERIALS

A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A653/A653M, G90 coating designation.

2.7 UNDERLAYMENT MATERIALS

1. Thermal Stability: ASTM D1970/D1970M; stable after testing at 240 deg F.
2. Low-Temperature Flexibility: ASTM D1970/D1970M; passes after testing at minus 20 deg F.

B. Felt: ASTM D226/D226M, Type II (No. 30), asphalt-saturated organic felt, nonperforated.

C. Slip Sheet: Rosin-sized building paper, 3-lb/100 sq. ft.minimum.

2.8 MISCELLANEOUS MATERIALS

A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:

1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
2. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip zinc-coated steel in accordance with ASTM A153/A153M or ASTM F2329.

B. Elastomeric Sealant: ASTM C920, elastomeric silicone polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.

C. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type joints with limited movement.

D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

E. Asphalt Roofing Cement: ASTM D4586, asbestos free, of consistency required for application.

2.9 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Coil-Coated Galvanized-Steel Sheet Finishes:

1. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with ASTM A755/A755M and coating and resin manufacturers' written instructions.

    a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions
    b. Concealed Surface Finish: Apply pretreatment and manufacturer's standard acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.

B. Examine walls, roof edges, and parapets for suitable conditions for roof specialties.

C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage where applicable, and securely anchored.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF UNDERLAYMENT

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches staggered 24 inches between courses. Overlap side edges not less than 3-1/2 inches. Roll laps with roller. Cover underlayment within 14 days.

1. Apply continuously under copings, reglets and counterflashings.
2. Coordinate application of self-adhering sheet underlayment under roof specialties with requirements for continuity with adjacent air barrier materials.

B. Slip Sheet: Install with tape or adhesive for temporary anchorage to minimize use of mechanical fasteners under roof specialties. Apply in shingle fashion to shed water, with lapped joints of not less than 2 inches.

3.3 INSTALLATION, GENERAL

A. Install roof specialties in accordance with manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.

1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
2. Provide uniform, neat seams with minimum exposure of solder and sealant.
3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
4. Torch cutting of roof specialties is not permitted.
5. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.

C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.

1. Space movement joints at a maximum of 12 feet with no joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
2. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.

D. Fastener Sizes: Use fasteners of sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.

E. Seal concealed joints with butyl sealant as required by roofing-specialty manufacturer.

F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F.

3.4 INSTALLATION OF COPINGS

A. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor copings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

1. Interlock face and back leg drip edges of snap-on coping cap into cleated anchor plates anchored to substrate at manufacturer's required spacing that meets performance requirements.

3.5 INSTALLATION OF ROOF-EDGE DRAINAGE SYSTEMS

A. Install components to produce a complete roof-edge drainage system in accordance with manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.

B. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 24 inches apart. Attach ends with rivets and to make watertight. Slope to downspouts.

1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet apart. Install expansion-joint caps.

C. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c.

1. Provide elbows at base of downspouts at grade to direct water away from building.
2. Connect downspouts to underground drainage system indicated.

3.6 INSTALLATION OF REGLETS AND COUNTERFLASHINGS

A. Coordinate installation of reglets and counterflashings with installation of base flashings.

B. Surface-Mounted Reglets: Install reglets to receive flashings where flashing without embedded reglets is indicated on Drawings. Install at height so that inserted counterflashings overlap 4 inches over top edge of base flashings.

C. Counterflashings: Insert counterflashings into reglets or other indicated receivers; ensure that counterflashings overlap 4 inches over top edge of base flashings. Lap counterflashing joints a minimum of 4 inches and bed with butyl sealant. Fit counterflashings tightly to base flashings.

3.7 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.

D. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077100

SECTION 077200 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Roof hatches.

B. Related Sections:

1. Section 077253 "Snow Guards" for snow guards.

1.3 COORDINATION

A. Coordinate layout and installation of roof accessories with interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.

B. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of roof accessory.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For roof accessories.

1. Include plans, elevations, keyed details, and attachments to other work. Indicate dimensions, loadings, and special conditions. Distinguish between plant- and field-assembled work.

C. Samples: For each exposed product and for each color and texture specified, prepared on Samples of size to adequately show color.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Roof plans, drawn to scale, and coordinating penetrations and roof-mounted items. Show the following:

1. Size and location of roof accessories specified in this Section.
2. Method of attaching roof accessories to roof or building structure.
3. Required clearances.

B. Sample Warranties: For manufacturer's special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For roof accessories to include in operation and maintenance manuals.

1.7 WARRANTY

A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Roof accessories shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

2.2 ROOF HATCH

A. Roof Hatches: Metal roof-hatch units with lids and insulated single-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, integral metal cant, and integrally formed deck-mounting flange at perimeter bottom.

1. Design Basis: Bilco or approved equal

B. Type and Size: Single-leaf lid, 30 by 48 inches.

C. Loads: Minimum 40-lbf/sq. ft. external live load and 20-lbf/sq. ft. internal uplift load.

D. Hatch Material: Zinc-coated (galvanized) steel sheet.

1. Thickness: Manufacturer's standard thickness for hatch size indicated.
2. Finish: Two-coat fluoropolymer.
3. Color: As selected by Architect from manufacturer's full range.

E. Construction:

1. Insulation: Polyisocyanurate board.

a. R-Value: 12.0 according to ASTM C 1363.

2. Nailer: Factory-installed wood nailer continuous around hatch perimeter.
3. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
4. Curb Liner: Manufacturer's standard, of same material and finish as metal curb.
5. On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
6. Fabricate curbs to minimum height of 12 inches above roofing surface unless otherwise indicated.
7. Sloping Roofs: Where slope or roof deck exceeds 1:48, fabricate curb with perimeter curb height that is constant. Equip hatch with water diverter or cricket on side that obstructs water flow.

F. Hardware: Spring operators, hold-open arm, galvanized-steel spring latch with turn handles, galvanized -steel butt- or pintle-type hinge system, and padlock hasps inside and outside.

1. Provide two-point latch on lids larger than 84 inches.
2. Provide remote-control operation.

G. Safety Railing System: Roof-hatch manufacturer's standard system including rails, clamps, fasteners, safety barrier at railing opening, and accessories required for a complete installation; attached to roof hatch and complying with 29 CFR 1910.23 requirements and authorities having jurisdiction.

1. Height: 42 inches above finished roof deck.
2. Posts and Rails: Galvanized-steel pipe, 1-1/4 inches in diameter or galvanized-steel tube, 1-5/8 inches in diameter.
3. Flat Bar: Galvanized steel, 2 inches high by 3/8 inch thick.
4. Maximum Opening Size: System constructed to prevent passage of a sphere 21 inches in diameter.
5. Chain Passway Barrier: Galvanized proof coil chain with quick link on fixed end.
6. Self-Latching Gate: Fabricated of same materials and rail spacing as safety railing system. Provide manufacturer's standard hinges and self-latching mechanism.
7. Post and Rail Tops and Ends: Weather resistant, closed or plugged with prefabricated end fittings.

8. Provide weep holes or another means to drain entrapped water in hollow sections of handrail and railing members.
9. Fabricate joints exposed to weather to be watertight.
10. Fasteners: Manufacturer's standard, finished to match railing system.
11. Finish: Manufacturer's standard.

    a. Color: As selected by Architect from manufacturer's full range.

H. Ladder-Assist Post: Roof-hatch manufacturer's standard device for attachment to roof-access ladder.

1. Operation: Post locks in place on full extension; release mechanism returns post to closed position.
2. Height: 42 inches above finished roof deck.
3. Material: Steel tube.
4. Post: 1-5/8-inch- diameter pipe.
5. Finish: Manufacturer's standard baked enamel or powder coat.

    a. Color: As selected by Architect from manufacturer's full range.

2.3 METAL MATERIALS

A. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation.

1. Exposed Coil-Coated Finish: Prepainted by the coil-coating process to comply with ASTM A 755/A 755M. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

    a. Two-Coat Fluoropolymer Finish: AAMA 621. System consisting of primer and fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight.

2. Concealed Finish: Pretreat with manufacturer's standard white or light-colored acrylic or polyester-backer finish consisting of prime coat and wash coat, with a minimum total dry film thickness of 0.5 mil.

B. Aluminum Extrusions and Tubes: ASTM B 221, manufacturer's standard alloy and temper for type of use, finished to match assembly where used; otherwise mill finished.

C. Stainless-Steel Sheet and Shapes: ASTM A 240/A 240M or ASTM A 666, Type 304.

D. Steel Shapes: ASTM A 36/A 36M, hot-dip galvanized according to ASTM A 123/A 123M unless otherwise indicated.

E. Steel Tube: ASTM A 500/A 500M, round tube.

F. Galvanized-Steel Tube: ASTM A 500/A 500M, round tube, hot-dip galvanized according to ASTM A 123/A 123M.

G. Steel Pipe: ASTM A 53/A 53M, galvanized.

2.4 MISCELLANEOUS MATERIALS

A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.

B. Polyisocyanurate Board Insulation: ASTM C 1289, thickness and thermal resistivity as indicated.

C. Wood Nailers: Softwood lumber, pressure treated with waterborne preservatives for aboveground use, acceptable to authorities having jurisdiction, and complying with AWPA C2; not less than 1-1/2 inches thick.

D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

E. Underlayment:

1. Felt: ASTM D 226/D 226M, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
2. Polyethylene Sheet: 6-mil- thick polyethylene sheet complying with ASTM D 4397.
3. Slip Sheet: Building paper, 3 lb/100 sq. ft. minimum, rosin sized.
4. Self-Adhering, High-Temperature Sheet: Minimum 30 to 40 mils thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.
5. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners. Furnish the following unless otherwise indicated:
6. Fasteners for Zinc-Coated or Aluminum-Zinc Alloy-Coated Steel: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A 153/A 153M or ASTM F 2329.
7. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
8. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.

F. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, PVC, or silicone or a flat design of foam rubber, sponge neoprene, or cork.

G. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant as recommended by roof accessory manufacturer for installation indicated; low modulus; of type, grade, class, and use classifications required to seal joints and remain watertight.

H. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for expansion joints with limited movement.

I. Asphalt Roofing Cement: ASTM D 4586/D 4586M, asbestos free, of consistency required for application.

2.5 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.

B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.

C. Verify dimensions of roof openings for roof accessories.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install roof accessories according to manufacturer's written instructions.

1. Install roof accessories level; plumb; true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.
2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of underlayment and cover with manufacturer's recommended slip sheet.
3. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof accessories for waterproof performance.

C. Roof-Hatch Installation:

1. Verify that roof hatch operates properly. Clean, lubricate, and adjust operating mechanism and hardware.
2. Attach safety railing system to roof-hatch curb.
3. Attach ladder-assist post according to manufacturer's written instructions.

D. Seal joints with elastomeric or butyl sealant as required by roof accessory manufacturer.

3.3 REPAIR AND CLEANING

A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780/A 780M.

B. Touch up factory-primed surfaces with compatible primer ready for field painting according to Section 099113 "Exterior Painting."

C. Clean exposed surfaces according to manufacturer's written instructions.

D. Clean off excess sealants.

E. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

SECTION 077253 - SNOW GUARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Rail-type, seam-mounted snow guards.

1.2 ACTION SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

1. Rail-type, seam-mounted snow guards.

B. Shop Drawings: Include roof plans showing layouts and attachment details of snow guards.

1. Include details of rail-type snow guards.

C. Samples:

1. Rail-Type Snow Guards: Bracket, 12-inch- long rail, and installation hardware.

a. For units with factory-applied finishes, submit manufacturer's standard color selections.

D. Delegated Design Submittals: For snow guards, include analysis reports signed and sealed by the qualified professional engineer responsible for their preparation.

1. Include calculation of number and location of snow guards.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For professional engineer's experience with providing delegated design engineering services of the kind indicated, including documentation that the engineer is licensed in the jurisdiction in which the Project is located.

B. Product Test Reports: For each type of snow guard, for tests performed by a qualified testing agency, indicating load at failure of attachment to roof system identical to roof system used on this Project.

1.4 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit adhesive-mounted snow guards to be installed, and adhesive cured, according to adhesive manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design snow guards, including attachment to roofing material and roof deck, as applicable for attachment method, based on the following:

1. Roof snow load.
2. Snow drifting
3. Roof slope.
4. Roof type.
5. Roof dimensions.
6. Roofing substrate type and thickness.
7. Snow guard type.
8. Snow guard fastening method and strength.
9. Snow guard spacing.
10. Coefficient of Friction Between Snow and Roof Surface: 0.
11. Factor of Safety: 2.

B. Performance Requirements: Provide snow guards that withstand exposure to weather and resist thermally induced movement without failure, rattling, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

C. Structural Performance: Snow guards to withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated.

1. Snow Loads: As indicated on Drawings.

2.2 RAIL-TYPE SNOW GUARDS

A. Rail-Type, Seam-Mounted Snow Guards:

1. Design Basis: S-5 X-Gard 2.0 or approved equal.
2. Description: Snow guard rails fabricated from metal pipes, bars, or extrusions, anchored to brackets and equipped with two rails
3. Brackets and Baseplate: ASTM B209 aluminum; clear anodized
4. Bars: ASTM B221 (ASTM B221M) aluminum, clear anodized

a. Profile: Round.

5. Seam Clamps: ASTM B221 aluminum extrusion or ASTM B85/B85M aluminum casting with stainless steel set screws incorporating round nonpenetrating point; designed for use with applicable roofing system to which clamp is attached.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances, snow guard attachment, and other conditions affecting performance of the Work.

1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prime substrates according to snow guard manufacturer's written instructions.

3.3 INSTALLATION

A. Install snow guards according to manufacturer's written instructions.

1. Space rows as recommended by manufacturer.

B. Attachment for Standing-Seam Metal Roofing:

1. Do not use fasteners that will penetrate metal roofing or fastening methods that void metal roofing finish warranty.

2. Rail-Type, Seam-Mounted Snow Guards:

a. Install brackets to vertical ribs in straight rows.
b. Secure with stainless steel set screws, incorporating round nonpenetrating point, on same side of standing seam.
c. Torque set screw in accordance with manufacturer's written instructions.
d. Install cross members to brackets.

END OF SECTION 077253

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Nonstaining silicone joint sealants.
2. Urethane joint sealants.
3. Latex joint sealants.

B. Related Requirements:

1. Section 321373 "Concrete Paving Joint Sealants" for sealing joints in paved roads, parking lots, walkways, and curbing.

1.3 PRE-INSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

C. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

D. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified testing agency.

B. Preconstruction Laboratory Test Schedule: Include the following information for each joint sealant and substrate material to be tested:

1. Joint-sealant location and designation.
2. Manufacturer and product name.
3. Type of substrate material.
4. Proposed test.
5. Number of samples required.

C. Preconstruction Laboratory Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation are needed for adhesion.

D. Preconstruction Field-Adhesion-Test Reports: Indicate which sealants and joint preparation methods resulted in optimum adhesion to joint substrates based on testing specified in "Preconstruction Testing" Article.

E. Field-Adhesion-Test Reports: For each sealant application tested.

F. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

B. Product Testing: Test joint sealants using a qualified testing agency.

1. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

C. Mockups: Install sealant in mockups of assemblies specified in other Sections that are indicated to receive joint sealants specified in this Section. Use materials and installation methods specified in this Section.

1.7 PRECONSTRUCTION TESTING

A. Preconstruction Laboratory Testing: Submit to joint-sealant manufacturers, for testing indicated below, samples of materials that will contact or affect joint sealants.

1. Adhesion Testing: Use ASTM C 794 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.

2. Compatibility Testing: Use ASTM C 1087 to determine sealant compatibility when in contact with glazing and gasket materials.
3. Stain Testing: Use ASTM C 1248 to determine stain potential of sealant when in contact with stone masonry substrates.
4. Submit manufacturer's recommended number of pieces of each type of material, including joint substrates, joint-sealant backings, and miscellaneous materials.
5. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
6. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures, including use of specially formulated primers.
7. Testing will not be required if joint-sealant manufacturers submit data that are based on previous testing, not older than 24 months, of sealant products for adhesion to, staining of, and compatibility with joint substrates and other materials matching those submitted.

B. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates as follows:

1. Locate test joints where indicated on Project or, if not indicated, as directed by Architect.
2. Conduct field tests for each kind of sealant and joint substrate.
3. Notify Architect seven days in advance of dates and times when test joints will be erected.
4. Arrange for tests to take place with joint-sealant manufacturer's technical representative present.

    a. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1.1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.

        1) For joints with dissimilar substrates, verify adhesion to each substrate separately; extend cut along one side, verifying adhesion to opposite side. Repeat procedure for opposite side.

5. Report whether sealant failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each kind of product and joint substrate. For sealants that fail adhesively, retest until satisfactory adhesion is obtained.
6. Evaluation of Preconstruction Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants that fail to adhere to joint substrates during testing.

1.8 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.9 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:

1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
2. Disintegration of joint substrates from causes exceeding design specifications.
3. Mechanical damage caused by individuals, tools, or other outside agents.
4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C 1248.

B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 50, Use NT.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Dow Corning Corporation
b. GE Construction Sealants: Momentive Performance Materials Inc.

c. May National Associates, Inc
d. Pecora Corporation
e. Tremco Incorporated
f. Sika Corporation; Joint Sealants.

2.3 URETHANE JOINT SEALANTS

A. Urethane, S, NS, 25, T, NT: Single-component, nonsag, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Uses T and NT.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to the following:

a. BASF Corp – Construction Chemicals.
b. Bostik, Inc.
c. Pecora Corporation
d. Sherwin Williams Company
e. Tremco Incorporated.

2.4 LATEX JOINT SEALANTS

A. Acrylic Latex: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Manufacturers: Subject to compliance with requirements, provide by one of the following:
   a. Everkem Diversified Products, Inc.
   b. May National Associates Inc.
   c. Pecora Corporation
   d. Sherwin Williams
   e. Tremco Incorporated.

2.5 JOINT-SEALANT BACKING

A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:

    a. Concrete.
    b. Masonry.
    c. Unglazed surfaces of ceramic tile.

3. Remove laitance and form-release agents from concrete.
4. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:

    a. Metal.

b. Glass.
c. Porcelain enamel.
d. Glazed surfaces of ceramic tile.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

3. Provide concave joint profile per Figure 8A in ASTM C 1193 unless otherwise indicated.

    a. Use masking tape to protect surfaces adjacent to recessed tooled joints.

3.4 CLEANING

A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

3.6 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces JS-1.

1. Joint Locations:

    a. Construction joints in cast-in-place concrete.
    b. Joints between plant-precast architectural concrete units.
    c. Control and expansion joints in unit masonry.
    d. Joints in dimension stone cladding.
    e. Joints in glass unit masonry assemblies.
    f. Joints in exterior insulation and finish systems.
    g. Joints between metal panels.
    h. Joints between different materials listed above.
    i. Perimeter joints between materials listed above and frames of doors windows and louvers.
    j. Other joints as indicated on Drawings.

2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces JS 2.

1. Joint Locations:

    a. Control and expansion joints on exposed interior surfaces of exterior walls.
    b. Tile control and expansion joints.
    c. Vertical joints on exposed surfaces of unit masonry walls and partitions.
    d. Other joints as indicated on Drawings.

2. Joint Sealant: Urethane, S, NS, 25, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces not subject to significant movement JS 3.

1. Joint Locations:

a. Control joints on exposed interior surfaces of exterior walls.
b. Perimeter joints between interior wall surfaces and frames of interior doors windows and elevator entrances.
c. Other joints as indicated on Drawings.

2. Joint Sealant: Acrylic latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 079200

DIVISION 08

OPENINGS

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Interior standard steel doors and frames.
2. Exterior standard steel doors and frames.

B. Related Requirements:

1. Section 087100 "Door Hardware" for door hardware for hollow-metal doors.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.5 PREINSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.

B. Shop Drawings: Include the following:

1. Elevations of each door type.
2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of each different wall opening condition.
6. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
7. Details of anchorages, joints, field splices, and connections.
8. Details of accessories.
9. Details of moldings, removable stops, and glazing.

C. Samples for Initial Selection: For hollow-metal doors and frames with factory-applied color finishes.

D. Samples for Verification:

1. Finishes: For each type of exposed finish required, prepared on Samples of not less than 3 by 5 inches.
2. Fabrication: Prepare Samples approximately 12 by 12 inches to demonstrate compliance with requirements for quality of materials and construction:

a. Doors: Show vertical-edge, top, and bottom construction; core construction; and hinge and other applied hardware reinforcement. Include separate section showing glazing if applicable.
b. Frames: Show profile, corner joint, floor and wall anchors, and silencers. Include separate section showing fixed hollow-metal panels and glazing if applicable.

E. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.7 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each type of hollow-metal door and frame assembly, for tests performed by a qualified testing agency.

B. Oversize Construction Certification: For assemblies required to be fire-rated and exceeding limitations of labeled assemblies.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal doors and frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal doors and frames vertically under cover at Project site with head up. Place on minimum 4-inch high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft-Control Assemblies: Provide assemblies with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.
2. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.

B. Fire-Rated, Borrowed-Lite Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

C. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than 0.50 deg Btu/F x h x sq. ft. when tested according to ASTM C 518.

2.2 INTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duty Doors and Frames: SDI A250.8, Level 3; SDI A250.4, Level A.

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches.
c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch.
d. Edge Construction: Model 1, Full Flush.
e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
f. Core: Manufacturer's standard

g. Fire-Rated Core: Manufacturer's standard vertical steel stiffener core for fire-rated doors.

2. Frames:

a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch.
b. Construction: Full profile welded.

3. Exposed Finish: Prime.

2.3 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duty Doors and Frames: SDI A250.8, Level 3; SDI A250.4, Level A.

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches.
c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch, with minimum A60 coating.
d. Edge Construction: Model 1, Full Flush.
e. Edge Bevel: Provide manufacturer's standard beveled or square edges.
f. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
g. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
h. Core: Manufacturer's standard
i. Fire-Rated Core: Manufacturer's standard vertical steel stiffener with insulation core for fire-rated doors.

2. Frames:

a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch, with minimum A60 coating.
b. Construction: Full profile welded.

3. Exposed Finish: Prime.

2.4 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.

2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Material: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M; hot-dip galvanized according to ASTM A 153/A 153M, Class B.

2.5 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

G. Glazing: Comply with requirements in Section 088000 "Glazing."

2.6 FABRICATION

A. Door Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

B. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.

2. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
    b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

C. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

D. Glazed Lites: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted hairline joints.

1. Provide stops and moldings flush with face of door, and with square stops unless otherwise indicated.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that each glazed lite is capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames. Provide loose stops and moldings on inside of hollow-metal doors and frames.
4. Coordinate rabbet width between fixed and removable stops with glazing and installation types indicated.
5. Provide stops for installation with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.

2.7 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

A. General: Install hollow-metal doors and frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions.

B. Hollow-Metal Frames: Comply with SDI A250.11.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

    a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
    b. Install frames with removable stops located on secure side of opening.

2. Fire-Rated Openings: Install frames according to NFPA 80.
3. Floor Anchors: Secure with postinstalled expansion anchors.

    a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

4. Solidly pack mineral-fiber insulation inside frames.
5. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
7. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Non-Fire-Rated Steel Doors: Comply with NAAMM-HMMA 841 and NAAMM-HMMA guide specification indicated.
2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
3. Smoke-Control Doors: Install doors according to NFPA 105.

D. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.

3.3 CLEANING AND TOUCHUP

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

C. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.

D. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

SECTION 081216 - ALUMINUM FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior aluminum doors, door frames, and glazing frames.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Interior aluminum doors, door frames, and glazing frames.

B. Product Data Submittals: For each product.

1. Include construction details, material descriptions, dimensions of individual components and profiles and finishes.

C. Shop Drawings: For aluminum frames:

1. Include elevations, sections, and installation details for each wall-opening condition.
2. Include details for each frame type, including dimensioned profiles and metal thicknesses.
3. Include locations of reinforcements and preparations for hardware.
4. Include details of anchorages, joints, field splices, connections, and accessories.
5. Include details of moldings, removable stops, and glazing.

D. Samples: For each exposed product and for each color and texture specified, in manufacturer's standard sizes.

E. Samples for Initial Selection: For each type of exposed finish.

1. Include Samples of seals, gaskets, and accessories involving color selection.

F. Samples for Verification: For each type of the following products:

1. Framing Member and Finish: 12 inches Include trim.
2. Corner Fabrication and Finish: 12-by-12-inch- long, full-size window corner, including full-size sections of extrusions with factory-applied color finish.

G. Product Schedule: For aluminum frames. Use same designations indicated on Drawings. Coordinate with door hardware schedule and glazing.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For aluminum frames to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for fabrication and installation.

1. Build mockup of each type of aluminum frame and door in typical wall area as shown on Drawings.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

PART 2 - PRODUCTS

2.1 ALUMINUM FRAMES

A. Kawneer Trifab 400 Framing System or approved equal.

B. Source Limitations: Obtain aluminum frames and frame-manufacturer's doors from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Frames: Frames for fire-rated door assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252

1. Frames for Smoke- and Draft-Control Assemblies: Tested according to UL 1784 and installed in compliance with NFPA 105.

a. Air Leakage Rate: Maximum air leakage of 0.3 cfm/sq. ft. at the tested pressure differential of 0.3-inch wg .

2.3 INTERIOR ALUMINUM DOORS, DOOR FRAMES, AND GLAZING FRAMES

A. Aluminum Framing: ASTM B221, with alloy and temper required to suit structural and finish requirements, and not less than 0.062 inch thick.

B. Door Frames: Extruded aluminum, reinforced for hinges, strikes, and closers.

C. Glazing Frames: Extruded aluminum, for 1/4” glass thickness.

D. Trim: Extruded aluminum, not less than 0.062 inch thick; removable, snap-in casing trim glazing stops and door stops, without exposed fasteners.

E. Doors:

1. Glass doors.

a. Door Operation: Swinging.

F. Frame and Trim Finish: Clear-anodized aluminum

2.4 ACCESSORIES

A. Fasteners: Aluminum, nonmagnetic, stainless steel or other noncorrosive metal fasteners compatible with frames, stops, panels, reinforcement plates, hardware, anchors, and other items being fastened.

B. Door Silencers: Manufacturer's standard continuous mohair, wool pile, or vinyl seals in black color.

C. Smoke Seals: Intumescent strip or fire-rated gaskets in black.

D. Glazing Gaskets: Manufacturer's standard extruded or molded rubber or plastic, to accommodate glazing thickness indicated; in black.

E. Glass: As specified in Section 088000 "Glazing."

F. Door Hardware: As selected by Architect from manufacturer's full range.

2.5 FABRICATION

A. Provide concealed corner reinforcements and alignment clips for accurately fitted hairline joints at butted and mitered connections.

B. Factory prepare aluminum frames to receive templated mortised hardware; include cutouts, reinforcements, mortising, drilling, and tapping, according to the Door Hardware Schedule and templates furnished as specified in Section 087100 "Door Hardware."

1. Locate hardware cutouts and reinforcements as required by fire-rated label for assembly.

C. Fabricate frames for glazing with removable stops to allow glazing replacement without dismantling frame.

1. Locate removable stops on the inside of spaces accessed by keyed doors.

D. Fabricate components to allow secure installation without exposed fasteners.

2.6 GENERAL FINISH REQUIREMENTS

A. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.7 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Verify that wall thickness does not exceed standard tolerances allowed by throat size of indicated aluminum frame.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install aluminum frames plumb, rigid, properly aligned, and securely fastened in place; according to manufacturer's written instructions.

1. At fire-protection-rated openings, install fire-rated frames according to NFPA 80 and NFPA 105.

B. Install frame components in the longest possible lengths with no piece less than 48 inches components 96 inches or shorter must be one piece.

1. Fasten to suspended ceiling grid on maximum 48-inch centers, using sheet metal screws or other fasteners approved by frame manufacturer.
2. Use concealed installation clips to produce tightly fitted and aligned splices and connections.
3. Secure clips to extruded main-frame components and not to snap-in or trim members.
4. Do not leave screws or other fasteners exposed to view when installation is complete.

C. Glass: Install glass according to Section 088000 "Glazing" and aluminum-frame manufacturer's written instructions.

D. Doors: Install doors aligned with frames and fitted with required hardware.

E. Door Hardware: Install according to Section 087100 "Door Hardware" and aluminum-frame manufacturer's written instructions.

3.3 ADJUSTING

A. Inspect installation, correct misalignments, and tighten loose connections.

B. Doors: Adjust doors to operate smoothly and easily, without binding or warping. Adjust hardware to function smoothly, and lubricate as recommended by manufacturer.

C. Clean exposed frame surfaces promptly after installation, using cleaning methods recommended in writing by frame manufacturer and according to AAMA 609 and AAMA 610.

D. Touch Up: Repair marred frame surfaces to blend inconspicuously with adjacent unrepaired surface so touchup is not visible from a distance of 48 inches as viewed by Architect. Remove and replace frames with damaged finish that cannot be satisfactorily repaired.

END OF SECTION 081216

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-core seven-ply flush wood veneer-faced doors and transom panels for transparent finish.

B. Related Requirements:

1. Section 088000 "Glazing" for glass view panels in flush wood doors.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Solid-core seven-ply flush wood veneer-faced doors and transom panels for transparent finish.

B. Product Data Submittals: For each product, including the following:

1. Door core materials and construction.
2. Door edge construction
3. Door face type and characteristics.
4. Door trim for openings.
5. Door frame construction.
6. Factory-machining criteria.
7. Factory-finishing specifications.

C. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:

1. Door schedule indicating door location, type, size, fire protection rating, and swing.
2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
3. Details of frame for each frame type, including dimensions and profile.

4. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
5. Dimensions and locations of blocking for hardware attachment.
6. Dimensions and locations of mortises and holes for hardware.
7. Clearances and undercuts.
8. Requirements for veneer matching.
9. Doors to be factory finished and application requirements.

D. Samples for Initial Selection: For factory-finished doors.

E. Samples for Verification:

1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish.
2. Corner sections of doors, approximately 8 by 10 inches, with door faces and edges representing actual materials to be used.
3. Frames for light openings, 6 inches long, for each material, type, and finish required.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

B. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Special warranties.

B. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

C. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.6 QUALITY ASSURANCE

A. Manufacturer's Certification: Licensed participant in AWI's Quality Certification Program.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of referenced standard and manufacturer's written instructions.

B. Package doors individually in plastic bags or cardboard cartons.

C. Mark each door on bottom rail with opening number used on Shop Drawings.

1.8 FIELD CONDITIONS

A. Environmental Limitations:

1. Do not deliver or install doors until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of construction period.

1.9 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Delamination of veneer.
b. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
c. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.

2. Warranty also includes installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain flush wood doors from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Wood Door and Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated on Drawings, based on testing at positive pressure in accordance with UL 10C or NFPA 252.

2.3 FLUSH WOOD DOORS AND FRAMES, GENERAL

A. Quality Standard: In addition to requirements specified, comply with AWI/AWMAC/WI's "Architectural Woodwork Standards."

1. Provide certificates from AWI certification program indicating that doors comply with requirements of grades specified.

2.4 SOLID-CORE SEVEN-PLY FLUSH WOOD VENEER-FACED DOORS AND TRANSOM PANELS FOR TRANSPARENT FINISH

A. Interior Doors, Seven-Ply Veneer-Faced:

1. Design Basis: Graham natural solutions or approved equal.
2. Performance Grade: ANSI/WDMA I.S. 1A Standard Duty.

3. ANSI/WDMA I.S. 1A Quality Grade: Premium.
4. Architectural Woodwork Standards Quality Grade: Premium.
5. Faces: Single-ply wood veneer not less than 1/50 inch (0.508 mm) thick.

    a. Species: Red oak.
    b. Cut: Rift cut.
    c. Match between Veneer Leaves: Book match.
    d. Assembly of Veneer Leaves on Door Faces: Center-balance match.
    e. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.

6. Exposed Vertical and Top Edges: Same species as faces - Architectural Woodwork Standards edge Type A

    a. Fire-Rated Single Doors: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed vertical edges.

7. Core for non-fire-rated doors, ANSI A208.1, Grade LD-1 particleboard.

    a. Blocking: Provide wood blocking in particleboard-core doors as follows:

        1) 5-inch top-rail blocking, in doors indicated to have closers.
        2) 5-inch bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
        3) 5-inch midrail blocking, in doors indicated to have exit devices.

    b. Provide doors with glued-wood-stave or WDMA I.S. 10 structural-composite-lumber cores instead of particleboard cores for doors scheduled to receive exit devices in Section 087100 "Door Hardware.
8. Core for non-fire-rated doors, WDMA I.S. 10 structural composite lumber.

    a. Screw Withdrawal, Door Face: 550 lbf.
    b. Screw Withdrawal, Vertical Door Edge: 550 lbf

9. Core for non-fire-rated doors, either glued wood stave or WDMA I.S. 10 structural composite lumber.
10. Core for fire-rated doors, as required to achieve fire-protection rating indicated on Drawings.

    a. Blocking for Mineral-Core Doors: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated on Drawings as follows:

1) 5-inch top-rail blocking.
2) 5-inch bottom-rail blocking, in doors indicated to have protection plates.
3) 5-inch midrail blocking, in doors indicated to have armor plates.
4) 5-inch (125-mm) midrail blocking, in doors indicated to have exit devices.

11. Construction: Seven plies, hot-pressed or cold-pressed, bonded or unbonded.

2.5 LIGHT FRAMES AND LOUVERS

A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.

1. Wood Species: Same species as door faces
2. Profile: Manufacturer's standard shape.
3. At wood-core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips approved for such use.

B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire-protection rating indicated on Drawings. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.

2.6 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated.

1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
2. Comply with NFPA 80 requirements for fire-rated doors.

B. Factory machine doors for hardware that is not surface applied.

1. Locate hardware to comply with DHI-WDHS-3.
2. Comply with final hardware schedules, door frame Shop Drawings, ANSI/BHMA-156.115-W, and hardware templates.
3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.
4. For doors scheduled to receive electrified locksets, provide factory-installed raceway and wiring to accommodate specified hardware.
5. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.

C. Transom and Side Panels:

1. Fabricate matching panels with same construction, exposed surfaces, and finish as specified for associated doors.
2. Finish bottom edges of transoms and top edges of rabbeted doors same as door stiles.
3. Fabricate door and transom panels with full-width, solid-lumber, rabbeted, meeting rails.

4. Provide factory-installed spring bolts for concealed attachment into jambs of metal door frames.

D. Openings: Factory cut and trim openings through doors.

1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 088000 "Glazing."

2.7 FACTORY FINISHING

A. Comply with referenced quality standard for factory finishing.

1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
2. Finish faces, all four edges, edges of cutouts, and mortises.
3. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.

B. Factory finish doors.

C. Factory finish doors that are indicated on Drawings to receive transparent finish.

D. Transparent Finish:

1. Architectural Woodwork Standards Grade: Premium.

a. System-5, Varnish, Conversion.

2. ANSI/WDMA I.S. 1A Grade: Premium.

a. TR-4 Conversion Varnish.

3. Staining: As selected by Architect from manufacturer's full range.
4. Sheen: Satin

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and installed door frames, with Installer present, before hanging doors.

1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
2. Reject doors with defects.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Hardware: For installation, see Section 087100 "Door Hardware."

B. Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

1. Install fire-rated doors and frames in accordance with NFPA 80.

C. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

D. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 FIELD QUALITY CONTROL

A. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

B. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

C. Prepare and submit separate inspection report for each fire-rated door assembly indicating compliance with each item listed in NFPA 80 and NFPA 101.

3.4 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 083113 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes access doors and frames for walls and ceilings.

B. Related Requirements:

1. Section 077200 "Roof Accessories" for roof hatches.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details material descriptions, dimensions of individual components and profiles, and finishes.

B. Samples: For each type of access door and frame and for each finish specified, complete assembly minimum 6 by 6 inches in size.

C. Product Schedule: For access doors and frames

PART 2 - PRODUCTS

2.1 ACCESS DOORS AND FRAMES

A. Flush Access Doors with Exposed Flanges:

1. Description: Face of door flush with frame, with exposed flange and concealed hinge.
2. Locations: Ceilings
3. Door Size: 18” x 24”
4. Metallic-Coated Steel Sheet for Door: Nominal 0.064 inch, factory primed.
5. Frame Material: Same material, thickness, and finish as door.
6. Latch and Lock: Cam latch, screwdriver operated.

2.2 MATERIALS

A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Steel Sheet: Uncoated or electrolytic zinc coated, ASTM A 879/A 879M, with cold-rolled steel sheet substrate complying with ASTM A 1008/A 1008M, Commercial Steel (CS), exposed.

C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 or A60 metallic coating.

D. Aluminum Extrusions: ASTM B 221, Alloy 6063.

E. Aluminum Sheet: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

F. Frame Anchors: Same material as door face.

G. Inserts, Bolts, and Anchor Fasteners: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329.

2.3 FABRICATION

A. General: Provide access door and frame assemblies manufactured as integral units ready for installation.

B. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

C. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish mounting holes, attachment devices and fasteners of type required to secure access doors to types of supports indicated.

1. For concealed flanges with drywall bead, provide edge trim for gypsum panels securely attached to perimeter of frames.
2. For concealed flanges with plaster bead for full-bed plaster applications, provide zinc-coated expanded-metal lath and exposed casing bead welded to perimeter of frames.

2.4 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Painted Finishes: Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

1. Factory Primed: Apply manufacturer's standard, lead- and chromate-free, universal primer immediately after surface preparation and pretreatment.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Comply with manufacturer's written instructions for installing access doors and frames.

3.3 ADJUSTING

A. Adjust doors and hardware, after installation, for proper operation.

END OF SECTION 083113

SECTION 083323 - OVERHEAD COILING DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Insulated service doors.

1.2 ACTION SUBMITTALS

A. Product Data: For each type and size of overhead coiling door and accessory.

   1. Include construction details, material descriptions, dimensions of individual components, profiles for slats, and finishes.
   2. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

   1. Include plans, elevations, sections, and mounting details.
   2. Include details of equipment assemblies, and indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
   3. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
   4. For exterior components, include details of provisions for assembly expansion and contraction and for excluding and draining moisture to the exterior.
   5. Include diagrams for power, signal, and control wiring.

C. Samples for Initial Selection: Manufacturer's finish charts showing full range of colors and textures available for units with factory-applied finishes.

   1. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For each type of exposed finish on the following components, in manufacturer's standard sizes:

   1. Curtain slats.
   2. Bottom bar with sensor edge.
   3. Guides.
   4. Brackets.
   5. Hood.
   6. Locking device(s).
   7. Include similar Samples of accessories involving color selection.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Sample Warranty: For special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Special warranty.

B. Maintenance Data: For overhead coiling doors to include in maintenance manuals.

C. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

1. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of doors that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain overhead coiling doors from single source from single manufacturer.

1. Obtain operators and controls from overhead coiling-door manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

B. Structural Performance, Exterior Doors: Capable of withstanding the following design wind loads:

1. Design Wind Load: Uniform pressure (velocity pressure) of 20 lbf/sq. ft., acting inward and outward.
2. Testing: According to ASTM E330/E330M
3. Deflection Limits: Design overhead coiling doors to withstand design wind load without evidencing permanent deformation or disengagement of door components.
4. Operability under Wind Load: Design overhead coiling doors to remain operable under uniform pressure (velocity pressure) of 20-lbf/sq. ft. wind load, acting inward and outward.

2.3 DOOR ASSEMBLY – INSULATED

A. Insulated Service Door: Overhead coiling door formed with curtain of interlocking metal slats.

1. Overhead Door Company, Insulated Service Door Model 625 or approved equal.

B. Operation Cycles: Door components and operators capable of operating for not less than 10,000 One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.

C. Air Infiltration: Maximum rate of 1.0 cfm/sq. ft. at 15 and 25 mph when tested according to ASTM E283 or DASMA 105

D. STC Rating: 21.

E. Insulated Door Curtain R-Value: 7.7

F. Insulated Door Assembly U-Factor: .13.

G. Door Curtain Material: Aluminum.

H. Door Curtain Slats: Flat profile slats of 3/4 inch center-to-center height.

1. Gasket Seal. Manufacturer's standard continuous gaskets between slats.

I. Bottom Bar: Two angles, each not less than 1-1/2 by 1-1/2 by 1/8 inch; fabricated from hot-dip galvanized steel and finished to match door.

J. Curtain Jamb Guides: Aluminum with exposed finish matching curtain slats.

K. Hood: Match curtain material and finish.

1. Shape: Round.
2. Mounting: Face of wall.

L. Locking Devices: Equip door with slide bolt for padlock and chain lock keeper.

M. Electric Door Operator:

1. Usage Classification: Standard duty, up to 25 cycles per hour and up to 90 cycles per day.
2. Operator Location: Wall.
3. Safety: Listed according to UL 325 by a qualified testing agency for commercial or industrial use; moving parts of operator enclosed or guarded if exposed and mounted at 8 ft. or lower.
4. Motor Exposure: Interior.
5. Motor Electrical Characteristics:

    a. Horsepower: 1 hp.
    b. Voltage: 115 V ac, single phase, 60 Hz

6. Emergency Manual Operation: Chain type.
7. Obstruction-Detection Device: Automatic electric sensor edge on bottom bar.

8. Control Station(s): Where indicated on Drawings.
9. Other Equipment: Portable radio-control system.

N. Curtain Accessories: Equip door with weatherseals.

O. Door Finish:

1. Aluminum Finish: Clear anodized.
2. Interior Curtain-Slat Facing: Match finish of exterior curtain-slat face.

2.4 MATERIALS, GENERAL

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.5 DOOR CURTAIN MATERIALS AND CONSTRUCTION

A. Door Curtains: Fabricate overhead coiling-door curtain of interlocking metal slats, designed to withstand wind loading indicated, in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as follows:

1. Aluminum Door Curtain Slats: ASTM B209 sheet or ASTM B221 extrusions, alloy and temper standard with manufacturer for type of use and finish indicated; thickness of 0.040 inch; and as required.
2. Insulation: Fill slats for insulated doors with manufacturer's standard thermal insulation complying with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, according to ASTM E84 or UL 723. Enclose insulation completely within slat faces.
3. Metal Interior Curtain-Slat Facing: Match metal of exterior curtain-slat face, with minimum aluminum thickness of 0.032 inch.

B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain.

2.6 HOODS

A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.

1. Aluminum: 0.040-inch thick aluminum sheet complying with ASTM B209, of alloy and temper recommended by manufacturer and finisher for type of use and finish indicated.

2.7 LOCKING DEVICES

A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.

B. Chain Lock Keeper: Suitable for padlock.

C. Safety Interlock Switch: Equip power-operated doors with safety interlock switch to disengage power supply when door is locked.

2.8 CURTAIN ACCESSORIES

A. Weatherseals for Exterior Doors: Equip each exterior door with weather-stripping gaskets fitted to entire exterior perimeter of door for a weather-resistant installation unless otherwise indicated.

1. At door head, use 1/8-inch- thick, replaceable, continuous-sheet baffle secured to inside of hood or field-installed on the header.
2. At door jambs, use replaceable, adjustable, continuous, flexible, 1/8-inch- thick seals of flexible vinyl, rubber, or neoprene.

2.9 COUNTERBALANCE MECHANISM

A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

B. Counterbalance Barrel: Fabricate spring barrel of manufacturer's standard hot-formed, structural-quality, seamless or welded carbon-steel pipe, of sufficient diameter and wall

thickness to support rolled-up curtain without distortion of slats and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.

C. Counterbalance Spring: One or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of curtain, with uniform adjustment accessible from outside barrel. Secure ends of springs to barrel and shaft with cast-steel barrel plugs.

D. Torsion Rod for Counterbalance Shaft: Fabricate of manufacturer's standard cold-rolled steel, sized to hold fixed spring ends and carry torsional load.

E. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.10 MANUAL DOOR OPERATORS

A. General: Equip door with manual door operator by door manufacturer.

B. Chain-Hoist Operator: Consisting of endless steel hand chain, chain-pocket wheel and guard, and gear-reduction unit with a maximum 25-lbf force for door operation. Provide alloy-steel hand chain with chain holder secured to operator guide.

2.11 ELECTRIC DOOR OPERATORS

A. General: Electric door operator assembly of size and capacity recommended and provided by door manufacturer for door and operation-cycles requirement specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, solenoid-operated brake, clutch, control stations, control devices, integral gearing for locking door, and accessories required for proper operation.

1. Comply with NFPA 70.
2. Control equipment complying with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6, with NFPA 70 Class 2 control circuit, maximum 24-V ac or dc.

B. Usage Classification: Electric operator and components capable of operating for not less than number of cycles per hour indicated for each door.

C. Door Operator Location(s): Operator location indicated for each door.

1. Wall Mounted: Operator is mounted to the inside front wall on the left or right side of door and connected to door drive shaft with drive chain and sprockets. Side room is required for this type of mounting. Wall-mounted operator can also be mounted above or below shaft; if above shaft, headroom is required.

D. Motors: Reversible-type motor with controller (disconnect switch) for motor exposure indicated for each door assembly.

1. Electrical Characteristics: Minimum as indicated for each door assembly. If not indicated, large enough to start, accelerate, and operate door in either direction from any position, at

a speed not less than 8 in./sec. and not more than 12 in./sec, without exceeding nameplate ratings or service factor.

2. Operating Controls, Controllers, Disconnect Switches, Wiring Devices, and Wiring: Manufacturer's standard unless otherwise indicated.
3. Coordinate wiring requirements and electrical characteristics of motors and other electrical devices with building electrical system and each location where installed.

E. Limit Switches: Equip each motorized door with adjustable switches interlocked with motor controls and set to automatically stop door at fully opened and fully closed positions.

F. Obstruction-Detection Devices: External entrapment protection consisting of indicated automatic safety sensor capable of protecting full width of door opening. For non-fire-rated doors, activation of device immediately stops and reverses downward door travel.

1. Photoelectric Sensor: Manufacturer's standard system designed to detect an obstruction in door opening without contact between door and obstruction.

2. Electric Sensor Edge: Automatic safety sensor edge, located within astragal or weather stripping mounted to bottom bar. Contact with sensor activates device. Connect to control circuit using manufacturer's standard take-up reel or self-coiling cable.

G. Control Station: Three-button control station in fixed location with momentary-contact push-button controls labeled "Open" and "Stop" and sustained- or constant-pressure push-button control labeled "Close."

1. Interior-Mounted Units: Full-guarded, surface-mounted, heavy-duty type, with general-purpose NEMA ICS 6, Type 1 enclosure.

H. Emergency Manual Operation: Equip each electrically powered door with capability for emergency manual operation. Design manual mechanism so required force for door operation does not exceed 25 lbf.

I. Emergency Operation Disconnect Device: Equip operator with hand-operated disconnect mechanism for automatically engaging manual operator and releasing brake for emergency manual operation while disconnecting motor without affecting timing of limit switch. Mount mechanism so it is accessible from floor level. Include interlock device to automatically prevent motor from operating when emergency operator is engaged.

J. Motor Removal: Design operator so motor may be removed without disturbing limit-switch adjustment and without affecting emergency manual operation.

K. Audible and Visual Signals: Audible alarm and visual indicator lights in compliance with the accessibility standard.

L. Portable Radio-Control System: Consisting of two of the following per door operator:

1. Three-channel universal coaxial receiver to open, close, and stop door.
2. Portable control device to open and stop door may be momentary-contact type; control to close door is to be sustained- or constant-pressure type.

2.12 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM/NOMMA 500 for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.13 ALUMINUM FINISHES

A. Mill Finish: Manufacturer's standard.

B. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates areas and conditions, with Installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.

B. Examine locations of electrical connections.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Install overhead coiling doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Install overhead coiling doors, hoods, controls, and operators at the mounting locations indicated for each door.

C. Accessibility: Install overhead coiling doors, switches, and controls along accessible routes in compliance with the accessibility standard.

D. Power-Operated Doors: Install automatic garage doors openers according to UL 325.

3.3 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Test door release, closing, and alarm operations when activated by smoke detector or building's fire-alarm system. Test manual operation of closed door. Reset door-closing mechanism after successful test.

B. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

C. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. After electrical circuitry has been energized, operate doors to confirm proper motor rotation and door performance.
3. Test and adjust controls and safety devices. Replace damaged and malfunctioning controls and equipment.

3.5 ADJUSTING

A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.

1. Adjust exterior doors and components to be weather resistant.

B. Lubricate bearings and sliding parts as recommended by manufacturer.

C. Adjust seals to provide tight fit around entire perimeter.

3.6 MAINTENANCE SERVICE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service includes 12 months' full maintenance by skilled employees of coiling-door Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door operation. Parts and supplies are to be manufacturer's authorized replacement parts and supplies.

1. Perform maintenance, including emergency callback service, during normal working hours.
2. Include 24-hour-per-day, seven-day-per-week, emergency callback service.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain overhead coiling doors.

END OF SECTION 083323

SECTION 083613 - SECTIONAL DOORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Insulated Sectional Overhead Doors.

B. Electric Operators and Controls.

C. Operating Hardware, tracks, and support.

1.2 RELATED SECTIONS

A. Section 08710 - Door Hardware.

1.3 REFERENCES

A. ANSI/DASMA 102 - American National Standard Specifications for Sectional Overhead Type Doors.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

A. Wiring Connections: Requirements for electrical characteristics.

1. 460 volts, three phase, 60 Hz.

B. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

1.5 SUBMITTALS

A. Submit under provisions of Section 013300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

C. Shop Drawings: Indicate plans and elevations including opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, and installation details.

D. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

E. Operation and Maintenance Data.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened labeled packaging until ready for installation.

B. Protect materials from exposure to moisture until ready for installation.

C. Store materials in a dry, ventilated weathertight location.

1.8 PROJECT CONDITIONS

A. Pre-Installation Conference: Convene a pre-installation conference just prior to commencement of field operations, to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.

1.9 WARRANTY

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Overhead Door Corporation, 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067. ASD. Tel. Toll Free: (800) 275-3290. Phone: (469) 549-7100. Fax: (972) 906-1499. Web Site: www.overheaddoor.com. E-mail: info@overheaddoor.com.

B. Requests for substitutions will be considered in accordance with provisions of Section 012500.

2.2 INSULATED SECTIONAL OVERHEAD DOORS

A. Insulated Steel Sectional Overhead Doors: Model 418 Insulated Steel Doors by Overhead Door Corporation. Units shall have the following characteristics:

1. Door Assembly: Insulated steel door assembly with rabbeted meeting rails to provide full-width interlocking structural rigidity.
   a. Panel Thickness: 2 inches (51 mm).
   b. Exterior Surface: Flush.
   c. Exterior Steel: 16 gauge, hot-dip galvanized.
   d. Back Cover:
      1) 26 gauge steel.
      2) Poly-Backed.
      3) High Impact Polystyrene Back cover.
   e. Center and End Stiles: 16 gauge steel.

   f. Spring Counterbalance: Sized to weight of the door, with a helically wound, oil tempered torsion spring mounted on a steel shaft; cable drum of diecast aluminum with high strength galvanized aircraft cable. Sized with a minimum 7 to 1 safety factor.

      1) High cycle spring: 50,000 cycles.

   g. Insulation: Polystyrene.

   h. Thermal Values:
      1) Polystyrene – Calculated section R-value of 7.35.

   i. Full Glazed Aluminum Sash Panels:

      1) 1/2 inch Insulating Glass.

2. Finish and Color: Two coat baked-on polyester with white exterior and white interior color.

3. Wind Load Design: Design as calculated in accordance with applicable code as follows:

   a. Design pressure of 20 lb/sq ft.

4. Hardware: Galvanized steel hinges and fixtures. Ball bearing rollers with hardened steel races.

5. Lock:

   a. Keyed lock with interlock switch for automatic operator.

6. Weatherstripping:

   a. Flexible bulb-type strip at bottom section.
   b. Flexible Jamb seals.
   c. Flexible Header seal.

7. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.

   a. Size:
      1) 3 inch (76 mm).

   b. Type:
      1) Standard lift.

8. Electric Motor Operation: Provide UL listed electric operator, size and type as recommended by manufacturer to move door in either direction at not less than 2/3 foot nor more than 1 foot per second. Operator shall meet UL325/2010 requirements for continuous monitoring of safety devices.

   a. Entrapment Protection: Required for momentary contact, includes radio control operation.
      1) Pneumatic sensing edge up to 18 feet (5.5 m) wide. Constant contact only complying with UL 325/2010.
      2) Electric sensing edge monitored to meet UL 325/2010.
      3) Photoelectric sensors monitored to meet UL 325/2010.

   b. Operator Controls:

      1) Push-button and key operated control stations with open, close, and stop buttons.
      2) Surface mounting.
      3) Interior location.

   c. Special Operation:

      1) Radio control operation.
      2) Door timer operation.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until openings have been properly prepared.

B. Verify wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.

C. Verify electric power is available and of correct characteristics.

D. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean adjacent surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install overhead doors and track in accordance with approved shop drawings and the manufacturer's printed instructions.

B. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.

C. Anchor assembly to wall construction and building framing without distortion or stress.

D. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

E. Fit and align door assembly including hardware.

F. Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.

3.4 CLEANING AND ADJUSTING

A. Adjust door assembly to smooth operation and in full contact with weatherstripping.

B. Clean doors, frames, glass, and polycarbonate according to manufacturer’s instructions.

C. Remove temporary labels and visible markings. Do not remove polycarbonate care and maintenance label required to maintain warranty.

3.5 PROTECTION

A. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

B. Protect installed products until completion of project.

C. Touch-up, damaged coatings and finishes and repair minor damage before Substantial Completion.

END OF SECTION 083613

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components
3. Field verification, preparation and modification of existing doors and frames to receive new door hardware.

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 "General Requirements" sections for Allowances, Alternates, Owner Furnished Contractor Installed, Project Management and Coordination.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. "Metal Doors and Frames"
   b. "Flush Wood Doors"
   c. "Interior Aluminum Doors and Frames"
   d. "Aluminum-Framed Entrances and Storefronts"
6. Division 09 sections for touchup, finishing or refinishing of existing openings modified by this section.
7. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
8. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – 2016 Edition – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, "EXAMINATION" article, herein.
   b. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   c. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:
      1) Details of interface of electrified door hardware and building safety and security systems.
      2) Schematic diagram of systems that interface with electrified door hardware.
      3) Point-to-point wiring.
      4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.

a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
   b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
   c. Indicate complete designations of each item required for each opening, include:
      1) Door Index: door number, heading number, and Architect's hardware set number.
      2) Quantity, type, style, function, size, and finish of each hardware item.
      3) Name and manufacturer of each item.
      4) Fastenings and other pertinent information.
      5) Location of each hardware set cross-referenced to indications on Drawings.
      6) Explanation of all abbreviations, symbols, and codes contained in schedule.
      7) Mounting locations for hardware.
      8) Door and frame sizes and materials.
      9) Degree of door swing and handing.
      10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
   a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
   b. Catalog pages for each product.
   c. Final approved hardware schedule edited to reflect conditions as installed.
   d. Copy of warranties including appropriate reference numbers for manufacturers to identify project.
   e. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
    a. For door hardware: DHI certified AHC or DHC.
    b. Can provide installation and technical data to Architect and other related subcontractors.
    c. Can inspect and verify components are in working order upon completion of installation.
    d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
    a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
    b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
    a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
    b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware
    a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:
    a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference

a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
    1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
    2) Preliminary key system schematic diagram.
    3) Requirements for key control system.
    4) Requirements for access control.
    5) Address for delivery of keys.

2. Pre-installation Conference
    a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
    b. Inspect and discuss preparatory work performed by other trades.
    c. Inspect and discuss electrical roughing-in for electrified door hardware.
    d. Review sequence of operation for each type of electrified door hardware.
    e. Review required testing, inspecting, and certifying procedures.
    f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:
    a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

E. Existing Openings: Where existing doors, frames and/or hardware are to remain, field verify existing functions, conditions and preparations and coordinate to suit opening conditions and to provide proper door operation.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
   a. Mechanical Warranty
      1) Locks
         a) 10 years
      2) Exit Devices
         a) 10 years
      3) Closers
         a) 25 years
   b. Electrical Warranty
      1) Strikes
         a) 3 years
      2) Exit Devices
         a) 3 years

1.08 MAINTENANCE

A. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

B. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

C. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer’s recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with “Metal Doors and Frames”, “Flush Wood Doors”, “Stile and Rail Wood Doors” to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.

1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
2. Use materials which match materials of adjacent modified areas.
3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.

C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

D. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB series

2. Acceptable Manufacturers and Products:
   a. Hager BB1191/1279 series

b. McKinney TB series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.
2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
9. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

10. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.04 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Hager-Roton
   b. McKinney

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.

5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage ND series

2. Acceptable Manufacturers and Products:
   a. Corbin-Russwin CL3100 series
   b. Sargent 11-Line

B. Requirements:

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide escutcheon with lock status indicator window on top of lockset rose:
   a. Escutcheon height (including rose) 6.05 inches high by 3.68 inches wide.
   b. Indicator window measuring a minimum 3.52-inch by .60 inch with 1.92 square-inches of front facing viewing area and 180-degree visibility with a total of .236 square-inches of total viewable area.
   c. Provide snap-in serviceable window to prevent tampering. Lock must function if indicator is compromised.
   d. Provide messages color-coded with full text and symbol, as scheduled, for easy visibility.
   e. Unlocked and Unoccupied message will display on white background, and Locked and Occupied message will display on red background.
3. Cylinders: Refer to "KEYING" article, herein.
4. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide proper latch throw for UL listing at pairs.
5. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
6. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
7. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
8. Provide electrified options as scheduled in the hardware sets.
9. Lever Trim: Solid cast levers without plastic inserts and wrought roses on both sides.
   a. Vandlgard: Provide levers with vandal resistant technology for use at heavy traffic or abusive applications.
   b. Lever Design: Athens 07.

2.06 CYLINDRICAL LOCKS – GRADE 2

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:

a. Schlage ALX series

2. Acceptable Manufacturers and Products:
   a. Best 7KC series
   b. Corbin-Russwin CL3800 series
   c. Sargent 7-Line

B. Requirements

1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 2, and UL Listed for 3-hour fire doors with a minimum cycle life of 1 million.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2-inch latch throw. Provide ¾" latch throw for UL listing at pairs.
4. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
5. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
6. Provide a minimum of 5 points of lever engagement between the cassette spindle and lever shank to prevent lever sag.
7. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
8. Plug-n-Play – Provide modular lockset allowing lock functions to be created for 7 typical functions by inserting/installing parts into the exterior of a fully assembled chassis
9. Reconfigurable Chassis - Provide modular lockset that allows the function to be reconfigured by removing external components from the chassis
10. Lever Trim: Solid cast levers and wrought roses on both sides.
    a. Lever Design: Athens 07.

2.07 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 78/75A series

2. Acceptable Manufacturers and Products:
   a. Falcon 25/24 Series
   b. Precision 2100 Series
   c. Sargent 80 series

B. Requirements

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware with manufacturer’s approved strikes.
2. Cylinders: Refer to “KEYING” article, herein.
3. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements. No plastic inserts are allowed in touchpads.
4. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect. Touchpad must extend a minimum of one half of door width.
5. Mount mechanism case flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
6. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.

7. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
8. Provide electrified options as scheduled.
9. Top latch mounting: double- or single-tab mount for steel doors, face mount for aluminum doors eliminating requirement of tabs, and double tab mount for wood doors.
10. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.

2.08 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin

2. Acceptable Manufacturers and Products:
   a. Folger Adam 300 Series
   b. HES 1006 Series

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary resistant that are tested to a minimum endurance test of 1,000,000 cycles.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.09 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage/Von Duprin PS900 Series

2. Acceptable Manufacturers and Products:
   a. Precision ELR series
   b. Sargent 3500 series
   c. Securitron BPS series

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
   a. 12/24 VDC Output, field selectable.
   b. Class 2 Rated power limited output.
   c. Universal 120-240 VAC input.
   d. Low voltage DC, regulated and filtered.

e. Polarized connector for distribution boards.
f. Fused primary input.
g. AC input and DC output monitoring circuit w/LED indicators.
h. Cover mounted AC Input indication.
i. Tested and certified to meet UL294.
j. NEMA 1 enclosure.
k. Hinged cover w/lock down screws.
l. High voltage protective cover.

2.10 CYLINDERS

A. Manufacturers and Products:

1. Scheduled Manufacturer:
   a. Schlage

2. Acceptable Manufacturers and Products:
   a. Best
   b. Corbin-Russwin
   c. Falcon
   d. Sargent

B. Requirements:

1. Provide cylinders/cores compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset; manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
   a. cylinder to accept a small format interchangeable core (SFIC)

2.11 KEYING

A. Scheduled System:

1. Existing non-factory registered system:
   a. Cylinders/cores to be provided by the Owner managed by Owner's locksmith.

B. Requirements:

1. Construction Keying:
   a. Replaceable Construction Cores.
      1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
         a) 3 construction control keys
         b) 12 construction change (day) keys.
      2) Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2. Permanent Keying:
   a. Provided by Owner.

2.12 KEY CONTROL SYSTEM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Telkee

2. Acceptable Manufacturers:
   a. HPC
   b. Lund

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
   a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
   b. Provide hinged-panel type cabinet for wall mounting.

2.13 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4050A series

2. Acceptable Manufacturers and Products:
   a. Falcon SC70A series
   b. Norton 7500 series
   c. Sargent 351 series

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.
3. Closer Body: 1-1/2-inch (38 mm) diameter with 11/16-inch (17 mm) diameter heat-treated pinion journal and full complement bearings.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and all weather requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and back check.
7. Pressure Relief Valve (PRV) Technology: Not permitted.
8. Provide stick on templates, special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.14 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Rockwood
   c. Trimco

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.15 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Rockwood
   c. Trimco

B. Requirements:

1. Provide protection plates with a minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.

2.16 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a. Glynn-Johnson

2. Acceptable Manufacturers:
   a. Rixson
   b. Sargent

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2.17 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Rockwood
   c. Trimco

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

2.18 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Zero International

2. Acceptable Manufacturers:
   a. Legacy
   b. National Guard
   c. Pemko

B. Requirements:

1. Provide thresholds, weather-stripping, and gasketing systems as specified and per architectural details. Match finish of other items.
2. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.
4. Size thresholds 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width unless otherwise specified in the hardware sets or detailed in the drawings.

2.19 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Rockwood
   c. Trimco

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.20 LATCH PROTECTORS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Rockwood
   c. Trimco

B. Provide stainless steel latch protectors of type required to function with specified lock.

2.21 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Aluminum Geared Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.

C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

D. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Where on-site modification of doors and frames is required:

1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
2. Field modify and prepare existing doors and frames for new hardware being installed.
3. When modifications are exposed to view, use concealed fasteners, when possible.
4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:
   a. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
   b. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
   c. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

3.03 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Owner will furnish permanent cores and install them.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Connections to panel interface modules, controllers, and gateways.
6. Testing and labeling wires with Architect's opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Continuous Hinges: Re-locate the door and frame fire rating labels where they will remain visible so that the hinge does not cover the label once installed.

M. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

N. Overhead Stops/Holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

O. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

P. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

Q. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

R. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

S. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

T. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.04 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.

2. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.05 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.06 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

Abbreviation	Name
B/O	By Others
GLY	Glynn-Johnson Corp
IVE	H.B. Ives
LCN	LCN Commercial Division
SCE	Schlage Electronic Security
SCH	Schlage Lock Company
TEL	Telkee
VON	Von Duprin
ZER	Zero International Inc

134446 OPT0429266 Version 1

Hardware Set No. 01
For use on mark/door #(s):
11P40A 11P40B 11P40C
Each to have:
NOTE EXISTING OPENING TO REMOVED
TURN REMOVED DOOR AND HARWDARE OVER TO OWNER

Hardware Set No. 02
For use on mark/door #(s):
068 253C
Each to have:

	EA		ALL HARDWARE BY DOOR MFR		B/O

Hardware Set No. 03
For use on mark/door #(s):
103A 299A
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	SURFACE CLOSER	4050A RW/PA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

REGULAR ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PULL SIDE OF THE DOOR.

Hardware Set No. 04
For use on mark/door #(s):
104A 238A 241A
Each to have:

3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PUSH PLATE	8200 8" X 16"	630	IVE
1	EA	PULL PLATE	8305 10" 4" X 16" F	630	IVE
1	EA	SURFACE CLOSER	4050A RW/PA	689	LCN
1	EA	MOP PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

REGULAR ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PULL SIDE OF THE DOOR.

Hardware Set No. 05
For use on mark/door #(s):
106A 146A
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 06
For use on mark/door #(s):
107A 147A 150A 150B 223A
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ALX70BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 07
For use on mark/door #(s):
109B 110A 112A 113A 114A 115A
117A 118A 119A 120A 121A 122A
131A 133A 140A 141A 143A 144A
145A 152A 218A 219A 220A 221A
222A 266A 267A 268A 269A 270A
271A 272A 273A 274A 275A 276A
277A
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ALX50BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. 08
For use on mark/door #(s):
AA63B P48B
Each to have:

		NOTE	EXISTING OPENING TO REMAIN		

Hardware Set No. 09

For use on mark/door #(s):

B25 B29

Each to have:

1	EA	PANIC HARDWARE	LD-7827-EO-LBR	626	VON
1	EA	PANIC HARDWARE	LD-7827-L-NL-LBR-07	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
2	EA	SURFACE CLOSER	4050A EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CVX	630	IVE
1			BALANCE OF HARDWARE EXISTING		

Hardware Set No. 10

For use on mark/door #(s):

BB37 BB42 I41 K41 M43 N36 P44

Each to have:

	NOTE	EXISTING OPENING TO REMAIN

Hardware Set No. 11

For use on mark/door #(s):

CC35 GG18 M45A OO53B

Each to have:

1	EA	PANIC HARDWARE	LD-78-L-07	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	SURFACE CLOSER	4050A EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

Hardware Set No. 12

For use on mark/door #(s):

CC40 FF41 J41 R37 LL37B LL37C

Each to have:

1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

Hardware Set No. 13

For use on mark/door #(s):

FF22	FF43	HH47	HH50	HH53	HH56
HH62	JJ62	P47	P49	P51	P55
P58	P60	P62	PP22	QQ25	QQ28
QQ30	QQ33	QQ35	QQ38	QQ47	QQ50
QQ53	QQ55	QQ59	QQ62		

Each to have:

1	EA	ENTRANCE/OFFICE LOCK	ALX50BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

Hardware Set No. 14

For use on mark/door #(s):

HH58	K49	QQ37

Each to have:

1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	SURFACE CLOSER	4050A RW/PA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

REGULAR ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PULL SIDE OF THE DOOR.

Hardware Set No. 15

For use on mark/door #(s):

J33	P39

Each to have:

1	EA	CLASSROOM LOCK	ALX70BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	SURFACE CLOSER	4050A RW/PA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

REGULAR ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PULL SIDE OF THE DOOR.

Hardware Set No. 16
For use on mark/door #(s):
J48
Each to have:

1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	WALL STOP	WS406/407CVX	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

Hardware Set No. 17
For use on mark/door #(s):
JJ46 LL46
Each to have:

1	EA	PRIVACY W/IND	ND40S ATH OS-OCC	626	SCH
1	EA	SURFACE CLOSER	4050A RW/PA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

REGULAR ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PULL SIDE OF THE DOOR.

Hardware Set No. 18
For use on mark/door #(s):
LL37A
Each to have:

1	EA	CLASSROOM LOCK	ALX70BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
2	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

Hardware Set No. 19
For use on mark/door #(s):
LL42A R41
Each to have:

1	EA	CLASSROOM LOCK	ALX70BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1			BALANCE OF HARDWARE EXISTING		

Hardware Set No. 20
For use on mark/door #(s):
O31
Each to have:

3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	LD-78-L-07	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	SURFACE CLOSER	4050A EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Set No. AC-01
For use on mark/door #(s):
ES-101 ES-102 ES-105
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	51003FP 12/24 VAC/VDC	689	VON
1	EA	LOCK GUARD	LG14	630	IVE
1	EA	SURFACE CLOSER	4050A SHCUSH ST-5207 SPEC	689	LCN
1	EA	ARMOR PLATE	8400 34" X 1 1/2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	8197AA	AA	ZER
1	EA	THRESHOLD	655A-V3-223	A	ZER
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

FIELD PREP EXSITING DOOR FRAME TO ACCEPT NEW ELECTRIC STRIKE.
AT EXISTING FRAMES FIELD VERIFY AND MATCH EXISTING HINGE SIZE.
INSTALL PERIMETER WEATHER SEALS BEFORE DOOR CLOSER AND MOUNTING BRACKET.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-02
For use on mark/door #(s):
VS-101B VS-101C VS-101A
Each to have:

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	VANDL STOREROOM LOCK	ND96BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	51003FP 12/24 VAC/VDC	689	VON
1	EA	LOCK GUARD	LG14	630	IVE
1	EA	SURFACE CLOSER	4050A SHCUSH ST-5207 SPEC	689	LCN
1	EA	ARMOR PLATE	8400 34" X 1 1/2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	8197AA	AA	ZER
1	EA	THRESHOLD	655A-V3-223	A	ZER
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

INSTALL PERIMETER WEATHER SEALS BEFORE DOOR CLOSER AND MOUNTING BRACKET.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-03

For use on mark/door #(s):

101A AA63A P48A

Each to have:

2	EA	CONT. HINGE	112XY TWP CON	628	IVE
1	EA	ELEC PANIC HDWE	RX-QEL-7547-EO-CON 24 VDC	626	VON
1	EA	ELEC PANIC HDWE	RX-QEL-7547-NL-OP-388-CON 24 VDC	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
2	EA	90 DEG OFFSET PULL	8190HD 10" O	630	IVE
2	EA	OH STOP	90S SHIM2	630	GLY
2	EA	SURFACE CLOSER	4050A RW/PA	689	LCN
2	EA	MOUNTING PLATE	4050A-18G SRT	689	LCN
2	EA	DOOR SWEEP	8197AA	AA	ZER
1	EA	THRESHOLD	655A-223	A	ZER
2	EA	WIRE HARNESS	CON-26P		SCH
2	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 900-2RS 900-BBK 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
2	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

PROVIDE HARDWARE FOR ALUMINUM DOORS UNDER THIS SECTION. DELIVER HARDWARE TEMPLATES AND HARDWARE, EXCEPT FIELD APPLIED HARDWARE, TO THE ALUMINUM DOOR AND FRAME MANUFACTURER FOR USE IN FABRICATING DOORS AND FRAMES.
PERIMETER WEATHER AND MEETING STYLE SEALS PROVIDED BY ALUMINUM SECTION.
TOP JAMB ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PUSH SIDE OF THE DOOR.
TEMPLATE OVERHEARD STOP TO 110 DEGREES.
PRESENTING VALID CREDENTIAL TO READER WILL RETRACT LATCHES FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
REQUEST TO EXIT SWITCHES ARE FOR USE BY ACCESS CONTROL CONTRACTOR.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-04
For use on mark/door #(s):
108A 109A 214A 215A 237A
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	51003FP 12/24 VAC/VDC	689	VON
1	EA	SURFACE CLOSER	4050A RW/PA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

REGULAR ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PULL SIDE OF THE DOOR.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-05
For use on mark/door #(s):
111A 265A 265B 290A
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	51003FP 12/24 VAC/VDC	689	VON
1	EA	SURFACE CLOSER	4050A EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

PARALLEL ARM MOUNTED - INSTALL DOOR CLOSER ON PUSH SIDE OF DOOR.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-06
For use on mark/door #(s):
116A
Each to have:

4	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW4	652	IVE
1	EA	ELEC PANIC HDWE	RX-QEL-7527-EO-LBR-CON 24 VDC	626	VON
1	EA	ELEC PANIC HDWE	RX-QEL-7527-NL-OP-LBR-388-CON 24 VDC	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
2	EA	90 DEG OFFSET PULL	8190HD 10" O	630	IVE
2	EA	SURFACE CLOSER	4050A EDA	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW B-CS	630	IVE
2	EA	WALL STOP	WS406/407CVX	630	IVE
2	EA	WIRE HARNESS	CON-26P		SCH
2	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
2	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

PARALLEL ARM MOUNTED - INSTALL DOOR CLOSER ON PUSH SIDE OF DOOR.
PRESENTING VALID CREDENTIAL TO READER WILL RETRACT LATCHES FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
REQUEST TO EXIT SWITCHES ARE FOR USE BY ACCESS CONTROL CONTRACTOR.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-07
For use on mark/door #(s):
151A
Each to have:

4	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW4	652	IVE
1	EA	ELEC PANIC HDWE	RX-QEL-7527-EO-LBR-CON 24 VDC	626	VON
1	EA	ELEC PANIC HDWE	RX-QEL-7527-NL-OP-LBR-388-CON 24 VDC	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
2	EA	90 DEG OFFSET PULL	8190HD 10" O	630	IVE
2	EA	SURFACE CLOSER	4050A HCUSH	689	LCN
2	EA	KICK PLATE	8400 8" X 1" LDW B-CS	630	IVE
2	EA	WIRE HARNESS	CON-26P		SCH
2	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 900-2RS 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
2	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

PARALLEL ARM MOUNTED - INSTALL DOOR CLOSER ON PUSH SIDE OF DOOR.
PRESENTING VALID CREDENTIAL TO READER WILL RETRACT LATCHES FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
REQUEST TO EXIT SWITCHES ARE FOR USE BY ACCESS CONTROL CONTRACTOR.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-08
For use on mark/door #(s):
265C
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	51003FP 12/24 VAC/VDC	689	VON
1	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4050A RW/PA ST-5203	689	LCN
1	EA	MOUNTING PLATE	4050A-18 SRT	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

REGULAR ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PULL SIDE OF THE DOOR.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-09
For use on mark/door #(s):
265D
Each to have:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	51003FP 12/24 VAC/VDC	689	VON
1	EA	SURFACE CLOSER	4050A CUSH	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

PARALLEL ARM MOUNTED - INSTALL DOOR CLOSER ON PUSH SIDE OF DOOR.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-10
For use on mark/door #(s):
290B
Each to have:

4	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	ELECTRIC HINGE	5BB1HW 4.5 X 4.5 CON TW4	652	IVE
1	EA	REMOVABLE MULLION	4954 STAB	689	VON
2	EA	PANIC HDWE W/RX	LD-RX-78-L-BE-07-CON	626	VON
2	EA	SURFACE CLOSER	4050A CUSH	689	LCN
2	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
2	EA	WIRE HARNESS	CON-26P		SCH
2	EA	WIRE HARNESS	CON-6W		SCH
1	EA	HORN	L1910-1 24 VDC	WHT	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
2	EA	CARD READER	PROVIDED BY OTHERS		B/O
2	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO EITHER READER WILL SHUNT LOCAL ALARM HORN.
ATTEMPTING TO OPEN DOORS WITHOUT PRESENTING VALID CREDENTIAL TO EITHER READER WILL SOUND ALARM HORN.
ALARM HORN RESET VIA THE ACCESS CONTROL SYSYTEM.

Hardware Set No. AC-11
For use on mark/door #(s):
294A
Each to have:

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	LD-78-L-NL-07	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	630	VON
1	EA	SURFACE CLOSER	4050A SHCUSH ST-5207 SPEC	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	8197AA	AA	ZER
1	EA	THRESHOLD	655A-V3-223	A	ZER
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

INSTALL PERIMETER WEATHER SEALS BEFORE DOOR CLOSER AND MOUNTING BRACKET.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-12
For use on mark/door #(s):
294D
Each to have:

3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	LD-78-L-NL-07	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	630	VON
1	EA	SURFACE CLOSER	4050A EDA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

PARALLEL ARM MOUNTED - INSTALL DOOR CLOSER ON PUSH SIDE OF DOOR.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-13
For use on mark/door #(s):
D34D
Each to have:

1	EA	PANIC HARDWARE	LD-78-L-NL-07	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	630	VON
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
			BALANCE OF HARDWARE EXISTING		
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

FIELD PREP EXSITING DOOR FRAME TO ACCEPT NEW ELECTRIC STRIKE.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-14
For use on mark/door #(s):
D35A
Each to have:

6	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	LD-7827-EO	626	VON
1	EA	PANIC HARDWARE	LD-7827-L-NL-07	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
2	EA	SURFACE CLOSER	4050A SHCUSH ST-5207 SPEC	689	LCN
1	SET	MEETING STILE	326AA-S	AA	ZER
1	SET	GASKETING	429AA-S	AA	ZER
			BALANCE OF HARDWARE EXISTING		
2	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

INSTALL PERIMETER WEATHER SEALS BEFORE DOOR CLOSER AND MOUNTING BRACKET.
AT EXISTING FRAMES FIELD VERIFY AND MATCH EXISTING HINGE SIZE.
DESCRIPTION OF OPERATION:
DOORS MONITORED VIA THE ACCESS CONTROL SYSYTEM.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-15
For use on mark/door #(s):
FF38, LL23
Each to have:

1	EA	STOREROOM LOCK	ALX80BDC ATH	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	51003FP 12/24 VAC/VDC	689	VON
1	EA	SURFACE CLOSER	4050A RW/PA	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CVX	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
			BALANCE OF HARDWARE EXISTING		
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

REGULAR ARM MOUNTED DOOR CLOSER - INSTALL DOOR CLOSER ON PULL SIDE OF THE DOOR.
FIELD PREP EXSITING DOOR FRAME TO ACCEPT NEW ELECTRIC STRIKE.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-16
For use on mark/door #(s):
K59
Each to have:

1	EA	PANIC HARDWARE	LD-78-EO-785	626	VON
1	EA	SURFACE CLOSER	4050A SCUSH ST-5207 SPEC	689	LCN
1	SET	GASKETING	429AA-S	AA	ZER
			BALANCE OF HARDWARE EXISTING		
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

INSTALL PERIMETER WEATHER SEALS BEFORE DOOR CLOSER AND MOUNTING BRACKET.
DESCRIPTION OF OPERATION:
DOOR MONITORED VIA THE ACCESS CONTROL SYSYTEM.
FREE EGRESS AT ALL TIMES.

Hardware Set No. AC-17
For use on mark/door #(s):
M45B
Each to have:

3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	LD-78-L-NL-07	626	VON
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	PERMANENT CYLINDER	PROVIDED BY LFUGC	626	B/O
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	630	VON
1	EA	SURFACE CLOSER	4050A SCUSH ST-5207 SPEC	689	LCN
1	EA	KICK PLATE	8400 8" X 1 1/2" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	SET	GASKETING	429AA-S	AA	ZER
1	EA	DOOR SWEEP	8197AA	AA	ZER
1	EA	THRESHOLD	655A-223	A	ZER
1	EA	POWER SUPPLY	PS902 120/240 VAC		VON
1	EA	JUNCTION BOX	PROVIDED BY OTHERS		B/O
1	EA	CARD READER	PROVIDED BY OTHERS		B/O
1	EA	DOOR CONTACT(S)	PROVIDED BY OTHERS		B/O

INSTALL PERIMETER WEATHER SEALS BEFORE DOOR CLOSER AND MOUNTING BRACKET.
DESCRIPTION OF OPERATION:
PRESENTING VALID CREDENTIAL TO READER WILL RELEASE ELECTRIC STRIKE FOR ACCESS.
EMERGENCY ACCESS BY MECHANICAL KEY OVERRIDE.
FREE EGRESS AT ALL TIMES.

Hardware Set No. MISC
For use on mark/door #(s):
MISC
Each to have:

10	EA	SFIC CONST. CORE	80-035 GRN		SCH
12	EA	SFIC CUT KEY	48-310GRN	468	SCH
3	EA	SFIC CUT KEY	48-311GRN	468	SCH
1	EA	KEY CABINET	AWC-250-S	GRY	TEL

KEYED CONSTRUCTION CORES ARE FOR USE BY CONTRACTOR.
INSTALL KEY CABINET PER OWNERS DIRECTION.

Hardware Set No. RU.1
For use on mark/door #(s):
ES-102A ES-103 ES-104 ES-106 ES-101A
Each to have:

	NOTE	EXISTING OPENING TO REMAIN

Hardware Set No. RU.2
For use on mark/door #(s):
VS-101D VS-101E VS-101F VS-101G VS-101H VS-101I
VS-101J VS-101K 294B 294C
Each to have:

1	EA		ALL HARDWARE BY DOOR MFR	B/O

END OF SECTION

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Glass products.
2. Glazing sealants.
3. Glazing tapes.
4. Miscellaneous glazing materials.

1.2 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters in accordance with ASTM C1036.

C. IBC: International Building Code.

D. Interspace: Space between lites of an insulating-glass unit.

1.3 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances to achieve proper safety margins for glazing retention under each design load case, load case combination, and service condition.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review temporary protection requirements for glazing during and after installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

C. Delegated Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by qualified professional engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Certificates: For glass.

C. Product Test Reports: For fabricated glass and glazing sealants, for tests performed by a qualified testing agency.

1. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.

D. Preconstruction adhesion and compatibility test report.

E. Sample Warranties: For special warranties.

1.7 QUALITY ASSURANCE

A. Fabricated-Glass Manufacturer Qualifications: A qualified manufacturer of fabricated glass units who is approved by primary glass manufacturer.

B. Installer Qualifications: A qualified glazing contractor for this Project who is certified under the North American Contractor Certification Program (NACC) for Architectural Glass & Metal (AG&M) contractors and who employs glazing technicians certified under the Architectural Glass and Metal Technician (AGMT) certification program.

C. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.

D. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C1021 to conduct the testing indicated.

E. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Install glazing in mockups specified in Section 084113 "Aluminum-Framed Entrances and Storefronts" and Section 084413 "Glazed Aluminum Curtain Walls" to match glazing systems required for Project, including glazing methods.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials in accordance with manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or are below 40 deg F.

1.10 WARRANTY

A. Manufacturer's Special Warranty for Insulating Glass: Manufacturer agrees to replace insulating-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to maintaining and cleaning insulating glass contrary to manufacturer's written instructions. Evidence of failure is obstruction of vision by dust, moisture, or film on interior surfaces of glass.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Glass: Obtain tinted and coated glass from single source from single manufacturer.

B. Source Limitations for Glazing Accessories: For each product and installation method, obtain from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glazing.

C. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined in accordance with the IBC and ASTM E1300:

1. Design Wind Pressures: As indicated on Drawings

    a. Wind Design Data: As indicated on Drawings.

2. Design Snow Loads: As indicated on Drawings.
3. Probability of Breakage for Sloped Glazing: For glass sloped more than 15 degrees from vertical, design glass for a probability of breakage not greater than 0.001.
4. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch, whichever is less.
5. Thermal Loads: Design glazing to resist thermal stress breakage induced by differential temperature conditions and limited air circulation within individual glass lites and insulated glazing units.

D. Windborne-Debris-Impact Resistance: Exterior glazing shall pass ASTM E1886 missile-impact and cyclic-pressure tests in accordance with ASTM E1996 for Wind Zone 2 for basic protection.

E. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

F. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:

1. For monolithic-glass lites, properties are based on units with lites 6 mm thick.
2. For laminated-glass lites, properties are based on products of construction indicated.
3. For insulating-glass units, properties are based on units of thickness indicated for overall unit and for each lite.
4. U-Factors: Center-of-glazing values, in accordance with NFRC 100 and based on most current non-beta version of LBL's WINDOW computer program, expressed as Btu/sq. ft. x h x deg F.
5. SHGC and Visible Transmittance: Center-of-glazing values, in accordance with NFRC 200 and based on most current non-beta version of LBL's WINDOW computer program.
6. Visible Reflectance: Center-of-glazing values, in accordance with NFRC 300.

2.3 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR A7, "Sloped Glazing Guidelines."
2. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."
3. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."

B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

C. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than thickness indicated.

D. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.4 GLASS PRODUCTS

A. Fully Tempered Float Glass: ASTM C1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

2.5 GLAZING SEALANTS

A. General:

1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range of industry colors.

2.6 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C1281 and AAMA 800 for products indicated below:

1. AAMA 804.3 tape, where indicated.
2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

1. AAMA 810.1, Type 1, for glazing applications in which tape acts as primary sealant.
2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.7 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, recommended in writing by manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks:

1. Silicone with Shore A durometer hardness of 85, plus or minus 5.
2. Type recommended in writing by sealant or glass manufacturer.

D. Spacers:

1. Neoprene blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
2. Type recommended in writing by sealant or glass manufacturer.

E. Edge Blocks:

1. Silicone with Shore A durometer hardness per manufacturer's written instructions.
2. Type recommended in writing by sealant or glass manufacturer.

F. Cylindrical Glazing Sealant Backing: ASTM C1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.8 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.

a. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

C. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep systems.
3. Minimum required face and edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that leave visible marks in the completed Work.

3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches.

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8-inch- minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and in accordance with requirements in referenced glazing publications.

H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended in writing by gasket manufacturer.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until right before each glazing unit is installed.

F. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

3.5 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended in writing by gasket manufacturer.

D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended in writing by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

3.6 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.7 CLEANING AND PROTECTION

A. Immediately after installation, remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.

1. If, despite such protection, contaminating substances do contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.

C. Remove and replace glass that is damaged during construction period.

D. Wash glass on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

3.8 MONOLITHIC GLASS SCHEDULE GL01

A. Clear Glass Type Fully tempered float glass.

1. Minimum Thickness: 6 mm.
2. Safety glazing required.

END OF SECTION 088000

DIVISION 09

FINISHES

SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Non-load-bearing steel framing systems for interior partitions.
2. Grid suspension systems for gypsum board ceilings.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of code-compliance certification for studs and tracks.

1.5 QUALITY ASSURANCE

A. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association the Steel Framing Industry Association or the Steel Stud Manufacturers Association.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated, according to ASTM E 119 by an independent testing agency.

B. Horizontal Deflection: For wall assemblies, limited to 1/360 of the wall height based on horizontal loading of 10 lbf/sq. ft.

2.2 FRAMING SYSTEMS

A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.

1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.

2. Protective Coating: ASTM A 653/A 653M, G60 , hot-dip galvanized unless otherwise indicated.

B. Studs and Tracks: ASTM C 645. Use either steel studs and tracks or embossed steel studs and tracks.

1. Steel Studs and Tracks:

a. Minimum Base-Metal Thickness: As required by performance requirements for horizontal deflection.
b. Depth: As indicated on Drawings

2. Embossed Steel Studs and Tracks: Roll-formed and embossed with surface deformations to stiffen the framing members so that they are structurally equivalent to conventional ASTM C 645 steel studs and tracks.

a. Minimum Base-Metal Thickness: As required by horizontal deflection performance requirements
b. Depth: As indicated on Drawings

C. Slip-Type Head Joints: Where indicated, provide one of the following:

1. Single Long-Leg Track System: ASTM C 645 top track with 2-inch- deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top track and with continuous bridging located within 12 inches of the top of studs to provide lateral bracing.

D. Cold-Rolled Channel Bridging: Steel, 0.0538-inch minimum base-metal thickness, with minimum 1/2-inch- wide flanges.
1. Depth: 1-1/2 inches.
2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches, 0.068-inch- thick, galvanized steel.

E. Hat-Shaped, Rigid Furring Channels: ASTM C 645.

1. Minimum Base-Metal Thickness: 0.0296 inch.
2. Depth: 7/8 inch.

F. Cold-Rolled Furring Channels: 0.053-inch uncoated-steel thickness, with minimum 1/2-inch-wide flanges.

1. Depth: 3/4 inch.
2. Furring Brackets: Adjustable, corrugated-edge-type steel sheet with minimum uncoated-steel thickness of 0.0329 inch.
3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.

2.3 SUSPENSION SYSTEMS

A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- diameter wire, or double strand of 0.048-inch- diameter wire.

B. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch in diameter.

C. Flat Hangers: Steel sheet, 1 by 3/16 inch.

D. Carrying Channels (Main Runners): Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.0538 inch and minimum 1/2-inch- wide flanges.

1. Depth: 1-1/2 inches.

E. Furring Channels (Furring Members):

1. Cold-Rolled Channels: 0.0538-inch uncoated-steel thickness, with minimum 1/2-inch wide flanges, 3/4 inch deep.
2. Steel Studs and Tracks: ASTM C 645.
    a. Minimum Base-Metal Thickness: 0.0269 inch.
    b. Depth: 3-5/8 inches.
3. Embossed Steel Studs and Tracks: ASTM C 645.
    a. Minimum Base-Metal Thickness: 0.0190 inch.
    b. Depth: 3-5/8 inches.
4. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch deep.
    a. Minimum Base-Metal Thickness: 0.0296 inch.
5. Resilient Furring Channels: 1/2-inch- deep members designed to reduce sound transmission.
    a. Configuration: Asymmetrical or hat shaped.

F. Grid Suspension System for Gypsum Board Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.

2.4 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards.

1. Fasteners for Steel Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Isolation Strip at Exterior Walls: Provide one of the following:

1. Asphalt-Saturated Organic Felt: ASTM D 226/D 226M, Type I (No. 15 asphalt felt), nonperforated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.

1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.3 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754.

1. Gypsum Plaster Assemblies: Also comply with requirements in ASTM C 841 that apply to framing installation.
2. Portland Cement Plaster Assemblies: Also comply with requirements in ASTM C 1063 that apply to framing installation.
3. Gypsum Veneer Plaster Assemblies: Also comply with requirements in ASTM C 844 that apply to framing installation.
4. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

B. Install framing and accessories plumb, square, and true to line, with connections securely fastened.

C. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

D. Install bracing at terminations in assemblies.

E. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.4 INSTALLING FRAMED ASSEMBLIES

A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

1. Single-Layer Application: 16 inches unless otherwise indicated.

B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

C. Install studs so flanges within framing system point in same direction.

D. Install tracks at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts that penetrate partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install track section (for cripple studs) at head and secure to jamb studs.

    a. Install two studs at each jamb unless otherwise indicated.

    b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint in finished assembly.

    c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.

3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.

    a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.

5. Curved Partitions:

    a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.

b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of no fewer than two studs at ends of arcs, place studs 6 inches o.c.

E. Direct Furring:

1. Screw to wood framing.
2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches o.c.

F. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch from the plane formed by faces of adjacent framing.

3.5 INSTALLING CEILING SUSPENSION SYSTEMS

A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

1. Hangers: 48 inches o.c.
2. Carrying Channels (Main Runners): 48 inches o.c.
3. Furring Channels (Furring Members): 16 inches o.c.

B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

C. Suspend hangers from building structure as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.

a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.

3. Wire Hangers: Secure by looping and wire tying, either directly to structures or to inserts, eye screws, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause hangers to deteriorate or otherwise fail.
4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
5. Do not attach hangers to steel roof deck.
6. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
7. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
8. Do not connect or suspend steel framing from ducts, pipes, or conduit.

D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.

E. Seismic Bracing: Sway-brace suspension systems with hangers used for support.

F. Grid Suspension Systems: Attach perimeter wall track or angle where grid suspension systems meet vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

G. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 092216

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Interior gypsum board.

B. Related Requirements:

1. Section 092216 "Non-Structural Metal Framing" for non-structural steel framing and suspension systems that support gypsum board panels.
2. Section 093013 "Ceramic Tiling" for cementitious backer units installed as substrates for ceramic tile.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For the following products:

1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated.
2. Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.

C. Samples for Initial Selection: For each type of trim accessory indicated.

D. Samples for Verification: For the following products:

1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated.

1.4 QUALITY ASSURANCE

A. Mockups: Build mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Build mockups for the following:

    a. Each level of gypsum board finish indicated for use in exposed locations.

2. Apply or install final decoration indicated, including painting and wallcoverings, on exposed surfaces for review of mockups.
3. Simulate finished lighting conditions for review of mockups.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.

C. Do not install panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

A. Gypsum Board, Type X: ASTM C 1396/C 1396M.

1. Thickness: 5/8 inch.
2. Long Edges: Tapered.

B. Gypsum Ceiling Board: ASTM C 1396/C 1396M.

1. Thickness: 1/2 inch.
2. Long Edges: Tapered.

2.4 TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or ASTM C 1325, with manufacturer's standard edges.

1. Thickness: 5/8 inch.
2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.5 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
2. Shapes:

    a. Cornerbead.
    b. Bullnose bead.
    c. LC-Bead: J-shaped; exposed long flange receives joint compound.
    d. L-Bead: L-shaped; exposed long flange receives joint compound.
    e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
    f. Expansion (control) joint.
    g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.6 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.

    a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.
5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound

D. Joint Compound for Tile Backing Panels:

1. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.7 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

C. Steel Drill Screws: ASTM C 1002 unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

D. Sound-Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

E. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."

2.8

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

I. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:

1. Type X: Vertical surfaces unless otherwise indicated.
2. Ceiling Type: Ceiling surfaces.

B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
    a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
    b. At stairwells and other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.
3. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Curved Surfaces:

1. Install panels horizontally (perpendicular to supports) and unbroken, to extent possible, across curved surface plus 12-inch- long straight sections at ends of curves and tangent to them.

3.4 APPLYING TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.

B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.5 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners.
2. Bullnose Bead: Use at outside corners.
3. LC-Bead: Use at exposed panel edge.
4. L-Bead: Use at exposed panel edges
5. U-Bead: Use at exposed panel edges.
6. Curved-Edge Cornerbead: Use at curved openings.

3.6 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints, rounded or beveled edges, and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.

   a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.7 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Ceramic mosaic tile.
2. Porcelain tile.
3. Glazed wall tile.
4. Thresholds.
5. Tile backing panels.
6. Waterproof membranes.
7. Crack isolation membranes.

B. Related Requirements:

1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Section 092900 "Gypsum Board" for cementitious backer units.

1.2 DEFINITIONS

A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.

B. Face Size: Actual tile size, excluding spacer lugs.

C. Module Size: Actual tile size plus joint width indicated.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.

C. Samples for Initial Selection: For tile, grout, and accessories involving color selection.

D. Samples for Verification:

1. Full-size units of each type and composition of tile and for each color and finish required. For ceramic mosaic tile in color blend patterns, provide full sheets of each color blend.
2. Assembled samples mounted on a rigid panel, with grouted joints, for each type and composition of tile and for each color and finish required. Make samples at least 36 inches square, but not fewer than four tiles. Use grout of type and in color or colors approved for completed Work.
3. Full-size units of each type of trim and accessory for each color and finish require.
4. Stone thresholds in 6-inch lengths.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Certificates: For each type of product.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.

1.7 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer is a Five-Star member of the National Tile Contractors Association
2. Installer's supervisor for Project holds the International Masonry Institute's Foreman Certification.
3. Installer employs only Ceramic Tile Education Foundation Certified Installers for Project.
4. Installer employs at least one installer for Project that has completed the Advanced Certification for Tile Installers (ACT) certification for installation of membranes and shower receptors.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockup of floor tile installation.
2. Build mockup of wall tile installation.

3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

D. Store liquid materials in unopened containers and protected from freezing.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Tile: Obtain tile from single source or producer.

1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.

B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.

1. Obtain setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.
2. Obtain waterproof membrane and crack isolation membrane, except for sheet products, from manufacturer of setting and grouting materials.

C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:

1. Stone thresholds.
2. Waterproof membrane.
3. Crack isolation membrane.
4. Cementitious backer units.

2.2 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.

1. Provide tile complying with Standard grade requirements.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.

1. Where tile is indicated for installation in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.

2.3 TILE PRODUCTS

A. Porcelain Tile Type: Floor CT-1

1. DalTile Porcelain Stone Floor tile, Emerson Wood Series, or approved equal.
2. Face Size: 8 inch x 48 inch.
3. Thickness: 5/16 inch.
4. Face: Wood look with square or cushion edges.
5. Dynamic Coefficient of Friction: Not less than 0.42.
6. Tile Color, Glaze, and Pattern: As selected by Architect from manufacturer's full range.
7. Grout Color: As selected by Architect from manufacturer's full range.

B. Porcelain Tile Type: Floor CT-2

1. Crossville Porcelain Stone Floor tile and Mosaic, Trajectory Collection, or approved equal.
2. Certification: Tile certified by the Tile Council of North America (TCNA).
3. Face Size: 24 inch x 24 inch.
4. Face Size Variation: Rectified.
5. Thickness: 3/8 inch.
6. Face: Plain with square or cushion edges.
7. Dynamic Coefficient of Friction: Not less than 0.42.
8. Tile Color, Glaze, and Pattern: As selected by Architect from manufacturer's full range.
9. Grout Color: As selected by Architect from manufacturer's full range.

C. Porcelain Tile Type: Shower Floor CT-3

1. Crossville Porcelain Stone Floor tile and Mosaic, Trajectory Collection, or approved equal.
2. Certification: Tile certified by the Tile Council of North America (TCNA).
3. Face Size: 24 inch x 24 inch.
4. Face Size Variation: Rectified.
5. Thickness: 3/8 inch.
6. Face: Plain with square or cushion edges.
7. Dynamic Coefficient of Friction: Not less than 0.6.
8. Tile Color, Glaze, and Pattern: As selected by Architect from manufacturer's full range.
9. Grout Color: As selected by Architect from manufacturer's full range.

D. Glazed Wall Tile Type: wet and Dry Walls. CT-4

1. Crossville Porcelain Stone Field tile and Mosaic, Trajectory Collection, or approved equal.
2. Module Size: 2 inch x 4 inch Stacked Mosaic, Dot-mounted.
3. Face Size Variation: Rectified.
4. Thickness: 1/4” inch
5. Face: Plain with modified square edges or cushion edges
6. Finish: UPS.
7. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
8. Grout Color: As selected by Architect from manufacturer's full range
9. Mounting: 12 inch x 12 inch Sheet.
10. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:

    a. Wainscot Cap for Thinset Mortar Installations: Surface bullnose, module size 3 inch x 24 inch.
    b. Internal Corners: Field-butted square corners. For coved base and cap use angle pieces designed to fit with stretcher shapes.

2.4 THRESHOLDS

A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.

1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch or less above adjacent floor surface.

2.5 TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A118.9 or ASTM C1325, Type A, in maximum lengths available to minimize end-to-end butt joints.

1. USG Durock Brand Cement Board with edge guard or approved equal
2. Thickness: 5/8 inch.

2.6 WATERPROOF MEMBRANES

A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Waterproof Membrane, Fabric-Reinforced, Modified-Bituminous Sheet: Self-adhering, SBS-modified-bituminous sheet with fabric reinforcement facing; 0.040-inch nominal thickness.

2.7 CRACK ISOLATION MEMBRANES

A. General: Manufacturer's standard product that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Crack Isolation Membrane, PVC Sheet: PVC heat-fused on both sides to facings of nonwoven polyester; 0.040-inch nominal thickness.

2.8 SETTING MATERIALS

A. Standard Dry-Set Mortar (Thinset): ANSI A118.1.

1. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.1.

2.9 GROUT MATERIALS

A. Sand-Portland Cement Grout: ANSI A108.10, consisting of white or gray cement and white or colored aggregate as required to produce color indicated.

B. Standard Cement Grout: ANSI A118.6.

2.10 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

B. Vapor-Retarder Membrane: Polyethylene sheeting, ASTM D4397, 4.0 mils thick.

C. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

D. Floor Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.

2.11 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
2. Verify that concrete substrates for tile floors installed with thin set mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.

    a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
    b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.

3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

B. Where indicated, prepare substrates to receive waterproof membrane by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot toward drains.

C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from

other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 INSTALLATION OF CERAMIC TILE

A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.

1. For the following installations, follow procedures in the ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:

    a. Tile floors in wet areas.
    b. Tile floors consisting of tiles 8 by 8 inches or larger.

B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

D. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.

E. Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.

F. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.

G. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:

1. Ceramic Mosaic Tile: 1/8 inch (2.5 MM).
2. Porcelain Tile: 1/8 inch (3 MM).

H. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.

I. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.

J. Stone Thresholds: Install stone thresholds in same type of setting bed as adjacent floor unless otherwise indicated.

1. At locations where mortar bed (thickset) would otherwise be exposed above adjacent floor finishes, set thresholds in modified dry-set mortar (thinset).
2. Do not extend waterproof membrane or crack isolation membrane under thresholds set in standard dry-set mortar. Fill joints between such thresholds and adjoining tile set on waterproof membrane or crack isolation membrane with elastomeric sealant.

K. Floor Sealer: Apply floor sealer to cementitious grout joints in tile floors according to floor-sealer manufacturer's written instructions. As soon as floor sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.4 INSTALLATION OF TILE BACKING PANELS

A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.

3.5 INSTALLATION OF WATERPROOF MEMBRANES

A. Install waterproof membrane to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.

B. Allow waterproof membrane to cure and verify by testing that it is watertight before installing tile or setting materials over it.

3.6 INSTALLATION OF CRACK ISOLATION MEMBRANES

A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.

B. Allow crack isolation membrane to cure before installing tile or setting materials over it.

3.7 ADJUSTING AND CLEANING

A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.

B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

1. Remove grout residue from tile as soon as possible.
2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3.8 PROTECTION

A. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.

B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.9 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

A. Interior Floor Installations, Concrete Subfloor:

1. TCNA F113 24 x 24 Porcelain: Thinset mortar.

    a. Ceramic Tile Type: 24x24 Porcelain.
    b. Thinset Mortar: Standard dry-**set** mortar.
    c. Grout: High-performance unsanded grout.

2. TCNA F122 2 x 4 Stacked: Thinset mortar on waterproof membrane.

    a. Ceramic Tile Type: 2x4 Herringbone.
    b. Thinset Mortar: Modified dry-set mortar.
    c. Grout: High-performance unsanded grout.

3. TCNA F125-Full 24 x 24 Stacked shower Floor: Thinset mortar on crack isolation membrane.

    a. Ceramic Tile Type: 24x24 Stacked Shower Floor.
    b. Thinset Mortar: Modified dry-set mortar.
    c. Grout: High-performance unsanded grout.

B. Interior Wall Installations, Masonry or Concrete:

1. TCNA W202 2x4 Stacked: Thinset mortar.

    a. Ceramic Tile Type: 2x4 stacked.
    b. Thinset Mortar: Standard dry-set mortar.
    c. Grout: Standard sanded cement grout.

C. Interior Wall Installations, Wood or Metal Studs or Furring:

1. TCNA W244C or TCNA W244F 2x4 Stacked: Thinset mortar on cementitious backer units or fiber-cement backer board.

a. Ceramic Tile Type: 2x4 stacked.
b. Thinset Mortar: Standard dry-set mortar.
c. Grout: Standard sanded cement grout.

D. Shower Receptor and Wall Installations:

1. TCNA B422 2x4 Stacked: Thinset mortar on waterproof membrane with integrated bonding flange for bonded membranes.

a. Ceramic Tile Type: 2x4 stacked.
b. Thinset Mortar: Standard dry-set mortar.
c. Grout: Standard sanded cement grout.

END OF SECTION 093013

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes acoustical panels and exposed suspension systems for interior ceilings.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified, 6 inches in size.

C. Samples for Initial Selection: For components with factory-applied finishes.

D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:

1. Acoustical Panels: Set of 6-inch- Samples of each type, color, pattern, and texture.
2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch long Samples of each type, finish, and color.
3. Clips: Full-size hold-down clips.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For finishes to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Acoustical Ceiling Units: Full-size panels equal to 2 percent of quantity installed.

2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.
3. Hold-Down Clips: Equal to 2 percent of quantity installed.

1.7 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Build mockup of typical ceiling area as shown on Drawings.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical panels, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain each type of acoustical ceiling panel and its supporting suspension system from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: Class A according to ASTM E1264.

2. Smoke-Developed Index: 50 or less.

B. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL or from the listings of another qualified testing agency.

2.3 ACOUSTICAL PANELS ACP1

A. Armstrong Ceiling Systems, Ultima Fine Texture Tegular

B. Acoustical Panel Standard: Provide manufacturer's standard panels according to ASTM E1264 and designated by type, form, pattern, acoustical rating, and light reflectance unless otherwise indicated.

C. Color: White.

D. Light Reflectance (LR): Not less than 0.90.

E. Ceiling Attenuation Class (CAC): Not less than 35.

F. Noise Reduction Coefficient (NRC): Not less than 0.70.

G. Articulation Class (AC): Not less than 170

H. Edge/Joint Detail: Beveled Tegular.

I. Thickness: 3/4 inch.

J. Modular Size: 24 by 24 inches.

K. Antimicrobial Treatment: Manufacturer's standard broad spectrum, antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no mold, mildew, or bacterial growth when tested according to ASTM D3273, ASTM D3274, or ASTM G21 and evaluated according to ASTM D3274 or ASTM G21.

2.4 METAL SUSPENSION SYSTEM MS1

A. Armstrong Suspension System, Superfine 9/16” Exposed Tee system or approved equal.

B. Metal Suspension-System Standard: Provide manufacturer's standard, direct-hung, metal suspension system and accessories according to ASTM C635/C635M and designated by type, structural classification, and finish indicated.

C. Narrow-Face, Uncapped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized, G30 coating designation; to produce structural members with 9/16-inch- wide faces.

1. Structural Classification: Intermediate-duty system.

2. Face Design: 9/16 inch
3. Face Finish: Painted white.
4. Reveal Finish: Painted white.

2.5 ACCESSORIES

A. Attachment Devices: Size for five times the design load indicated in ASTM C635/C635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.

   a. Corrosion Protection: Carbon-steel components zinc plated according to ASTM B633, Class SC 1 (mild) service condition.
   b. Corrosion Protection: Stainless-steel components complying with ASTM F593 and ASTM F594, Group 1 Alloy 304 or 316.
   c. Corrosion Protection: Components fabricated from nickel-copper-alloy rods complying with ASTM B164 for UNS No. N04400 alloy.

B. Wire Hangers, Braces, and Ties: Provide wires as follows:

   1. Zinc-Coated, Carbon-Steel Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper.
   2. Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C635/C635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.135-inch- diameter wire.

C. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.

D. Flat Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.

E. Angle Hangers: Angles with legs not less than 7/8 inch wide; formed with 0.04-inch- thick, galvanized-steel sheet complying with ASTM A653/A653M, G90 coating designation; with bolted connections and 5/16-inch- diameter bolts.

F. Hold-Down Clips: Manufacturer's standard hold-down.

2.6 METAL EDGE MOLDINGS AND TRIM EM1

A. Armstrong Suspended Ceiling Systems Suprafine 9/16inch Exposed Tee System Shadow Molding

B. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.

   1. Edge moldings shall fit acoustical panel edge details and suspension systems indicated and match width and configuration of exposed runners unless otherwise indicated.
   2. For lay-in panels with reveal edge details, provide stepped edge molding that forms reveal of same depth and width as that formed between edge of panel and flange at exposed suspension member.

3. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

2.7 ACOUSTICAL SEALANT

A. Acoustical Sealant: As specified in Section 079219 "Acoustical Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.

B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.

B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION

A. Install acoustical panel ceilings according to ASTM C636/C636M and manufacturer's written instructions.

B. Suspend ceiling hangers from building's structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
3. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.

4. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
5. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
6. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
7. Do not attach hangers to steel deck tabs.
8. Do not attach hangers to steel roof deck. Attach hangers to structural members.
9. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
10. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.

C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.

D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.

1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
2. Screw attach moldings to substrate at intervals not more than 16 inches o.c. and not more than 3 inches from ends. Miter corners accurately and connect securely.
3. Do not use exposed fasteners, including pop rivets, on moldings and trim.

E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

F. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide precise fit.

1. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension-system runners and moldings.
2. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
3. For reveal-edged panels on suspension-system members with box-shaped flanges, install panels with reveal surfaces in firm contact with suspension-system surfaces and panel faces flush with bottom face of runners.
4. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
5. Install hold-down clips in areas indicated; space according to panel manufacturer's written instructions unless otherwise indicated.

a. Hold-Down Clips: Space 24 inches o.c. on all cross runners.

3.4 ERECTION TOLERANCES

A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8 inch in 12 feet, non-cumulative.

B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8 inch in 12 feet, non-cumulative.

3.5 CLEANING

A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.

B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Thermoplastic-rubber base.
2. Rubber molding accessories.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches long.

C. Samples for Initial Selection: For each type of product indicated.

D. Samples for Verification: For each type of product indicated and for each color, texture, and pattern required in manufacturer's standard-size Samples, but not less than 12 inches long.

E. Product Schedule: For resilient base and accessory products. Use same designations indicated on Drawings.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials**,** from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Furnish not less than 10 linear feet for every 500 linear feet or fraction thereof, of each type, color, pattern, and size of resilient product installed.

1.5 QUALITY ASSURANCE

A. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Coordinate mockups in this Section with mockups specified in other Sections.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

1.7 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive resilient products during the following periods:

1. 48 hours before installation.
2. During installation.
3. 48 hours after installation.

B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 THERMOPLASTIC-RUBBER BASE

A. Forbo Flooring System, Wall Base & Installation Accessories.

B. Product Standard: ASTM F1861, Type TP (rubber, thermoplastic).

1. Group: I (solid, homogeneous.
2. Style and Location:

a. Style A, Cove: Provide in areas with carpet.
b. Style A, Cove: Provide in areas with resilient floor coverings.

C. Thickness: 0.125 inch.

D. Height: 4 inches.

E. Lengths: Cut lengths 48 inches long or coils in manufacturer's standard length.

F. Outside Corners: Job formed or preformed.

G. Inside Corners: Job formed or preformed.

H. Colors: As indicated by manufacturer's designations.

2.2 RUBBER MOLDING ACCESSORY

A. Forbo Flooring System, Wall Base & Installation Accessories.

B. Description: Rubber cap for cove carpet, cap for cove resilient floor covering, carpet bar for tackless installations carpet edge for glue-down applications nosing for carpet nosing for resilient floor covering reducer strip for resilient floor covering joiner for tile and carpet transition strips.

C. Locations: Floor finish transitions.

D. Colors and Patterns: As indicated by manufacturer's designations.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

C. Floor Polish: Provide protective, liquid floor-polish products recommended by resilient stair-tread manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates for Resilient Stair Accessories: Prepare horizontal surfaces according to ASTM F710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
4. Moisture Testing: Perform tests so that each test area does not exceed **200 sq. ft.**, and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient products until materials are the same temperature as space where they are to be installed.

1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Preformed Corners: Install preformed corners before installing straight pieces.

H. Job-Formed Corners:

1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.

a. Form without producing discoloration (whitening) at bends.

2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches in length.

a. Miter corners to minimize open joints.

3.4 RESILIENT ACCESSORY INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient accessories.

B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.5 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.

B. Perform the following operations immediately after completing resilient-product installation:

1. Remove adhesive and other blemishes from surfaces.

C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Floor Polish: Remove soil, adhesive, and blemishes from resilient stair treads before applying liquid floor polish.

1. Apply three coat(s).

E. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

SECTION 096543 - LINOLEUM FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Linoleum floor tile.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and pattern specified in manufacturer's standard size, but not less than 6-by-9-inch sections.

C. Samples for Initial Selection: For each type of linoleum flooring indicated.

D. Samples for Verification: For each type of linoleum flooring, in manufacturer's standard size, but not less than 6-by-9-inch sections of each different color and pattern required.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For each type of linoleum flooring to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Floor Tile: Furnish one box for every 50 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are competent in techniques required by manufacturer for flooring installation and seaming methods indicated.

1. Engage an installer who employs workers for this Project who are trained or certified by flooring manufacturer for installation techniques required.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.

1. Coordinate mockups in this Section with mockups specified in other Sections.

a. Size: Minimum 100 sq. ft. for each type, color, and pattern in locations directed by Architect.

2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store flooring and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 65 deg F or more than 90 deg F.

1. Floor Tile: Store on flat surfaces.

1.9 FIELD CONDITIONS

A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive flooring during the following periods:

1. 72 hours before installation.
2. During installation.
3. 72 hours after installation.

B. After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.

C. Close spaces to traffic during flooring installation.

D. Close spaces to traffic for 72 hours after flooring installation.

E. Install flooring after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For linoleum flooring, as determined by testing identical products according to ASTM E648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

2.2 LINOLEUM FLOOR TILE: MCT

A. Forbo Flooring Systems, Marmoleum Composit Tile>

B. Linoleum Floor Tile: ASTM F2195, Type I, linoleum floor tile with fibrous backing.

1. Nominal Floor Tile Size: Manufacturer's standard.

C. Thickness: 0.10 inch.

D. Colors and Patterns: As indicated by manufacturer's designations.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement-based or blended hydraulic-cement-based formulation provided or approved by linoleum flooring manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by flooring and adhesive manufacturers to suit products and substrate conditions indicated.

C. Floor Polish: Provide protective, liquid floor-polish products recommended by linoleum flooring manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of flooring.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare substrates according to linoleum flooring manufacturer's written instructions to ensure adhesion of flooring.

B. Concrete Substrates: Prepare according to ASTM F710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with flooring adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by linoleum flooring manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by linoleum flooring manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 10 pH.
4. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Relative Humidity Test: Using in-situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install flooring until materials are the same temperature as space where they are to be installed.

1. At least 72 hours in advance of installation, move flooring and installation materials into spaces where they will be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by flooring.

3.3 INSTALLATION, GENERAL

A. Comply with manufacturer's written instructions for installing flooring.

B. Scribe and cut flooring to butt neatly and tightly to vertical surfaces and permanent fixtures, including built-in furniture, cabinets, pipes, outlets, edgings, thresholds, door frames, and nosings.

C. Extend flooring into toe spaces, door reveals, closets, and similar openings.

D. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on flooring as marked on substrates. Use chalk or other nonpermanent marking device.

E. Install flooring on covers for telephone and electrical ducts and similar items in installation areas. Maintain overall continuity of color and pattern between pieces of flooring installed on covers and adjoining flooring. Tightly adhere flooring edges to substrates that abut covers and to cover perimeters.

F. Adhere flooring to substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 LINOLEUM FLOOR TILE INSTALLATION

A. Lay out linoleum floor tiles from center marks established with principal walls, discounting minor offsets, so floor tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay floor tiles square with room axis.

B. Match linoleum floor tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed floor tiles.

1. Lay floor tiles with grain running in one direction

3.5 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting linoleum flooring.

B. Perform the following operations immediately after completing linoleum flooring installation:

1. Remove adhesive and other blemishes from surfaces.
2. Sweep and vacuum surfaces thoroughly.
3. Damp-mop surfaces to remove marks and soil.

C. Protect linoleum flooring from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.

D. Floor Polish: Remove soil, adhesive, and blemishes from linoleum flooring surfaces before applying liquid floor polish.

1. Apply three coat(s).

E. After allowing drying room film (yellow film caused by linseed oil oxidation) to disappear, cover linoleum flooring until Substantial Completion.

END OF SECTION 096543

SECTION 096723 - RESINOUS FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes one resinous flooring system, one with epoxy body.

1. Application Method: Flat metal or plastic blade, power or hand troweled.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include manufacturer's technical data, application instructions, and recommendations for each resinous flooring component required.

B. Samples for Verification: For each resinous flooring system required, 5 inches (150 mm) square, applied to a rigid backing.

C. Product Schedule: Use resinous flooring designations indicated in Part 2 and room designations indicated on Drawings in product schedule.

D. Installer Certificates: Signed by manufacturer certifying that installers comply with specified requirements.

E. Maintenance Data: For resinous flooring to include in maintenance manuals.

1.4 QUALITY ASSURANCE

A. No request for substitution shall be considered that would change the generic type of floor system specified (i.e. Epoxy resin mortar based flooring system with urethane seealers). Equivalent materials of other manufactures may be substituted only on approval of Architect or Engineer. Request for substitution will only be considered only if submitted 10 days prior to bid date. Request will be subject to specification requirements described in this section.

B. Installer Qualifications: Engage an experienced installer (applicator) who is experienced in applying resinous flooring systems similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance, and who is acceptable to resinous flooring manufacturer.

1. Engage an installer who is certified in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.

2. Contractor shall have completed at least 10 projects of similar size and complexity.

C. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, through one source from a single manufacturer, with not less than ten years of successful experience in manufacturing and installing principal materials described in this section. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.

D. Manufacturer Field Technical Service Representatives: Resinous flooring manufacture shall retain the services of Field Technical Service Representatives who are trained specifically on installing the system to be used on the project.

1. Field Technical Services Representatives shall be employed by the system manufacture to assist in the quality assurance and quality control process of the installation and shall be available to perform field problem solving issues with the installer.

E. Mockups: Apply mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Apply full-thickness mockups on 48-inch- (1200-mm-) square floor area selected by Architect.

a. Include 48-inch (1200-mm) length of integral cove base.

2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

F. Pre-installation Conference:

1. General contractor shall arrange a meeting not less than thirty days prior to starting work.

2. Attendance:

a. General Contractor

b. Architect/Owner's Representative.

c. Manufacturer/Installer's Representative.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

B. Store materials to prevent deterioration from moisture, heat, cold, direct sunlight, or other detrimental effects. Store material per product data.

C. All materials used shall be factory pre-weighed and pre-packaged in single, easy to manage batches to eliminate on site mixing errors. No on site weighing or volumetric measurements allowed.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.

1. Maintain material and substrate temperature between 65 and 85 deg F (18 and 30 deg C) during resinous flooring application and for not less than 24 hours after application.

B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.

C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application, unless manufacturer recommends a longer period.

D. Concrete substrate shall be properly cured. A vapor barrier must be present for concrete subfloors on or below grade. Otherwise, an osmotic pressure resistant grout must be installed prior to the resinous flooring

1.7 WARRANTY

A. Manufacturer shall furnish a single, written warranty covering both material and workmanship for a period of (1) full years from date of installation, or provide a joint and several warranty signed on a single document by material manufacturer and applicator jointly and severally warranting the materials and workmanship for a period of (1) full year from date of installation. A sample warranty letter must be included with bid package or bid may be disqualified.

PART 2 - PRODUCTS

2.1 RESINOUS FLOORING

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include,

1. Broadcast systems will not be accepted. Trowel mortar only.

B. Acceptable Manufactures,

1. Stonhard Basis of design.

C. Product: Subject to compliance with requirements:

1. Stonhard, Inc.; Stonblend GSI®.

D. System Characteristics:

1. Color and Pattern: As selected by Architect full range of colors.
2. Wearing Surface: smooth Matte finish.
3. Integral Cove Base: None
4. Overall System Thickness: 3/16 inch (5 mm).

E. System Components: Manufacturer's standard components that are compatible with each other and as follows:

1. Primer:

   a. Material Basis: Stonblend Primer
   b. Resin: Epoxy.
   c. Formulation Description: 2 component, 100% solids.
   d. Type: non pigmented.
   e. Finish: standard.
   f. Number of Coats: one.

2. Mortar Base:

   a. Material Basis: Stonblend Mortar
   b. Resin: Epoxy.
   c. Formulation Description: 3 component, 100% solids.
   d. Application Method: Flat Metal or plastic blade trowel.

      1) Thickness of Coats: 3/16 inch (5 mm).
      2) Number of Coats: One.

   e. Aggregates: Pigmented quartz Blended aggregate.

3. Groutcoat:

   a. Material Basis: Stonblend Groutcoat
   b. Resin: Epoxy.
   c. Formulation Description: 2 component, 100% high solids.
   d. Type: Clear.
   e. Finish: standard.
   f. Number of Coats: one.

4. Sealer:

   a. Material Basis: Stonkote CE4.
   b. Resin: Epoxy
   c. Formulation Description: 2 component, 100% solids.
   d. Type: Clear.
   e. Finish: Matte.
   f. Number of Coats: one.

5. Topcoat:

a. Material Basis: Stonseal CF7.
b. Resin: VOC EPA Compliant, Waterborne, Aliphatic Polyurethane.
c. Formulation Description: 2 component 100% high solids.
d. Type: Clear.
e. Finish: Matte.
f. Number of Coats: Two.

Note: Components listed above are the basis of design intent; all bids will be compared to this standard including resin chemistry, color, wearing surface, thickness, and installation procedures, including number of coats. Contractor shall be required to comply with all the requirements of the Specifications and all of the components required by the Specifications, whether or not such products are specifically listed above.

F. System Physical Properties: Provide resinous flooring system with the following minimum physical property requirements when tested according to test methods indicated:

1. Compressive Strength: 6,000 psi after 7 days per ASTM C 579.
2. Tensile Strength: 1,500 psi per ASTM C 307.
3. Flexural Strength: 2,200 psi per ASTM C 580.
4. Flexural Modulus of Elasticity: 5.0×10^5 psi per ASTM C 580.
5. Hardness: 85 to 90, Shore D per ASTM D 2240.
6. Impact Resistance: > 160 in. lbs. per ASTM D 2794.
7. Abrasion Resistance: 0.06 gm max. weight loss per ASEM D 4060, CS-17
8. Flammability: Class 1 per ASTM E-648, E-662
9. Thermal Coefficient of Linear Expansion: 9×10^{-6} in./n ^{o}F
10. VOC Content per ASTM D 2369, Method E

    a. Stonblend Primer: 75 g/l
    b. Stonblend GSI Base: 17 g/l
    c. Stonblend Groutcoat: 52 g/l
    d. Stonkote CE4: 34 g/l
    e. Stonseal CF7: 47 g/l (Method C)

11. Cure Rate: 12 hours for foot traffic, 24 hours normal operations.

2.2 ACCESSORY MATERIALS

A. Primer: Type recommended by manufacturer for substrate and body coats indicated. Formulation Description: Stonhard Stonblend Primer, 100% solids.

B. Waterproofing Membrane: Type recommended by manufacturer for substrate and primer and body coats indicated. Formulation Description Only if application above grade Stonproof ME7.

C. Patching, Leveling and Fill Material: Resinous product of or approved by resinous flooring manufacturer and recommended by manufacturer for application indicated.

D. Joint Sealant: Type recommended or produced by resinous flooring manufacturer for type of service and joint condition indicated. Allowances should be included for Stonflex MP7 joint fill material.

PART 3 - EXECUTION

3.1 PREPARATION

A. General: Prepare and clean substrates according to resinous flooring manufacturer's written instructions for substrate indicated. Provide clean and dry substrate for resinous flooring application.

B. Concrete Substrates: Provide sound concrete surfaces free of laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants incompatible with resinous flooring.

1. Mechanically prepare substrates as follows:

a. Shot-blast surfaces with an apparatus that abrades the concrete surface, contains the dispensed shot within the apparatus, and recirculates the shot by vacuum pickup or Diamond Grind with a dust-free system.

2. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written recommendations.
3. Verify that concrete substrates meet the following requirements.

a. Perform in situ probe test, ASTM F 2170. Proceed with application only after substrates do not exceed a maximum potential equilibrium relative humidity of 85 percent.
b. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with application only after substrates have maximum moisture-vapor-emission rate of 6 lb of water/1000 sq. ft. of slab in 24 hours.

C. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.

D. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written recommendations. Allowances should be included for Stonflex MP7 joint fill material, and CT5 concrete crack treatment.

3.2 APPLICATION

A. General: Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.

1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
3. At substrate expansion and isolation joints, provide joint in resinous flooring to comply with resinous flooring manufacturer's written recommendations.

a. Apply joint sealant to comply with manufacturer's written recommendations.

B. Apply primer where required by resinous system, over prepared substrate at manufacturer's recommended spreading rate.

C. Integral Cove Base: Stonblend GSI mortar, apply cove base mix to wall surfaces before applying flooring. Apply according to manufacturer's written instructions and details including those for taping, mixing, priming, troweling, sanding, and topcoating of cove base. Round internal and external corners.

1. Integral Cove Base: TBD inches high.

D. Troweled Mortar: Mix mortar material according to manufacturer's recommended procedures. Uniformly spread mortar over substrate using manufacturer's specially designed screed box adjusted to manufacturer's recommended height. Hand trowel apply mixed material over freshly primed substrate using steel finishing trowels or power trowel material using manufacturer's specially designed power trowel blades.

E. Groutcoat: Remove excess unbonded granules by lightly abrading or scraping and vacuuming the floor surface. Mix and apply grout coat with strict adherence to manufacturer's installation procedures and coverage rates.

F. Sealer: Lightly sand or scrape surface to remove any floor surface irregularities. Mix and apply sealer with strict adherence to manufacturer's installation procedures.

G. Matte Finish: Lightly sand or scrape surface to remove any floor surface irregularities. Mix and roller apply mar resistant finish with strict adherence to manufacturer's installation procedures.

3.3 TERMINATIONS

A. Chase edges to “lock” the flooring system into the concrete substrate along lines of termination.

B. Penetration Treatment: Lap and seal coating onto the perimeter of the penetrating item by bridging over compatible elastomer at the interface to compensate for possible movement.

C. Trenches: Continue flooring system into trenches to maintain monolithic protection. Treat cold joints to assure bridging of potential cracks.

D. Treat floor drains by chasing the flooring system to lock in place at point of termination.

3.4 JOINTS AND CRACKS

A. Treat control joints and to maintain monolithic protection.

B. Treat cold joints and construction joints to bridge potential cracks and to maintain monolithic protection on horizontal and vertical surfaces as well as horizontal and vertical interfaces.

C. Vertical and horizontal contraction and expansion joints are treated by installing backer rod and compatible sealant after coating installation is completed. Provide sealant type recommended by manufacturer for traffic conditions and chemical exposures to be encountered.

3.5 FIELD QUALITY CONTROL

A. Material Sampling: Owner may at any time and any numbers of times during resinous flooring application require material samples for testing for compliance with requirements.

1. Owner will engage an independent testing agency to take samples of materials being used. Material samples will be taken, identified, sealed, and certified in presence of Contractor.
2. Testing agency will test samples for compliance with requirements, using applicable referenced testing procedures or, if not referenced, using testing procedures listed in manufacturer's product data.
3. If test results show applied materials do not comply with specified requirements, pay for testing, remove noncomplying materials, prepare surfaces coated with unacceptable materials, and reapply flooring materials to comply with requirements.

3.6 CLEANING, PROTECTING, AND CURING

A. Cure resinous flooring materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of application and prior to completion of curing process. Close area of application for a minimum of 24 hours.

B. Protect resinous flooring materials from damage and wear during construction operation. Where temporary covering is required for this purpose, comply with manufacturer's recommendations for protective materials and method of application. General Contractor is responsible for protection.

C. Cleaning: Remove temporary covering and clean resinous flooring just prior to final inspection. Use cleaning materials and procedures recommended by resinous flooring manufacturer. General Contractor is responsible for cleaning prior to inspection.

END OF SECTION 096723

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes modular carpet tile.

B. Related Requirements:

1. Section 096513 "Resilient Base and Accessories" for resilient wall base and accessories installed with carpet tile.

1.3 PRE-INSTALLATION MEETINGS

A. Pre-installation Conference: Conduct conference at Project site.

1. Review methods and procedures related to carpet tile installation including, but not limited to, the following:

a. Review delivery, storage, and handling procedures.
b. Review ambient conditions and ventilation procedures.
c. Review subfloor preparation procedures.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include manufacturer's written data on physical characteristics, durability, and fade resistance.
2. Include manufacturer's written installation recommendations for each type of substrate.

B. Shop Drawings: For carpet tile installation, plans showing the following:

1. Columns, doorways, enclosing walls or partitions, built-in cabinets, and locations where cutouts are required in carpet tiles.
2. Carpet tile type, color, and dye lot.
3. Type of subfloor.
4. Type of installation.
5. Pattern of installation.

6. Pattern type, location, and direction.
7. Pile direction.
8. Type, color, and location of insets and borders.
9. Type, color, and location of edge, transition, and other accessory strips.
10. Transition details to other flooring materials.

C. Samples: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1. Carpet Tile: Full-size Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- long Samples.

D. Samples for Initial Selection: For each type of carpet tile.

1. Include Samples of exposed edge, transition, and other accessory stripping involving color or finish selection.

E. Samples for Verification: For each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.

1. Carpet Tile: Full-size Sample.
2. Exposed Edge, Transition, and Other Accessory Stripping: 12-inch- long Samples.

F. Product Schedule: For carpet tile. Use same designations indicated on Drawings.

G. Sustainable Product Certification: Provide ANSI/NSF 140 certification for carpet products.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For carpet tile, for tests performed by a qualified testing agency.

C. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For carpet tiles to include in maintenance manuals. Include the following:

1. Methods for maintaining carpet tile, including cleaning and stain-removal products and procedures and manufacturer's recommended maintenance schedule.
2. Precautions for cleaning materials and methods that could be detrimental to carpet tile.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but not less than 10 sq. yd.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who is certified by the International Certified Floorcovering Installers Association at the Commercial II certification level.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.

1. Build mockups at locations and in sizes as indicated by the Architect.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Comply with CRI's "CRI Carpet Installation Standard."

1.10 FIELD CONDITIONS

A. Comply with CRI's "CRI Carpet Installation Standard" for temperature, humidity, and ventilation limitations.

B. Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.

C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended by carpet tile manufacturer.

D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

1.11 WARRANTY

A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.

1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
2. Failures include, but are not limited to, the following:

a. More than 10 percent edge raveling, snags, and runs.
b. Dimensional instability.
c. Excess static discharge.

d. Loss of tuft-bind strength.
e. Loss of face fiber.
f. Delamination.

3. Warranty Period: Lifetime of Carpet from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CARPET TILE

A. Design Basis: Provide SquareD (GT478), Fractal Fluency Collection, as manufactured by Mohawk Group, or approved equal.

B. Color: As selected by Architect from manufacturer's full range.

C. Pattern: As selected by Architect from manufacturer's full range

D. Tufted Pile Weight: 18.0 oz. per sq. yd.

E. Fiber Technology: Duracolor by Mohawk Groups stain resistant system. Passes GSA requirements for permanent stain resistant carpet.

F. Fiber Type: Duracolor Tricor Premium Nylon.

G. Construction: Tufted pile.

H. Surface Texture: Textured Patterned Loop

I. Weight Density: Not Applicable

J. Density: 5,184

K. Pile Thickness: .299” for finished carpet tile.

L. Stitches: 12.0 stitches per inch.

M. Gauge: 1/12 (47.00 rows per 10 cm)

N. Backing Material: EcoFlex ONE

O. Dye Method: Solution Dyed

P. Pattern Repeat: Not Applicable

Q. Installation Method: Brick Ashlar

R. Soil Release Technology: EcoSentry Soil Protection

S. Stain Release Technology: Permanent, Built into Fiber

T. GSA Stain Release Rating: Pass

U. Size: 12 by 36 inches.

V. Foot Traffic Recommendation: TARR: Heavy

2.2 INSTALLATION ACCESSORIES

A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cement-based formulation provided or recommended by carpet tile manufacturer.

B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive type to suit products and subfloor conditions indicated, that comply with flammability requirements for installed carpet tile, and are recommended by carpet tile manufacturer for releasable installation.

C. Metal Edge/Transition Strips: Extruded aluminum with mill finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance.

B. Examine carpet tile for type, color, pattern, and potential defects.

C. Concrete Slabs: Verify that finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" and that surfaces are free of cracks, ridges, depressions, scale, and foreign deposits.

1. Moisture Testing: Perform tests so that each test area does not exceed 1000 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.

    a. Anhydrous Calcium Chloride Test: ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    b. Relative Humidity Test: Using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
    c. Perform additional moisture tests recommended in writing by adhesive and carpet tile manufacturers. Proceed with installation only after substrates pass testing.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. General: Comply with CRI's "Carpet Installation Standards" and with carpet tile manufacturer's written installation instructions for preparing substrates indicated to receive carpet tile.

B. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch unless more stringent requirements are required by manufacturer's written instructions.

C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturers.

D. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

A. General: Comply with CRI's "CRI Carpet Installation Standard," Section 18, "Modular Carpet" and with carpet tile manufacturer's written installation instructions.

B. Installation Method: As recommended in writing by carpet tile manufacturer.

C. Maintain dye-lot integrity. Do not mix dye lots in same area.

D. Maintain pile-direction patterns recommended in writing by carpet tile manufacturer.

E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended by carpet tile manufacturer.

F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.

G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet tile as marked on subfloor. Use nonpermanent, nonstaining marking device.

H. Install pattern parallel to walls and borders.

3.4 CLEANING AND PROTECTION

A. Perform the following operations immediately after installing carpet tile:

1. Remove excess adhesive and other surface blemishes using cleaner recommended by carpet tile manufacturer.
2. Remove yarns that protrude from carpet tile surface.
3. Vacuum carpet tile using commercial machine with face-beater element.

B. Protect installed carpet tile to comply with CRI's "Carpet Installation Standard," Section 20, "Protecting Indoor Installations."

C. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes surface preparation and the application of paint systems on exterior substrates, including the following:

1. Concrete.
2. Concrete masonry units (CMUs).
3. Steel and iron.
4. Galvanized metal.
5. EIFS

1.3 DEFINITIONS

A. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
2. Indicate VOC content.

B. Samples for Initial Selection: For each type of topcoat product.

C. Samples for Verification: For each type of paint system and each color and gloss of topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Label each Sample for location and application area.

D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft.
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.

B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Benjamin Moore & Co.
2. Glidden Professional.
3. PPG Paints.
4. Sherwin-Williams Company (The).

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. VOC Content: For field applications, paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:

1. Flat Paints and Coatings: 50 g/L.
2. Nonflat Paints and Coatings: 50 g/L.
3. Dry-Fog Coatings: 150 g/L.
4. Primers, Sealers, and Undercoaters: 100 g/L.
5. Rust-Preventive Coatings: 100 g/L.
6. Zinc-Rich Industrial Maintenance Primers: 100 g/L.
7. Pretreatment Wash Primers: 420 g/L.
8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L.

D. Colors: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Masonry (Clay and CMUs): 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.

E. Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces or mortar joints exceeds that permitted in manufacturer's written instructions.

F. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer.

G. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.

H. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
4. Paint entire exposed surface of window frames and sashes.
5. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
6. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

D. Painting Fire Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed to view:

a. Equipment, unless prefinished
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Pipe hangers and supports.
e. Metal conduit.
f. Tanks that do not have factory-applied final finishes.

3.4 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Nontraffic Surfaces:

1. Latex System MPI EXT 3.1K:

a. Prime Coat: Latex, exterior, matching topcoat.
b. Intermediate Coat: Latex, exterior, matching topcoat.
c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.

B. CMU Substrates:

1. Latex System MPI EXT 4.2A:

a. Prime Coat: Block filler, latex, interior/exterior, MPI #4.
b. Intermediate Coat: Latex, exterior, matching topcoat.
c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5), MPI #11.

C. Steel and Iron Substrates:

1. Water-Based Light Industrial Coating System MPI EXT 5.1B:

a. Prime Coat: Primer, zinc rich, inorganic, MPI #19.
b. Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
c. Topcoat: Light industrial coating, exterior, water based, semi-gloss (MPI Gloss Level 5), MPI #163.

D. Galvanized-Metal Substrates:

1. Water-Based Light Industrial Coating System MPI EXT 5.3J:

a. Prime Coat: Primer, galvanized, water based, MPI #134.
b. Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
c. Topcoat: Light industrial coating, exterior, water based, semi-gloss (MPI Gloss Level 5), MPI #163.

END OF SECTION 099113

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Primers.
2. Water-based finish coatings.
3. Solvent-based finish coatings.
4. Floor sealers and paints.
5. Dry fall coatings.

B. Related Requirements:

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include preparation requirements and application instructions.
2. Indicate VOC content.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1.5 QUALITY ASSURANCE

A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.

a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
b. Other Items: Architect will designate items or areas required.

2. Final approval of color selections will be based on mockups.

    a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).

B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures of less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Benjamin Moore & Co.

B. Source Limitations: Obtain each paint product from single source from single manufacturer.

2.2 PAINT PRODUCTS, GENERAL

A. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

B. Colors: As selected by Architect from manufacturer's full range.

2.3 PRIMERS

A. Interior Latex Primer Sealer: Water-based latex sealer used on new interior plaster, concrete, and gypsum wallboard surfaces.

B. Interior, Institutional Low-Odor/VOC Primer Sealer: Water-based primer sealer with low-odor characteristics and a VOC of less than 10 grams per liter for use on new interior plaster, concrete, and gypsum wallboard surfaces that are subsequently to be painted with latex finish coats.

2.4 WATER-BASED FINISH COATS

A. Interior, Latex, Eggshell: Pigmented, water-based paint for use on primed/sealed interior plaster and gypsum board, and on primed wood and metals.

B. Interior, Latex, Institutional Low Odor/VOC, Eggshell: White or colored latex paint with low-odor characteristics and a VOC of less than 10 grams per liter, for use in areas, such as hospitals and other occupied buildings, where the odor and VOC levels of conventional latex products would preclude their use.

2.5 COATS

A. Interior, Alkyd, Eggshell: Pigmented, solvent-based alkyd paint for use on primed/sealed interior plaster, gypsum, wood, and metal walls primarily in residential and moderate traffic commercial environments.

2.6 FLOOR SEALERS AND PAINTS

A. Water-Based Concrete Floor Sealer: Clear, water-based, acrylic-copolymer-emulsion sealer formulated for oil, gasoline, alkali, and water resistance and for use on concrete traffic surfaces.

1. Design Basis: Sherwin-Williams, or approved equal

2.7 DRY FALL COATINGS

A. Dry Fall, Latex, Flat: Pigmented, water-based, emulsion-type, fast-drying coating for use on interior plaster, concrete, gypsum board, primed wood, and metal ceilings.

1. Design Basis: Sherwin-Williams Waterborne Acrylic Dryfall Flat or approved equal.
2. Gloss and Sheen Level: Manufacturer's standard flat finish.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Fiber-Cement Board: 12 percent.
3. Masonry (Clay and CMUs): 12 percent.
4. Wood: 15 percent.
5. Gypsum Board: 12 percent.
6. Plaster: 12 percent.

C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.

D. Plaster Substrates: Verify that plaster is fully cured.

E. Spray-Textured Ceiling Substrates: Verify that surfaces are dry.

F. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.

G. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.3 INSTALLATION

A. Apply paints according to manufacturer's written instructions.

1. Use applicators and techniques suited for paint and substrate indicated.
2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.

B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.

C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

E. Painting Fire-Suppression, Plumbing, HVAC, Electrical, Communication, and Electronic Safety and Security Work:

1. Paint the following work where exposed in occupied spaces:

a. Equipment, including panelboards.
b. Uninsulated metal piping.
c. Uninsulated plastic piping.
d. Duct, equipment, and pipe insulation having cotton or canvas insulation covering or other paintable jacket material.
e. Other items as directed by Architect.

2. Paint portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets that are visible from occupied spaces.

3.4 FIELD QUALITY CONTROL

A. Dry-Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry-film thickness.

1. Contractor shall touch up and restore painted surfaces damaged by testing.
2. If test results show that dry-film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply

additional coats as needed to provide dry-film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.

1. Do not clean equipment with free-draining water and prevent solvents, thinners, cleaners, and other contaminants from entering into waterways, sanitary and storm drain systems, and ground.
2. Dispose of contaminants in accordance with requirements of authorities having jurisdiction.
3. Allow empty paint cans to dry before disposal.
4. Collect waste paint by type and deliver to recycling or collection facility.

B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

A. Gypsum Board Substrates:

1. Latex over Latex Sealer System:

a. Prime Coat: Interior latex primer sealer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Interior, latex, eggshell.

2. Institutional Low-Odor/VOC Latex System:

a. Prime Coat: Interior, institutional low-odor/VOC primer sealer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Interior, latex, institutional low odor/VOC, eggshell.

3. High-Performance Architectural Latex System **<Insert drawing designation>**:

a. Prime Coat: Interior latex primer sealer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Interior, latex, high-performance architectural coating, [**low sheen**] [**eggshell**] [**satin**] [**semigloss**].

4. Water-Based Light-Industrial Coating System **<Insert drawing designation>**:

a. Prime Coat: Interior latex primer sealer.
b. Intermediate Coat: Matching topcoat.
c. Topcoat: Interior, water-based, light-industrial coating, eggshell.

END OF SECTION 099123

DIVISION 10

SPECIALTIES

SECTION 101416 - PLAQUES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal plaques.

B. Related Requirements:

1. Section 101423 "Panel Signage" and Section 101423 "Room-Identification Panel Signage" for plaques or signs similar to metal plaques, with or without frames, except that they are made of materials other than solid metal.

1.2 DEFINITIONS

A. Accessible: In accordance with the accessibility standard.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For plaques.

1. Include fabrication and installation details and attachments to other work.
2. Show plaque mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
3. Show message list, typestyles, graphic elements, including raised characters, and layout for each plaque at least half size.

C. Samples for Initial Selection: For each type of plaque, exposed component, and exposed finish.

1. Include representative Samples of available typestyles and graphic symbols.

D. Samples for Verification: For each type of plaque showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

1. Plaques: Full-size Sample.
2. Exposed Accessories: Full-size Sample of each accessory type.
3. Full-size Samples, if approved, will be returned to Contractor for use in the Project.

E. Product Schedule: For plaques. Use same designations indicated on Drawings or specified.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For plaques to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of plaques that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering.
b. Deterioration of embedded graphic image.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" the ABA standards of the Federal agency having jurisdiction and ICC A117.1

2.2 METAL PLAQUES

A. Etched Plaque: Chemically etched or photochemically engraved metal sheet or plate with texture, border, and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:

1. ASI Signage Innovations, Sign Etch Series
2. Plaque Material: Sheet or plate aluminum
3. Plaque Thickness: 0.250 inch.
4. Finishes:

a. Integral Aluminum Finish: Clear anodized

5. Integral Edge Style: Square cut, polished.
6. Mounting: Concealed studs
7. Text and Typeface: Typeface as selected by Architect from manufacturer's full range Finish raised characters to contrast with background color.

2.3 MATERIALS

A. Aluminum Castings: ASTM B26/B26M, alloy and temper recommended by plaque manufacturer for casting process used and for type of use and finish indicated.

B. Aluminum Sheet and Plate: ASTM B209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of plaques, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish nonferrous-metal stainless steel or hot-dip galvanized devices unless otherwise indicated.

3. Plaque Mounting Fasteners:

a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of plaque, screwed into back of plaque, or screwed into tapped lugs cast integrally into back of plaque unless otherwise indicated.

B. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch (1.14 mm) thick, with adhesive on both sides.

C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.5 FABRICATION

A. General: Provide manufacturer's standard plaques according to requirements indicated.

1. Preassemble plaques in the shop to greatest extent possible. Disassemble plaques only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.

5. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match plaque finish.
6. Castings: Fabricate castings free of warp, cracks, blowholes, pits, scale, sand holes, and other defects that impair appearance or strength. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks before finishing.

B. Surface-Engraved Graphics: Machine-engrave characters and other graphic devices into indicated plaque surface to produce precisely formed copy, incised to uniform depth.

1. Engraved Metal: Fill engraved graphics with manufacturer's standard baked enamel.

2.6 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.

D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.7 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Verify that plaque-support surfaces are within tolerances to accommodate plaques without gaps or irregularities between backs of plaques and support surfaces unless otherwise indicated.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF METAL PLAQUES

A. General: Install plaques using mounting methods indicated and according to manufacturer's written instructions.

1. Install plaques level, plumb, true to line, and at locations and heights indicated, with plaque surfaces free of distortion and other defects in appearance.
2. Install plaques so they do not protrude or obstruct according to the accessibility standard.
3. Before installation, verify that plaque surfaces are clean and free of materials or debris that would impair installation.
4. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of plaque. Remove loose debris from hole and substrate surface.

a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place plaque in position and push until flush to surface, embedding studs in holes. Temporarily support plaque in position until adhesive fully sets.
b. Thin or Hollow Surfaces: Place plaque in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.

3.3 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed plaques and plaques that do not comply with specified requirements. Replace plaques with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as plaques are installed.

C. On completion of installation, clean exposed surfaces of plaques according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain plaques in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101416

SECTION 101419 - DIMENSIONAL LETTER SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Dimensional characters.

a. Cast dimensional characters.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
3. Show message list, typestyles, graphic elements, and layout for each sign at least half size.

C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.

1. Include representative Samples of available typestyles and graphic symbols.

D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

1. Dimensional Characters: Full-size Sample of dimensional character.
2. Exposed Accessories: Full-size Sample of each accessory type.
3. Full-size Samples, if approved, will be returned to Contractor for use in the Project.

E. Product Schedule: For dimensional letter signs. Use same designations indicated on Drawings or specified.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Sample Warranty: For special warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.6 FIELD CONDITIONS

A. Field Measurements: Verify locations of electrical service embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Deterioration of finishes beyond normal weathering.
    b. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Signs and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated.

1. Uniform Wind Load: As indicated on Drawings.
2. Concentrated Horizontal Load: As indicated on Drawings.
3. Other Design Load: As indicated on Drawings
4. Uniform and concentrated loads need not be assumed to act concurrently.

2.2 DIMENSIONAL CHARACTERS

A. Cast Characters: Characters with uniform faces, sharp corners, and precisely formed lines and profiles, and as follows:

1. ASI Signage Innovations Exterior Dimension Letters
2. Character Material: Cast aluminum.

3. Character Height: As indicated on Drawings
4. Thickness: 2 inches.
5. Finishes:

    a. Integral Aluminum Finish: Clear anodized

6. Mounting: Concealed studs.
7. Typeface: Times Roman.

2.3 DIMENSIONAL CHARACTER MATERIALS

A. Aluminum Castings: ASTM B26/B26M, alloy and temper recommended by sign manufacturer for casting process used and for type of use and finish indicated.

B. Aluminum Sheet and Plate: ASTM B209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

C. Aluminum Extrusions: ASTM B221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish nonferrous-metal stainless steel or hot-dip galvanized devices unless otherwise indicated.
3. Exposed Metal-Fastener Components, General:

    a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.

4. Sign Mounting Fasteners:

    a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material, screwed into back of sign assembly, or screwed into tapped lugs cast integrally into back of cast sign material, unless otherwise indicated.

2.5 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.

3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
5. Internally brace dimensional characters for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
7. Castings: Fabricate castings free of warp, cracks, blowholes, pits, scale, sand holes, and other defects that impair appearance or strength. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks before finishing.

2.6 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.

D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.7 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF DIMENSIONAL CHARACTERS

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.

a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.

3.3 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed characters and signs that do not comply with specified requirements. Replace characters with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101419

SECTION 101423.16 - ROOM-IDENTIFICATION PANEL SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes room-identification signs that are directly attached to the building.

B. Related Requirements:

1. Section 101416 "Plaques" for one-piece, solid metal signs, with or without frames, that are used for high-end room-identification.

1.3 DEFINITIONS

A. Accessible: In accordance with the accessibility standard.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For room-identification signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
3. Show message list, typestyles, graphic elements**,** including raised characters and Braille, and layout for each sign at least half size.

C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.

1. Include representative Samples of available typestyles and graphic symbols.

D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

1. Room-Identification Signs: Full-size Sample.

2. Variable Component Materials: Full-size Sample of each base material, character (letter, number, and graphic element) in each exposed color and finish not included in Samples above.
3. Exposed Accessories: Full-size Sample of each accessory type.
4. Full-size Samples, if approved, will be returned to Contractor for use in Project.

E. Product Schedule: For room-identification signs. Use same designations indicated on Drawings or specified.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer

B. Sample Warranty: For special warranty.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Variable Component Materials: 12 replaceable text inserts and interchangeable characters (letters, numbers, and graphic elements) of each type.
2. Tools: One set(s) of specialty tools for assembling signs and replacing variable sign components.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.9 FIELD CONDITIONS

A. Field Measurements: Verify locations of anchorage devices embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering.
b. Deterioration of embedded graphic image.
c. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" the ABA standards of the Federal agency having jurisdiction and ICC A117.1.

2.2 ROOM-IDENTIFICATION SIGNS

A. Room-Identification Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:

1. ASI Signage Innovations, InTouch Series or approved equal.
2. Laminated-Sheet Sign: Photopolymer face sheet with raised graphics laminated to acrylic backing sheet to produce composite sheet.

a. Composite-Sheet Thickness: Manufacturer's standard for size of sign.

3. Sign-Panel Perimeter: Finish edges smooth.

4. Mounting: Manufacturer's standard method for substrates indicated with two-face tape.
5. Text and Typeface: Accessible raised characters and Braille typeface as selected by Architect from manufacturer's full range Finish raised characters to contrast with background color, and finish Braille to match background color.

2.3 SIGN MATERIALS

A. Acrylic Sheet: ASTM D4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish stainless-steel devices unless otherwise indicated.

B. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch thick, with adhesive on both sides.

2.5 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
4. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

2.6 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Install signs so they do not protrude or obstruct according to the accessibility standard.
3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.

B. Accessibility: Install signs in locations on walls as indicated on Drawings and according to the accessibility standard.

C. Mounting Methods:

1. Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position, and push to engage tape adhesive.

3.2 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101423.16

SECTION 10 1426 – EXTERIOR POST AND PANEL SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Nonilluminated post and panel signs.

B. Related Sections include the following:

1. Division 01 Section "Temporary Facilities and Controls" for temporary Project identification signs and for temporary informational and directional signs.
2. Division 03 Section "Cast-in-Place Concrete" for concrete foundations and concrete fill.
3. Division 10 Section "Signage" for wall-mounted signs and dimensional characters.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide post and panel signs capable of withstanding the effects of gravity loads determined according to SEI/ASCE 7, "Minimum Design Loads for Buildings and Other Structures" and the applicable provisions of the “Kentucky Building Code”, whichever is more restrictive.

B. Seismic Performance: Provide post and panel signs capable of withstanding the effects of earthquake motions determined according to SEI/ASCE 7, "Minimum Design Loads for Buildings and Other Structures" and the applicable provisions of the “Kentucky Building Code”, whichever is more restrictive.

C. Thermal Movements: Provide post and panel signsthat allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

1.4 DEFINITIONS

A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication and installation details for post and panel signage.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Provide message list, typestyles, graphic elements, and layout for each sign at least half size and full-size details of graphics.
3. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Samples for Initial Selection: Manufacturer's color charts consisting of actual units or sections of units showing the full range of colors available for the following:

1. Aluminum.
2. Die-cut vinyl characters and graphic symbols. Include representative samples of available typestyles and graphic symbols.

D. Samples for Verification: For each of the following products and for the full range of color, texture, and sign material indicated, of sizes indicated:

1. Aluminum: For each form, finish, and color, on 6-inch- long sections of extrusions and squares of sheet at least 4 by 4 inches.
2. Trim and Frame: 6-inch-- long sections of each profile.
3. Accessories: Manufacturer's full-size unit.

E. Sign Schedule: Use same designations indicated on Drawings.

F. Qualification Data: For Installer and fabricator.

G. Maintenance Data: For signs to include in maintenance manuals.

H. Warranty: Special warranty specified in this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

C. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.

D. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of signs to be performed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements: Indicate measurements on Shop Drawings.

1.8 COORDINATION

A. Coordinate installation of anchorages for post and panel signage. Furnish setting drawings, templates, and directions for installing anchorages and other items that are to be embedded in concrete.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of post and panel signsthat fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of metal and polymer finishes beyond normal weathering.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum Sheet and Plate: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 5005-H32.

B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 6063-T5.

C. Steel:

1. Hot-Rolled Structural-Steel Shapes: ASTM A 36/A 36M or ASTM A 529/A 529M.

2. Steel Tubing or Pipe: ASTM A 500, Grade B.
3. Steel Members Fabricated from Plate or Bar Stock: ASTM A 529/A 529M or ASTM A 572/A 572M, 42,000-psi minimum yield strength.
4. Bolts for Steel Framing: ASTM A 307 or ASTM A 325 as necessary for design loads and connection details.

D. Applied Vinyl: Die-cut characters from vinyl film of nominal thickness of 3 mils with pressure-sensitive adhesive backing, suitable for exterior applications.

E. Color: As selected by Architect from manufacturer's full range.

2.2 POST AND PANEL SIGNS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Allen Industries Architectural Signage.
2. APCO Graphics, Inc.
3. Best Sign Systems Inc.
4. Bunting Graphics, Inc.
5. Charleston Industries, Inc.
6. Nelson-Harkins Industries.
7. Signature Signs, Incorporated.
8. Supersine Company (The).
9. Vomar Products, Inc.
10. Integrated Signage, Inc.

2.3 PANEL SIGNS

A. Sign Message Panels: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.

1. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.
2. Increase metal thickness or reinforce with concealed stiffeners or backing materials as needed to produce surfaces without distortion, buckles, warp, or other surface deformations.
3. Continuously weld joints and seams unless other methods are indicated; grind, fill, and dress welds to produce smooth, flush, exposed surfaces with welds invisible after final finishing.

B. Message Panel Materials:

1. Aluminum Sheet: 0.125 inch thick.

a. Panel Finish: High performance organic coating.
b. Color: As selected by Architect from manufacturer's full range.

2. Acrylic Sheet: Translucent 0.250 inch thick.

   a. Color: As selected by Architect from manufacturer's full range.

3. Edge Condition: Bullnose.
4. Corner Condition: Square.
5. Color: As selected by Architect from manufacturer's full range.

2.4 POSTS

A. General: Fabricate posts to lengths required for mounting method indicated.

B. Aluminum Posts: Manufacturer's standard 0.125-inch- thick, extruded-aluminum tubing, with vertical slots to engage sign panels. Provide stop blocks in slots to hold panels in position. Include post caps, fillers, spacers, junction boxes, access panels, and related accessories required for complete installation.

1. Square Posts: 2 inches square.
2. Post Finish: Match sign panel face.
3. Color: As selected by Architect from manufacturer's full range.

2.5 ACCESSORIES

A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.6 FABRICATION

A. General: Provide manufacturer's standard post and panel signsof configurations indicated.

1. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded surfaces of welding flux and dress exposed and contact surfaces.
2. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
3. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in location not exposed to view after final assembly.
4. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

2.7 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ALUMINUM FINISHES

A. High-Performance Organic Finish (2-Coat Fluoropolymer): AA-C12C40R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: conversion coating; Organic Coating: manufacturer's standard 2-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with AAMA 2604 and with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

B. Verify that items, including anchor inserts, and electrical power are sized and located to accommodate signs.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Excavation: Excavate for sign foundation to elevations and dimensions indicated. Reconstruct subgrade that is not firm, undisturbed, or compacted soil, or that is damaged by freezing temperatures, frost, rain, accumulated water, or construction activities by excavating a further 12 inches, backfilling with satisfactory soil, and compacting to original subgrade elevation.

1. Excavate hole depths approximately 39 inches below finished grade.

B. Set anchor bolts and other embedded items required for installation of signs. Use templates furnished by suppliers of items to be attached.

1. Protect portion of posts, inserts and pylons above ground from concrete splatter.

C. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.

3.3 CLEANING AND PROTECTION

A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION 10 436

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Internally illuminated pylon signs.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for temporary Project identification signs and for temporary informational and directional signs.
2. Section 101416 "Plaques" for one-piece, solid-metal signs, with or without frames.
3. Section 101423 "Panel Signage" and Section 101423.16 "Room-Identification Panel Signage" for wall-mounted sign panels.

1.3 DEFINITIONS

A. Illuminated: Illuminated by lighting source integrally constructed as part of the sign unit.

1.4 COORDINATION

A. Furnish templates and tolerance information for placement of sign-anchorage devices embedded in permanent construction by other installers.

B. Furnish templates for placement of electrical service embedded in permanent construction by other installers.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For signage.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
3. Show message list, typestyles, graphic elements, and layout for each sign at least 3” per foot.

4. Show locations of electrical service connections.
5. Include diagrams for power, signal, and control wiring.

C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.

1. Include representative Samples of available typestyles and graphic symbols.

D. Samples for Verification: For each type of sign assembly, showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

1. Pylon Signs: Not less than 12 inches square, including corner.
2. Variable Component Materials: 8-inch Sample of each base material, character or graphic element, in each exposed color and finish not included in other Samples.
3. Exposed Accessories: Full-size Sample of each accessory type.
4. Full-size Samples, if approved, will be returned to Contractor for use in Project.

E. Product Schedule: For post-and-panel and pylon signs. Use same designations indicated on Drawings or specified.

F. Delegated-Design Submittal: For signs indicated in "Performance Requirements" Article.

1. Include structural analysis calculations for signs indicated to comply with design loads; signed and sealed by the qualified professional engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Evaluation Reports: For post-installed anchors and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

C. Sample Warranty: For special warranty.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

1.9 FIELD CONDITIONS

A. Field Measurements: Verify locations of anchorage devices and electrical service embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within a specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering.
b. Deterioration of embedded graphic image.
c. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design sign structure and anchorage of pylon sign type(s) according to structural performance requirements.

B. Structural Performance: Signs and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated.

1. Uniform Wind Load: As indicated on Drawings.
2. Concentrated Horizontal Load: As indicated on Drawings.
3. Other Design Load: As indicated on Drawings.
4. Uniform and concentrated loads need not be assumed to act concurrently.

C. Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

D. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" the ABA standards of the Federal agency having jurisdiction and ICC A117.1.

E. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 PYLON SIGNS

A. Pylon Sign: Sign with smooth, uniform surfaces and support assembly; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:

1. ASI Signage or approved equal.
2. Illuminated Sign: Backlighted construction with LED lighting including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from sign surfaces as needed to illuminate evenly.

    a. Power: 120 V, 60 Hz, 1 phase, 15 A.
    b. Weeps: Provide weep holes to drain water at lowest part of exterior signs.

3. Hollow-Box Sign Frame: Entire perimeter framed with formed-aluminum sheet or extruded-aluminum, hollow-box-type frame with vertical edges attached to supports with aluminum fittings. Close top and bottom edges of panels with manufacturer's standard welded seams or extrusions.

    a. Hollow-Box Depth: 13 inches.
    b. Profile: Square.
    c. Corner Condition in Elevation: Mitered.
    d. Finish and Color: As selected by Architect from manufacturer's full range.

4. Sign-Frame Mounting: Between pylon supports.

5. Pylon Structure: External frame.

    a. Pylon Shape: Square. (Existing)
    b. External-Frame Finish and Color: As selected by Architect from manufacturer's full range.

6. Sign-Panel-Face Finish and Applied Graphics:

    a. Baked-Enamel or Powder-Coat Finish and Graphics: Manufacturer's standard, in color as selected by Architect from manufacturer's full range.
    b. Painted Finish and Graphics: Manufacturer's standard, factory-applied exterior-grade sign paint, in color as selected by Architect from manufacturer's full range
    c. Photo-Image Graphics: Manufacturer's standard multicolor, 600-dpi halftone or dot-screen image.
    d. Overcoat: Manufacturer's standard baked-on clear coating.

7. Text and Typeface: typeface matching Architect's sample and variable content as scheduled.

2.3 MATERIALS

A. Aluminum Sheet and Plate: ASTM B209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

B. Aluminum Extrusions: ASTM B221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

C. Steel Materials:

1. Metallic-Coated Steel Sheet: ASTM A653/A653M, G90 coating, either commercial or forming steel.
2. Hot-Rolled, Structural-Steel Shapes: ASTM A36/A36M or ASTM A529/A529M.
3. Steel Members Fabricated from Plate or Bar Stock: ASTM A529/A529M or ASTM A572/A572M, 42,000-psi minimum yield strength.
4. Steel Tubing or Pipe: ASTM A500/A500M, Grade B.
5. Bolts for Steel Framing: ASTM A307 or ASTM F3125/F3125M, Grade A325 as necessary for design loads and connection details.
6. For steel exposed to view on completion, provide materials having flat, smooth surfaces without blemishes. Do not use materials whose surfaces exhibit pitting, seam marks, roller marks, rolled trade names, or roughness.

D. Acrylic Sheet: ASTM D4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).

E. Fiberglass Sheet: Multiple laminations of glass-fiber-reinforced polyester resin with UV-light stable, colorfast, nonfading, weather- and stain-resistant, colored polyester gel coat, and with manufacturer's standard finish.

F. Polycarbonate Sheet: ASTM C1349, Appendix X1, Type II (coated, mar-resistant, UV-stabilized polycarbonate), with coating on both sides.

G. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish stainless-steel devices unless otherwise indicated.
3. Exposed Metal-Fastener Components, General:

a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.

b. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant, Allen-head slots unless otherwise indicated.

4. Inserts: Furnish inserts to be set by other installers into concrete or masonry work.

B. Post-Installed Anchors: Fastener systems with bolts of same basic metal as fastened metal, if visible, unless otherwise indicated; with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 or ICC-ES AC308 as appropriate for the substrate.

1. Uses: Securing signs with imposed loads to structure.
2. Material for Exterior or Interior Locations and Where Stainless Steel Is Indicated: Alloy Group 1 stainless-steel bolts, ASTM F59, and nuts, ASTM F594.

C. Power-Actuated Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.5 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in locations concealed from view after final assembly.
2. Mill joints to tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed joints of flux, and dress exposed and contact surfaces.
4. Conceal fasteners and anchors unless indicated to be exposed; locate exposed fasteners where they will be inconspicuous.
5. Internally brace signs for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.

B. Sign Message Panels: Construct sign-panel surfaces to be smooth and to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.

1. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.
2. Increase panel thickness or reinforce with concealed stiffeners or backing materials as needed to produce surfaces without distortion, buckles, warp, or other surface deformations.
3. Continuously weld joints and seams unless other methods are indicated; grind, fill, and dress welds to produce smooth, flush, exposed surfaces with welds invisible after final finishing.

a. Provide through bolts to fasten posts to inserts.

C. Pylon Fabrication: Fabricate pylon signs with integral base consisting of channels, angles, plates, or other fittings. Design and fabricate pylon and anchorage for structural performance indicated. Detail anchorage so that water can drain out of assembly without obstruction. Drill holes in members for anchor-bolt connection. Provide anchor bolts of size required for connecting base to concrete foundations.

1. External Frames: Existing steel framing system and anchorage for direct attachment of sign message panels, modified as required for Project requirements. Provide welded construction using mitered joints. Cut, drill, and tap units to receive hardware, bolts, and similar items.

2.6 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.

D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

2.7 METALLIC-COATED STEEL FINISHES

A. Surface Preparation: Clean surfaces of oil and other contaminants. Use cleaning methods that do not leave residue. After cleaning, apply a conversion coating compatible with the organic coating to be applied over it. Clean welds, mechanical connections, and abraded areas and apply galvanizing repair paint, complying with SSPC-Paint 20, to comply with ASTM A780/A780M.

B. Factory Prime Finish: After cleaning and pretreating, apply an air-dried primer compatible with the organic coating to be applied over it.

C. Baked-Enamel or Powder-Coat Finish: After cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat to a minimum dry film thickness of 2 mils.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Verify that sign-support surfaces are within tolerances to accommodate signs.

C. Verify that electrical service is correctly sized and located to accommodate signs.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install signs using installation methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Install signs so they do not protrude or obstruct according to the accessibility standard.
3. Before installation, verify that sign components are clean and free of materials or debris that would impair installation.
4. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

3.3 INSTALLING PYLONS

A. Vertical Tolerance: Existing Pylons Field verify dimensions for tolerances for new sign.

B. Attachment with Preset Anchor Bolts: Set pylon base in position over anchor bolts projecting from concrete foundation, shim and support pylon to prevent movement, place washers and nuts, and tighten. Fill shim space with nonshrink, nonmetallic grout, mixed and placed to comply with manufacturer's written instructions.

C. Attachment with Drilled-in-Place Anchor Bolts: Set pylon base in position over concrete foundation, locate and drill anchor holes, shim and support pylon to prevent movement, place washers and anchor bolts, and tighten. Fill shim space with nonshrink, nonmetallic grout, mixed and placed to comply with manufacturer's written instructions.

3.4 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101426

SECTION 102113.19 - PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-plastic toilet compartments.

B. Related Requirements:

1. Section 102800 "Toilet, Bath, and Laundry Accessories" for accessories mounted on toilet compartments.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Solid-plastic toilet compartments:

a. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.

B. Shop Drawings:

1. Include plans, elevations, sections, details, and attachment details.
2. Show locations of cutouts for compartment-mounted toilet accessories.
3. Show locations of centerlines of toilet fixtures.
4. Show locations of floor drains.

C. Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors for each type of toilet compartment.

1. Include Samples of hardware and accessories involving material and color selection.

D. Samples for Verification: Actual sample of finished products for each type of toilet compartment, hardware, and accessory.

1. Size: Manufacturer's standard size.

1.3 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For toilet compartments.

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Extra Stock Materials: Furnish extra materials to Owner that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Door Hinges: One hinge(s) with associated fasteners.
2. Latch and Keeper: One latch(es) and keeper(s) with associated fasteners.
3. Door Bumper: One bumper(s) with associated fasteners.
4. Door Pull: One door pull(s) with associated fasteners.
5. Fasteners: 10 fasteners of each size and type.

1.5 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements, and coordinate before fabrication.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain plastic toilet compartments from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Fire Performance: Tested in accordance with, and pass the acceptance criteria of, NFPA 286.

B. Structural Performance: Where grab bars are mounted on toilet compartments, design panels to comply with the following requirements:

1. Panels are able to withstand a concentrated load on grab bar of at least 250 lbf applied at any direction and at any point, without deformation of panel.

C. Regulatory Requirements: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1 for toilet compartments designated as accessible.

2.3 SOLID-PLASTIC TOILET COMPARTMENTS

A. ASI Accurate Partitions Solid Plastic (HDPE) or approved equal.

B. Toilet-Enclosure Style: Floor anchored.

C. Entrance-Screen Style: Floor anchored.

D. Urinal-Screen Style: Wall hung.

E. Door, Panel, and Pilaster Construction: Solid, high-density polyethylene (HDPE) material, not less than 1 inch thick, seamless, with eased edges, and with homogenous color throughout thickness of material

1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
2. Heat-Sink Strip: Manufacturer's continuous, extruded-aluminum or stainless steel strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.
3. Color: One color in each room as selected by Architect from manufacturer's full range.

F. Entrance-Screen Construction: Matching panel construction.

G. Urinal-Screen Construction: Matching panel construction.

H. Pilaster Shoes: Manufacturer's standard design; stainless steel.

I. Pilaster Sleeves (Caps): Manufacturer's standard design; stainless steel.

J. Brackets (Fittings):

1. Full-Height (Continuous) Type: Manufacturer's standard design; extruded aluminum.

2.4 HARDWARE AND ACCESSORIES

A. Door Hardware and Accessories: Manufacturer's operating hardware and accessories.

1. Hinges:

a. Manufacturer's paired, wraparound, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door.

1) Material, Paired Hinge: Aluminum.

2. Latch and Keeper: Manufacturer's surface-mounted latch unit, designed for emergency access, and with combination rubber-faced door strike and keeper. Provide units that comply with regulatory requirements for accessibility at toilet enclosures designated as accessible.

a. Material: Aluminum.

3. Coat Hook: Manufacturer's combination hook and rubber-tipped bumper, sized to prevent inswinging door from hitting compartment-mounted accessories.

a. Material: Manufacturer's standard.

4. Door Bumper: Manufacturer's rubber-tipped bumper at outswinging doors.

a. Material: Manufacturer's standard.

5. Door Pull: Manufacturer's unit at outswinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at toilet enclosures designated as accessible.

a. Material: Manufacturer's standard.

2.5 MATERIALS

A. Aluminum Castings: ASTM B26/B26M.

B. Aluminum Extrusions: ASTM B221 (ASTM B221M).

C. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304, stretcher-leveled standard of flatness.

D. Stainless Steel Castings: ASTM A743/A743M.

E. Zamac: ASTM B86, commercial zinc-alloy die castings.

2.6 FABRICATION

A. Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

B. Floor-Anchored Units: Manufacturer's standard corrosion-resistant anchoring assemblies at pilasters and walls, with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

C. Door Size and Swings: Unless otherwise indicated, provide 24-inch- wide, inswinging doors for standard toilet enclosures and 36-inch- wide, outswinging doors with a minimum 32-inch- wide, clear opening for toilet enclosures designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.

1. Confirm location and adequacy of blocking and supports required for installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

1. Maximum Clearances:

a. Pilasters and Panels or Screens: 1/2 inch.
b. Panels or Screens and Walls: 1 inch.

2. Full-Height (Continuous) Brackets: Secure panels or screens to walls and to pilasters with full-height brackets.

a. Locate bracket fasteners, so holes for wall anchors occur in masonry or tile joints.
b. Align brackets at pilasters with brackets at walls.

B. Floor-Anchored Units: Set pilasters with anchors penetrating not less than 2 inches into structural floor unless otherwise indicated in manufacturer's written instructions. Level, plumb, and tighten pilasters. Hang doors and adjust, so tops of doors are level with tops of pilasters when doors are in closed position.

C. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.3 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware in accordance with hardware manufacturer's written instructions for proper operation. Set hinges on inswinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on outswinging doors to return doors to fully closed position.

END OF SECTION 102113.19

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Public-use washroom accessories.
2. Underlavatory guards.
3. Custodial accessories.

1.2 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Public-use washroom accessories.
2. Underlavatory guards.
3. Custodial accessories.

B. Product Data Submittals: For each product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.

C. Samples: For each exposed product and for each finish specified, full size.

1. Approved full-size Samples will be returned and may be used in the Work.

D. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.

1. Identify locations using room designations indicated.

1.4 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For manufacturer's special warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For accessories to include in maintenance manuals.

1.6 WARRANTY

A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, visible silver spoilage defects.
2. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Design accessories and fasteners to comply with the following requirements:

1. Grab Bars: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.
2. Shower Seats: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Source Limitations: Obtain public-use washroom accessories from single source from single manufacturer.

B. Toilet Tissue (Roll) Dispenser TD01:

1. Bobrick Washroom Equipment, Inc. B-2740 or approved equal.
2. Description: Double-roll dispenser.
3. Mounting: Partition mounted, serving two adjacent toilet compartments or Surface mounted.
4. Capacity: Designed for 4-1/2- or 5-inch diameter tissue rolls.
5. Material and Finish: Satin-finish aluminum bracket with plastic spindle.

C. Combination Towel (Folded) Dispenser/Waste Receptacle TW01

1. Bobrick Washroom Equipment, Inc. B-3944 or approved equal.

2. Description: Combination unit for dispensing C-fold or multifold towels, with removable waste receptacle.
3. Mounting: Semirecessed.

    a. Designed for nominal 4-inch wall depth.

4. Minimum Towel-Dispenser Capacity: 600 C-fold or 800 multifold paper towels.
5. Minimum Waste-Receptacle Capacity: 4 gal.
6. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin)
7. Liner: Reusable, vinyl waste-receptacle liner
8. Lockset: Tumbler type for towel-dispenser compartment.

D. Soap Dispenser SD01

1. Bobrick Washroom Equipment, Inc. B-2111 or approved equal.
2. Description: Designed for manual operation and dispensing soap in liquid or lotion form.
3. Mounting: Vertically oriented, surface mounted.
4. Capacity:.
5. Materials:.
6. Refill Indicator: Window type.

E. Grab Bar GB01, GB02, GB03 GB04

1. Bobrick Washroom Equipment, Inc. B-5806X.99 or approved equal.
2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch thick.

    a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin) on ends and slip-resistant texture in grip area.

4. Outside Diameter: 1-1/2 inches.
5. Configuration and Length: As indicated on Drawing.

F. Mirror Unit GM01:

1. Bobrick Washroom Equipment, Inc. B-290 1830 or approved equal.
2. Frame: Stainless steel channel

    a. Corners: Manufacturer's standard

3. Size: As indicated on Drawings.

4. Hangers: Manufacturer's standard rigid, tamper and theft resistant

2.3 PUBLIC-USE SHOWER ROOM ACCESSORIES

A. Source Limitations: Obtain public-use shower room accessories from single source from single manufacturer.

B. Shower Curtain Rod CR01

1. Bobrick Washroom Equipment, Inc. B-6047X36 or approved equal.
2. Description: 1-1/4-inch- outside diameter, straight rod.
3. Configuration: As indicated on Drawings
4. Mounting Flanges: Concealed fasteners; in manufacturer's standard material and finish.
5. Rod Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin)

C. Shower Curtain SC01

1. Bobrick Washroom Equipment, Inc. B-204-2 or approved equal.
2. Size: Minimum 6 inches wider than opening by 72 inches high.
3. Material: Vinyl, minimum 0.006 inch thick, opaque, matte
4. Grommets: Corrosion resistant at minimum 6 inches o.c. through top hem.
5. Shower Curtain Hooks: Chrome-plated or stainless steel, spring wire curtain hooks with snap fasteners, sized to accommodate specified curtain rod. Provide one hook per curtain grommet.

D. Folding Shower Seat SS01:

1. Design Basis: Bobrick B-5181 Reversible Folding Shower Seat or approved equal.
2. Configuration: L-shaped seat, designed for wheelchair access
3. Seat: Phenolic or polymeric composite of slat-type or one-piece construction
4. Mounting Mechanism: Stainless steel, ASTM A480/A480M No. 4 finish (satin)
5. Dimensions: 33” x 20 15/16”.

E. Double Robe Hook RH01:

1. Design Basis: Bobrick B-6727 Surface Mounted Double Robe Hook or approved equal.
2. Flange and Support Arm — 18-8, type-304, 22-gauge (0.8mm) stainless steel. Concealed, 16-gauge (1.6mm) stainless steel mounting bracket. All-welded construction. Secured to wall plate with a stainless steel setscrew
3. Concealed Wall Plate — 18-8, type-304, 16-gauge (1.6mm) stainless steel.
4. Cap — 18-8, type-304, 10-gauge (3.6mm) stainless steel. Welded to the support arm.
5. Dimensions: 4” x 2 5/16”.

2.4 CUSTODIAL ACCESSORIES

A. Custodial Mop and Broom Holder MH01:

1. Bobrick Washroom Equipment, Inc. B-223 X or approved equal.
2. Description: Unit with mop and broom holders.
3. Length: As indicated on Drawings.
4. Mop/Broom Holders: Three, spring-loaded, rubber hat, cam type.
5. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).

2.5 MATERIALS

A. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.031-inch- minimum nominal thickness unless otherwise indicated.

B. Brass: ASTM B19, flat products; ASTM B16/B16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B30, castings.

C. Steel Sheet: ASTM A1008/A1008M, Designation CS (cold rolled, commercial steel), 0.036-inch- minimum nominal thickness.

D. Galvanized-Steel Sheet: ASTM A653/A653M, with G60 hot-dip zinc coating.

E. Galvanized-Steel Mounting Devices: ASTM A153/A153M, hot-dip galvanized after fabrication.

F. Fasteners: Screws, bolts, and other devices of same material as accessory unit, unless otherwise recommended by manufacturer or specified in this Section, and tamper and theft resistant where exposed, and of stainless or galvanized steel where concealed.

G. Chrome Plating: ASTM B456, Service Condition Number SC 2 (moderate service).

H. Mirrors: ASTM C1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

2.6 FABRICATION

A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories in accordance with manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

1. Remove temporary labels and protective coatings.

B. Grab Bars: Install to comply with specified structural-performance requirements.

C. Shower Seats: Install to comply with specified structural-performance requirements.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.

B. Clean and polish exposed surfaces in accordance with manufacturer's written instructions.

END OF SECTION 102800

SECTION 104413 - FIRE PROTECTION CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fire-protection cabinets for the following:

a. Portable fire extinguisher.

B. Related Requirements:

1. Section 104416 "Fire Extinguishers" for portable, hand-carried fire extinguishers accommodated by fire-protection cabinets

1.2 PREINSTALLATION CONFERENCE

A. Preinstallation Conference: Conduct conference at Project site.

1. Review methods and procedures related to fire-protection cabinets, including, but not limited to, the following:

a. Schedules and coordination requirements.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Show door hardware, cabinet type, trim style, and panel style. Include roughing-in dimensions and details showing recessed-, semirecessed-, or surface-mounting method and relationships of box and trim to surrounding construction.

B. Shop Drawings: For fire-protection cabinets.

1. Include plans, elevations, sections, details, and attachments to other work.

C. Samples: For each type of exposed finish required.

D. Samples for Initial Selection: For each type of exposed finish required.

E. Samples for Verification: For each type of exposed finish required, prepared on samples 6 by 6 inches square.

F. Product Schedule: For fire-protection cabinets. Indicate whether recessed, semirecessed, or surface mounted. Coordinate final fire-protection cabinet schedule with fire-extinguisher schedule to ensure proper fit and function

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For fire-protection cabinets to include in maintenance manuals.

1.5 COORDINATION

A. Coordinate size of fire-protection cabinets to ensure that type and capacity of fire extinguishers indicated are accommodated.

B. Coordinate sizes and locations of fire-protection cabinets with wall depths.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain fire-protection cabinets, accessories, and fire extinguishers from single source from single manufacturer.

2.2 FIRE-PROTECTION CABINET

A. Cabinet Type: Suitable for fire.

1. Larsen’s Manufacturing Company, Cylindrical Bubble Door Cabinets, C2409 Cameo Series or approved equal.

B. Cabinet Construction: Nonrated.

C. Cabinet Material: Aluminum sheet.

D. Semirecessed Cabinet: One-piece combination trim and perimeter door frame overlapping surrounding wall surface, with exposed trim face and wall return at outer edge (backbend).

1. Rolled-Edge Trim: 2-1/2-inch backbend depth.

E. Cabinet Trim Material: Same material and finish as door.

F. Door Material: Extruded-aluminum shapes.

G. Door Style: Full acrylic bubble with frame.

H. Door Glazing: Molded acrylic bubble.

1. Acrylic Bubble Color: Clear, transparent.

I. Door Hardware: Manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated.

1. Provide manufacturer's standard.
2. Provide manufacturer's standard hinge, permitting door to open 180 degrees.

J. Accessories:

1. Mounting Bracket: Manufacturer's standard steel, designed to secure fire extinguisher to fire-protection cabinet, of sizes required for types and capacities of fire extinguishers indicated, with plated or baked-enamel finish.
2. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as directed by Architect.

    a. Identify fire extinguisher in fire-protection cabinet with the words "FIRE EXTINGUISHER."

        1) Location: Applied to cabinet glazing.
        2) Application Process: Pressure-sensitive vinyl letters.
        3) Lettering Color: Black.
        4) Orientation: Vertical.

K. Materials:

1. Aluminum: ASTM B221 for extruded shapes and aluminum sheet, with strength and durability characteristics of not less than Alloy 6063-T5 for aluminum sheet.

    a. Finish: Clear anodic.
    b. Color: As selected by Architect from full range of industry colors and color densities.
2. Transparent Acrylic Sheet: ASTM D4802, Category A-1 (cell-cast sheet), 3 mm thick, with Finish 1 (smooth or polished).

2.3 FABRICATION

A. Fire-Protection Cabinets: Provide manufacturer's standard box (tub) with trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated.

1. Weld joints and grind smooth.
2. Miter corners and grind smooth.
3. Provide factory-drilled mounting holes.
4. Prepare doors and frames to receive locks.

B. Cabinet Doors: Fabricate doors according to manufacturer's standards, from materials indicated and coordinated with cabinet types and trim styles.

1. Fabricate door frames with tubular stiles and rails and hollow-metal design, minimum 1/2 inch thick.

2. Fabricate door frames of one-piece construction with edges flanged.
3. Miter and weld perimeter door frames and grind smooth.

C. Cabinet Trim: Fabricate cabinet trim in one piece with corners mitered, welded, and ground smooth.

2.4 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's AMP 500, "Metal Finishes Manual for Architectural and Metal Products," for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces of fire-protection cabinets from damage by applying a strippable, temporary protective covering before shipping.

C. Finish fire-protection cabinets after assembly.

D. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine walls and partitions for suitable framing depth and blocking where semirecessed cabinets will be installed.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Prepare recesses for semirecessed fire-protection cabinets as required by type and size of cabinet and trim style.

3.3 INSTALLATION

A. General: Install fire-protection cabinets in locations and at mounting heights indicated or, if not indicated, at height indicated below: or, if not indicated, at heights acceptable to authorities having jurisdiction.

1. Fire-Protection Cabinet Mounting Height: 48 inches above finished floor to top of fire extinguisher.

B. Fire-Protection Cabinets: Fasten cabinets to structure, square and plumb.

1. Unless otherwise indicated, provide recessed fire-protection cabinets. If wall thickness is inadequate for recessed cabinets, provide semirecessed fire-protection cabinets.

2. Fasten mounting brackets to inside surface of fire-protection cabinets, square and plumb.

C. Identification:

1. Apply vinyl lettering at locations indicated.

3.4 ADJUSTING AND CLEANING

A. Remove temporary protective coverings and strippable films, if any, as fire-protection cabinets are installed unless otherwise indicated in manufacturer's written installation instructions.

B. Adjust fire-protection cabinet doors to operate easily without binding. Verify that integral locking devices operate properly.

C. On completion of fire-protection cabinet installation, clean interior and exterior surfaces as recommended by manufacturer.

D. Touch up marred finishes, or replace fire-protection cabinets that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by fire-protection cabinet and mounting bracket manufacturers.

E. Replace fire-protection cabinets that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 104413

SECTION 104416 - FIRE EXTINGUISHERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes portable, hand-carried fire extinguishers and mounting brackets for fire extinguishers.

B. Related Requirements:

1. Section 104413 "Fire Protection Cabinets."

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include rating and classification, material descriptions, dimensions of individual components and profiles, and finishes for fire extinguisher and mounting brackets.

B. Product Schedule: For fire extinguishers. Coordinate final fire-extinguisher schedule with fire-protection cabinet schedule to ensure proper fit and function.

1.4 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For fire extinguishers to include in maintenance manuals.

1.6 COORDINATION

A. Coordinate type and capacity of fire extinguishers with fire-protection cabinets to ensure fit and function.

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure of hydrostatic test according to NFPA 10 when testing interval required by NFPA 10 is within the warranty period.
b. Faulty operation of valves or release levers.

2. Warranty Period: Six years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."

B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.

1. Provide fire extinguishers approved, listed, and labeled by FM Global.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

A. Fire Extinguishers: Type, size, and capacity for each fire-protection cabinet and mounting bracket indicated.

1. Larsen’s Multi-Purpose Dry Chemical Extinguisher MP10 or approved equal.
2. Source Limitations: Obtain fire extinguishers, fire-protection cabinets, and accessories, from single source from single manufacturer.

B. Multipurpose Dry-Chemical Type in Aluminum Container: UL-rated 4-A:60-B:C, 10-lb nominal capacity, with monoammonium phosphate-based dry chemical in enameled-aluminum container.

2.3 MOUNTING BRACKETS

A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or red baked-enamel finish.

1. Larsen’s standard bracket for fire extinguisher specified or approved equal.
2. Source Limitations: Obtain mounting brackets and fire extinguishers from single source from single manufacturer.

B. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated by Architect.

1. Identify bracket-mounted fire extinguishers with the words "FIRE EXTINGUISHER" in red letter decals applied to mounting surface.

a. Orientation: Vertical.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine fire extinguishers for proper charging and tagging.

1. Remove and replace damaged, defective, or undercharged fire extinguishers.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.

B. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.

1. Mounting Height: Top of fire extinguisher to be at 48 inches above finished floor.

END OF SECTION 104416

SECTION 105113 - METAL LOCKERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Knocked-down corridor lockers.
2. Locker benches.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal locker and bench.

B. Shop Drawings: For metal lockers.

1. Include plans, elevations, sections, and attachment details.
2. Show locker trim and accessories.
3. Include locker identification system and numbering sequence.

C. Samples: For each color specified, in manufacturer's standard size.

D. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available.

E. Samples for Verification: For the following products, in manufacturer's standard size:

1. Lockers and equipment.
2. Locker benches.

F. Product Schedule: For lockers.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. The following metal locker hardware items equal to 10 percent of amount installed for each type and finish installed, but no fewer than five units:

    a. Locks.
    b. Blank identification plates.
    c. Hooks.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver metal lockers until spaces to receive them are clean, dry, and ready for their installation.

1.8 FIELD CONDITIONS

A. Field Measurements: Verify actual dimensions of recessed openings by field measurements before fabrication.

1.9 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of work specified in other Sections to ensure that metal lockers can be supported and installed as indicated.

1.10 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of metal lockers that fail in materials or workmanship, excluding finish, within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Structural failures.
    b. Faulty operation of latches and other door hardware.

2. Damage from deliberate destruction and vandalism is excluded.
3. Warranty Period for Knocked-Down Metal Lockers: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain metal lockers**,** locker benches, and accessories from single source from single locker manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: For lockers and locker benches indicated to be accessible, comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and the ABA standards of the Federal agency having jurisdiction and ICC A117.1.

2.3 KNOCKED-DOWN CORRIDOR LOCKERS: KL

A. Design Basis: Salsbury Industries, 15-inch Wide 15-inch Deep 81000 Single Tier Vented Metal Lockers or equal.

B. Doors: One piece; fabricated from 0.060-inch nominal-thickness steel sheet; formed into channel shape with double bend at vertical edges and with right-angle single bend at horizontal edges.

1. Doors for box lockers less than 15 inches wide may be fabricated from 0.048-inch nominal-thickness steel sheet.
2. Reinforcement: Manufacturer's standard reinforcing angles, channels, or stiffeners for doors more than 15 inches wide; welded to inner face of doors.
3. Stiffeners: Manufacturer's standard full-height stiffener fabricated from 0.048-inch nominal-thickness steel sheet; welded to inner face of doors.
4. Door Style: Vented panel as follows:

    a. Perforated Vents: Manufacturer's standard shape and configuration.

C. Body: Assembled by riveting or bolting body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

1. Tops, Bottoms, and Intermediate Dividers: 0.024-inch nominal thickness, with single bend at sides.
2. Backs and Sides: 0.024-inch nominal thickness, with full-height, double-flanged connections.
3. Shelves: 0.024-inch nominal thickness, with double bend at front and single bend at sides and back.

D. Frames: Channel formed; fabricated from 0.060-inch nominal-thickness steel sheet; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral, full-height door strikes on vertical main frames.

E. Hinges: Welded to door and attached to door frame with no fewer than two factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees.

1. Hinges: Manufacturer's standard, steel, continuous or knuckle type.

F. Projecting Door Handle and Latch: Finger-lift latch control designed for use with either built-in combination locks or padlocks; positive automatic latching, chromium plated; pry and vandal resistant.

1. Latching Mechanism: Manufacturer's standard, rattle-free latching mechanism and moving components isolated to prevent metal-to-metal contact, and incorporating a prelocking device that allows locker door to be locked while door is open and then closed without unlocking or damaging lock or latching mechanism.

G. Locks: Combination padlocks

H. Identification Plates: Manufacturer's standard, etched, embossed, or stamped aluminum plates, with numbers and letters at least 3/8 inch high.

I. Hooks: Manufacturer's standard ball-pointed hooks, aluminum or steel; zinc plated.

J. Legs: 6 inches high; formed by extending vertical frame members, or fabricated from 0.075-inch nominal-thickness steel sheet; welded to bottom of locker.

K. Continuous Sloping Tops: Fabricated from manufacturer's standard thickness, but not less than 0.036-inch nominal-thickness steel sheet.

1. Closures: Vertical-end type.
2. Sloping-top corner fillers, mitered.

L. Recess Trim: Fabricated from 0.048-inch nominal-thickness steel sheet.

M. Filler Panels: Fabricated from manufacturer's standard thickness, but not less than 0.036-inch nominal-thickness steel sheet.

N. Finished End Panels: Fabricated from 0.024-inch nominal-thickness steel sheet to cover unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.

O. Center Dividers: Fabricated from 0.024-inch nominal-thickness steel sheet.

P. Materials:

1. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B, suitable for exposed applications.

Q. Finish: Baked enamel or powder coat.

1. Color: As selected by Architect from manufacturer's full range.

2.4 LOCKS

A. Combination Padlock: Provided by Owner.

2.5 LOCKER BENCHES

A. Design Basis: Salsbury Aluminum Locker Bench and Aluminum ADA Locker Bench

B. Provide bench units with overall assembly height of 18 inches.

C. Bench Tops: Manufacturer's standard one-piece units, with rounded corners and edges.

1. Size: 10 inches deep x 72 inches wide. Model# 77776SLV-BM
2. Size: 20 inches deep x 42 inches wide tops where accessible benches are indicated. Model# 7771SLV-ADA

3. Extruded aluminum with clear anodic finish.

D. Fixed-Bench Pedestals: Manufacturer's standard supports, with predrilled fastener holes for attaching bench top and anchoring to floor, complete with fasteners and anchors, and as follows:

1. Aluminum: per manufacturers standard pedestals form; with nonskid pads at bottom.

a. Finish: Clear anodic finish.

E. Materials:

1. Extruded Aluminum: ASTM B2, alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated.

2.6 FABRICATION

A. Fabricate metal lockers square, rigid, without warp, and with metal faces flat and free of dents or distortion. Make exposed metal edges safe to touch and free of sharp edges and burrs.

1. Form body panels, doors, shelves, and accessories from one-piece steel sheet unless otherwise indicated.
2. Provide fasteners, filler plates, supports, clips, and closures as required for complete installation.

B. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments.

C. Equipment: Provide each locker with an identification plate and the following equipment:

1. Double-Tier Units: One double-prong ceiling hook and two single-prong wall hooks.

D. Knocked-Down Construction: Fabricate metal lockers by preassembling at plant prior to shipping, using manufacturer's nuts, bolts, screws, or rivets.

E. Accessible Lockers: Fabricate as follows:

1. Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches above the floor.

F. Continuous Sloping Tops: Fabricated in lengths as long as practical, without visible fasteners at splice locations; finished to match lockers.

1. Sloping-top corner fillers, mitered.

G. Recess Trim: Fabricated with minimum 2-1/2-inch face width and in lengths as long as practical; finished to match lockers.

H. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip-joint filler angle formed to receive filler panel.

I. Boxed End Panels: Fabricated with 1-inch- wide edge dimension, and designed for concealing fasteners and holes at exposed ends of nonrecessed metal lockers; finished to match lockers.

1. Provide one-piece panels for double-row (back-to-back) locker ends.

J. Finished End Panels: Fabricated to conceal unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.

1. Provide one-piece panels for double-row (back-to-back) locker ends.

K. Center Dividers: Full-depth, vertical partitions between bottom and shelf; finished to match lockers.

2.7 ACCESSORIES

A. Fasteners: Zinc- or nickel-plated steel, slotless-type, exposed bolt heads; with self-locking nuts or lock washers for nuts on moving parts.

B. Anchors: Material, type, and size required for secure anchorage to each substrate.

1. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls for corrosion resistance.
2. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine walls and floors or support bases, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install lockers level, plumb, and true; shim as required, using concealed shims.

1. Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than 36 inches o.c. Using concealed fasteners, install anchors through backup reinforcing plates, channels, or blocking as required to prevent metal distortion.
2. Anchor single rows of metal lockers to walls near top.

B. Knocked-Down Lockers: Assemble with manufacturer's standard fasteners, with no exposed fasteners on door faces or face frames.

C. Equipment:

1. Attach hooks with at least two fasteners.
2. Attach door locks on doors using security-type fasteners.
3. Identification Plates: Identify metal lockers with identification indicated on Drawings.

    a. Attach plates to each locker door, near top, centered, with at least two aluminum rivets.
    b. Attach plates to upper shelf of each open-front metal locker, centered, with a least two aluminum rivets.

D. Trim: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.

1. Attach recess trim to recessed metal lockers with concealed clips.
2. Attach filler panels with concealed fasteners. Locate filler panels where indicated on Drawings.
3. Attach sloping-top units to metal lockers, with closures at exposed ends.
4. Attach boxed end panels using concealed fasteners to conceal exposed ends of nonrecessed metal lockers.
5. Attach finished end panels using fasteners only at perimeter to conceal exposed ends of nonrecessed metal lockers.

E. Fixed Benches: Provide no fewer than two pedestals for each bench, uniformly spaced not more than 72 inches apart. Securely fasten tops of pedestals to undersides of bench tops, and anchor bases to floor.

3.3 ADJUSTING

A. Clean, lubricate, and adjust hardware. Adjust doors and latches to operate easily without binding.

3.4 PROTECTION

A. Protect metal lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit use during construction.

B. Touch up marred finishes, or replace metal lockers that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by locker manufacturer.

END OF SECTION 105113

DIVISION 12

FURNISHINGS

SECTION 123661.16 - SOLID SURFACING COUNTERTOPS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid surface material countertops.
2. Solid surface material backsplashes.
3. Solid surface material end splashes.
4. Solid surface material windowsill.

1.2 ACTION SUBMITTALS

A. Product Data: For countertop materials.

B. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.

1. Show locations and details of joints.
2. Show direction of directional pattern, if any.

C. Samples for Initial Selection: For each type of material exposed to view.

D. Samples for Verification: For the following products:

1. Countertop material, 6 inches square.
2. One full-size solid surface material countertop, with front edge and backsplash, 8 by 10 inches, of construction and in configuration specified.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For solid surface material countertops to include in maintenance manuals. Include Product Data for care products used or recommended by Installer and names, addresses, and telephone numbers of local sources for products.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate countertops similar to that required for this Project, and whose products have a record of successful in-service performance.

B. Installer Qualifications: Fabricator of countertops.

C. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for fabrication and execution.

1. Build mockup of typical countertop as indicated on Drawings.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 FIELD CONDITIONS

A. Field Measurements: Verify dimensions of countertops by field measurements after base cabinets are installed but before countertop fabrication is complete.

1.7 COORDINATION

A. Coordinate locations of utilities that will penetrate countertops or backsplashes.

PART 2 - PRODUCTS

2.1 SOLID SURFACE COUNTERTOP MATERIALS

A. Solid Surface Material: Homogeneous-filled plastic resin complying with ISFA 2-01.

Design Basis: Wilsonart, Solid Surface Countertops or approved equal.

1. Type: Provide Standard type unless Special Purpose type is indicated.
2. Colors and Patterns: As selected by Architect from manufacturer's full range.

2.2 FABRICATION

A. Fabricate countertops according to solid surface material manufacturer's written instructions and to the AWI/AWMAC/WI's "Architectural Woodwork Standards."

1. Grade: Premium.

B. Configuration:

1. Front: 1-1/2-inch (38-mm) laminated bullnose.
2. Backsplash: Radius edge with 3/8-inch radius.

3. End Splash: Matching backsplash.

C. Countertops:

1. 3/4-inch thick, solid surface material with front edge built up with same material.

D. Backsplashes: 3/4-inch- thick, solid surface material.

E. Fabricate tops with shop-applied edges unless otherwise indicated. Comply with solid surface material manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.

1. Fabricate with loose backsplashes for field assembly.

F. Joints:

1. Fabricate countertops without joints.

G. Cutouts and Holes:

1. Undercounter Plumbing Fixtures: Make cutouts for fixtures using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.

a. Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop and projecting 3/16 inch into fixture opening.

2. Counter-Mounted Plumbing Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.

2.3 INSTALLATION MATERIALS

A. Adhesive: Product recommended by solid surface material manufacturer.

B. Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates to receive solid surface material countertops and conditions under which countertops will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of countertops.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install countertops level to a tolerance of 1/8 inch in 8 feet, 1/4 inch maximum. Do not exceed 1/64-inch difference between planes of adjacent units.

B. Fasten countertops by screwing through corner blocks of base units into underside of countertop. Predrill holes for screws as recommended by manufacturer. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

C. Install backsplashes and end splashes by adhering to wall and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.

D. Install aprons to backing and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears. Fasten by screwing through backing. Predrill holes for screws as recommended by manufacturer.

E. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.

F. Apply sealant to gaps at walls; comply with Section 079200 "Joint Sealants."

END OF SECTION 123661.16

SECTION 125000 – INTERIOR FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Desk Furniture Systems

1.3 COORDINATION

A. Coordinate installation furniture. Furnish drawings, templates, and directions for installing anchorages. Deliver items to Project site in time for installation.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for furniture.

B. Shop Drawings: For furniture.

1. Include plans, elevations.
2. Power and Data Locations.

C. Samples for Initial Selection: For furniture with factory-applied color finishes.

D. Samples for Verification: For each type of furniture indicated.

1. Furniture:
   a. Fabric Materials
   b. Pre-Finished Metals
   c. Worksurface Materials

1.6 INFORMATIONAL SUBMITTALS

A. Field quality-control reports documenting inspections of installed products.

1. Field quality-control certification signed by Contractor.

1.7 CLOSEOUT SUBMITTALS

A. Maintenance Data: For all furniture included in this specification as recommended by the manufacturer.

B. Warranty Data: Warranty for a furniture included in this specification to be provided with a mfr warranty as outlined in the Technical Specification.

1.8 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tools: Provide two sets of tools for installing and removing furniture and seating components as required for typical maintenance..

1.9 DELIVERY, STORAGE, AND HANDLING

A. Furniture: Deliver wrapped / protected per mfr's recommendation to provide protection during transit and Project-site storage. Protect from contact with moisture.

1.10 FIELD CONDITIONS

A. Field Measurements: Verify areas to receive furniture prior to fabrication of units.

PART 2 - PRODUCTS

2.1 INTERIOR FURNISHINGS

A. All Basis of Design systems, including Furniture Systems and Work surfaces have been developed around Steelcase products. Alternate products from manufacturers with equivalents are acceptable. Alternate products are to be review for approval by the Architect.

2.2 DESK FURNITURE SYSTEMS

A. Desk Furniture Systems:

1. Provide Steelcase "ANSWER" Desk Furniture System or equal.

a. See included product Technical Specification for Requirements, including Warranty, Testing, Product Construction and Materials.
b. See Interior Furnishings Construction Documents (IF-101) for Basis of Design Layout and bill of material for each furniture group required.
c. Approved Alternates include: Haworth X series, Herman Miller Canvas, meridian files.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of furniture.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of furniture.

C. Verify locations and quantity of furniture with those indicated on Shop Drawings.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing furniture to in-place construction. Fasteners to be concealed and appropriate for substrate.

B. Cutting, Fitting, and Placement: Obtain manufacturer's written approval for cutting, drilling, and fitting required for installing furniture. Set furniture accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

C. Assemble furniture requiring field assembly with no exposed fasteners on exposed faces and frames.

3.3 FIELD QUALITY CONTROL

A. Inspect installed products to verify compliance with requirements. Prepare inspection reports and indicate compliance with and deviations from the Contract Documents.

B. Remove and replace work if inspections indicate that work does not comply with specified requirements. Remove malfunctioning units; replace with new units.

C. Perform additional inspections to determine compliance of replaced or additional work. Prepare inspection reports.

D. Prepare field quality-control certification that states installed products and their installation comply with requirements in the Contract Documents.

3.4 CLEANING AND PROTECTION

A. Touchup Painting: Cleaning and touchup painting of furniture areas is to be provided per mfr's requirements. Colors and finish to match.

3.5 APPENDIX

A. See the following Furniture System Technical Specifications:

- APPX-1-Answer Product Spec
- APPX-2-Universal Systems Worksurfaces Product Spec

END OF SECTION 125000

TECHNICAL PRODUCT SPECIFICATION

Answer® Panel

POSITIONING STATEMENT

Flexibility redefined. Simple to install, expand, shrink and reconfigure, Answer easily adapts as your organization changes. It's this flexibility that has helped Answer become one of the best-selling systems in the market.

A	WARRANTY AND TESTING INFORMATION
A.1	► **WARRANTY**
A.1.1	• Steelcase offers a lifetime warranty that product is free from defects in materials and workmanship (includes shipping, parts and labor for the repair or replacement of defective item.)
A.1.2	• The following lifetime warranty exceptions are allowed:
A.1.2.1	▪ Laminates and wood veneers have a minimum 12 year warranty.
A.1.2.2	▪ Modular power components have a minimum 12 year warranty.
A.1.2.3	▪ Vertical surface textiles have a 12 year warranty.
A.1.2.4	▪ Paint colorfastness has a 5 year warranty.
A.1.2.5	▪ Markerboards have a 3 year warranty.
A.1.3	• Complete warranty coverage is available online or upon request.
A.2	► **TESTING**
A.2.1	• Panels meet or exceed the ANSI/BIFMA X5.6 Panel System tests. This test standard specifies acceptance levels to help ensure reasonable safety and performance.
A.2.1.1	▪ The above testing is designed to decrease the risk of employee injury.
A.2.2	• Panel wiring meets or exceeds UL 183 Manufactured Wiring Systems tests.
A.2.3	• Panels are designed for installation in compliance with the National Electric Code (NFPA 70 - 2011).
A.2.4	• NFPA 101 compliant panels are available in standard offering.
A.2.5	• Standard panel fabrics meet or exceed UL 723 Surface Burning Characteristic of Building Materials tests. Flammability testing to use NFPA 255 guidelines.
A.2.6	• Standard panel fabrics meet or exceed UL 1286 Standard for Safety of Office Furnishings tests. This standard utilizes the ASTM E 84 Tunnel Test method to simulate a sprinklered occupancy, as opposed to the alternative NFPA 265 Room Corner Test method.
A.2.7	• *Product installed in the State of California only:* Several different workstation designs have pre-approval from OSHPD. This is a document required for anchorage of furniture in healthcare facilities.
A.2.8	• Panels meet the following minimum acoustic ratings per ASTM C423-02a and E795-

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	00 (NRC) and ASTM C413-02a and E90-02 (STC):
A.2.8.1	▪ Panel with Performance Tackable Acoustic Skins – NRC: .65, STC: 16.
A.2.8.2	▪ Panel with Tackable Acoustic Skins – NRC: .55, STC: 7.
A.2.8.3	▪ Acoustic inserts are offered (as specials) to achieve increased acoustic properties beyond those shown in A.2.8.1 and A.2.8.2 if desired.
B	**ENVIRONMENTAL FEATURES**
B.1	► **MATERIALS CHEMISTRY**
B.1.1	• Reduced VOC emissions by using water-based adhesives.
B.1.2	• Offers PVC-free power components to avoid potential long-term human and environmental impacts that have been associated with the manufacture and future disposal of PVC.
B.1.3	• Fabrics are available which meet MBDC Cradle-to-Cradle Gold sustainable design certification. These fabrics contain less than 100 parts per million of any heavy metals of concern, which includes antimony, which is traditionally found in polyester fabrics.
B.1.4	• Painted components are coated with powder coat paint, which results in minimal waste, consumes less energy and requires no solvents, compared to traditional wet paint processes.
B.2	► **LIFE CYCLE ASSESSMENT**
B.2.1	• Offers an MBDC Cradle-to-Cradle™ Certified workstation.
B.2.2	• In lieu of disposing furniture in a landfill at the end of its useful life, the Manufacturer provides opportunities for the Customer to recycle, resell or refurbish their used furniture.
B.3	► **RECYCLED CONTENT AND RECYCLABILITY**
B.3.1	• Non-dedicated frame makes it easy to disassemble and recycle panel components.
B.3.2	• Frame is made up of at least 30% recycled content.
B.3.3	• Certified panel fabrics contain up to 100% of recycled content.
B.3.4	• Packaging waste is minimized by bundling like parts.
B.3.5	• Packaging materials contain at least 15% recycled content.
B.3.6	• Open plan workstation as defined by 444.8 BIFMA are constructed of up to 46% recycled content
B.3.6.1	▪ 13% post consumer content
B.3.6.2	▪ 33% pre consumer content

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B.3.7	• Components that make up the open plan workstation defined by 444.8 BIFMA are up to 71% recyclable at end of life.
B.4	► **CERTIFICATIONS**
B.4.1	• Furniture is certified to meet the emissions requirements of the California DPH *Standard Practice for the Testing of Volatile Organic Emissions from Various Sources*-2004 (CA Section 01350) and ANSI/BIFMA X7.1 *Standard for Formaldehyde and TVOC Emissions of Low-emitting Office Furniture Systems and Seating* using either the open plan or private office exposure scenarios defined in ANSI/BIFMA M7.1 *Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components, and Seating*. Testing is conducted in accordance with ANSI/BIFMA M7.1. Certification is provided by an organization independent of the manufacturer as well as from the testing laboratory, in accordance with the requirements of ISO/IEC Guide 65 *General requirements for bodies operating product certification systems*.
B.4.1.1	• The above requirement is covered by SCS IndoorAdvantage™ Gold Certification for indoor air quality.
B.4.2	• Product is Level™ 2 Certified with the BIFMA e3-2008 Furniture Sustainability Standards to meet or exceed the most current environmental standards in the furniture industry.
C	**PRODUCT DESIGN FEATURES**
C.1	► **PANEL FRAMES - VERTICAL (JUNCTIONS) AND HORIZONTAL (CONNECTING BAR) ELEMENTS**
C.1.1	• Dimensions (assembled)
C.1.1.1	▪ Depth: 3”D (some trim components exceed this slightly)
C.1.1.2	▪ Heights: 30”H, 42”H, 48”H, 54”H, 66”H, 78”H.
C.1.1.3	▪ Panels conform to recommended heights for 95th percentile adults per Koala Ergonomic Panel Height Chart, including the following:
C.1.1.3.1	○ 42”H and 48”H for territorial privacy.
C.1.1.3.2	○ 54”H for seated visual privacy
C.1.1.3.3	○ 66”H for standing visual privacy
C.1.1.3.4	○ 78”H for total standing visual privacy
C.1.1.4	▪ Widths: 18”W, 24”W, 30”W, 36”W, 42”W, 48”W, 60”W, 72”W.
C.1.2	• Standard offerings
C.1.2.1	▪ Panel frame is made up of vertical (aka “posts” or “uprights”) and horizontal elements (aka “beams”) assembled easily on-site.
C.1.2.2	▪ For optimal flexibility and reconfigurability, panels feature their own common vertical posts and junction blocks are added as needed to make adjacent panel

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	connections at 90º or 120º corners. Junction blocks and posts are offered separately for future addition or reconfiguration of panels. Inline connections utilize a shared junction.
C.1.2.2.1	○ Note: Refer to previous version of Answer panel specifications for panels which featured a shared vertical element dedicated to a single type of corner connection.
C.1.2.3	■ The following panel connections are accomodated:
C.1.2.3.1	○ In-line (180-degree)
C.1.2.3.2	○ L, T and X (90-degree)
C.1.2.3.3	○ V and Y (120-degree)
C.1.2.4	■ Connectors are able to connect panels of differing heights. Connector system allows continuation of electrical and communications wiring within a workstation and from workstation to workstation. Connectors are reusable.
C.1.2.5	■ All vertical and horizontal panel trim components offer matching finishes.
C.1.2.6	■ Right angle (90-degrees) connections do not interfere with the capability to hang work surfaces and other components on any adjacent panel.
C.1.2.7	■ Slotted channels in vertical element allow for worksurface supports and overhead storage at 1-1/32” increments.
C.1.2.8	■ Vertical element features an internal seal to help block light and sound from transferring from one side of the panel to the other.
C.1.2.9	■ Lay-in cable routing is accommodated in the base area and in the top cap. Horizontal cable routing is also accommodated with other openings in the vertical elements.
C.1.2.10	■ Leveling glides adjust up to 2-3/4” to provide uniform height assurance for adjacent units on uneven floors, and the capability of easily relocating an entire run of panels by sliding over the floor without disassembly of panels and hanging components, like worksurfaces and storage.
C.1.2.11	■ Capable of being installed on top of finished flooring without the penetration of the finished floor or the use of floor fasteners; and has complete flexibility for future changes without having to patch floor material. This requirement will minimize the repair and maintenance cost associated with reconfiguration.
C.1.2.12	■ Panels meet or exceed ANSI/BIFMA requirements for mechanical strength and decrease the risk of employee injury.
C.1.2.13	■ No loose fasteners are required to assemble panel base frame elements. Assembly only requires engagement of integral end clamps with a mallet.
C.1.2.14	■ Panels allow up-mounted upper storage.
C.1.2.15	■ Off-modular connectors allow fin panels to be attached to a spine wall in 1-1/32”

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	increments without defacing the spine wall.
C.1.2.16	▪ Connectors are made of steel to withstand the weight of loaded components and the stress of movement under loaded conditions.
C.1.2.17	▪ Panel mounted components have an integral locking device which secures components to the panel, preventing them from being accidentally pulled or knocked off and to secure them in seismic zones.
C.1.2.18	▪ The panel system can support multiple fully loaded hang-on components, such as cantilevered worksurfaces and overhead bins and shelves, on either or both sides of the panel, when applied according to published application guidelines.
C.1.2.18.1	○ Hang-on components are not limited to on-modular attachment.
C.1.2.19	▪ Accessories and appurtenances for a completely finished panel assembly are supplied complete with the system. Additional hardware and brackets are not required to install.
C.1.2.20	▪ Multiple panels connected inline to form a spine wall (aka “service wall”) accept attachment of return “wing” panels.
C.1.2.21	▪ Return “wing” panels used for stability can match or exceed the width of the worksurfaces. Worksurfaces are able to install on return panels without the need for counterbalancing to assure that the structural integrity of the work station will not be compromised.
C.1.2.22	▪ Reconfiguration of all 90-degree panel applications (X, T and L) is as simple as replacement, addition or movement of junction connector blocks and trim pieces. Panels remain intact during reconfiguration due to the interchangeable and external universal nature of the connector blocks.
C.1.3	• Available Options
C.1.3.1	▪ Vertical wall-start allows panel of same height or different height to be secured to structural wall.
C.1.3.2	▪ Floor anchor brackets allows panel to be secured to the floor to prevent movement esp. in seismic zones.
C.1.3.3	▪ Wall channels allow for attachment of bins to a reinforced wall. Wall channel horizontal braces are available for use when mounting a bin wider than 48”.
C.1.3.4	▪ Connection blocks, trim components and trim alignment kits are orderable to cover all possible panel configurations.
C.1.3.5	▪ Full-width steel cable trays can be installed and arranged at various heights within the panel frame for support of lay-in cabling.
C.1.3.5.1	○ Cable trays are sold separately to be installed at any time a need arises.
C.1.3.5.2	○ Cable trays are 1-1/2” wide x 1-5/8” deep. Base cable trays are 1-3/8” wide x 3/4" deep.

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C.1.3.5.3	○ Cable tray capacity is documented in the specification guide (available online).
C.1.3.5.4	○ Side notches and bottom holes allow cables to enter and exit easily (base cable tray doesn't feature bottom holes).
C.1.3.5.5	○ Features for attachment of plastic cable carriers on the bottom expand the horizontal cable management options.
C.1.3.6	■ Grommet for horizontal bar and junctions is sold separately and added in the field to finish the exposed metal edges of cable pass-through openings.
C.1.4	• Stacking Options
C.1.4.1	■ Offer 12"H, 18"H, and 24"H load-bearing stacker panels.
C.1.4.2	■ Stackers work on any panel.
C.1.4.3	■ Stacked panel reaches a maximum height of 90".
C.1.4.4	■ Stacks up to 2 tiers, with the first tier being load-bearing.
C.1.4.5	■ Panels can be stacked without disturbing adjacent panels.
C.1.4.6	■ Panel heights can be raised or lowered without disrupting the base panels or top cap lay in cabling because of the innovative forked bayonet stacker support.
C.1.4.7	■ Panel accepts adjoining stack on segments without removing the existing connector.
C.2	► **PANEL SKINS**
C.2.1	• Dimensions
C.2.1.1	■ Heights: 12"H, 18"H, 24"H, 30"H, and 36"H.
C.2.1.1.1	○ Exception: Tackable, Laminate and Wood skins also offer 42"H, 48"H and 60"H.
C.2.1.1.2	○ Exception: Slatwall skins and glass windows are 12"H, 18"H and 24"H only.
C.2.1.1.3	○ Exception: Technology skins are 12"H and 18"H, with some models available in 6"H.
C.2.1.1.4	○ Some skin heights are sized for "to the floor" applications where standard base trims are not desired.
C.2.1.2	■ Widths: 24"W, 30"W, 36"W, 42"W, 48"W
C.2.1.2.1	○ Exception: Tackable and Steel skins also offer 18"W, 60"W, 72"W.
C.2.1.2.2	○ Exception: Glass Windows also offer 60"W, 72"W, 78"W, 84"W, 90"W and 96"W (18"H and 24"H doesn't offer beyond 72"W)
C.2.2	• Standard Offering

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C.2.2.1	■ Panel features a wide range of skin types including:
C.2.2.1.1	○ Fabric-covered, tackable acoustical skins
C.2.2.1.2	○ Fabric covered, performance tackable acoustical skins
C.2.2.1.3	○ Steel skins in solid, ribbed and perforated patterns
C.2.2.1.4	○ Wood skins
C.2.2.1.5	○ Laminate skins
C.2.2.1.6	○ Glass window segments
C.2.2.1.7	○ Window segments to accommodate custom glass
C.2.2.1.8	○ Technology skins which provide easy access to power and cabling behind the skin
C.2.2.1.9	○ Slatwall skins for mounting slatwall accessories, like Details Worktools, for paper management
C.2.2.1.10	○ Porcelain-coated markerboard skins (with steel substrate for ability to use with magnets)
C.2.2.2	■ Removable and can be repositioned in the field (not dedicated to one position).
C.2.2.3	■ Non-progressive: any skin in the panel configuration can be removed without disrupting any of the other skins.
C.2.2.4	■ Offers tackable, laminate and wood skins in full panel height (monolithic).
C.2.2.5	■ Allows for skin segmentation every 12”H for maximum aesthetic flexibility.
C.2.2.6	■ Allows for combination of available skin heights and materials for maximum aesthetic flexibility.
C.2.2.7	■ All panel windows contain real glass, and offer single pane and double pane options.
C.2.2.8	■ Fabric skins have the ability to be field cut for receptacle/communication outlet openings to allow for maximum flexibility in locating openings where needed.
C.2.2.9	■ Slatwall skin has the ability to support a flat panel monitor.
C.2.2.10	■ Offers steel, fabric tackable, laminate and wood skins to be used in the bottom position which extend to the floor for use when no panel base trim is desired.
C.2.2.11	■ Skins and windows feature a horizontal seal on the top edge to help block light and sound leaks between segmented skins or skin and top cap.
C.2.2.12	■ Segmented tackable and steel skins 42” and wider feature an alignment device in the center to help keep segmented skins planar.
C.2.2.13	■ Skins are available both monolithic (one piece) and segmented in a variety of

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	surface materials and sizes and can be changed on a panel in the field from one to the other at any time. These combinations of materials and sizes allow for maximum aesthetic flexibility.
C.2.2.14	▪ Skins are replaceable in the field and can be added or removed without tools at any time to allow for access to internal power, telecommunications and data cabling within the open panel frame. Removal of skins does not require tearing down a panel run.
C.2.2.15	▪ Skin fabric is factory-attached securely and continuously along the entire perimeter of a steel metal frame.
C.2.2.16	▪ Fabric skins have seamless widths of fabric stretched over the entire face of the metal frame with the color of each fabric consistent throughout the installation.
C.2.3	• Available Options
C.2.3.1	▪ Magnetic markerboard surface is available to apply to steel skins (non-ribbed) to provide a writing surface for dry erase markers.
C.2.3.2	▪ Warp on fabric-covered skins are horizontal with the option to order vertical warp.
C.2.3.3	▪ Segmented wood skins are available in sets to ensure correct cathedral wood grain alignment of all skins applied to a frame.
C.3	► **PANEL TOP CAPS, TOP TRIMS AND VERTICAL TRIMS**
C.3.1	• Dimensions:
C.3.1.1	▪ Depths: Match or exceed 3” panel depths slightly.
C.3.1.2	▪ Heights: Match all panel and stacked panel heights including change-of-height applications.
C.3.2	• Standard Offering
C.3.2.1	▪ Top caps and trims are available in the following variations for maximum aesthetic and functional flexibility:
C.3.2.1.1	○ Oval top caps (3-1/8”D x .35”H) with 1-1/8”H slim profile square vertical trims
C.3.2.1.2	○ Oval top caps (3-1/8”D x .35”H) with 2-1/4”H cable routing square vertical trims (for lay-in cable routing)
C.3.2.1.3	○ Square top caps (3-1/8”D x .29”H) with 1-1/8”H slim profile square vertical trims
C.3.2.1.4	○ Square top caps (3-1/8”D x .29”H) with 2-1/4”H cable routing square vertical trims (for lay-in cable routing)
C.3.2.1.5	○ Thin top caps (3”D x .40”H) with .40”H thin vertical trims
C.3.2.2	▪ Top caps install onto or remove from the panel without tools.
C.3.2.3	▪ Vertical trims are available for change-of-height applications.

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C.3.2.4	▪ Junction top cap for vertical element is plastic with molded-in alignment features or come with snap-in aligners to ensure proper alignment with adjacent top caps and vertical trims.
C.3.2.5	▪ Top caps are steel for durability.
C.3.2.6	▪ Top caps up to 96” in length are offered which are designed to span multiple inline panels where no seam is desired.
C.3.2.7	▪ All vertical and horizontal panel trim components and fillers offer matching finishes
C.3.3	• Available Options
C.3.3.1	▪ Vertical trims are available in painted or wood veneer versions. Fabric wrapped vertical trims are available for square and oval trims.
C.3.3.2	▪ Wood veneer versions have wood veneer applied with adhesive over a specially-painted steel substrate part.
C.4	► **PANEL BASETRIMS**
C.4.1	• Dimensions:
C.4.1.1	▪ Widths: Matching all panel widths.
C.4.1.2	▪ Height: 3-3/4”H
C.4.2	• Standard Offering
C.4.2.1	▪ Basetrims are steel and install to the panel base with integral hooks without the need for tools.
C.4.2.2	▪ Basetrims feature knockouts for both power and communication terminations. A filler is available to close off unused openings.
C.4.2.3	▪ Base trims are offered without knockouts where power/data access is not needed.
C.4.2.4	▪ Base trims are available in any paint color to match the panel paint color.
C.4.2.5	▪ An open base trim kit is offered where base trims or power and data routing are not desired.
C.4.2.5.1	○ Open base trim can be easily installed on any panel without modifications to the panel and by using the same attachment locations on the junction as base trim.
C.5	► **POWER AND DATA**
C.5.1	• Dimensions:
C.5.1.1	▪ Powerkit lengths match widths of available panels
C.5.1.2	▪ Base Power Infeeds are available in 6 and 12 ft. lengths (exception: New York

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	Infeeds match panel widths).
C.5.1.3	▪ Multipurpose Power Infeeds are available in 12 and 24 ft. lengths (exception: New York Infeeds match panel widths).
C.5.2	• Standard Offering
C.5.2.1	▪ Lay-in cable routing is accommodated in the base area and the top of every panel. Lay-in cable capacities:
C.5.2.1.1	○ Horizontally in top area: 40 category 6 cables (straight applications)
C.5.2.1.2	○ Horizontally in base area: 36 category 6 cables with power, 48 category 6 cables without power (straight applications).
C.5.2.1.3	○ Total cable capacity of the shortest (30”H) panel is 50 category 6 cables at 40% fill. Panels higher than 30”H have greater capacity.
C.5.2.2	▪ Panels have vertical wire pathways that allow cables to be routed internally from the topway to either beltline or base cavity without external cable managers. The vertical wire path accommodates a minimum of 22 category 6 cables (each averaging .25” diameter).
C.5.2.3	▪ Power has the ability to be accessed in the base or every 12” vertically.
C.5.2.4	▪ The base cavity is able to provide duplex receptacles and data ports access at base height.
C.5.2.5	▪ Panel power is offered in three wiring schematics with either shared or separate neutrals to match the specific wiring strategy to any typical building wiring plan.
C.5.2.5.1	○ 2+2, 8-wire, 4-circuit.
C.5.2.5.2	○ 3+1, 8-wire, 4-circuit.
C.5.2.5.3	○ 3 Separate Neutrals, 8-wire, 3-circuit.
C.5.2.6	▪ Same modular power kit has the ability to be in any location on the panel.
C.5.2.7	▪ Open panel frame construction allows user to store excess cable in the frame for additional future workstations.
C.5.2.8	▪ Power is UL-rated for use in furniture (UL1286) and architecture (UL183).
C.5.2.9	▪ Power components are certified by the Canadian Standards Association (CSA).
C.5.2.10	▪ Power components are color-coded and keyed to prevent connection of mismatched parts.
C.5.2.11	▪ Receptacles are available as 15-amp and 20-amp duplex or dual USB port and all versions are interchangeable in the powerways.
C.5.2.12	▪ Power receptacles are ordered separately.
C.5.2.13	▪ Power receptacles snap into powerkits on one side or both sides of the panel only

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	where needed. Receptacles can be added or moved as needed in the future.
C.5.2.14	▪ Power distribution and top cap cabling is not interrupted when stackers are added to the frame to avoid unnecessary cost and complexity.
C.5.2.15	▪ Cables that run through the frame are protected by the frame's steel construction and do not interfere with the ability to hang components.
C.5.2.16	▪ Each side of the panel has access to every circuit distributed within the panel powerkit.
C.5.2.17	▪ Power and communication are field-installed with the ability to add or move power and cable within any panel after installation.
C.5.2.17.1	○ Electrical system is reconfigurable without an electrician. Licensed electricians are only be required for hardwire connection or top cap feed in to panel power components.
C.5.2.18	▪ The power harnesses is shielded to avoid electrical interference with communication cabling.
C.5.2.19	▪ The use of power receptacles at any location other than the base does not restrict the number of available receptacles in the panel base.
C.5.2.20	▪ All panels are installed with provisions in place to protect the cabling from system component damage. If the power and cabling is to be placed in front of the slotted channel, manufacturer's metal protector shields are supplied and put into place to cover and protect at least 12" of power and cabling passageway.
C.5.2.21	▪ Power infeeds are available to connect building power to the power distribution elements in a panel. Power for 3- and 4-circuit systems are offered.
C.5.2.21.1	○ Base power infeed consists of flexible 6' or 12' long non-metallic, liquid-tight 1/2" dia. conduit with a pivoting modular powerkit connector on the panel end and a hardwire connection on the other end for a building monument. Wires are 12 AWG (exception: neutral wires shall be 10 AWG). A polycarbonate plastic cover, attached with screws, protects the panel connection.
C.5.2.21.2	○ Multipurpose power infeed consists of 12' or 24' long liquid-tight conduit with a modular powerkit connection on one end for the panel and a hardwire connection on the other end for building power in the ceiling or floor.
C.5.2.21.3	○ A base power infeed with a unique junction box for use in New York City is available.
C.5.2.21.4	○ A base power infeed solution for San Francisco is also available.
C.5.2.21.5	○ Insulated wires aree color-coded for hardwired connection to the building source.
C.5.2.22	▪ Ceiling-Access Lay-In Utility Package accommodates ceiling interface. Ceilings up to 10' high are accommodated. Hardwired connection to the building's power is made in the junction box included.

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C.5.2.23	▪ Cable routing locations maintain the minimum bend radius required for fiber optic cable.
C.5.2.24	▪ Cabling termination does not utilize any of the power access locations within the panel base.
C.5.2.25	▪ Panels accommodate a consolidation point location for multiple data interfaces.
C.5.2.26	▪ Raceways are an integral part of the panel and are located in the base, just above the base, below the worksurface, above the worksurface (beltline), at standing height and at upper storage height.
C.5.2.26.1	○ Individual panel or a run of panels are capable of accepting raceways later as needed.
C.5.2.27	▪ Modular powerkit has the capability of multiple connection points to allow branching of power.
C.5.2.28	▪ Power feeds are available at panel base and at top of panels using Base Power Infeeds or Lay-in Utility packages in the base or in the top of the panel.
C.5.2.29	▪ Lay-in cabling is accommodated in the base area and under the top cap. Horizontal cable routing is also accommodated with other openings in the vertical junctions and available every 12” including at worksurface height..
C.5.2.30	▪ Duplex receptacle and data port access are both available at worksurface (beltway) height.
C.5.2.31	▪ Base panels and stacker panels accommodate communication cable entry from the ceiling at any 90º junction or in in-line applications. Communication cables from the ceiling have the ability to horizontally enter and exit the panel frame under the top cap, both in base and stacker panels.
C.5.2.32	▪ Receptacles are 12” on center from each end of the powerkit.
C.5.2.33	▪ Raceway receptacles are in a back-to-back configuration, allowing for back-to-back power access at any height on the panel.
C.5.2.34	▪ 3-prong grounded receptacles conform to NEMA WD 1 and WD 6 commercial grade standards.
C.5.2.35	▪ Cableways within the panel meet the TIA (Telecommunications Industry Association) standard for Category 5 and 6 cables and provide for a 3” bend radius (exceeding the TIA standard by 150%).
C.5.3	• Available Options
C.5.3.1	▪ Standard versions of the electrical system are offered to accommodate New York and Chicago electrical codes.
C.5.3.1	▪ Standard power components are available to meet seismic area requirements.
C.6	► **OTHER PANEL-RELATED PRODUCTS**

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C.6.1	• Translucent Top Screens
C.6.1.1	▪ Dimensions: 5/16”D x 12”H x widths slightly less than panel widths of 24”W, 30”W, 36”W, 42”W or 48”W.
C.6.1.2	▪ Field installed on top of panel without the need for tools.
C.6.1.3	▪ Translucent to provide visual privacy.
C.6.1.4	▪ Installs on square and oval panel top cap.
C.6.2	• Frameless Glass Screens
C.6.2.1	▪ Two versions are offered: clip-attached and recessed. The following sizes are offered:
C.6.2.1.1	○ Clip-attached screen dimensions: 3/8”D x 12.36”H x widths slightly less than panel widths of 24”W, 30”W, 36”W, 42”W, 48”W, 60”W, 72”W, 78”W, 84”W, 90”W, or 96”W.
C.6.2.1.2	○ Recessed screen dimensions: 3/8”D x 6.18”H, 12.36”H or 18.54”H x widths slightly less than panel widths of 24”W, 30”W, 36”W, 42”W, 48”W, 54”W, 60”W, 66”W, 72”W, 78”W, 84”W, 90”W, or 96”W. Note: Heights noted above represent above the panel top cap. 3-1/8” of glass is concealed under the top cap.
C.6.2.2	▪ Able to match a single panel width or span multiple panels inline with a single screen.
C.6.2.3	▪ Field installed rigidly on top of panel with brackets and specially-prepared thin top trim included. Clip-attached screen offers a square trim option.
C.6.2.4	▪ Clear tempered glass is 3/8” thick, with polished and beveled or rounded edges. Glass meets the following safety criteria:
C.6.2.4.1	○ Glass is tempered in accordance with ANSI Z97.1-2004.
C.6.2.4.2	○ Tempered glass conforms to ASTM C1048-04, Kind FT, Condition A, Type 1, Class 3 – Light reducing, tinted, or translucent.
C.6.2.5	▪ An omit glass option is offered if the customer desires glass supplied from a local source or specialty glass.
C.6.3	• Sliding Door
C.6.3.1	▪ Dimensions: 66”H or 78”H x 38”W or 44”W.
C.6.3.2	▪ Available for added privacy.
C.6.3.3	▪ Not dedicated to left- or right-opening unless lock is specified.
C.6.3.4	▪ Features integral door handle which is ADA compliant.
C.6.3.5	▪ Offers a locking option.

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C.6.3.6	▪ Door slides along ADA compliant threshold on wheels which are adjustable for uneven floors.
C.6.3.7	▪ Offers several inserts, including translucent plastic, clear tempered glass or white laminated glass.
C.6.3.8	▪ It is not required to penetrate the floor to install a sliding door.
C.6.4	• Fin wall support utilizing other furniture systems
C.6.4.1	▪ Perpendicular connectors to the Steelcase Post & Beam fence are available for both right- and left-hand applications to form on-module fin wall support. Connectors utilize the vertical slots of the panel with screws added to prevent unintended dislodgement.
C.6.4.2	▪ L-, T- and X-junctions which allow connection to Steelcase c:scape beams are available to create on-module fin wall support for a panel run.
C.6.5	• Wall-Mounted Tackboard
C.6.5.1	▪ A complementary wall-mounted 18”H fabric-covered tackable panel is available in widths from 24”W to 72”W in 6” increments.
C.6.5.2	▪ Tackboard utilize the same vertical steel wall-mounting channels as bins.
D	**CONSTRUCTION METHODS, MATERIALS UTILIZED, AND ASSOCIATED BENEFITS**
D.1	► **PANEL FRAMES**
D.1.1	• Vertical elements (L, T, V, X, Y and End-of-run) consist of the following components:
D.1.1.1	▪ Welded assemblies of slotted and notched 14 ga. (.075”) steel channels for rigidity and strength.
D.1.1.2	▪ Steel leveler for installation on uneven floors.
D.1.1.3	▪ Seal is closed cell polyethylene foam at least 1/8” thick.
D.1.2	• Stacking vertical elements (L, T, V, X, Y and End-of-run) consist of the following components:
D.1.2.1	▪ Welded assemblies of slotted and notched 14 ga. (.075”) steel channels for rigidity and strength.
D.1.2.2	▪ .187” thick high strength steel fork connector.
D.1.2.3	▪ Spring steel clip to keep fork upright during installation.
D.1.3	• Horizontal element consists of the following components:
D.1.3.1	▪ Welded assembly consisting of a rectangular 16 ga. (.059”) steel tube and two 11 ga. (.118”) end clips.
D.1.3.2	▪ 16 ga. (.059”) hardened steel safety cams are riveted to the bottom of each

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	assembly so they can swivel and lock into the vertical elements at each end.
D.1.4	• Optional cable tray consists of the following components:
D.1.4.1	▪ 20 ga. (.036") steel channel which is field installed between two vertical elements for additional support of cables within the frame.
D.1.5	• Optional base cable tray consists of the following components:
D.1.5.1	▪ 24 ga. (.024") steel channel which is field installed between two base trims to support cables in the base of the panel.
D.1.6	• Junction blocks
D.1.6.1	▪ Junctions require between two to five blocks depending on panel heights.
D.1.6.2	▪ 90-degree blocks are steel, .108" (12 ga.) thick.
D.1.6.3	▪ 120-degree blocks are steel, .118" (11 ga.) thick.
D.1.6.4	▪ Blocks are attached to the vertical panel member with screws. Flexible polypropylene light seals are applied on inside corners of 90° corner junctions.
D.2	► **PANEL TRIMS**
D.2.1	• Top cap consists of the following components:
D.2.1.1	▪ Thin 20 ga. (.036"), square 18 ga. (.047") or oval 20 ga. (.036") steel channel. Thin and square trims have notches in the top caps to accommodate change of height trims (thin – needed for inline COH only). Oval trims have shortened top caps to accommodate change of height trims.
D.2.1.2	▪ Top cap is held tightly to the panel with spring steel clips.
D.2.2	• Base covers consist of the following components:
D.2.2.1	▪ 24 ga. (.024") steel channels which have tabs at the ends to be field-installed into slots at the bottom of and between the two vertical elements.
D.2.2.2	▪ Open base trim kit consists of two steel vertical trims and one horizontal steel trim.
D.2.2.2.1	○ Vertical trims are non-handed steel parts at least 20 ga. (.036") thick. Spring steel clips hold them to the panel.
D.2.2.2.2	○ Horizontal trim is a steel part at least 22 ga. (.030") thick.
D.2.3	• Vertical Element Top Caps consist of the following components:
D.2.3.1	▪ Vertical element top caps (oval) – rigid plastic parts which are molded in color or wood veneer is applied. Locking features insure alignment with adjacent trim components.
D.2.3.2	▪ Vertical element top caps (thin or square) – rigid plastic parts which are painted or wood veneer is applied. Locking features insure alignment with adjacent trim

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	components.
D.2.4	• End-of-Run Trim consists of the following components:
D.2.4.1	▪ 22 ga. (.030”) or 20 ga. (.036”) steel channel consisting of hooks at the top for connecting with the junctions and an interference fit designed at the bottom to hold it to the vertical frame element. Wood veneer can be applied to the exposed surfaces of the standard trim with adhesive tape.
D.2.5	• Change-of-Height Trim consists of the following components:
D.2.5.1	▪ Vertical trim is a 20 ga. (.036”) steel channel consisting of hooks at the top for connecting with the vertical frame element and an interference fit designed at the bottom to hold it to the vertical frame element. Wood veneer can be applied to the exposed surfaces of the standard trim with adhesive tape.
D.2.5.2	▪ The change-of-height square and oval vertical trim comes with an inline cap or a corner cap.
D.3	► **PANEL SKINS**
D.3.1	• Performance Tackable Acoustical Fabric-Covered Panel Skins consist of the following components:
D.3.1.1	▪ Frame is made up of pre-painted 18 ga. (.047”) steel channels. Frame members are joined by a staking process at the corners to maintain squareness.
D.3.1.2	▪ Tackable filler is a dual density composite fiberglass filler with a white mat face to maximize effective sound blocking and absorption.
D.3.1.3	▪ Fabric is stretched over filler and frame and is edge glued with hot melt adhesive.
D.3.1.4	▪ A 24 ga. (.024”) steel horizontal light seal is attached with screws to the back side of the top of the skin to ensure a tight fit and to prevent light and sound from transferring from one side of the panel to the other.
D.3.1.5	▪ Spring steel attachment clips are snapped into place on the back sides of the vertical frame members at 6" increments to allow the skin to be easily installed on the panel frame without tools.
D.3.2	• Tackable Acoustical Fabric-Covered Panel Skins consist of the following components:
D.3.2.1	▪ Frame is made up of pre-painted 18 ga. (.047”) steel channels. Frame members are joined by a staking process at the corners to maintain squareness.
D.3.2.2	▪ Tackable Filler is a composite fiberglass filler. It comes with a white mat face on both sides (front and back).
D.3.2.3	▪ Fabric is stretched over filler and frame and is edge glued with hot melt adhesive.
D.3.2.4	▪ A 24 ga. (.024”) steel horizontal light seal is attached with screws to the back side of the top of the skin to ensure a tight fit and to prevent light and sound from transferring from one side of the panel to the other.

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D.3.2.5	▪ Spring steel attachment clips are snapped into place on the back sides of the vertical frame members at 6” increments to allow the skin to be easily installed on the panel frame without tools.
D.3.3	• Steel Panel Skins consist of the following components:
D.3.3.1	▪ Pan - 20 ga. (.036”) pan with formed edges.
D.3.3.2	▪ Horizontal and Vertical Braces – 18 ga. (.047”) steel channels spotwelded to the perimeter of the pan for rigidity.
D.3.3.3	▪ A 24 ga. (.024”) steel horizontal light seal is attached with screws to the back side of the top of the skin to ensure a tight fit and to prevent light and sound from transferring from one side of the panel to the other.
D.3.3.4	▪ Spring steel attachment clips are snapped into place on the back sides of the vertical frame members at 12.36" increments to allow the skin to be easily installed on the panel frame without tools.
D.3.3.5	▪ Sound deadener – composite material applied to the back of the larger pans with adhesive to minimize the “oil can effect” and to dampen effects of panel vibrations.
D.3.4	• Slatwall Skins consist of the following components:
D.3.4.1	▪ Aluminum extrusions are stacked to achieve desired final assembly height. Skins with slats are designed to support accessories like Details Worktools.
D.3.4.2	▪ Top and bottom horizontal support brackets are 14 ga. (.075”) steel channels and are screw-attached to the back of the bottom extrusion.
D.3.4.3	▪ A 24 ga. (.024”) steel horizontal light seal is attached with screws to the back side of the top of the skin to ensure a tight fit and to prevent light and sound from transferring from one side of the panel to the other.
D.3.4.4	▪ 14 ga. (.075”) steel vertical hook brackets are placed at the rear ends of the skin assembly. Vertical reinforcement brackets feature a welded spring clip that acts as a locking feature.
D.3.5	• Wood Skins consist of the following components:
D.3.5.1	▪ Core is 5/16" thick Medium Density Fiberboard (MDF) with wood veneer permanently adhered to the front (vertical wood grain) and back under pressure. Core features this balanced construction to prevent bowing or warping.
D.3.5.2	▪ Horizontal and Vertical channels - 20 ga. (.036”) steel channels fastened to the Core with screws to form a rigid protective border around the core.
D.3.5.3	▪ Light Seals – 24 ga. (.024”) steel channels fastened to the top and bottom of the Core with screws to ensure a tight fit and to prevent light and sound from transferring from one side of the panel to the other.
D.3.5.4	▪ Fixed and Adjustable Spring Clips - spring steel clips fastened to the core to allow the skin to be easily installed on the panel frame without tools.

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D.3.5.5	▪ Wire Springs - .080” dia. spring steel wires which provide tension to the Adjustable Spring Clips.
D.3.6	• Laminate Skins are constructed like Wood skins, using a laminate surface instead of a wood veneer surface.
D.3.7	• Technology Skins are constructed the same as a steel panel skin, but feature the following additional components:
D.3.7.1	▪ Covers – ABS plastic covers which snap into the pre-cut holes in the skin pan to accommodate power and communication modules.
D.3.8	• Glass Windows consist of the following components:
D.3.8.1	▪ Window frame assembly - consists of the following components:
D.3.8.1.1	○ Vertical and Horizontal channels - extruded aluminum parts secured together with press fit brackets and screws.
D.3.8.1.2	○ Corner Braces - 16 ga. (.059”) steel parts with press fit features
D.3.8.1.3	○ Side Brackets - 20 ga. (.036”) steel parts with press fit features
D.3.8.2	▪ Wireway - 20 ga. (.036”) steel part fastened to the top of the frame with screws
D.3.8.3	▪ Horizontal top seal – flexible neoprene
D.3.8.4	▪ Glass Panel (single pane) - factory-installed, tempered or laminated .147” - .207” thick glass pane cushioned with foam pads around the perimeter to minimize rattle. Custom glass inserts up to .245” thick can be accommodated.
D.3.8.5	▪ Glass Panels (double pane) - factory-installed, tempered or laminated .180” - .220” thick glass panes cushioned with foam pads around the perimeter to minimize rattle.
D.3.9	• Markerboard Skins are constructed similar to steel skins except the steel pan features a baked-on porcelain writing surface.
D.4	► **OTHER PANEL-RELATED PRODUCTS**
D.4.1	• Off Module Connector consists of the following components:
D.4.1.1	▪ Upper L-bracket and Upper mounting bracket – 14 ga. (.075”) steel parts which attach to an upper horizontal element.
D.4.1.2	▪ Lower strap bracket - 14 ga. (.075”) steel part
D.4.1.3	▪ Lower mounting bracket- 18 ga. (.047”) steel part which attach to a lower horizontal element.
D.4.1.4	▪ Bottom slotted channel - 16 ga. (.059”) steel part which attaches to the vertical elements at each end of a panel.
D.4.1.5	▪ Inner and outer vertical elements - 14 ga. (.075”) steel part which mimics the slot

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	features slots of a vertical element.
D.4.2	• Ceiling-Access Lay-in Utility Package consists of the following components:
D.4.2.1	▪ Ceiling trim plates - 22 ga. (.030") steel parts are used to cover cut edges of ceiling tile.
D.4.2.2	▪ Upper and lower vertical channels (aka "carriers") and covers - 20 ga. (.036") steel parts which telescope from 60"H to 120"H and allow lay-in cabling from the ceiling to the panel. Can be installed anywhere along the panel width.
D.4.2.3	▪ Channel strap, clamp, cross bar and cross bar brackets - 16 ga. (.059") steel parts to secure the vertical channels to the ceiling grid of the building.
D.4.2.4	▪ Junction box - 16 ga. (.059") steel part comes bundled with the package for convenience.
D.4.2.5	▪ Floor anchor brackets (upper and lower) - 12 ga. (.108") steel parts
D.4.3	• Panel Top Screens consist of the following components:
D.4.3.1	▪ Oval Trim models
D.4.3.1.1	○ Translucent screen - translucent extruded PVC panel with injection molded ABS end caps
D.4.3.1.2	○ Support brackets - injection molded ABS parts
D.4.3.2	▪ Square trim models
D.4.3.2.1	○ Translucent screen - translucent extruded PVC panel with injection molded ABS end caps
D.4.3.2.2	○ Support brackets - injection molded reinforced nylon (painted) parts
D.4.4	• Frameless Glass Screens consist of the following components:
D.4.4.1	▪ Clear tempered glass screen at least 3/8" thick with beveled edges and rounded corners for safety. Package can be ordered without glass screen if customer desires to use custom glass.
D.4.4.2	▪ Clip-attached screen supports
D.4.4.2.1	○ Aluminum mounting brackets with plastic inserts which mount to panel top trim and steel supports below with fasteners. Brackets feature fastners to capture and align glass screen.
D.4.4.2.2	○ Steel supports to rigidly support glass screen.
D.4.4.3	▪ Recessed screen supports
D.4.4.3.1	○ Steel mounting brackets, 8 ga. (.170") thick with .16" thick steel pressure plate inserts and felt pads attach to the topmost panel horizontal beam with fasteners. Brackets feature finger-tightened fasteners to capture and align the glass screen.

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D.4.4.3.2	○ Split top trim is steel, at least 20 ga. (.036") thick. A two piece construction allows the glass screen to pass through the center. Spring clips hold the trims tightly to the panel.
D.4.5	• Sliding Door consists of the following components:
D.4.5.1	▪ Door Frame – assembly of rigid and lightweight aluminum parts
D.4.5.2	▪ Door Insert – 1/4" thick panel of plastic or glass
D.4.5.3	▪ Threshold – aluminum part
D.4.5.4	▪ Wheels – spring loaded plastic wheels to accommodate uneven floors
D.4.6	• Fin wall support utilizing other furniture systems
D.4.6.1	▪ Perpendicular connectors to the Steelcase Post & Beam fence are made up of an aluminum upright which mimics a post, two steel panel slot hook brackets and decorative ABS plastic top/bottom caps.
D.4.6.2	▪ L-, T- and X-junctions which allow connection to Steelcase c:scape beams mimic a typical panel junction with the exception of unique cutouts in the vertical trims and the addition of steel beam end connectors attached with screws to a lengthened lower junction block (refer to D.1.6 for standard block construction).
D.4.7	• Wall-Mounted Tackboard
D.4.7.1	▪ Tackable panel is 7/16" thick mineral board with fabric adhered to the front face, sides and overlap on the back.
D.4.7.2	▪ An outer frame constructed of 22 gauge (.030") steel rails and 20 gauge (.036") corner gusset plates with hanger hooks provides rigid beveled outer edges and a means of mounting to slotted rails.
E	**SURFACE MATERIALS**
E.1	► **FRAME COMPONENTS (JUNCTIONS AND HORIZONTAL FRAME PACKAGES)**
E.1.1	• Frame elements – Painted black.
E.2	► **PANEL SKINS**
E.2.1	• Fabric-Covered Skins – is available in at least 30 families of fabric and has a COM (Customer's Own Materials) option.
E.2.2	• Steel Skins – are available in at least 21 paint finishes and Perfect Match options. Is also available in ribbed or perforated options.
E.2.3	• Marker Board Surfaces for Steel Skins – Flexible white surface for dry erase markers. Magnetic border is affixed to steel skin and have the ability to be repositioned.
E.2.4	• Slatwall Skins – are available in at least 21 paint finishes.
E.2.5	• Wood Skins –have a vertical grain wood veneer within a painted frame. Matching

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	sets are ordered to ensure correct cathedral wood grain alignment between adjacent skins. Customized wood veneer is also available.
E.2.6	• Laminate Skins –have a high-pressure laminate surface within a painted frame. Laminates are available in at least 42 finishes and at least 12 woodgrain laminate finishes. Open Line laminate is also available.
E.2.7	• Technology Skins – are available in at least 21 paint finishes or 16 families of fabric. Ribbed steel is also available. Covers are available in at least 5 plastic colors.
E.2.8	• Markerboard Skins are white for dry erase markers.
E.3	► **PANEL TRIMS**
E.3.1	• Panel trim –available in at least 21 paint finishes with complementing plastic colors, plus Perfect Match options. Wood veneer versions are also available.
E.3.2	• Glass Window – tempered safety glass, is specified as clear or frosted. Outer frame is available in at least 21 paint finishes.
E.4	► **OTHER PANEL-RELATED PRODUCTS**
E.4.1	• Ceiling-Access Lay-In Utility Package – vertical parts and ceiling trim are available in at least 21 paint finishes.
E.4.2	• Panel top screen –translucent plastic surface with plastic supports molded in a metallic color. Mounting brackets are available in at least 4 paint finishes.
E.4.3	• Frameless Glass screens are clear or frosted glass. Clip-attached screen supports are painted finish available in at least 21 paint finishes.
E.4.4	• Sliding door – insert is available in translucent plastic, clear tempered glass or white laminated glass. Frame is available in at least 21 paint finishes.
E.4.5	• Perpendicular connectors to the Steelcase Post & Beam fence are offered in a clear anodized finish with grey end caps.
E.4.6	• L-, T- and X-junctions which allow connection to Steelcase c:scape beams are offered in the same trim finishes as standard junctions (refer to E.3.1).
F	**MISCELLANEOUS**
F.1	• Customer testimonials/endorsements are available upon request.
F.2	• Service parts are available.
F.3	• Detailed assembly directions are available in PDF format.
F.4	• System contains all bracketry necessary to form a stable and complete unit.
F.5	• All products, components and hardware are standard products as shown in the most recent published price lists or amendments.
F.6	• Panel does not require hardware to install. Unlike traditional weld-frame panels,

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	vertical junctions are connected with horizontal beam supports using an integral cam lock.
F.7	• Painted surfaces have the following qualities:
F.7.1	▪ Electrostatically-applied, baked-on epoxy-polyester hybrid powder coat paint for optimal corrosion, stain, abrasion and scratch resistance
F.7.2	▪ Specular gloss level of exterior painted surfaces as specified in ASTM D523-08 (at 60º) is controlled at 40% +/- 5% (this is in the semi-gloss range)
F.8	• Panel is one component of a full suite of compatible and interchangeable office products based on a 6" modularity to keep costly reconfiguration expenses to a minimum. Most compatible components are designed to be non-handed to allow maximum utilization.
F.9	• Panel hang-on components are selectively removable and replaceable without disturbing adjacent components.
F.10	• Sheet steel used in the construction of this product complies to all applicable current ASTM industry standards, including ASTM A1008/1008M and ASTM A568.

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TECHNICAL PRODUCT SPECIFICATION

Universal Tables and Universal Systems Worksurfaces

(Includes table and panel supports. See Answer Freestanding Desk for freestanding supports.)

POSITIONING STATEMENT

Universal Tables and Systems Worksurfaces maximize your planning flexibility by connecting and working across many of our Steelcase System Solutions. Perfect for any freestanding or panel-mounted application. Desks can be created by specifying individual components or pre-defined kits of common size components can be specified from the Answer Freestanding collection (covered in a separate document).

A	WARRANTY AND TESTING INFORMATION
A.1	► **WARRANTY**
A.1.1	• Steelcase offers a lifetime warranty that product is free from defects in materials and workmanship (includes shipping, parts and labor for the repair or replacement of defective item.)
A.1.2	• The following lifetime warranty exceptions are allowed:
A.1.2.1	▪ Laminates and wood veneers have a 12 year warranty.
A.1.2.2	▪ Modular power components have a 12 year warranty.
A.1.2.3	▪ Paint colorfastness has a 5 year warranty.
A.1.3	• Complete warranty coverage is available online or upon request.
A.2	► **TESTING**
A.2.1	• Worksurface and Table primary surfaces meet or exceed the ANSI/BIFMA X5.5 Desk/Table Product Tests, including the following:
A.2.1.1	▪ Distributed Functional Load - When applied according to published application guidelines, panel-mounted or freestanding primary worksurfaces will not sag more than 1/240 of the total worksurface length when subjected to a load of 1.5 lbs per inch of the perimeter.
A.2.1.2	▪ Concentrated Proof Load - When applied according to published application guidelines, panel-mounted or freestanding primary worksurfaces sustains no structural damage when subjected to the impact of a 225 pound weight bag, 16" in diameter, dropped from a height of 2" onto the worksurface, with the edge of the weight bag located 1" in from the front edge of the worksurface at its apparent weakest point.
A.2.1.3	▪ Distributed Proof Load - When applied according to published application guidelines, panel-mounted or freestanding primary worksurfaces 45” and longer do not fail when subjected to a load of 2.3 lbs per inch of the perimeter for 15 minutes.
A.2.1.3.1	○ Example 1: 30” x 60” rectangular worksurface is tested with 414 lbs.
A.2.1.3.2	○ Example 2: 48” diameter round table is tested with 347 lbs.
A.2.2	• Desk transaction tops and secondary surfaces meet or exceed the ANSI/BIFMA X5.5 Desk/Table Product Tests, including the following:

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A.2.2.1	▪ Distributed Functional Load – When applied according to published application guidelines, transaction top and secondary worksurfaces do not sag more than 1/240 of the total worksurface length when subjected to a load of .017 lbs/cu in. of top surface.
A.2.2.2	▪ Distributed Proof Load – When applied according to published application guidelines, transaction top and secondary worksurfaces do not fail when subjected to a load of .026 lbs/cu in. of top surface for 15 minutes.
A.2.2.3	▪ Concentrated Functional Loads:
A.2.2.3.1	○ Worksurfaces less than 45”W support a 12” dia. concentrated functional load of 200 lbs.
A.2.2.3.2	○ Worksurfaces 45”W to 72”W support a 12” dia. concentrated functional load of 200 lbs, and a distributed load of 1.5 lbs/inch distributed about the perimeter.
A.2.2.3.3	○ Worksurfaces greater than 72”W support 2 equal 12” dia. concentrated functional loads of 200 lbs each and a distributed load of 1.5 lbs/inch distributed about the perimeter.
A.2.3	• Storage and Hutch top surfaces meet or exceed the ANSI/BIFMA X5.5 Desk/Table Product Tests, including the following:
A.2.3.1	▪ Distributed Functional Load – When applied according to published application guidelines, storage and hutch top surfaces do not sag more than 1/240 of the total worksurface length when subjected to a load of 0.2 lbs/sq in. of top surface.
A.2.3.2	▪ Distributed Proof Load – When applied according to published application guidelines, storage and hutch top surfaces do not fail when subjected to a load of 0.3 lbs/sq in. of top surface for 15 minutes.
A.2.4	• Worksurface edge profile, on edges designed to come into contact with users' wrists, complies with ISO 9241-5 (1998) Section 5.4.4, ANSI/HFES-100 (2008) section 8.3.1.4, BIFMA G1 (2002) Section 9, and CSA-Z412 (2000) section 7.5.12.
A.2.5	• Standard high-pressure laminates meet or exceed NEMA LD3-2005 High-Pressure Decorative Laminate standards.
A.2.6	• Worksurfaces meet all applicable requirements of CAN/CGSB 44.227.
A.2.7	• Particleboard meets requirements as defined by ANSI A208.1 and ASTM D 1037. Fiberboard is compliant with A208.2.
A.2.9	• Product meets the UL 1286 Standard of Office Furnishing.
A.2.10	• Product meets the UL 723 Standard for Surface Burning Characteristics of Building Materials as defined by ASTM E84 and NFPA 255.
A.2.11	• Electrical components are compliant with UL 183.
B	**ENVIRONMENTAL FEATURES**
B.1	SUMMARY OF PRODUCT ENVIRONMENTAL PROFILE (COMPLETE DOCUMENT INCLUDING LEED CREDITS

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	IS AVAILABLE ONLINE OR UPON REQUEST)
B.2	► **MATERIALS CHEMISTRY**
B.2.1	• PVC-free edgebanding is standard on particleboard components to avoid potential long-term human and environmental impacts that have been associated with the manufacture and future disposal of PVC.
B.3	► **LIFE CYCLE ASSESSMENT**
B.3.1	• In lieu of disposing furniture in a landfill at the end of its useful life, the Manufacturer provides opportunities for the Customer to recycle, resell or refurbish their used furniture.
B.4	► **RECYCLED CONTENT AND RECYCLABILITY**
B.4.1	• Desk supports are made up of at least 30% recycled content.
B.4.3	• Packaging waste is minimized by palletizing like worksurfaces.
B.4.4	• Packaging materials contain 15% to 35% recycled content.
B.4.5	• Particleboard core consists of 100% recycled and recovered wood fiber.
B.5	► **CERTIFICATIONS**
B.5.1	• Furniture is certified to meet the emissions requirements of the California DPH *Standard Practice for the Testing of Volatile Organic Emissions from Various Sources*-2004 (CA Section 01350) and ANSI/BIFMA X7.1 *Standard for Formaldehyde and TVOC Emissions of Low-emitting Office Furniture Systems and Seating* using either the open plan or private office exposure scenarios defined in ANSI/BIFMA M7.1 *Standard Test Method for Determining VOC Emissions from Office Furniture Systems, Components, and Seating*. Testing is conducted in accordance with ANSI/BIFMA M7.1. Certification is provided by an organization independent of the manufacturer as well as from the testing laboratory, in accordance with the requirements of ISO/IEC Guide 65 *General requirements for bodies operating product certification systems*.
B.5.2	• The above requirement is covered by SCS IndoorAdvantage™ Gold Certification for indoor air quality.
B.5.3	• Product is Level™ 1 Certified with the BIFMA e3 Furniture Sustainability Standards to meet or exceed the most current environmental standards in the furniture industry.
C	**PRODUCT DESIGN FEATURES**
C.2	► **WORKSURFACES**
C.2.1	• Worksurfaces are available in nominal 18", 24", 30" and 36" nominal depths.
C.2.2	• Straight worksurfaces are available in 24" to 96" widths.
C.2.3	• Corner worksurfaces are available with radiused front or straight front.
C.2.4	• Worksurfaces for desks are available in straight, transition, tapered, corner, extended

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	corner, bullet peninsula, angled peninsula, jetty, bubble jetty, and visitor shapes.
C.2.5	• Tapered worksurfaces are available for applications where left side and right side are different depths (18"D-24"D and 24"D-30"D). They are suitable for use as a primary worksurface, and available in three shapes:
C.2.5.1	▪ Straight section at the narrower end for a pedestal or return worksurface
C.2.5.2	▪ Straight section at the wider end for a pedestal or return worksurface
C.2.5.3	▪ Fully tapered worksurface shape
C.2.6	• Worksurfaces are available in "full depth" sizes that allow the rear edge of the worksurface to be flush with panels in panel-wrapped situations, so that panel-mounted L-corner applications can be created without introducing non-uniform gaps.
C.2.7	• Worksurfaces are also available in sizes that create at least 1/2" gap at the rear edge for cable management in panel-wrapped applications.
C.2.8	• The same worksurfaces are usable in desk applications and in panel-mounted applications.
C.2.9	• A selection of fixed corner worksurfaces is available with an integral adjustable keyboard surface.
C.2.9.1	▪ Offers a variety of shapes including corner, extended corner, and 120º corner.
C.2.9.2	▪ Keyboard surface has minimum adjustment range of 6" above and 4-1/2" below the monitor surface.
C.2.9.3	▪ Keyboard surface models are available with two types of mechanisms:
C.2.9.3.1	○ Single-arm spring mechanism with continuous adjustment to provide superior knee clearance when compared to double-arm mechanisms.
C.2.9.3.2	○ Double-arm mechanism to provide superior stability when compared to single-arm mechanisms
C.2.9.4	▪ Keyboard surface has a minimum tilt range of 15 degrees up and 10 degrees down.
C.2.9.5	▪ Monitor and keyboard surface is aligned and assembled at the factory to feature a minimum 1" gap all around for prevention of potential pinch points.
C.2.9.6	▪ Keyboard surface matches the finish of the monitor surface.
C.2.9.7	▪ Monitor surface supports at least 150 lbs.
C.2.10	• Transaction worksurfaces are available for use as a shelf by workstation standing visitors.
C.2.10.1	▪ Transaction worksurfaces include attachment brackets for mounting to the top of a panel.

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C.2.10.2	▪ Transaction worksurfaces are available sized to fit on a panel that is mounted between two taller panels.
C.2.10.3	▪ Worksurface is centered on the supporting panel.
C.2.10.4	▪ Allows mounting of utility shelf lights beneath.
C.2.11	• Standards Included
C.2.11.1	▪ The minimum radius on worksurface edges designed for a worker to rest the forearm or wrist is 3mm.
C.2.11.2	▪ Worksurfaces include pilot holes that ensure proper location and secure attachment of desk supports, storage products, panel-mounted worksurface supports, and legs.
C.2.11.3	▪ Panel-wrapped worksurfaces (see specific shapes below) include scallop(s) or edge grommet(s) for cable management in panel-wrapped or panel-mounted applications at no additional charge.
C.2.11.3.1	○ Rectangular, transition, tapered, peninsula and jetty worksurfaces (all lengths) feature one centered scallop on the rear edge.
C.2.11.3.2	○ Tapered flat worksurfaces (all lengths) feature one scallop on the rear edge, 18-1/2” from the larger end.
C.2.11.3.3	○ Corner worksurfaces feature one scallop on each rear edge.
C.2.11.3.4	○ Panel-wrapped spanner and visitor worksurfaces
C.2.11.3.5	○ Linking worksurfaces feature one centered scallop on the rear corner.
C.2.12	• Options
C.2.12.1	▪ Panel-wrapped worksurfaces are also available with no scallops.
C.2.12.2	▪ Height of worksurfaces with supports engaged in panel upright slots is adjusted without tools (see supports section for details).
C.2.12.3	▪ Worksurface wire managers are available to convert cable scallops to edge grommets.
C.2.12.4	▪ Select worksurfaces are available with knife edge as an option for the user edge.
C.2.12.5	▪ Worksurfaces support a variety of accessories, including:
C.2.12.5.1	○ Suspended items like keyboard shelves, pencil trays, pedestals, and processor slings/cradles.
C.2.12.5.2	○ Grommets for cable management and power/communication distribution components
C.2.12.5.3	○ Freestanding clamped-on items like privacy screens, slatwalls, slatrails, lighting, shelves, cable trays and monitor supports

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C.2.12.5.4	○ Through-mounted items like flat panel monitor arms
C.2.12.5.5	○ Cutout with integral shelf (aka “personal caddy”) for storage of backpacks or other work bags otherwise normally left on the floor. Caddy supports a mobile worker’s natural desire to work out of their bags.
C.2.12.6	▪ Flanged metal round grommets are available for field installation. Features include:
C.2.12.6.1	○ Install in a round hole which is field-drilled in the worksurface with a common size drill bit, like 58mm (2-1/4”).
C.2.12.6.2	○ A removable lid features a pass-through notch for cords and cables.
C.2.12.6.3	○ Opening in grommet (with lid removed) is at least 57mm (2-7/32”) to easily accommodate a standard 3-prong power cord connector or other common connectors.
C.2.12.7	▪ Soft edge
C.2.12.7.1	○ Straight and taper worksurfaces have the option of featuring a flexible front edge, versus a hard edge, to reduce fatigue and concentrated contact stress on wrists, forearms and shoulders (based on research from the University of Washington).
C.2.12.7.2	○ 36” wide soft edge is centered and is 3” deep.
C.2.12.7.3	○ Edge is available with Bactiblock™ anti-microbial protection.
C.3	► **TABLE TOPS**
C.3.1	• Tables are available in round, square, rectangle, capsule, oval, hex conference, transition, extended corner, 120 degree corner, spanner, peninsula, and bubble jetty shapes.
C.3.2	• Table tops share aesthetics of systems worksurfaces.
C.3.3	• Round tables are available in 30”, 36”, 42”, 48” and 54” diameters.
C.3.4	• Square tables are available in 24”, 30”, 36”, 42”, 48” and 54” sizes.
C.3.5	• Rectangular tables are available in nominal 24", 30", 36”, 42” and 48” depths, and 30” to 96” widths.
C.3.6	• Capsule and oval tables are available in various sizes ranging from 21” x 42” to 48” x 96”.
C.3.7	• Hex conference tables are available in various sizes ranging from 36” x 60” to 48” x 180”. Tables longer than 150” are shipped in two pieces and joined on site with tight joint fasteners supplied.
C.3.8	• Other tables are available in a range of sizes.
C.3.9	• Tables designed for individual work areas are slightly undersized on overall length to

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	facilitate panel wrapping.
C.3.10	• Standards Included
C.3.10.1	▪ The minimum radius on worksurface edges designed for a worker to rest the forearm or wrist is 3mm.
C.3.10.2	▪ Tables include pilot holes and/or a system of alignment tabs and slots to ensure proper location and secure attachment of multiple choices of bases and legs, to facilitate reconfiguration.
C.3.11	• Options
C.3.11.1	▪ Tables are available in either high-pressure laminate or wood veneer.
C.3.11.2	▪ Round table tops are available with knife edge as an option for the user edge.
C.4	► **PANEL-MOUNTED WORKSURFACE SUPPORTS**
C.4.1	• Supports are ordered separately and installed in the field. All supports are able to be removed and repositioned later without any permanent damage to panels or skins.
C.4.1.1	▪ On-module applications (matching panel and worksurface modular widths) may utilize a variety of support types. Supplemental leg and table supports are available when work station configuration does not permit full support by panels.
C.4.2	• Cantilevers
C.4.2.1	▪ Steel hooks engage steel vertical panel slotted uprights so that the supported worksurface can be mounted rigidly at 1” slot increments.
C.4.2.2	▪ Features anti-dislodgement feature to prevent accidental hook disengagement from slots.
C.4.2.3	▪ The same cantilever is useable on 18”, 24”, or 30” nominal depth worksurfaces, to simplify inventory management and reconfiguration.
C.4.2.4	▪ The same cantilever is useable on either the left or right end of a single worksurface or in a shared application between two worksurfaces. Cantilever is able to switch between these three applications without requiring tools or fasteners except for those attaching the cantilever to the worksurface(s). This feature simplifies inventory management and reduces reconfiguration costs.
C.4.3	• Side support brackets
C.4.3.1	▪ Engages vertical panel slots so that the worksurface can be mounted at 1” increments.
C.4.3.2	▪ Used to support the end of a worksurface that is wrapped by a matching width panel, or in a rear corner of a corner worksurface.
C.4.4	• Support plate and Tie plates
C.4.4.1	▪ Support plates are available to connect two worksurfaces and allow one to support

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	the other.
C.4.4.2	▪ Tie plates are available to provide top flush alignment and a tight seam between two abutting worksurfaces.
C.4.5	• Reinforcing channel
C.4.5.1	▪ A field installed steel reinforcing channel is available for heavily loaded worksurfaces or long spans of unsupported worksurface.
C.4.6	• Center support panels and end panels
C.4.6.1	▪ Engages vertical panel slots
C.4.6.2	▪ Available for supporting a worksurface at either standard height (28-1/2”) or standing height (40-7/8”).
C.4.6.3	▪ End supports are available in nominal 24” and 30” depths.
C.4.6.4	▪ Non-handed.
C.4.6.5	▪ Center support panel is no greater than 11” deep to provide ample knee clearance.
C.4.6.6	▪ 3/4” glide adjustment range.
C.4.6.7	▪ Features anti-dislodgement feature to prevent accidental disengagement from slots.
C.4.7	• Off-module worksurface-to-panel connector
C.4.7.1	▪ A non-handed bracket to attach a worksurface to a Steelcase Answer® or Montage® panel is available to support a worksurface in an off-module situation where a panel is wider than the worksurface. This bracket is available in widths that match panel widths of 24” and wider.
C.4.8	• Worksurface-to-tower connector
C.4.8.1	▪ A non-handed bracket to attach a worksurface to a storage tower is available to support a worksurface at typical seated height (28-1/2”H).
C.5	► **LEGS AND TABLE SUPPORTS**
C.5.1	• Supports are ordered separately and installed in the field
C.5.2	• Elliptical Post Legs (for worksurfaces and tables)
C.5.2.1	▪ Available in nominal 26”, 28-1/2”, and 40-7/8” worksurface heights.
C.5.2.2	▪ Offered with swivel caster or glide (exception: 40-7/8” high is only available with glide).
C.5.2.3	▪ Offers adjustable-height versions which are user-adjustable in no greater than 3/4” increments between 25-1/2” and 31-1/2” worksurface height.
C.5.2.4	▪ Adjustable-height post leg with caster features a locking caster.

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C.5.2.5	▪ Offers double post legs that are visually compatible with standard post legs and are suitable for a shared application between two worksurfaces – available in nominal 28-1/2” and 40-7/8” worksurface heights.
C.5.2.6	▪ All post legs with glides have at least 3/4” glide adjustment range.
C.5.3	• C-Legs (for worksurfaces and tables)
C.5.3.1	▪ Available in nominal 28-1/2” worksurface height.
C.5.3.2	▪ 5/8” glide adjustment range.
C.5.3.3	▪ The same leg is suitable for 24” and 30” nominal depth worksurface applications.
C.5.3.4	▪ The same leg is suitable for left-hand, right-hand, or shared applications (connecting two worksurfaces).
C.5.3.5	▪ C-legs feature diecast feet instead of tubular feet, so as not to require plastic or metal end caps in the footspace, as these can be dislodged or damaged, even when welded, brazed or adhered in place.
C.5.4	• Table bases
C.5.4.1	▪ Available in nominal 28-1/2” worksurface height.
C.5.4.2	▪ All bases are visually compatible, featuring a round column of at least 2-1/4” diameter.
C.5.4.3	▪ Offers two styles:
C.5.4.3.1	○ T-Base with two nominal footprints: 26” and 36”.
C.5.4.3.2	○ X-Base with two nominal footprints: 26” and 36”.
C.5.4.4	▪ T-base and X-base feature diecast feet instead of tubular feet, so as not to require plastic or metal end caps in the footspace, as these can be dislodged or damaged, even when welded, brazed or adhered in place.
C.5.5	• “Animated” style legs, also known as “cabby” legs (for tables)
C.5.5.1	▪ Is available in nominal 26” and 28-1/2” worksurface heights.
C.5.5.2	▪ Features a tapered and/or angled visual style that communicates a sense of animation or motion.
C.5.5.3	▪ Offered with swivel caster or glide.
C.5.5.4	▪ Legs with casters feature a locking caster.
C.5.5.5	▪ Legs with glides have at least 3/4” glide adjustment range.
C.5.6	• Column supports (for panel-mounted and desk applications only)
C.5.6.1	▪ Offers a column with extended height adjustment range of at least 3-1/8” (total

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	range 28-1/2" to 31-5/8").
C.5.6.2	▪ Also offers a standard column with glide adjustment range of at least 1-1/2".
C.5.6.3	▪ Round columns are at least 4" in diameter to provide a sturdy-looking support for peninsula worksurfaces and similar applications.
C.5.7	• Steelcase FrameOne™ legs and supports for use with Universal Worksurfaces
C.5.7.1	▪ Closed and open loop legs are available to use for supporting worksurfaces at 28-1/2"H. Legs are capable of supporting both panel and worksurface if desired (single leg, "Half Loop" model requires a panel).
C.5.7.2	▪ Complementary square profile post leg is available to use for supporting a worksurface at 28-1/2"H.
C.5.7.3	▪ Intermediate supports for one-high and 1-1/2-high storage are available to use for supporting a worksurface above a storage unit at 28-1/2"H. The same support is useable in either parallel or perpendicular applications.
C.5.7.4	▪ Closed and open loop leg infills are offered with laminate or wood veneer finishes to close off the inside open space.
C.8	► **WORKSURFACE POWER AND DATA**
C.8.1	• A steel power and data (inner) tray, fitted into a 4-5/8" x 24" rectangular hole in the worksurface, is available.
C.8.2	• The following power options are offered:
C.8.2.1	○ Hardwire with 8' harness.
C.8.2.2	○ Corded with 10' cord and three-prong plug.
C.8.2.3	○ Modular (3+1) with 8' harness. Line 1, 2, 3 or 4 system or isolated ground.
C.8.2.4	○ Modular (2+2) with 8' harness. Line 1, 2, 3 or 4 system or isolated ground.
C.8.2.5	○ Modular (3SN) with 8' harness. Line 1, 2 or 3 system or isolated ground.
C.8.3	• Access to the inner tray is achieved via a flush aluminum access door, which lays on the worksurface when fully open. Door opening features a decorative bezel.
C.8.4	• Power access to the user is supplied in the form of six simplex receptacles located at 2-1/2" below the worksurface.
C.8.5	• Removable outer tray beneath power unit is 6" deep and features decorative end caps.
C.8.6	• A 1-3/4" x 2-13/16" opening for a standard data/voice receptacle is supplied on the same plane as the power receptacles. Customer will supply their own data/voice receptacle.
C.8.7	• Corded power unit features an integrated overload circuit breaker and reset button.

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C.8.8	• Corded power/data models are acceptable for freestanding applications, others require an adjacent panel.
C.8.9	• A plastic grommet is supplied with hardwire and modular models to finish the field-cut opening in the adjacent panel skin required to access power inside the panel.
D	**CONSTRUCTION METHODS, MATERIALS UTILIZED, AND ASSOCIATED BENEFITS**
D.1	► **GENERAL**
D.1.1	• Common fasteners are used to assemble the desks and tables on site using common tools.
D.2	► **WORKSURFACE/TABLE TOPS/TRANSACTION TOPS**
D.2.1	• High-pressure laminate worksurfaces are 1-3/16" nominal finished thickness and feature balanced construction to prevent bowing or warping, with 0.028" +/-.004" thick high-pressure laminate on the top surface and a 0.030" thick backer on the bottom. The wood core is medium density (45 lb/cu ft) commercial grade particle board as defined in AWI 200-G quality standards. The laminate and backer are permanently attached and reinforced under pressure to the wood core using water-based polyvinyl acetate (PVA) adhesive.
D.2.2	• Wood veneer worksurfaces are 1-3/16" nominal finished thickness and feature balanced construction to prevent bowing or warping, with 0.020 inch thick wood veneer on the top surface and a 0.020 inch thick backer on the bottom. The wood core is medium density (45 lb/cu ft) commercial grade particle board as defined in AWI 200-G quality standards. The veneer and backer are permanently attached and reinforced under pressure to the wood core using water-based polyvinyl acetate (PVA) adhesive.
D.2.3	• Laminate conforms to NEMA LD3-2005 test procedures and standards, which are the laminate industry standards for high-pressure decorative laminates (HPDL). LD3 dictates appearance, gloss, light resistance, cleanability, high temperature resistance, scratch resistance, impact resistance, wear, and other qualities.
D.2.4	• Impact resistant wood or PVC-free plastic edgeband and/or T-mold is applied to the entire perimeter of the worksurface to prevent any outgassing from exposed particle board.
D.2.5	• Edgeband is a minimum of 3mm thick.
D.2.6	• PVC-free plastic edgeband is permanently and securely attached to the wood core with hot melt adhesive. Both ends of any T-mold edge are pinned or otherwise secured to prevent any loosening at the ends.
D.2.7	• Field-installed round grommets are constructed of brass and/or zinc.
D.2.8	• Optional soft edge consists of a 14 ga. steel brace overmolded with urethane foam. The assembly is fastened with screws into a matching cutout in the worksurface.
D.3	► **PANEL-MOUNTED WORKSURFACE SUPPORTS**

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D.3.1	• Supports are designed and constructed with materials which provide adequate support for normal use and typical office equipment housed on the worksurface.
D.3.2	• Cantilevers are constructed of a 13 ga. (.095") steel cantilever with embossed ribs, a 14 ga. (.075") steel mounting plate and an 11 ga. (.118") tie plate.
D.3.3	• Side support brackets are constructed of 14 ga. (.075") steel
D.3.4	• Support plate is constructed of 14 ga. (.075") steel with embossed ribs
D.3.5	• Reinforcing channel is constructed of 14 ga. (.075") steel formed into a hat shape
D.3.6	• On-Module center support panels and end panels are constructed of welded steel components
D.3.7	• Off-module worksurface-to-panel connector consists of a welded steel, reinforced horizontal track which spans the width of a 24" to 72" wide panel, and two worksurface support cantilevers, 13 ga. (.095") thick, which mount onto the track.
D.3.8	• Worksurface-to-tower connector is made up of two steel pieces, a 10 ga. (.139") thick inner strap and a 14 ga. (.075") thick outer L-shaped bracket. The inner strap features weld nuts to accept bolts.
D.4	► **LEGS AND TABLE SUPPORTS**
D.4.1	• Elliptical post legs are constructed of a 16 ga. (.064") sheet metal tube welded to a 10 ga. (.139") worksurface mounting plate. A glide or caster is press fitted into the bottom of the leg.
D.4.2	• Adjustable-height versions are constructed of telescoping round steel tubes. The upper tube is 12 ga. (.106") steel and features a series of vertical holes, and is welded to a 10 ga. (.139") worksurface mounting plate. The bottom tube is 13 ga. (.092") and features a spring-loaded button. A glide or caster is press fitted into the bottom of the leg.
D.4.3	• Double elliptical post C-leg is constructed of two 16 ga. (.064") sheet metal tubes welded to a 10 ga. (.139") worksurface mounting plate. The leg tube/plate assembly is to be secured with screws to a cast aluminum base. Glides are threaded into the base.
D.4.4	• Table bases are constructed of a 12 ga. (.108") steel tube with a cast aluminum top support and base attached using a long steel rod with threaded ends for nuts.
D.4.5	• Columns are constructed of a minimum 16 ga. (0.059") steel tube welded to a minimum 11 ga. (.118") mounting plate. A glide is threaded into the bottom of the column.
D.4.6	• "Animated" style table legs are constructed of a 13 ga. (.082") sheet metal tube welded to a 10 ga. (.139") worksurface mounting plate. A glide or caster is press fitted into the bottom of the leg.
D.5	► **FRAMEONE SUPPORTS**
D.5.5	• FrameOne legs are triangular in shape and tubular steel construction, 13 ga (.085")

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	with two 11 ga. (.118") thick steel top mount brackets welded on the top. A polypropylene base cap is press fit into the bottom and an adjustable leveler is threaded into the glide base plate.
D.5.5.1	▪ Closed loop legs for use on freestanding tables feature an additional centered top mount brace formed of 11 ga. (.118") thick steel.
D.5.5.2	▪ Panel support legs also feature steel brackets, 12 ga. (.108") thick with hooks designed to engage with vertical panel slots.
D.5.6	• FrameOne post leg is comprised of a 2" x 2" x 14 ga. (.075") square steel tube, with an 1/8" thick steel top mount bracket and a 3/8" thick threaded glide base plate welded to it. A polypropylene base cap is press fit into the bottom and an adjustable leveler is threaded into the glide base plate.
D.5.7	• FrameOne intermediate supports for one-high and 1-1/2-high storage are comprised of two aluminum uprights with a 10 ga. (.139") thick top mounting plate and an aluminum base plate attached with screws. A polystyrene spacer protects the worksurface from scratching.
D.5.7.1	▪ When the intermediate support is mounted to a steel top storage unit, 11 ga. (.118") thick steel reinforcing braces are supplied to provide rigidity.
D.5.7.2	▪ Infills for open and closed loop FrameOne legs
D. 5.7.2.1	○ Infill panel has similar construction to the worksurface (see D.2). Sides are beveled to match the angled profile of the legs.
D.5.7.2.2	○ Steel clips around the perimeter of the panel pivot into a locking position without tools to secure the panel onto the legs.
D.5.7.2.3	○ Decorative plastic caps snap over the clips to conceal them.
D.7	► **WORKSURFACE POWER AND DATA**
D.7.1	• Steel power (inner) and data (outer) tray are formed parts of 18 ga. (.047") steel.
D.7.2	• Outer tray end caps are ABS plastic.
D.7.3	• Access door is aluminum with glass-reinforced nylon hinge pivot arms which allow the door to lay flat on the worksurface when open.
D.7.4	• Decorative door bezel is a molded ABS plastic part which fastens to the bottom of the worksurface with screws.
D.7.5	• Panel grommet (hardwire and modular models) consists of an outer ABS plastic cover and an inner 22 ga. (.030") steel retainer.
D.7.6	• Power harnesses feature 12 ga. AWG, 19 strand, insulated wires. Harnesses also feature the following:
D.7.6.1	▪ Hardwire – 90º steel connector with 8' long flexible conduit.
D.7.6.2	▪ Corded – three-prong grounded plug at the end of a 10 ft. long, non-PVC plastic

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	cord.
D.7.6.3	▪ Modular – 8' long flexible conduit with non-PVC overmolded connector.
D.8	► **ACCESSORIES**
D.8.1	• Personal caddy is polypropylene plastic with tubular steel bracing, 1-1/4" square x .108" thick.
D.8.1.1	▪ Caddy and bracing are assembled to the worksurface in the field with screws into a factory-cut opening (specified as either left- or right-hand).
D.8.1.2	▪ A replaceable soft urethane pad in the bottom is included.
E	**SURFACE MATERIALS**
E.1	• Worksurfaces and Table tops
E.1.1	▪ High-pressure laminate with plastic edgeband or T-mold. High-pressure laminate worksurfaces offer customer-specifiable edge color at no additional charge. Woodgrain patterned plastic edge finishes that complement woodgrain laminates are also available at no additional charge.
E.1.2	▪ Wood veneer with wood edgeband
E.1.4	▪ Chemical-resistant laminate in black finish (specified as Open Line Laminate).
E.1.5	▪ Phenolic Resin in black finish is available for selected worksurfaces and table tops.
E.1.6	▪ Soft edge is grey.
E.2	• Worksurface supports including cantilevers, legs and columns: a variety of painted finishes including smooth, textured and/or metallic finishes.
E.2.1	▪ Casters for post legs – black
E.2.2	▪ Casters and glides for adjustable height and "animated" style legs - a variety of painted finishes including smooth, textured and/or metallic finishes.
E.3	• Worksurface supports including side support brackets, tie plates, support plates, flush mount brackets, reinforcing channels, and transaction worksurface brackets: black.
E.5	• Grommet is available in at least 20 finishes.
E.6	• Worksurface Power and data
E.6.1	▪ Access door is painted and available in 9 colors. Door is also available with an anodized aluminum finish.
E.6.2	▪ Door bezel, trays and tray end caps are slate grey.
E.6.3	▪ Panel grommet is available in five molded colors.
E.7	• FrameOne legs are available in a variety of painted finishes including smooth, textured

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	and/or metallic finishes. Brackets and spacers are black. Glide caps are slate grey.
E.8	• FrameOne intermediate legs are available in a variety of painted finishes including smooth, textured and/or metallic finishes.
E.9	• Off-module worksurface-to-panel connectors and worksurface-to-tower brackets are available in a variety of painted finishes including smooth, textured and/or metallic finishes.
E.10	• Personal caddy is molded in white, platinum or black.
F	**MISCELLANEOUS**
F.1	• Service parts are guaranteed available for a minimum of 10 years after first order entry date.
F.3	• Select models and finishes are available for 12 business day delivery.
F.4	• Steel tie plates are used when ganging or connecting tables with levelers to keep tables together.
F.5	• Painted surfaces have the following qualities:
F.5.1	▪ Electrostatically-applied, baked-on epoxy-polyester hybrid powder coat paint for optimal corrosion, stain, abrasion and scratch resistance
F.5.2	▪ Specular gloss level of exterior painted surfaces as specified in ASTM D523-08 (at 60º) are controlled at 40% +/- 5% (this is in the semi-gloss range)

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DIVISION 13

SPECIAL CONSTRUCTION

SECTION 133419 - METAL BUILDING SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Metal Building Framing.
2. Insulated Metal Roof Panels and Trim.
3. Insulated Metal Wall Panels and Trim.
4. Metal Building Accessories.

B. Related Requirements:
1. Division 03 “Cast-in-Place Concrete Foundations” for Anchor requirements
2. Division 04 “Unit Masonry” for CMU wainscot
3. Division 05 “Metal Fabrications” for sectional door motor mounting plates
4. Division 07 "Snow Guards" for prefabricated devices designed to hold snow on the roof surface.
5. Division 08 “Hollow Metal Doors and Frames” and “Sectional Doors” for motor mount and opening framing requirements

1.3 DEFINITIONS

A. Terminology Standard: See MBMA's "Metal Building Systems Manual" for definitions of terms for metal building system construction not otherwise defined in this Section or in standards referenced by this Section.

1.4 DELEGATED DESIGN

A. The following is a list of systems the design of which is hereby delegated. These systems shall be designed under the direct supervision of a professional engineer licensed in the state in which the project is located:

1. Metal Building Framing System, including insulated wall and roof panels and accessories.

1.5 COORDINATION

A. Coordinate sizes and locations of concrete foundations and casting of anchor-rod inserts into foundation walls and footings. Anchor rod installation, concrete, reinforcement, and formwork requirements are specified in Section 033010 "Cast-in-Place Concrete."

B. Coordinate metal panel assemblies with rain drainage work, flashing, trim, and construction of supports and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of metal building system component.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:

    a. Wall and Roof panels.
    b. Factory Color Finish.
    c. Closure Materials.
    d. Pressure Sensitive Tape.
    e. Sealants and Caulking.
    f. Galvanizing Repair Paint.
    g. Enamel Repair Paint.
    h. Accessories.

B. Shop Drawings: Submit shop drawings in accordance with procedures in Section 013300 Submittal Procedures. Where design or criteria differ from the intent indicated on the Contract Documents, a statement of deviations shall be submitted for approval prior to beginning work on the Shop Drawings. Shop drawings shall be prepared under the direct supervision of a professional engineer licensed in the state in which the project is located and shall include plans, elevations, sections, details, and attachments to other work for the following:

1. Anchor-Rod Plans: Submit anchor-rod plans and templates before foundation work begins. Include location, diameter, and minimum required projection of anchor rods required to attach metal building to foundation. Indicate column reactions at each location.
2. Metal Building Framing Systems: Show complete fabrication of primary and secondary framing; including provisions for openings. Indicate welds and bolted connections, distinguishing between shop and field applications. Include transverse cross-sections.
3. Metal Panel Installation Drawings: Show layouts of metal wall and roof panels including methods of support. Include details of edge conditions, joints, panel profiles, corners, anchorages, trim, flashings, closures, and special details. Distinguish between factory- and field-assembled work; show locations of exposed fasteners.

C. Accessory Drawings: Include details of the following items, at a scale of not less than 1-1/2 inches per 12 inches: flashing and trim, soffits, gutters, and downspouts.

D. Samples for Verification: For the following products:

1. Panels: Nominal 12 inches long by actual panel width. Include fasteners, closures, and other exposed panel accessories.
2. Flashing and Trim: Nominal 12 inches long. Include fasteners and other exposed accessories.
3. Initial Selection: Color 4x4 inch samples and color charts from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

E. Delegated-Design Data: For metal building systems.

1. Manufacturer Calculations: Submit calculations prepared under the direct supervision of a professional engineer supporting the structural design. The calculations shall be sealed by a professional engineer licensed in the state in which the project is located. The calculations shall include:

   a. Roof and wall wind loads with basic wind speed, exposure category, co-efficient, importance factor, designate type of facility, negative pressures for each zone, methods and requirements of attachment.
   b. Roof dead and live loads.
   c. Collateral loads.
   d. Foundation loads.
   e. Roof snow load.
   f. Seismic load.

2. Manufacturer Data: Submit manufacturer's data including descriptive and technical literature.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified erector and manufacturer.

B. Metal Building System Certificates: The manufacturer shall provide for each type of metal building framing system the following:

1. Letter of Design Certification: Shall be signed and sealed by a qualified professional engineer and shall include the following:

   a. Name and location of Project.
   b. Order number.
   c. Name of manufacturer.
   d. Name of Design Build Contractor.
   e. Building dimensions including width, length, height, and roof slope.
   f. Indicate compliance with AISC standards for hot-rolled steel and AISI standards for cold-rolled steel, including edition dates of each standard.
   g. Governing building code and year of edition.
   h. Design Loads: Include dead load, roof live load, collateral loads, roof snow load, deflection, wind loads/speeds and exposure, seismic design category or effective peak velocity-related acceleration/peak acceleration, and auxiliary loads (cranes).
   i. Load Combinations: Indicate that loads were applied acting simultaneously with concentrated loads, according to governing building code.

j. Building-Use Category: Indicate category of building use and its effect on load importance factors.
k. Compliance with AISC 341, “Seismic Provisions for Structural Steel Buildings”.
l. Deflection limits for all components.
m. Drift limits for structure.

2. Certifications for System Components.

C. Erector Certificates: For qualified erector, from manufacturer.

D. Manufacturer Certificates: For qualified manufacturer.

E. Galvanizing Repair Paint Certificates.

F. Material Test Reports: For each of the following products:

1. Structural steel including chemical and physical properties.
2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
3. Tension-control, high-strength, bolt-nut-washer assemblies.
4. Shop primers.
5. Nonshrink grout.
6. Coatings and base metals, chalking tests.
7. Factory color finish performance requirements.
8. Wind load/uplift tests for wall and roof panels.
9. Seismic tests for wall and roof panels.
10. Thermal resistance, fire-test-response characteristics, water-vapor transmission, and water absorption tests for insulation and vapor-retarder facings.
11. Leakage test reports for wall and roof panels.

G. Source quality-control reports: In-plant QA/QC inspection reports.

H. Field quality-control reports: Submit material test reports to the Structural Engineer for each of the following:

1. Bolt tension tests
2. Weld visual inspections

I. Sample Warranties: For special warranties.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer and a member of MBMA.

1. Accreditation: Manufacturer's facility accredited according to the International Accreditation Service's AC472, "Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems."
2. Engineering Responsibility: Preparation of comprehensive engineering analysis and Shop Drawings by a professional engineer who is legally qualified to practice in the state where Project is located.

3. Experience in seismic design conforming to ANSI/AISC 341, “Seismic Provisions for Structural Steel Buildings”.

B. Manufacturer’s Technical Representative: The representative must have authorization from manufacturer to approve field changes and be thoroughly familiar with the products, erection of structural framing and installation of roof and wall panels in the geographical area where construction will take place.

C. Erector Qualifications: An experienced erector who specializes in erecting and installing work similar in material, design, and extent to that indicated for this Project and who is acceptable to manufacturer.

D. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.3, "Structural Welding Code - Sheet Steel."

E. Structural Steel: Comply with AISC 360-10, “Specification for Structural Steel Buildings”.

F. Cold-Formed Steel: Comply with AISI S100, “North American Specification for the Design of Cold-Formed Steel Structural Members”.

G. Preinstallation Conference: Conduct conference at Project site. Review methods and procedures related to metal building systems and metal roof panel assemblies including, but not limited to the following:

1. Condition of foundations and other preparatory work performed by other trades.
2. Structural load limitations.
3. Construction schedule. Verify availability of materials and erector’s personnel, equipment, and facilities needed to make progress and avoid delays. Sequencing of metal building erection with other trades (e.g. masonry).
4. Required tests, inspections, and certifications.
5. Unfavorable weather and forecasted weather conditions.
6. Compliance with requirements for purlin and rafter conditions, including flatness and attachment to structural members.
7. Structural limitations of purlins and rafters during and after roofing.
8. Flashings, special roof details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect metal roof panels, as applicable.
9. Temporary protection requirements for metal roof panel assembly during and after installation.
10. Condition of other construction that will affect metal building system, including coatings and base metals, factory color finish performance requirements, system components, and certificates for coil stock.

H. Pre-Roofing and Siding Installation Conference: After structural framing system erection and approval but before roofing and siding work, including associated work, is performed; the Design Build Contractor may hold a pre-roofing and siding conference to review the following:

1. Examine purlins, sub-girts and formed shapes conditions for compliance with requirements, including flatness and attachment to structural members.

2. Review structural limitations of purlins, sub-girts and formed shapes during and after roofing and siding.
3. Review flashings, special roof and wall details, roof drainage, roof and wall penetrations, roof equipment curbs, and condition of other construction that will affect the metal building system.
4. Review temporary protection requirements for metal roof and wall panels' assembly during and after installation.
5. Review roof and wall observation and repair procedures after metal building system erection.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, sheets, panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.

B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Protect foam-plastic insulation as follows:

1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
2. Protect against ignition at all times. Do not deliver foam-plastic insulation materials to Project site before installation time.
3. Complete installation and concealment of foam-plastic materials as rapidly as possible in each area of construction.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with panel installation only when weather conditions permit metal panels to be installed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements:

1. Established Dimensions for Foundations: Comply with established dimensions on approved anchor-bolt plans, establishing foundation dimensions and proceeding with fabricating structural framing without field measurements. Coordinate anchor-bolt installation to ensure that actual anchorage dimensions correspond to established dimensions.
2. Established Dimensions for Metal Panels: Where field measurements cannot be made without delaying the Work, either establish framing and field measurements, or allow for field trimming metal panels. Coordinate construction to ensure that actual building

dimensions, locations of structural members, and openings correspond to established dimensions.

1.11 COORDINATION

A. Coordinate sizes and locations of concrete foundations and casting of anchor-bolt inserts into foundation walls and footings. Concrete, reinforcement, and formwork requirements are specified in Section 033010 CAST-IN-PLACE CONCRETE.

B. Coordinate installation of roof penetrations.

C. Coordinate metal panel assemblies with rain drainage work, flashing, trim, and construction of supports and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.12 WARRANTY

A. Building System Warranty:
   1. Furnish manufacturer's standard warranty for the metal building system, excluding paint.
   2. The manufacturer shall warrant the metal building system against failure due to defective material or workmanship for a period of (1) year from date of shipment.
   3. The liability under this warranty shall be limited to furnishing, but not dismantling or installing, necessary replacement material F.O.B. manufacturer's plant. In no event shall the manufacturer be liable for loss of profits, or other incidental, consequential, or special damages.

B. Warranty on Metal Panel Finishes: Manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within manufacturer's standard warranty period.

   1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

      a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
      b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
      c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

   2. Finish Warranty Period: manufacturer's standard number of years from date of Substantial Completion.

C. Weathertightness Warranty for Insulated Metal Roof Panels: Manufacturer agrees to repair or replace insulated metal roof panel assemblies that leak or otherwise fail to remain weathertight within specified warranty period.

   1. Warranty Period: manufacturer's standard number of years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 METAL BUILDING SYSTEMS

A. Provide a complete, integrated set of metal building system manufacturer's standard mutually dependent components and assemblies that form a metal building system capable of withstanding structural and other loads, thermally induced movement, and exposure to weather without failure or infiltration of water into building interior. Design the metal building system to conform to procedures described in MBMA MBSM, "Metal Building Systems Manual", and for seismic conditions complying with the applicable requirements of ANSI/AISC 341, "Seismic Provisions for Structural Steel Buildings".

1. Manufacturers:
   a. Basis of Design: Nucor Building Systems; http://www.nucorbuildingsystems.com

B. Provide metal building system of size and with bay spacings, roof slopes, and spans as indicated on the drawings.

C. Primary-Frame Type: Rigid Clear Span: Solid-member, structural-framing system without interior columns.

D. End-Wall Framing: Manufacturer's standard, for buildings not required to be expandable, consisting of load-bearing end-wall and corner columns and rafters.

E. Secondary-Frame Type: Manufacturer's standard purlins and joists and bypass girts.

1. Design Thicknesses – Gauge to be determined by design to meet specified loading conditions.

F. Eave Height: As indicated on Drawings.

G. Bay Spacing: As indicated on Drawings.

H. Roof Slope: As indicated on Drawings.

I. Roof System: Design Basis - Nucor "CFR IMP" Insulated Standing-Seam Roof Panels Exterior Wall System: Design Basis - Nucor "CF Flute" Insulated Metal Wall Panel

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Design metal building system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

B. Structural Performance: Metal building systems shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to procedures in MBMA's "Metal Building Systems Manual."

1. Design Loads: As indicated on Drawings and as required by MBMA's "Metal Building Systems Manual" and ASCE 7-10 "Minimum Design Loads for Buildings and Other Structures".

2. Deflection and Drift Limits: Design metal building system assemblies to withstand serviceability design loads without exceeding deflections and drift limits recommended in AISC Steel Design Guide No. 3 "Serviceability Design Considerations for Steel Buildings."
3. Deflection and Drift Limits: No greater than the following:

    a. Purlins and Rafters: Vertical deflection of L/180 of the span.
    b. Girts: Horizontal deflection of L/180 of the span.
    c. Lateral Masonry Support Girt: Hot-rolled steel girt at height indicated on drawings. Horizontal deflection of L/240 of the span.
    d. Metal Roof Panels: Vertical deflection of L/180 of the span.
    e. Metal Wall Panels: Horizontal deflection of L/180 of the span.
    f. Design secondary-framing system to accommodate deflection of primary framing and construction tolerances, and to maintain clearances at openings.
    g. Main Frame Lateral Drift: Maximum of H/360.

4. Metal panel assemblies shall withstand the effects of gravity loads and loads and stresses within limits and under conditions indicated according to ASTM E 1592.

C. Seismic Performance: Metal building system shall withstand the effects of earthquake motions determined according to ASCE 07-10 “Minimum Design Loads for Buildings and Other Structures”.

D. Thermal Movements: Allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperature by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 180 deg F, material surfaces.

E. Structural Performance for Metal Roof and Wall Panels: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592:

1. Wind Loads: As indicated on Drawings.

F. Air Infiltration for Metal Roof Panels: No air penetration when tested according to ASTM E 1680.

G. Air Infiltration for Metal Wall Panels: No air penetration when tested according to ASTM E 283.

H. Water Penetration for Metal Roof Panels: No water penetration when tested according to ASTM E 1646.

I. Water Penetration for Metal Wall Panels: No water penetration when tested according to ASTM E 331.

J. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.

1. Uplift Rating: UL 90.

2.3 METAL BUILDING FRAMING

A. Structural Steel: Comply with AISC 360, "Specification for Structural Steel Buildings."

B. Bolted Connections: Comply with RCSC's "Specification for Structural Joints Using High-Strength Bolts."

C. Cold-Formed Steel: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" for design requirements and allowable stresses.

D. Primary Framing: Manufacturer's standard primary-framing system, designed to withstand required loads and specified requirements. Primary framing includes transverse and lean-to frames; rafters, rake, and canopy beams; sidewall, intermediate, end-wall, and corner columns; and wind bracing.

1. General: Provide frames with attachment plates, bearing plates, and splice members. Factory drill for field-bolted assembly. Provide frame span and spacing indicated.

    a. Slight variations in span and spacing may be acceptable if necessary to comply with manufacturer's standard, as approved by Architect/Engineer.

2. Rigid Modular Frames: I-shaped frame sections fabricated from shop-welded, built-up steel plates or structural-steel shapes.
3. Frame Configuration: One-directional, sloped.
4. Exterior Column: Tapered.
5. Rafter: Tapered.

E. Secondary Framing: Manufacturer's standard secondary framing, including purlins, girts, eave struts, flange bracing, base members, gable angles, clips, headers, jambs, and other miscellaneous structural members. Unless otherwise indicated, fabricate framing from either cold-formed, structural-steel sheet or roll-formed, metallic-coated steel sheet, prepainted with coil coating, to comply with the following:

1. Purlins: C- or Z-shaped sections; fabricated from built-up steel plates, or structural-steel shapes; minimum depth as required to comply with system performance requirements.
2. Girts: C- or Z-shaped sections; fabricated from built-up steel plates, steel sheet, or structural-steel shapes. Form ends of Z-sections with stiffening lips angled 40 to 50 degrees from flange with minimum depth as required to comply with system performance requirements.
3. Eave Struts: Unequal-flange, C-shaped sections; fabricated from built-up steel plates, steel sheet, or structural-steel shapes; to provide adequate backup for metal panels.
4. Flange Bracing: Column flange bracing is not permitted.
5. Sag Bracing: Manufacturer’s standard.
6. Base or Sill Angles: Zinc-coated (galvanized) steel sheet.
7. Purlin and Girt Clips: Manufacturer's standard clips fabricated from steel sheet. Provide galvanized clips where clips are connected to galvanized framing members.

8. Framing for Openings: Channel shapes; fabricated from cold-formed, structural-steel sheet or structural-steel shapes. Frame head and jamb of door openings and head, jamb, and sill of other openings.
9. Miscellaneous Structural Members: Manufacturer's standard sections fabricated from cold-formed, structural-steel sheet; built-up steel plates; or zinc-coated (galvanized) steel sheet; designed to withstand required loads.

F. Canopy Framing: Manufacturer's standard structural-framing system, designed to withstand required loads; fabricated from shop-welded, built-up steel plates or structural-steel shapes. Provide frames with attachment plates and splice members, factory drilled for field-bolted assembly.

1. Type: Tapered-beam, below-eave type.

G. Bracing: Provide manufacturer’s standard wind bracing as required.

H. Materials:

1. W-Shapes: ASTM A 992/A 992M.
2. Channels, Angles, M-Shapes, and S-Shapes: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50.
3. Plate and Bar: ASTM A 36/A 36M; ASTM A 572/A 572M, Grade 50 or 55; or ASTM A 529/A 529M, Grade 50 or 55.
4. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
5. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B or C, structural tubing.
6. Structural-Steel Sheet: Hot-rolled, ASTM A 1011/A 1011M, Structural Steel (SS), Grades 30 through 55, or High-Strength Low-Alloy Steel (HSLAS) or High-Strength Low-Alloy Steel with Improved Formability (HSLAS-F), Grades 45 through 70; or cold-rolled, ASTM A 1008/A 1008M, Structural Steel (SS), Grades 25 through, or high-Strength Low-Alloy Steel (HSLAS), Grades 45 through 70.
7. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, SS, Grades 33 through 80 (230 through 550), or HSLAS or HSLAS-F, Grades 50 through 80 (340 through 550); with G60 (Z180) coating designation; mill phosphatized.
8. Metallic-Coated Steel Sheet Prepainted with Coil Coating: Steel sheet, metallic coated by the hot-dip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.

    a. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, SS, Grades 33 through 80, or HSLAS or HSLAS-F, Grades 50 through 80; with G90 coating designation.
    b. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, SS, Grade 50 or 80; with Class AZ50 coating for exterior face of roof panels.

9. Non-High-Strength Bolts, Nuts, and Washers: ASTM A 307, Grade A, carbon-steel, hex-head bolts; ASTM A 563 carbon-steel hex nuts; and ASTM F 844 plain (flat) steel washers.

    a. Finish: Plain.

10. High-Strength Bolts, Nuts, and Washers at locations recommended by Manufacturer: ASTM A 325, Type 1, heavy-hex steel structural bolts; ASTM A 563 heavy-hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.

    a. Finish: Hot-dip zinc coating, ASTM A 153 or mechanically deposited zinc coating, ASTM B 695.

11. Unheaded Anchor Rods: ASTM F 1554, Grade 36.

    a. Configuration: Straight.
    b. Nuts: ASTM A 563 heavy-hex carbon steel.
    c. Plate Washers: ASTM A 36/A 36M carbon steel.
    d. Washers: ASTM F 436 hardened carbon steel.

12. Headed Anchor Rods: ASTM F 1554, Grade 36.

    a. Configuration: Straight.
    b. Nuts: ASTM A 563 heavy-hex carbon steel.
    c. Plate Washers: ASTM A 36/A 36M carbon steel.
    d. Washers: ASTM F 436 hardened carbon steel.

I. Finish: Factory primed. Apply specified primer immediately after cleaning and pretreating.

1. Clean and prepare in accordance with SSPC-SP2.
2. Apply primer to primary and secondary framing to a minimum dry film thickness of 1.5 mils.
3. Prime secondary framing Manufacturer's standard coating.

    a. Primer: SSPC-Paint 15, Type I, Gray.

2.4 INSULATED METAL ROOF PANELS

A. Standing-Seam, Insulated Metal Roof Panels.
1. Basis of design: Nucor "CFR IMP" Insulated Standing-Seam Roof Panels

2. Material: Provide roll-form steel roof and liner panels to the specified profile with 22 gauge minimum and depth, as indicated, conforming to ASTM A 1008 and ASTM A 36. Ensure the material is plumb and true.

    a. Conform to ASTM A653 and AISI SG03-3 "Cold-Formed Steel Design Manual Set".
3. Thickness: 5"
4. Width: 36"
5. Exterior Profile: 2" high standing seam, embossed
6. Exterior Face: AZ-50 aluminum-zinc coated steel, 22 Gage
7. Interior Profile: Mesa, nominal 1/8"deep, embossed
8. Interior Face: G-90 Galvanized, 22 Gage
9. Interior Color/Finish: as selected by Architect from Manufacturer's full range of colors
10. Exterior Color/Finish: as selected by Architect from Manufacturer's full range of colors

B. Individual panels must be continuous length to cover the entire length of any unbroken wall area with no joints or seams and formed without warping, waviness, or ripples that are not part of the panel profile and free of damage to the finish coating system.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

D. Fabricate metal roof panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weather-tight and minimize noise from movements within panel assembly.

E. Provide panels with thermal expansion and contraction consistent with the type of system specified.

F. Profile and Coverage: a minimum height and width from manufacturer's standard for the indicated roof slope.

2.5 FOAMED-INSULATION-CORE METAL WALL PANELS

A. Concealed-Fastener, Foamed-Insulation-Core Metal Wall Panels: Formed with tongue-and-groove panel edges; designed for sequential installation by interlocking panel edges and mechanically attaching panels to supports using concealed clips or fasteners.
   1. Design Basis: Nucor "CF Flute" Insulated Metal Wall Panel.

B.
   1. Facing Material: Provide roll-form steel wall panels to the specified profile with 22 gauge minimum and depth, as indicated, conforming to ASTM A 1008 and ASTM A 36. Ensure the material is plumb and true.
      a. Exterior Profile: 1" wide, nominal 3/8" deep longitudinal reveals, 8.4" on center, embossed
      b. Exterior Face: AZ-50 Aluminum-zinc Coated Steel, 22 Ga.
      c. Exterior Color/Finish: As selected by Architect from manufacturer's full range
      d. Interior Profile: Mesa, nominal 1/8" deep, embossed
      e. Interior Face: G-90 Galvanized, 22 Ga.
      f. Interior Color/Finish: As selected by Architect from manufacturer's full range
   2. Panel Coverage: 36 inches (914 mm)
   3. Panel Thickness: 5 inches (127 mm)
   4. Insulation Core: Modified polyisocyanurate or polyurethane foam using a non-CFC blowing agent, foamed-in-place, with maximum flame-spread and smoke-developed indexes of 25 and 450, respectively.
      a. Closed-Cell Content: 90 percent when tested according to ASTM D 6226.
      b. Density: 2.0 to 2.6 lb/cu. ft. (32 to 42 kg/cu. m) when tested according to ASTM D 1622.
      c. Compressive Strength: Minimum 20 psi (140 kPa) when tested according to ASTM D 1621.
      d. Shear Strength: 26 psi (179 kPa) when tested according to ASTM C 273/C 273M.

5. Fire-Test-Response Characteristics: Class A according to ASTM E 108.
6. Surface-Burning Characteristics: Flame-spread index of 25 or less and a smoke-developed index of 450 or less, per ASTM E 84.

C. Finishes:

1. Exposed Coil-Coated Finish:

a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
b. Color: As selected by Architect from manufacturer's full range

2. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

2.6 METAL SOFFIT PANELS

A. General: Provide factory-formed metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners and factory-applied sealant in side laps. Include accessories required for weathertight installation.

B. Metal Soffit Panels:
1. Basis of Design: Nucor Flat SL Panel – Single Pencil Rib
2. Dimensions: 12 inches wide by 1 ½ inch high
3. Finish: Standard – Smooth Finish
4. Color: As selected by Architect from manufacturer's full range

2.7 THERMAL INSULATION

A. Spray-Foam Insulation: ASTM C 1848-17a
1. Provide for eave closure in locations as indicated on plans
2. Minimum R 30

2.8 DOORS AND FRAMES

A. Swinging Personnel Doors and Frames: As specified in Section 081113 "Hollow Metal Doors and Frames."
1. Provide opening framing accessories for personnel doors as standard with metal building system manufacturer and as specified. Fabricate and finish frame accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.

B. Sectional Doors: As specified in Section 085613 “Sectional Doors”

1. Provide framing accessories for sectional door motor mounting as standard with metal building system manufacturer and as specified. Fabricate and finish frame accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.

2.9 ACCESSORIES

A. General: Provide accessories as standard with metal building system manufacturer and as specified. Fabricate and finish accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes. Comply with indicated profiles and with dimensional and structural requirements.

1. Form exposed sheet metal accessories that are without excessive oil-canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.

B. Roof Panel Accessories: Provide components required for a complete metal roof panel assembly including copings, fasciae, corner units, ridge closures, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same material as metal roof panels.
2. Clips: Manufacturer's standard, formed from steel sheet, designed to withstand negative-load requirements.
3. Cleats: Manufacturer's standard, mechanically seamed cleats formed from steel sheet.
4. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
5. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
6. Thermal Spacer Blocks: Where metal panels attach directly to purlins, provide thermal spacer blocks of thickness required to provide 1-inch standoff; fabricated from extruded polystyrene.

C. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including copings, fasciae, mullions, sills, corner units, clips, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels unless otherwise indicated.

1. Closures: Provide closures at eaves and rakes, fabricated of same material as metal wall panels.
2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- thick, flexible closure strips; cut or premolded to match metal wall panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

D. Flashing and Trim: Zinc-coated (galvanized) steel sheet, 0.018-inch nominal uncoated steel thickness, prepainted with coil coating; finished to match adjacent metal panels.

1. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers.
2. Opening Trim: Zinc-coated (galvanized) steel sheet, 0.030-inch (0.76-mm) nominal uncoated steel thickness, prepainted with coil coating. Trim head and jamb of door openings, and head, jamb, and sill of other openings.

E. Gutters: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 0.018-inch (0.46-mm) nominal uncoated steel thickness, prepainted with coil coating; finished to match roof fascia and rake trim. Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- (2438-mm-) long sections, sized according to SMACNA's "Architectural Sheet Metal Manual."

1. Gutter Supports: Fabricated from same material and finish as gutters.

F. Downspouts: Zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet, 0.018-inch (0.46-mm) nominal uncoated steel thickness, prepainted with coil coating; finished to match metal wall panels. Fabricate in minimum 10-foot- (3-m-) long sections, complete with formed elbows and offsets.

1. Mounting Straps: Fabricated from same material and finish as gutters.

G. Roof Curb: Zinc-coated (galvanized) steel sheet, 0.048-inch (1.21-mm) nominal uncoated steel thickness prepainted with coil coating; finished to match metal roof panels; with welded top box and bottom skirt, and integral full-length cricket; capable of withstanding loads of size and height indicated.

1. Curb Subframing: Zinc-coated (galvanized) steel sheet, 0.060-inch (1.52-mm) nominal uncoated steel thickness, angle -shaped metallic-coated steel sheet.
2. Insulation: 1-inch- (25-mm-) thick, rigid type.

H. Pipe Flashing: Premolded, EPDM pipe collar with flexible aluminum ring bonded to base.

I. Materials:

1. Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide fasteners with heads matching color of materials being fastened by means of plastic caps or factory-applied coating.

    a. Fasteners for Metal Roof Panels: Self-drilling or self-tapping, zinc-plated, hex-head carbon-steel screws, with a stainless-steel cap or zinc-aluminum-alloy head and EPDM sealing washer.
    b. Fasteners for Metal Wall Panels: Self-drilling or self-tapping, zinc-plated, hex-head carbon-steel screws[, with EPDM sealing washers bearing on weather side of metal panels]
    c. Blind Fasteners: High-strength aluminum or stainless-steel rivets.

2. Corrosion-Resistant Coating: Cold-applied asphalt mastic, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
3. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107/C 1107M, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.
4. Metal Panel Sealants:

    a. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene-compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape of manufacturer's standard size.
    b. Joint Sealant: ASTM C 920; one part elastomeric polyurethane or polysulfide; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended by metal building system manufacturer.

2.10 FABRICATION

A. General: Design components and field connections required for erection to permit easy assembly.

1. Mark each piece and part of the assembly to correspond with previously prepared erection drawings, diagrams, and instruction manuals.
2. Fabricate structural framing to produce clean, smooth cuts and bends. Punch holes of proper size, shape, and location. Members shall be free of cracks, tears, and ruptures.

B. Tolerances: Comply with MBMA's "Metal Building Systems Manual" for fabrication and erection tolerances.

C. Primary Framing: Shop fabricate framing components to indicated size and section, with baseplates, bearing plates, stiffeners, and other items required for erection welded into place. Cut, form, punch, drill, and weld framing for bolted field assembly.

1. Make shop connections by welding or by using high-strength bolts.
2. Join flanges to webs of built-up members by a continuous, submerged arc-welding process.
3. Brace compression flange of primary framing with steel angles or cold-formed structural tubing between frame web and purlin web or girt web, so flange compressive strength is within allowable limits for any combination of loadings.
4. Weld clips to frames for attaching secondary framing if applicable, or punch for bolts.
5. Shop Priming: Prepare surfaces for shop priming according to SSPC-SP 2. Shop prime primary framing with specified primer after fabrication.

D. Secondary Framing: Shop fabricate framing components to indicated size and section by roll forming or break forming, with baseplates, bearing plates, stiffeners, and other plates required for erection welded into place. Cut, form, punch, drill, and weld secondary framing for bolted field connections to primary framing.

1. Make shop connections by welding or by using non-high-strength bolts.
2. Shop Priming: Prepare uncoated surfaces for shop priming according to SSPC-SP 2. Shop prime uncoated secondary framing with specified primer after fabrication.

E. Metal Panels: Fabricate and finish metal panels at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.

1. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of metal panel.

2.11 SOURCE QUALITY CONTROL

A. Accredited Manufacturers: Special inspections will not be required if fabrication is performed by an IAS AC472-accredited manufacturer approved by authorities having jurisdiction to perform such Work without special inspection.

1. After fabrication, submit copy of certificate of compliance to authorities having jurisdiction, certifying that Work was performed according to Contract requirements.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with erector present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Before erection proceeds, survey elevations and locations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments to receive structural framing, with erector present, for compliance with requirements and metal building system manufacturer's tolerances.

C. Proceed with erection only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition.

B. Provide temporary shores, guys, braces, and other supports during erection to keep structural framing secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural framing, connections, and bracing are in place unless otherwise indicated.

3.3 ERECTION OF STRUCTURAL FRAMING

A. Erect metal building system according to manufacturer's written instructions and drawings.

B. Do not field cut, drill, or alter structural members without written approval from metal building system manufacturer's professional engineer.

C. Set structural framing accurately in locations and to elevations indicated, according to AISC specifications referenced in this Section. Maintain structural stability of frame during erection.

D. Base and Bearing Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.

1. Set plates for structural members on wedges, shims, or setting nuts as required.
2. Tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
3. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.

E. Align and adjust structural framing before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with framing. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure will be completed and in service.

F. Primary Framing and End Walls: Erect framing level, plumb, rigid, secure, and true to line. Level baseplates to a true even plane with full bearing to supporting structures, set with double-nutted anchor bolts. Use shims and grout to obtain uniform bearing and to maintain a level base-line elevation. Moist-cure grout for not less than seven days after placement.

1. Make field connections using high-strength bolts installed according to RCSC's "Specification for Structural Joints Using High-Strength Bolts" for bolt type and joint type specified.

    a. Joint Type: Snug tightened or pretensioned as required by manufacturer.

G. Secondary Framing: Erect framing level, plumb, rigid, secure, and true to line. Field bolt secondary framing to clips attached to primary framing.

1. Provide rake or gable purlins with tight-fitting closure channels and fasciae.
2. Locate and space wall girts to suit openings such as doors and windows.
3. Provide supplemental framing at entire perimeter of openings, including doors, windows, louvers, ventilators, and other penetrations of roof and walls.
4. Install and connect bridging concurrently with joist erection, before construction loads are applied. Anchor ends of bridging lines at top and bottom chords if terminating at walls or beams.

H. Bracing: Install bracing in roof and sidewalls where indicated on erection drawings.

1. Tighten rod and cable bracing to avoid sag.
2. Locate interior end-bay bracing only where indicated.

I. Framing for Openings: Provide shapes of proper design and size to reinforce openings and to carry loads and vibrations imposed, including equipment furnished under mechanical and electrical work. Securely attach to structural framing.

J. Erection Tolerances: Maintain erection tolerances of structural framing within AISC 303.

3.4 METAL PANEL INSTALLATION, GENERAL

A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.

C. Examination: Examine primary and secondary framing to verify that structural-panel support members and anchorages have been installed within alignment tolerances required by manufacturer.

1. Examine roughing-in for components and systems penetrating metal panels, to verify actual locations of penetrations relative to seams before metal panel installation.

D. General: Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement and provide permanent freedom from noise due to wind pressure.

1. Field cut metal panels as required for doors, windows, and other openings. Cut openings as small as possible, neatly to size required, and without damage to adjacent metal panel finishes.

a. Field cutting of metal panels by torch is not permitted unless approved in writing by manufacturer.

2. Install metal panels perpendicular to structural supports unless otherwise indicated.
3. Flash and seal metal panels with weather closures at perimeter of openings and similar elements. Fasten with self-tapping screws.
4. Locate and space fastenings in uniform vertical and horizontal alignment.
5. Locate metal panel splices over structural supports with end laps in alignment.
6. Lap metal flashing over metal panels to allow moisture to run over and off the material.

E. Lap-Seam Metal Panels: Install screw fasteners using power tools with controlled torque adjusted to compress EPDM washers tightly without damage to washers, screw threads, or metal panels. Install screws in predrilled holes.

1. Arrange and nest side-lap joints so prevailing winds blow over, not into, lapped joints. Lap ribbed or fluted sheets one full rib corrugation. Apply metal panels and associated

items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.

F. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by metal roof panel manufacturer.

G. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weatherproof performance of metal panel assemblies. Provide types of gaskets, fillers, and sealants indicated; or, if not indicated, provide types recommended by metal panel manufacturer.

1. Seal metal panel end laps with double beads of tape or sealant the full width of panel. Seal side joints where recommended by metal panel manufacturer.
2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."

3.5 METAL ROOF PANEL INSTALLATION

A. General: Provide metal roof panels of full length from eave to wall unless otherwise indicated or restricted by shipping limitations.

B. Anchor metal roof panels and other components of the Work securely in place in accordance with MBMA MBSM.

C. Erect roofing system in accordance with the approved erection drawings, the printed instructions and safety precautions of the metal building manufacturer.

D. Sheets are not to be subjected to overloading, abuse, or undue impact. Do not install bent, chipped, or defective sheets.

E. Sheets must be erected true and plumb and in exact alignment with the horizontal and vertical edges of the building, securely anchors, and with the indicated rake and eave overhang.

F. Field cutting metal roof panels by torch is not permitted.

G. Roofing sheets must be laid with corrugations in the direction of the roof slope. End laps of exterior roofing must not be less than 8 inches; the side laps of standard exterior corrugated sheets must not be less than 2-1/2 corrugations.

H. Do not permit storage, walking, wheeling, and trucking directly on applied roofing materials. Provide temporary walkways, runways, and platforms of smooth clean boards or planks as necessary to avoid damage to the installed roofing materials and to distribute weight to conform to the indicated live load limits of roof construction.

I. Flash and seal metal roof panels with weather closures at eaves and rakes. Fasten with self-tapping screws.

J. Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint, at location and spacing and with fasteners recommended by manufacturer.

1. Install clips to supports with self-drilling or self-tapping fasteners.
2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
3. Seamed Joint: Crimp standing seams with manufacturer-approved motorized seamer tool so that clip, metal roof panel, and factory-applied sealant are completely engaged.
4. Rigidly fasten eave end of metal roof panels and allow ridge end free movement for thermal expansion and contraction. Predrill panels for fasteners.

K. Metal Fascia Panels: Align bottom of metal panels and fasten with blind rivets, bolts, or self-drilling or self-tapping screws. Flash and seal metal panels with weather closures where fasciae meet soffits, along lower panel edges, and at perimeter of all openings.

3.6 METAL WALL PANEL INSTALLATION

A. General: Install metal wall panels in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to girts, extending full height of building, unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.

1. Unless otherwise indicated, begin metal panel installation at corners with center of rib lined up with line of framing.
2. Shim or otherwise plumb substrates receiving metal wall panels.
3. When two rows of metal panels are required, lap panels 4 inches (102 mm) minimum.
4. When building height requires two rows of metal panels at gable ends, align lap of gable panels over metal wall panels at eave height.
5. Rigidly fasten base end of metal wall panels and allow eave end free movement for thermal expansion and contraction. Predrill panels.
6. Flash and seal metal wall panels with weather closures at eaves and rakes, and at perimeter of all openings. Fasten with self-tapping screws.
7. Install screw fasteners in predrilled holes.
8. Install flashing and trim as metal wall panel work proceeds.
9. Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete, and elsewhere as indicated on Drawings; if not indicated, as necessary for waterproofing.
10. Align bottom of metal wall panels and fasten with blind rivets, bolts, or self-drilling or self-tapping screws.
11. Provide weatherproof escutcheons for pipe and conduit penetrating exterior walls.

B. Insulated Metal Wall Panels: Install insulated metal wall panels on exterior side of girts. Attach panels to supports at each panel joint using concealed clip and fasteners at maximum 42 inches (1067 mm) o.c., spaced not more than manufacturer's recommendation. Fully engage tongue and groove of adjacent insulated metal wall panels.

1. Install clips to supports with self-tapping fasteners.

2. Apply continuous ribbon of sealant to panel joint on concealed side of insulated metal wall panels as vapor seal; apply sealant to panel joint on exposed side of panels as weather seal.

3.7 METAL SOFFIT PANEL INSTALLATION

A. Provide metal soffit panels the full width of soffits. Install panels perpendicular to support framing.

B. Flash and seal metal soffit panels with weather closures where panels meet walls and at perimeter of all openings.

3.8 THERMAL INSULATION INSTALLATION

A. General: Install insulation concurrently with metal panel installation, in thickness indicated to cover entire surface, according to manufacturer's written instructions.

3.9 DOOR AND FRAME INSTALLATION

A. General: Install doors and frames plumb, rigid, properly aligned, and securely fastened in place according to manufacturers' written instructions. Coordinate installation with wall flashings and other components. Seal perimeter of each door frame with elastomeric sealant used for metal wall panels.

B. Personnel Doors and Frames: Install doors and frames according to NAAMM-HMMA 840. Fit non-fire-rated doors accurately in their respective frames, with the following clearances:

1. Between Doors and Frames at Jambs and Head: 1/8 inch (3 mm).
2. Between Edges of Pairs of Doors: 1/8 inch (3 mm).
3. At Door Sills with Threshold: 3/8 inch (9.5 mm).
4. At Door Sills without Threshold: 3/4 inch (19.1 mm).
5. At fire-rated openings, install frames according to, and doors with clearances specified in, NFPA 80.

3.10 ACCESSORY INSTALLATION

A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

1. Install components required for a complete metal roof panel assembly, including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
2. Install components for a complete metal wall panel assembly, including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
3. Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with corrosion-resistant coating, by applying rubberized-asphalt underlayment to each contact surface, or by other permanent separation as recommended by manufacturer.

B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

1. Install exposed flashing and trim that is without excessive oil-canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).

C. Gutters: Join sections with riveted-and-soldered or lapped-and-sealed joints. Attach gutters to eave with gutter hangers spaced as required for gutter size, but not more than 36 inches o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.

D. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches o.c. in between.

1. Provide elbows at base of downspouts to direct water away from building.

E. Roof Curbs: Install curbs at locations indicated on Drawings. Install flashing around bases where they meet metal roof panels.

F. Pipe Flashing: Form flashing around pipe penetration and metal roof panels. Fasten and seal to panel as recommended by manufacturer.

3.11 FIELD QUALITY CONTROL

A. Special Inspections: Design Build Contractor may engage a qualified special inspector to perform field quality control special inspections and to submit reports.

1. High Strength, Field Bolted Connections: Connections shall be tested and inspected during installation.
2. Welded Connections: Visual inspections.

B. Product will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports. Submit test results to Design Build Contractor, the Architect, and the Structural Engineer.

3.12 CLEANING AND PROTECTION

A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780/A 780M and manufacturer's written instructions.

B. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

C. Touchup Painting: After erection, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted structural framing, bearing plates, and accessories.

1. Clean and prepare surfaces by SSPC-SP 2, "Hand Tool Cleaning," or by SSPC-SP 3, "Power Tool Cleaning."
2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.

D. Metal Panels: Remove temporary protective coverings and strippable films, if any, as metal panels are installed. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

1. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 133419

Contract Documents and Specifications

Lexington Fayette Urban County Government

Department of General Services

For

DWQ Headquarters and Operations Facility

134 West New Circle Road
Lexington, KY

Bid No. RFB 70-2025
GRW Project No. 5247-01

Prepared By:

GRW Inc.

August 15, 2025

Construction Document

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1.1 PROJECT MANUAL

A. VOLUME 3 of 4

1. LFUCG Division of Water Quality Facility Renovation
2. Lexington Fayette Urban County Government.
3. Lexington, KY.
4. Owner Project No. RFB 70-2025.
5. Architect Project No. 5247-01.

6. GRW Engineering Architecture Geospatial. Inc.
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9. Phone: 859-223-3999.
10. Website: GRW | engineering | architecture | geospatial.
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END OF DOCUMENT 000103

DIVISION 21

FIRE SUPPRESSION

SECTION 211000 – WATER BASED FIRE SUPPRESSION SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. This section covers the complete installation of a full wet pipe and dry pipe fire protection sprinkler system and related items.

B. Provide all items, articles, materials, operations and/or methods listed, mentioned or herein specified, including all labor, materials, equipment and incidentals necessary and required for their completion.

C. Design drawings for this project show the location of fire protection system work is required. Any additional system components or sprinkler heads that may be required to meet all NFPA 13 requirements is the responsibility of the contractor. Any areas not shown to be sprinkled but required to be sprinkled by NFPA 13 requirements shall be sprinkled by the contractor and include any and all equipment required.

D. Contractor shall submit design drawings and calculations to engineer for approval prior to submission to HBC.

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provision for Plumbing Work

C. Section 220200 – Excavation and Backfilling for Underground Piping

D. Section 220517 - Sleeving, Cutting, Patching and Repairing – Plumbing

E. Section 220529 – Hangers and Supports for Plumbing Piping and Equipment

1.3 WORK INCLUDED

A. The work covered by this section of the specifications consists of the furnishing of all materials, labor, equipment and appurtenances and the performance of all operations required for the installation of a system of automatic sprinklers.

B. Work shall commence at a point where shown and shall include all necessary parts, accessories and items of work required for a complete and finished installation including all normally closed flow switches for use by the fire alarm system.

C. All piping including all valves, sprinkler heads, alarm valve, control valves, etc.

D. Any apparatus, machinery, material small items or incidentals not mentioned herein, which may be found necessary to complete or perfect any portion of the installation in a substantial manner and in compliance with the requirements stated, implied or intended in these specifications, shall be furnished without extra cost to the owner. This shall include fire department connections, post indicator valve, water motor gong, ALARM BELL, backflow checks, all electrical power and control wiring and interlock which is not shown on the Electrical Drawings, etc. to provide a complete system and approved fire protection system.

E. The building areas in general are based on light hazard occupancy with storage rooms and mechanical rooms on ordinary hazard; head spacing as required. A system based on hydraulic calculation, as approved by NFPA 13, is acceptable, and as required by the insuring company. Occupancy hazard shall be confirmed by the local Fire Marshal and/or the authority having jurisdiction before calculations are performed.

1.4 SPECIAL REQUIREMENTS

A. No Contractor other than those regularly engaged in the installation of approved and franchised automatic sprinkler systems will be considered or approved for the work under this Section of the specifications. Bidders must have had not less than five years' experience in the fabrication and erection of such systems and shall have completed installations similar and equal in scope to this system under approval by one or more of the recognized underwriting associations in the insurance field.

B. Before submitting bid, examine all mechanical, electrical, architectural and structural drawings, visit the site and become acquainted with all conditions that may, in any way whatsoever, affect the execution of this work.

C. The Contractor shall take his own measurements and be responsible for exact size and location of all openings required for installation of this work. Figured dimensions where indicated are reasonably accurate and should govern in setting out work. Detailed method of installation is not indicated. Sprinkler Contractor shall coordinate exact ceiling grid location and install sprinkler heads centered in the 2' x 2' and 2' x 4' ceiling panels. Location of sprinkler head must be carefully coordinated with the Architect.

D. It shall be this Contractor's responsibility to verify all existing water line sizes and to conduct water flow tests and report to the Architect and Engineer the results of water flow test. Existing water flow test listed within the bidding documents is for bidding purposes only. The Contractor shall conduct/obtain his own water flow test information for use in shop drawing/hydraulic calculations. Water flow test shall be done in accordance with NFPA 291 and use a minimum of two (2) fire hydrants. The test shall be fully coordinated with the utility company, fire department and owner and witnessed by the Architect/Engineer's representative.

E. It is not the intent of these Plans and Specifications to provide a complete detailed description of the apparatus, materials, equipment, etc., which is required to make a complete installation of a specified fire protection system. Include all required sprinkler heads, tamper switches, material and equipment and perform all work required to install a complete and approved installation.

F. All materials and methods shall be in accordance with applicable codes, regulations and/or ordinances and meet approval of local inspection authority and insuring agency having jurisdiction. The latest edition of the National Board of Fire Underwriters Bulletins shall be the minimum requirement for all work. All materials under this Contract shall be listed by the Underwriter's Laboratories, Inc., as approved for fire protection installation. The installation shall comply with the NFPA, and the Kentucky Building Code and Local Fire Marshal in every respect.

G. Perform work under this section in close harmony with other sections so completed work shall present a neat and workmanlike installation.

H. All road crossings or excavation and backfill required for the completion of this work shall be a part of this Contract.

I. Any paving, floors, or other improvements disturbed or destroyed as a result of installation of sprinkler system, shall be restored or replace to Owner's satisfaction.

1.5 SHOP DRAWINGS

A. Prepare detailed shop drawings for the complete sprinkler system, showing the location of the heads, piping and other installation details and submit plans to the Architect. Drawings shall bear the stamp of a certified sprinkler technician and shall be complete with all calculations and equipment drawings for approval of Architect, Engineer and the Department of Housing, Building and Construction and/or the authority having jurisdiction.

B. Sprinklers shall be shown on drawings, submittals and project information and shall be identified by the manufacturer’s style or series designation as published in the appropriate agency listing or approval. Trade names and abbreviations are not permitted.

C. Shop drawings and descriptive literature shall be submitted as a minimum, but not limited to the following:

1. Sprinkler Heads
2. O. S. & Y Valve
3. Alarm Control
4. Back Flow Preventer Detector Check
5. Pipe Hanger and Support
6. Post Indicator Valve
7. Fire Department Connection
8. Fire Hydrants
9. Fire Pit/Vault
10. Air Compressors

1.6 PERMITS, CODES AND INSTALLATIONS

A. All construction permits and inspections for the automatic sprinkler system shall be paid for and furnished under this section. The work shall be installed in a manner to comply with all state and local codes applicable and with all requirements of NFPA Standard 13 latest revision for

the installation of sprinkler systems. The entire installation, all materials, etc., shall meet their requirements.

B. Contact the serving Water Company to determine their cost for any tap on fees, vault, values, piping, equipment required to complete the fire protection tie in. These costs shall be included in this Contract.

C. Pay for all fees and costs arising from this installation and for any and all destruction to property, both public and private, which may arise from this service tap on.

D. No work is to be started by the Contractor until Contractor's drawings are approved by the Division of Housing, Building and Construction and the local Fire Marshal's offices, and one copy delivered to the Architect. Entire installation is to be approved by the Division of Housing, Building and Construction, and the local Fire Marshal and/or the authority having jurisdiction. Final payment will not be made until these approvals are received.

1.7 INSURANCE CARRIER REQUIREMENTS

A. All material shall conform to FME & R requirements.

B. Underground piping shall have 3.5 ft. of cover minimum.

C. The sprinkler system shall be hydraulically designed for light hazard requirements except where noted on the drawings. Minimum hose stream shall be 100 gpm applied at the hydrant closest to the user. Design shall use the area/density method. The room design method shall not be used.

D. Shop drawing shall be submitted to the engineer for review prior to other submittals.

E. Shop drawings shall be submitted to HBC for approval prior to the start of construction.

1.8 OPERATION AND MAINTENANCE INSTRUCTIONS

A. Deliver to the architect three (3) copies of the complete operating and maintenance instructions for the equipment furnished and installed under this contract. Provide the aforementioned parties with parts lists for all new equipment items. Each set shall be provided in a plastic or hard back binder with notations of contents. See Section 220100 GENERAL PROVISIONS FOR PLUMBING WORK.

B. The Contractor shall adequately instruct the Owner's maintenance personnel in the proper operation of all sprinkler devices installed. See Section 220600 PLUMBING SYSTEMS DEMONSTRATION AND TRAINING for a complete description of requirements.

1.9 RECORD DRAWINGS

A. After all work has been completed, provide for the Architect's records one (1) complete set of as built "Record Drawings" showing final installation of the work.

PART 2 - PRODUCTS

2.1 EQUIPMENT AND MATERIALS

A. All equipment and materials shall be new and approved by the UL and/or NFPA. System design shall be 175 PSIG.

B. Trade name and manufacturers mentioned herein are intended only to indicate design, quality and size. Other manufacturers products equal in all respects may be substituted, provided they meet with the prior approval of the architect and are found by him to be equal in every way to the items specified herein.

C. All devices shall be in accordance with the rules and regulations of the state fire marshal's office in all cases and shall bear the label of approval of the Underwriters Laboratories and/or NFPA.

2.2 ACCEPTABLE MANUFACTURERS

A. Allied Piping, Firematic, Grinnell, Reliable, Star, Victualic, Viking, Potter Electric Signal, System Sensor.

2.3 INTERIOR WET SYSTEM FIRE PROTECTION PIPING AND FITTINGS

A. Schedule 40, Black Steel Pipe: ASTM A135. Pipe ends may be factory or field formed to match joining method. NPS 1 to NPS 2.

B. Interior piping shall be Allied, or equal, "Lightwall", ASTM-A135, Schedule 10 black steel, assembled with ductile iron grooved bolted, mechanical pipe fittings, ASTM A 536, Series 100 Victaulic, or equal. Joints shall be Victaulic style 75 or equal. NPS 2-1/2 to NPS 8.

1. Grooved joint fittings shall be manufactured of ductile iron, conforming to ASTM A 536; forged steel, conforming to ASTM A 234; or fabricated from carbon steel pipe, conforming to ASTM A 53; with grooved ends conforming to ANSI/AWWA C606.
2. Bulged short pattern fittings may be used in lieu of standard pattern fittings. The fittings shall have a flow rate equal to standard pattern fittings.

C. Grooved joint couplings shall consist of ductile iron housings, conforming to ASTM A 536, complete with pressure responsive synthetic rubber gasket. (Grade to suit the intended service.)

1. Rigid Type: Coupling housings cast with offsetting, angle-pattern bolt pads shall be used to provide system rigidity and support and hanging in accordance with NFPA 13. Couplings shall be fully installed at visual pad-to-pad offset contact. Tongue and recess rigid type couplings shall not be permitted.

a. Victaulic Style 005 or engineer approved equal.
b. 1-1/4" through 4": Installation-Ready, for direct slab installation without field disassembly or loose parts. Victaulic Style 009-EZ or engineer approved equal.

2. Flexible Type: Use in locations where vibration attenuation and stress relief are required or for seismic applications in accordance with manufacturer's recommendations. Victaulic Style 75 or engineer approved equal.
3. Flange Adapter: Flat face, for direct connection to ANSI Class 125 or 150 flanged components. Victaulic Style 744, 741 or equal.

D. CPVC PIPE AND FITTINGS

1. CPVC Pipe: ASTM F 442/F 442M and UL 1821, SDR 13.5, for 175-psig rated pressure at 150 deg F, with plain ends. Include "LISTED" and "CPVC SPRINKLER PIPE" markings.
2. CPVC Fittings: UL listed, for 175-psig rated pressure at 150 deg F, socket type. Include "LISTED" and "CPVC SPRINKLER FITTING" markings.

    a. NPS 3/4 to NPS 1-1/2: ASTM F 438 and UL 1821, Schedule 40, socket type.
    b. NPS 2 to NPS 3: ASTM F 439 and UL 1821, Schedule 80, socket type.
    c. CPVC-to-Metal Transition Fittings: CPVC, one piece, with dimensions equivalent to pipe; one end with threaded brass insert, and one socket end.
    d. CPVC-to-Metal Transition Unions: CPVC, with dimensions equivalent to pipe; one end with threaded brass insert, and one socket end.
    e. Flanges: CPVC, one or two pieces.

3. Solvent Cements for Joining CPVC Piping and Tubing: ASTM F 493 solvent cement recommended by pipe and fitting manufacturer, and made for joining CPVC sprinkler pipe and fittings. Include cleaner or primer recommended by pipe and fitting manufacturer.

2.4 INTERIOR DRY SYSTEM FIRE PROTECTION PIPING AND FITTINGS

A. Schedule 40, Black Steel Pipe: ASTM A135. Pipe ends may be factory or field formed to match joining method. NPS 1 to NPS 2.

2.5 EXTERIOR FIRE PROTECTION WATER PIPING AND FITTINGS

A. Materials specified and used are subject to final approval of the fire marshal and the local water company.

B. Fire service fittings 2-1/2" and larger shall be cement lined, mechanical joint or grooved end, cast iron water main or PVC pressure in conformance to the latest ASA, ASTM, FS and AWWA specification. Cast iron fittings shall have the manufacturer's standard coal tar on asphaltic base coating outside and a cement lining on the inside, all in accordance with ASA 21.4. Fittings shall be rated at 250 PSI working pressure. PVC piping shall be C-900, 200 PSI rating per local water company standards with tracer wire.

C. All material shall be FME & R approved.

2.6 SPRINKLER HEADS

A. All sprinkler heads shall be Underwriter's approved automatic spray semi-recessed sprinklers and/or exposed upright sprinklers of the correct temperature and type for each location unless otherwise noted. Provide a spare head cabinet with one sprinkler wrench. Quantity of extra heads as indicated in NFPA #13.

B. Stainless steel flexible sprinkler drops may be used to properly locate sprinkler heads. The flexible tube shall be braided (FM-1637) of unbraided/corrugated (UL 2443) type 304 stainless steel. The drops shall be UL listed or FM approved with one-piece open gate bracket for sprinkler installation before or after the bracket is secured to the ceiling gird. Any flexible drop 36-inches or longer must be listed for a minimum of three 90-degree bends to insure proper installation.

C. Sprinkler heads 7' 0" or less above floor and other heads where subject to mechanical injury shall be provided with wire guards.

2.7 SPRINKLER HEAD CABINET

A. Steel Cabinet with hinged cover designed for wall mounting and having a finished appearance. Cabinet shall hold a minimum of six spare sprinklers plus a sprinkler wrench. Provide number of sprinkler heads required by NFPA 13.

2.8 CONTROL VALVES

A. All valves 2" and smaller shall be bronze, solid bronze solid ball or wedge disc, screwed or grooved end pattern, ball type or outside rising stem and yoke, designed for 150 psi working pressure and approved by Underwriters Laboratories and Factory Mutual.

B. All gate valves 2-1/2" and larger shall be iron body, bronze mounted, double disc, parallel seats outside screw and yoke and grooved end, screwed or flanged pattern designed for 160 psi working pressure and approved by Underwriters Laboratories.

C. All butterfly valves 2-1/2" and larger shall be ductile iron body, elastomer encapsulated ductile iron disc with integrally cast stem, grooved pattern designed for 300 psi maximum working pressure and approved by Underwriters Laboratories.

D. Valve Operators: Where indicated on drawings, provide UL and FM approved indicator parts.

2.9 CHECK VALVES

A. Check valves shall be ductile iron body, bronze or stainless steel mounted, flanged or grooved and Underwriters and Factory Mutual approved for 250 psi or 175 lbs. working pressure.

2.10 ALARM VALVES

A. Standard: UL 193. Design: For horizontal or vertical installation. Include trim sets for bypass, drain, electrical sprinkler alarm switch, pressure gages, retarding chamber, and fill-line

attachment with strainer. Drip Cup Assembly: Pipe drain without valves and separate from main drain piping.

2.11 DRY-PIPE VALVES

A. Standard: UL 260. Design: Differential-pressure type. Include UL 1486, quick-opening devices, trim sets for supply air, drain, priming level, alarm connections, ball drip valves, pressure gages, priming chamber attachment, and fill-line attachment.

B. Air-Pressure Maintenance Device:

1. Standard: UL 260. Type: Automatic device to maintain minimum air pressure in piping. Include shutoff valves to permit servicing without shutting down sprinkler piping, bypass valve for quick filling, pressure regulator or switch to maintain pressure, strainer, pressure ratings with 14- to 60-psig adjustable range, and 300-psig outlet pressure.

C. Air Compressor:

1. Standard: UL's "Fire Protection Equipment Directory" or FM Global's "Approval Guide." Motor Horsepower: Fractional. Power: 120-V ac, 60 Hz, single phase.

2.12 DRAINS

A. Where drains, flushing connections, etc., are necessary to comply with local code or NBFU requirements, they shall be considered a part of this Contract and furnished and installed accordingly, whether shown specifically on the Drawings or covered in these Specifications.

B. All sprinkler branch piping shall be installed to drain at main riser wherever possible.

C. Where sprinkler piping is trapped, an approved auxiliary draw-off shall be provided and installed. Provide all test drains as required. All exposed piping on the exterior of the building shall be rust proofed and painted, color as selected by Architect. Provide splash blocks at all exterior drains.

2.13 INSPECTOR'S TEST STATIONS

A. Install 1" inspection test connection. Discharge from test connection shall run to open air. All locations must comply with NFPA requirements and local Fire Marshall requirements.

B. Inspection test connection shall have an attached metal tag bearing the words "Test Connection".

2.14 PRESSURE GAGES

A. Standard: UL 393. Dial Size: 3-1/2- to 4-1/2-inch diameter. Pressure Gage Range: [0- to 250-psig minimum. Label: Include "WATER" label on dial face.

2.15 ALARMS

A. Provide the following alarms where required or indicated:

1. Water-Motor Operated Alarms
2. Electronically Operated Alarm
3. Water-Flow Indicator
4. Pressure Switch
5. Valve Supervisory Switch
6. Indicator Post Supervisory Switch

2.16 FIRE DEPARTMENT CONNECTIONS

A. UL 405, single or Siamese connection as required by the local fire department with brass inlets and threads according to the NFPA 1963 and matching local fire department sizes ad threads. Provide with caps, gaskets and chains as required.

B. Where applicable, install a 90-degree elbow with drain connection at each connection, equal to Victaulic #10-DR.

2.17 FIRE HYDRANTS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. American Cast Iron Pipe Company.
2. Kennedy Valve Company; a division of McWane, Inc.
3. Mueller Co.

B. Description: Freestanding, with one NPS 4-1/2 and two NPS 2-1/2 outlets; and with 5-1/4-inch main valve, drain valve, and NPS 6 mechanical-joint inlet. Hydrant shall have cast-iron body and compression-type valve that opens against pressure and closes with pressure.

C. Standards: UL 246 and FM Global's "Approval Guide."

D. Design: Base valve.

E. Pressure Rating: 250 psig.

F. Outlet Threads: NFPA 1963, with external hose thread used by local fire department. Include cast-iron caps with steel chains.

G. Operating and Cap Nuts: Pentagon, 1-1/2 inches (38 mm) point to flat.

H. Direction of Opening: Hydrant valve opens by turning operating nut to left or counterclockwise or as required by the local fire marshal or the authority having jurisdiction.

I. Exterior Finish: Red alkyd-gloss enamel paint unless otherwise indicated.

2.18 WALL AND CEILING ESCUTCHEONS

A. This contractor shall furnish and install on all lines passing through the floor, ceiling or wall in finished areas, an approved escutcheon as specified in Section 220517 – SLEEVING, CUTTING, PATCHING AND REPAIRING - PLUMBING. Escutcheons shall be submitted for approval before installation. Standard plates used in the industry may not be acceptable.

2.19 HANGERS

A. Furnish and install all hangers of approved pattern and size to support all pipes in a substantial manner.

B. See Section 220529 - SUPPORTS AND ANCHORS FOR PLUMBING PIPING AND EQUIPMENT of these specifications for pipe hangers and brackets.

C. Hangers for overhead piping shall comply with NBFU requirements as to size and spacing. Special and improvised supports and hangers shall meet with the approval of the Underwriters Laboratories and the Architect.

PART 3 - EXECUTION

3.1 SERVICE-ENTRANCE PIPING

A. Connect sprinkler piping to water-service piping for service entrance to building.

B. Install shutoff valve, check valve, pressure gage, and drain and other accessories indicated at connection to water service.

3.2 PIPING INSTALLATION

A. Locations and Arrangements: Drawing plans, schematics, and diagrams indicate general location and arrangement of piping. Install piping as indicated on approved working plans.

1. Deviations from approved working plans for piping require written approval from authorities having jurisdiction. File written approval with Architect before deviating from approved working plans.
2. Coordinate layout and installation of sprinklers with other construction that penetrates ceilings, including light fixtures, HVAC equipment, and partition assemblies.
3. It shall be the responsibility of the contractor to examine the building and the drawings, confirming all dimensions before any pipe is cut, to determine if any offsets, etc., are necessary. Where additional offsets are required, they shall be made without any additional cost to the architect.

B. Piping Standard: Comply with NFPA 13 requirements for installation of sprinkler piping.

C. Use listed fittings to make changes in direction, branch takeoffs from mains, and reductions in pipe sizes.

D. Install unions adjacent to each valve in pipes NPS 2 and smaller.

E. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.

F. Install "Inspector's Test Connections" in sprinkler system piping, complete with shutoff valve, and sized and located according to NFPA 13.

G. Install sprinkler piping with drains for complete system drainage.

H. Install sprinkler control valves, test assemblies, and drain risers adjacent to standpipes when sprinkler piping is connected to standpipes.

I. Install automatic (ball drip) drain valve at each check valve for fire-department connection, to drain piping between fire-department connection and check valve. Install drain piping to and spill over floor drain or to outside building.

J. Install alarm devices in piping systems.

K. Fill wet-pipe sprinkler system with water.

L. Drain dry-pipe sprinkler piping.

M. Connect compressed-air supply to dry-pipe sprinkler piping.

N. Connect air compressor to the following piping and wiring:

1. Pressure gages and controls.
2. Electrical power system.
3. Fire-alarm devices, including low-pressure alarm.

O. Pressurize and check dry-pipe sprinkler system piping and air-pressure maintenance devices and air compressors.

P. Install hangers and supports for sprinkler system piping according to NFPA 13. Comply with requirements for hanger materials in NFPA 13.

Q. Install pressure gages on riser or feed main, at each sprinkler test connection, and at top of each standpipe. Include pressure gages with connection not less than NPS 1/4 and with soft-metal seated globe valve, arranged for draining pipe between gage and valve. Install gages to permit removal, and install where they are not subject to freezing.

R. Be responsible for locating all openings required in walls, floors, ceilings or roof, for all materials and equipment furnished under this section of the specifications.

S. Sleeves or openings shall be provided for passage of pipes. Where openings or sleeves have been omitted, they shall be drilled or sawed as required by the architect. All cutting and patching shall be done by the trades whose work is affected. All expenses incurred shall be a responsibility of this section of the specifications.

T. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Section 220517 SLEEVING, CUTTING, PATCHING AND REPAIRING – PLUMBING.

U. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Section 220517 SLEEVING, CUTTING, PATCHING AND REPAIRING – PLUMBING.

V. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Section 220517 SLEEVING, CUTTING, PATCHING AND REPAIRING – PLUMBING.

3.3 JOINT CONSTRUCTION

A. Install couplings, flanges, flanged fittings, unions, nipples, and transition and special fittings that have finish and pressure ratings same as or higher than system's pressure rating for aboveground applications unless otherwise indicated.

B. Install unions adjacent to each valve in pipes NPS 2 and smaller.

C. Install flanges, flange adapters, or couplings for grooved-end piping on valves, apparatus, and equipment having NPS 2-1/2 and larger end connections.

D. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

E. Remove scale, slag, dirt, and debris from inside and outside of pipes, tubes, and fittings before assembly.

F. Flanged Joints: Select appropriate gasket material in size, type, and thickness suitable for water service. Join flanges with gasket and bolts according to ASME B31.9.

G. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:

1. Apply appropriate tape or thread compound to external pipe threads.
2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged.

H. Twist-Locked Joints: Insert plain end of steel pipe into plain-end-pipe fitting. Rotate retainer lugs one-quarter turn or tighten retainer pin.

I. Steel-Piping, Pressure-Sealed Joints: Join lightwall steel pipe and steel pressure-seal fittings with tools recommended by fitting manufacturer.

J. Steel-Piping, Cut-Grooved Joints: Cut square-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe joints.

K. Steel-Piping, Roll-Grooved Joints: Roll rounded-edge groove in end of pipe according to AWWA C606. Assemble coupling with housing, gasket, lubricant, and bolts. Join steel pipe and grooved-end fittings according to AWWA C606 for steel-pipe grooved joints.

L. Steel-Piping, Pressure-Sealed Joints: Join Schedule 5 steel pipe and steel pressure-seal fittings with tools recommended by fitting manufacturer.

M. Extruded-Tee Connections: Form tee in copper tube according to ASTM F 2014. Use tool designed for copper tube; drill pilot hole, form collar for outlet, dimple tube to form seating stop, and braze branch tube into collar.

N. Dissimilar-Material Piping Joints: Make joints using adapters compatible with materials of both piping systems.

O. Plastic-Piping, Solvent-Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements. Apply primer.
2. CPVC Piping: Join according to ASTM D 2846/D 2846M Appendix.

3.4 VALVE AND SPECIALTIES INSTALLATION

A. Install listed fire-protection valves, trim and drain valves, specialty valves and trim, controls, and specialties according to NFPA 13 and authorities having jurisdiction.

B. Install listed fire-protection shutoff valves supervised open, located to control sources of water supply except from fire-department connections. Install permanent identification signs indicating portion of system controlled by each valve.

C. Install check valve in each water-supply connection. Install backflow preventers instead of check valves in potable-water-supply sources.

D. Specialty Valves:

1. Install valves in vertical position for proper direction of flow, in main supply to system.
2. Install alarm valves with bypass check valve and retarding chamber drain-line connection.
3. Install dry-pipe valves with trim sets for air supply, drain, priming level, alarm connections, ball drip valves, pressure gages, priming chamber attachment, and fill-line attachment.

    a. Install air compressor and compressed-air-supply piping.
    b. Install air-pressure maintenance device with shutoff valves to permit servicing without shutting down sprinkler system; bypass valve for quick system filling; pressure regulator or switch to maintain system pressure; strainer; pressure ratings with 14- to 60-psig adjustable range; and 175-psig maximum inlet pressure.

3.5 SPRINKLER INSTALLATION

A. All heads must "line up" and work in with the ceiling pattern of the lights and heating equipment. All heads located in lay-in ceiling tile shall be centered along the centerline of the tile. Heads may be located at the center and quarter points of the tile. Avoid ducts, lights, hangers, etc. Install dry-type sprinklers with water supply from heated space. Do not install pendent or sidewall, wet-type sprinklers in areas subject to freezing.

B. Install sprinklers into flexible, sprinkler hose fittings, and install hose into bracket on ceiling grid.

3.6 IDENTIFICATION

A. Install labeling and pipe markers on equipment and piping according to requirements in NFPA 13. Piping shall be marked on 20' centers. Where pipe extends through walls, identify pipe on both sides of wall.

B. Identify system components, wiring, cabling, and terminals.

3.7 FIELD QUALITY CONTROL

A. Perform the following tests and inspections:

1. Leak Test: After installation, charge systems and test for leaks. Repair leaks and retest until no leaks exist.
2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
3. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
4. Energize circuits to electrical equipment and devices.
5. Coordinate with fire-alarm tests. Operate as required.
6. Verify that equipment hose threads are same as local fire department equipment.

B. Sprinkler piping system will be considered defective if it does not pass tests and inspections.

C. Prepare test and inspection reports.

3.8 CLEANING

A. Clean dirt and debris from sprinklers.

B. Only sprinklers with their original factory finish are acceptable. Remove and replace any sprinklers that are painted or have any other finish than their original factory finish.

3.9 EXTERIOR FIRE PROTECTION WATER PIPING

A. Installation is subject to final approval of the Fire Marshall and local water company.

B. Mains shall be buried with a minimum of 3.5 ft. of coverage per FM. Mains shall be flushed with water at a minimum of 6 ft. per second, and hydrostatically tested at 200 psi for 2 hours. The contractor shall provide a material and test certificate to the engineer to verify proper testing.

C. Provide all concrete work required for thrust blocks, etc. See drawings for thrust block requirements.

D. Provide all excavation and backfill required. See Section 220200 – EXCAVATION AND BACKFILLING FOR UNDERGROUND PIING.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Fire Suppression System	X	X	X	X		X	X	

END OF SECTION 211000

DIVISION 22

PLUMBING

SECTION 220100 – GENERAL PROVISIONS FOR PLUMBING

PART 1 - GENERAL

1.1 SUMMARY

A. This section covers the general arrangement of the plumbing systems and related items to complete the work as shown on the drawings and as specified herein.

B. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

C. The Contractor shall familiarize himself with the work of all other trades, general type construction and the relationship of his work to other sections. He shall examine all working drawings, specifications and conditions affecting his work. The Contractor shall visit the premises and thoroughly familiarize himself with all details of the work and working conditions, verify all dimensions in the field and advise the Engineer of any discrepancy before performing any work.

D. The work shall include complete testing of all equipment and piping at the completion of the work and making any minor connection changes or adjustments necessary for the proper functioning of the system and equipment.

E. The Contractor shall perform all necessary temporary work during construction.

F. Work under this section shall conform to all governing codes, ordinances and regulations of the City, County and State.

G. The Contractor shall be responsible for all errors in fabrication, for the correct fitting, installation and erection of the various plumbing systems as shown on the drawings.

1.2 SCOPE

A. This branch of the work includes coordination with all utility companies; providing utility meters; utility tap on fees; agency review fees and all inspection fees; all labor, materials, tools, excavation and backfill and all equipment necessary for the installation of Plumbing Systems as shown on the Drawings and Specifications and/or as required for complete and operating systems. The work shall include starting, balancing and the necessary and required tests to insure the proper operation of the complete system.

B. A complete and operating plumbing system shall be provided. See plans for diagrams and details.

C. All work for this project must comply and be in strict accordance with the Kentucky Building Code, Kentucky Plumbing Code, Kentucky Boiler Code, NFPA, ADA, NEC and all local codes and regulations.

D. In general (as a minimum) all materials and equipment must be installed in strict accordance with manufacturer's requirements; and provided with all required controls, internal fusing, relays, piping connections, electrical connections, etc., to provide for complete and operable systems.

1.3 PERMITS, FEES, CODES AND APPROVALS

A. Permits and Fees

1. All permits, tap on fees and agency review and inspection fees necessary for the complete Fire Protection and Plumbing systems shall be obtained by the Contractor from the authorities governing such work. The cost of all permits shall be borne by the Contractor.

B. Codes

1. The minimum standard for all plumbing work shall be the requirements of the Kentucky State Plumbing Law, Regulation and Code, Kentucky Building Code, ADA, The Division of Water Quality, and local ordinances. All plumbing and fire protection for this project must as a minimum comply and be in strict accordance with the Kentucky Building Code, Kentucky Plumbing Code, Kentucky Boiler Code, NFPA, ADA, NEC, The Division of Water Quality and the "Standards of Safety" of the Commonwealth of Kentucky.

C. Approvals

1. All work must be approved by the Architect/Engineer, Owner and all related Code Agencies before final payment will be made.
2. As a minimum, the following approval Certificates of Inspection and Approval shall be required:

    a. Plumbing Inspection
    b. Health Department Inspection
    c. Electrical Inspection
    d. Local and State Building Inspections.

3. Final payment will be contingent upon all Approval Certificates.

1.4 DRAWINGS AND SPECIFICATIONS

A. Contract drawings for work under this section are in part diagrammatic, intended to convey the scope of work and indicate the general arrangement of equipment, piping and the approximate size and location of equipment and outlets. The Contractor shall follow these drawings in laying out his work and shall verify spaces in which his work will be installed, indicating to the Engineer where any conflicts or overlapping of systems occur. Any item of work not clearly included, specified and/or shown, errors or conflict between Plans (Plumbing, Mechanical, Architectural, Structural or Electrical), Specifications, codes and field conditions, shall be clarified by a written request to the Architect by the Bidder before bidding; otherwise, the bidder shall, at his own expense, supply the proper labor and materials to include these items of

work and to make good any damages or defects in his work caused by such error, omission or conflict. Under no circumstances shall a Contractor scale the Drawings for the location of equipment and work.

B. Where job conditions require reasonable changes in indicated locations and arrangement, proposed departures shall be submitted with detailed drawings to the Engineer for approval before any of the proposed work is commenced. All approved departures shall be made at no additional cost to the Owner.

C. The drawings and the specifications are intended to indicate complete and working systems, unless specifically indicated to the contrary. The work includes the furnishing, installing, and connecting of a complete working installation in each case to the full extent set forth in the drawings and herein specified. The Contractor shall be responsible for the complete functioning system, unless specifically noted otherwise.

D. The drawings and specifications shall be considered as cooperative, work and material included in either, though not mentioned in both, shall be a part of the work to be accomplished and shall be carried out completely in as thorough manner as if covered by both.

E. Because of the small scale of the drawings, it is not possible to indicate all offsets, fittings and accessories that may be required. The Contractor shall carefully investigate the structural and finish conditions affecting all his work and shall arrange such work accordingly, furnishing such fittings, pipe, traps, valves, and accessories as may be required to make a functional installation at no additional cost to the Owner.

F. Plumbing as built "Record Drawings" shall be kept up to date each day. "Record Drawings" shall be reviewed by Architect/Engineer each month with contractor's pay request review.

G. Any deviation in work as shown on plans and specifications must be approved in writing by Architect/Engineer prior to installation.

1.5 EXAMINATION OF SITE

A. Bidders shall visit the site before submitting proposals to satisfy themselves as to the nature and scope of the work and any difficulties attending to the execution.

B. The submission of a proposal will be construed as evidence that such an examination has been made. Later claims for labor, equipment, materials, etc., required for difficulties encountered which could have been foreseen had such an examination been made, will not be recognized.

1.6 EQUIPMENT DESIGN AND INSTALLATION

A. The design, manufacture, testing and method of installation of all apparatus and materials furnished under the requirements of these specifications shall conform to the applicable standard rules of the following. Where materials are not specifically referred to, but are required, they shall meet the requirements of the applicable code.

1. NEMA National Electrical Manufacturer's Assoc.
2. UL Underwriter's Laboratories, Inc.

3.	ASME	American Society of Mechanical Engineers
4.	ASTM	American Society of Testing Materials
5.	ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
6.	BOCA	Building Officials & Code Administrators International, Inc.
7.	NFPA	National Fire Protection Association
8.	AWWA	American Water Works Association
9.	AWS	American Welding Society
10.	AMCA	Air Moving and Conditioning Assoc.
11.	ANSI	American National Standards Institute
12.	NEC	National Electrical Code
13.	AIEE	American Institute of Electrical Eng.
14.	ARI	Air Conditioning & Refrigeration Institute
15.	SMACNA	Sheet Metal and Air Conditioning Contractors National Assoc.
16.	LSDHBC	Local and/or State Division of Housing, Building and Construction
17.	SPC	State Plumbing Code
18.	NPC	National Plumbing Code
19.	OSHA	Occupational Safety and Health Adm.
20.	EPA	Environmental Protection Agency
21.	DOE	U.S. Department of Energy
22.	IMC	International Mechanical Code
23.	IECC	International Energy Conservation Code

B. Unless otherwise specified, equipment and materials of the same type and used for the same purpose, shall be products of the same manufacturer.

1.7 CAPACITIES, SIZES AND OPERATING CONDITIONS

A. Capacities, sizes, and conditions specified or shown on drawings shall be regarded as minimum allowable. If the Contractor proposes to furnish any equipment which would have to operate at other than specified conditions to produce final effects, all other directly or indirectly related components of the entire systems (as well as of the structure, finish, and other systems in the building) must be properly coordinated to the satisfaction of the Engineer. That is: Operating conditions through the entire system must be such that no motor is overloaded, no equipment operates noisier, faster, or hotter than manufacturer's publication recommends and that no excess stress or demand is imposed on any component of any system or the structure; also, that no quality, architectural feature, function or "end result" is affected adversely, in the opinion of the Architect.

B. The Architect/Engineer reserves the right to determine if the contractor's proposed materials and equipment of any one manufacturer is acceptable in lieu of the specified material or equipment.

C. Where materials and equipment are listed on Drawings and specifications as acceptable or equivalent, this does not relieve the contractor and/or manufacturer from providing and proving to Architect/Engineer that their materials and equipment are equivalent to items the Architect/Engineer used as a guide specification.

D. The contractor and manufacturer must confirm to the Architect/Engineer that their equipment and materials will meet the space requirements of the project and that the equipment is easily accessible for maintenance and operation.

1.8 LAYOUT

A. The Contractor's work lines and established heights shall be in strict accordance with drawings and specifications insofar as these drawings and specifications extend. The Contractor shall verify all dimensions shown and establish all elevations and detail dimensions not shown. He shall also correlate the time so that the work will proceed to the best advantage of the complete job as a unit. The Contractor shall be responsible for furnishing in ample time, any information required to revise footing elevations, build all chases and openings in floors, walls, partitions, ceilings, and roofs to provide clearance which may be required to accommodate the work. The contractor shall set all sleeves, anchor bolts and inserts required to accommodate his equipment before masonry is constructed.

B. The Contractor shall layout his work well enough in advance to foresee any conflicts or interferences with work of other sections so that in case of interference, his layout may be altered to suit the conditions, prior to the installation of any work. This procedure will require constant coordination with all sections of the work.

1.9 DEMOLITION AND SCHEDULE

A. All existing plumbing equipment noted on drawings and listed herein that is to be removed or demolished, shall be removed on schedule, and disposed of as hereinafter directed.

B. All items removed shall become the property of the contractor and shall be immediately disposed of offsite at contractor’s expense except as noted on drawings unless otherwise directed by owner.

C. All demolition shall be carefully accomplished in accordance with master construction schedule so as not to remove any item required for support operation during the planned schedule. No item shall be removed until full schedule is worked out with contractors according to owners demands and agreed to in writing by the Engineer.

D. Storage will be arranged during scheduling process. Contractors to provide own storage and security.

E. Contractor doing the demolition of equipment must conform to the Clean Air Act of 1990. Refrigerant must be recovered from any air conditioning or refrigeration equipment prior to disconnecting and disposal. The contractor must own and use recovery equipment to meet this requirement. The contractor will be responsible for disposal of refrigerant, refrigerant oil, or equipment.

F. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damage or unserviceable portion and replace with new products of equal capacity and quality. All existing piping to remain shall be permanently capped, new or existing valves are not adequate.

1.10 ACCESSIBILITY

A. All equipment, valves, motors, traps, unions, and all other items which require adjustment, maintenance, repair, and observation shall be installed in such a fashion that such maintenance,

repair, and observation can be readily achieved without undue difficulty. Where the drawings show these items in locations not conforming to the above, the Contractor shall advise the Architect/Engineer of this conflict prior to bid Date otherwise he shall, at his own expense, relocate such items as directed by the Architect/Engineer. Where such items are installed above inaccessible ceilings or in or behind walls, this contractor shall provide approved access panels unless otherwise directed in these Specifications.

1.11 ARCHITECTURAL DRAWING AND SPECIFICATIONS

A. Each Contractor shall refer to the Architectural and Structural Drawings and Specifications for the general construction of the building, for floor and ceiling heights, for location of walls, partitions, beams etc., and shall be guided accordingly for the setting of all sleeves and equipment.

B. Under no circumstances shall a Contractor scale the Drawings for the locations of equipment and work.

1.12 COOPERATION WITH OTHER CONTRACTORS

A. Each Contractor shall demand and examine all Drawings and Specifications pertaining to the construction before installing the work described and shown under these Drawings and Specifications. Each Contractor shall cooperate with all other contractors in locating piping, openings, chases, and equipment in order to avoid conflict with any other contractor's work. It is the responsibility of all trades to examine all shop drawings of other trades that would require equipment to occupy the same space and plane within the building to eliminate any potential conflicts. No extra payment will be allowed for relocation of piping, and equipment not installed in accordance with the above instructions, and which interferes with work and equipment of other contractors.

1.13 INSTALLATION OF EQUIPMENT

A. All appliances, materials and equipment shall be installed and connected in accordance with the best engineering practice and in accordance with manufacturer's instructions and recommendations. All auxiliary piping, special controls, water seals, valves, electrical connections, drains, etc., recommended by the manufacturer, required for proper operation, or required by code shall be furnished and installed complete.

B. All equipment designed and constructed for indoor use shall not be shipped to the site until such time that the equipment is ready for permanent installation in a dry building or may be stored on site provided equipment is stored in a water and moisture tight storage building or job trailer. Covering equipment outdoors with plastic or tarp is not acceptable.

1.14 PROTECTION

A. No piping shall be installed in any part of the building where danger of freezing may exist without adequate protection being given, whether insulation is specified for the particular

piping. All damage resulting from leaking pipes shall be borne by the Contractor under this Division.

B. All work, equipment and materials shall be protected at all times. All pipe openings shall be closed with caps or plugs during construction. All equipment and accessories shall be tightly covered and protected against dirt, water, or other injury during the period of construction.

1.15 CUTTING AND PATCHING

A. All cutting and patching required in connection with the installation of this work, and work due to errors, defective work, ill-timed work, or tardiness in properly designating size and location in sufficient time or by failure to notify other trades, shall be done under this section, but only in the manner directed by the Engineer so as to prevent or minimize damage to installed work. Damage as a result of cutting for installation, shall be repaired by mechanics skilled in the trade involved, at no additional expense to the Owner.

B. No cutting of structural members will be permitted, except when prior permission of the Engineer has been obtained. This work must conform in every respect to the surrounding finish and to the quality of workmanship and materials used.

C. Piercing of any waterproofing or roofing shall be done only by the trade involved. After the part piercing the waterproofing has been set in place, the opening made for this purpose shall be filled and made absolutely watertight to the satisfaction of the Engineer.

D. See Section: 220510 - SLEEVING, CUTTING, PATCHING AND REPAIRING

1.16 FIRE AND SMOKE-STOPPING

A. Fire-stopping and smoke-stopping shall be provided around all piping penetrations of fire rated and/or smoke-rated floors, walls, ceilings, or other barriers.

B. The materials used shall be UL 263 or UL 1479 classified and meet ASTM E814 standards and be rated for assemblies where applied.

C. Clean surfaces to be in contact with penetration seal materials, of dirt, grease, oil, loose materials, rust, or other substances that may affect proper fitting, adhesion, or the required fire resistance.

D. Install penetration seal materials in accordance with manufacturer's instruction.

E. Seal holes or voids may be penetrations to ensure an effective fire and/or smoke barrier.

F. Protect materials from damage on surfaces subject to traffic.

G. Stop insulation flush with wall on insulated pipe and seal edges.

H. All exposed piping passing through floors, ceilings and walls in finished areas shall be fitted with a chrome plated escutcheon of sufficient outside diameter to amply cover the sleeved opening and ad inside diameter to closely fit the pipe around which it is installed.

1.17 CONCRETE WORK AND ANCHOR BOLTS

A. The Contractor under this Division shall provide all concrete bases, curbs and pads for all floor and ground mounted equipment unless otherwise indicated.

B. The Contractor under this Division shall verify the sizes and locations of all supports, bases, and pads prior to pouring of same to be certain that the installed units will be compatible.

C. The Contractor under this Division shall set anchor bolts when required for the equipment prior to pouring of concrete. Sizes and exact locations of bolts shall be determined by the manufacturer's recommendations for the equipment served.

D. Concrete work must be provided in strict accordance with Section 03 Concrete Work. As a minimum provide pads using 3500 psi concrete not less than 3.5 inches high reinforced with WI.4 x WI.4 welded wire fabric. Chamfer top and edge corners with 3/4" preformed chamfer strips. Subbases shall rest on structural floor and shall be reinforced with steel rods and interconnected with floor reinforcing bars by tie bars hooked at both ends or suitable dowels. Slope top to floor drain if drain is provided in pad.

1.18 ACCESS PANELS

A. The Plumbing Contractor shall furnish all other access panels needed for access to valves, open receptacles, etc., in inaccessible locations installed under this Division of the work.

B. Access panels shall have a minimum size of 12" x 12" and shall be centered beneath equipment for accessibility and maintenance. Access panels must be of adequate size to service, observe, remove, and maintain equipment.

C. Access panels shall be equal to the types specified under the Architectural Specifications. As a minimum the access panels shall be equivalent to Cesco Products style FB/FB SS, Besco, Inryco/Milcor, Phillips or equivalent, 14 gauge with vandal proof lock and frame as selected by Architect.

D. Ceiling Types

1. In areas with suspended acoustical tile ceilings (installed on exposed metal grid suspension system so that the tile may be readily removed), equipment, valves, etc., install above these ceilings will be accessible.
2. All plastered ceilings or ceilings having concealed spline type of suspension system will be considered as not removable for accessibility to equipment; therefore, access panels will be required.
3. See Architectural Drawings and Specifications for the types of ceilings throughout the building.

E. Access panels shall be installed by sub-contractor specialized in access panel installation.

1.19 CONNECTION TO EQUIPMENT SPECIFIED IN OTHER SECTIONS

A. Examine all Contract Documents and be thoroughly familiar with all items of equipment in other sections or by Owner, unless otherwise specified or indicated on Drawings. Rough-in for and make final connections to all equipment which requires any of the services specified in this Section and including furnishing and install all valves, P-traps, unions, vacuum breakers, and all other specialties as required to make all work and equipment final and operating. It is the intent of the Contract Drawings to detail and indicate all such equipment; however, be responsible for notifying Architect/Engineer in writing of major discrepancies seven (7) days prior to Bid Date; otherwise, all such connections shall be made at no extra cost.

B. Unless specified otherwise, all conduit, wiring and connections for power to plumbing equipment will be provided by Electrical Contractor. Be responsible for correct sequences of operation of all plumbing equipment after all wiring has been completed.

1.20 OPERATING INSTRUCTIONS

A. After all tests have been completed and work accepted by the Owner, a competent representative shall, at a time determined by the Engineer, present verbal, and visual instructions to the Owner's personnel in the proper operation of his respective system. For this purpose, each section of work shall be demonstrated and explained to the Owner's personnel and sufficient time allotted for instructions. See Specification Section 220600.

1.21 SAFETY

A. The contractor and his subcontractors for the project shall comply with all applicable Federal, State, and local laws governing safeguards, safety devices, and protective equipment and shall take all other needed actions which they may determine or which the Department may determine to be reasonably necessary to protect the life and health of all employees and personnel on the project, provide for the safety of the public and protect all property affected by the performance of the work covered by the contract.

B. As provided in KRS Chapter 338 in the Kentucky Occupational Safety and Health Act and in subsequent regulations and standards promulgated by the Kentucky Occupational Safety and Health Standards Board, neither the Contractor nor his subcontractors shall require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety.

C. The contractor shall not remove or disturb any suspected hazardous materials, including asbestos-containing materials, lead based paints, electrical equipment containing PCB’s, or any other except as instructed in this contract. If any material not covered by the contract is encountered, notify the Engineer immediately.

1.22 TESTS - GENERAL

A. All tests required to establish the adequacy, quality, safety, completed status and suitable operation of each system and all components thereof shall be made in the presence of and to the satisfaction of the Engineer or his authorized representative and other representatives of State

and local Government. All instruments, labor, and expert service necessary to conduct these tests shall be supplied by the Contractor; power and fuel will be furnished by the Owner.

B. The final inspection and tests are to be made only after the Engineer is satisfied that the work described in these specifications has been completely installed in accordance with the true spirit and intent of these specifications and that complete preliminary tests were made which indicate adequacy, quality, completion, and satisfactory operation. The acceptance of the work herein specified, shall not in any way prejudice the Owner's right to demand replacement of defective material and/or workmanship.

1.23 CLEANING

A. General: Clean all piping and equipment systems as required to leave the piping and equipment clean and free from scale, silt, contamination, etc., as normally required and as specified herein.

B. Utilities and Equipment: The Contractor shall provide all necessary temporary materials and equipment to clean the piping and equipment installed under this specification. No permanent equipment shall be used for storage, mixing, settling, compressing, pumping, etc., without the approval of the Architect. The Contractor shall supply a separate and independent source of clean, dry, oil-free air for the blowdown of systems requiring this method of cleaning.

C. Use of Chemicals: No chemicals, wetting or drying agents shall be used to clean systems or equipment where the materials of the system undergo any changes in their physical or structural characteristics. In case of any doubt as to the compatibility of any materials to the cleaning solution used, the Contractor shall obtain prior written approval for the use of the solution from the manufacturer of the equipment. Piping systems, equipment and sub-assemblies shall be cleaned after completion of welding, machining, threading, testing and any other operations capable of contaminating the system piping or equipment. After cleaning, the permanent strainers shall be removed, cleaned, and replaced. Temporary strainers shall be periodically removed, cleaned, and replaced during cleaning in lines ahead of equipment to protect against particles becoming lodged in the equipment.

D. After the Architect/Engineer has complete examination, this Contractor shall remove all stickers, tags, etc., and shall thoroughly clean all equipment, fixtures, and materials installed under his section of the work.

E. Surplus material, rubbish and equipment resulting from the work shall be removed from the building and premises by the Contractor upon completion of the work in accordance with the General Conditions.

F. All equipment shall be thoroughly cleaned to "Factory New" condition prior to turning over to owner. Touch up or completely repaint equipment as required.

G. Keep all nameplates on equipment clean and exposed for easy reading.

1.24 WARRANTY AND SERVICE

A. All equipment shall be warranted for a period of at least one (1) year from the date of acceptance, as evidenced by date of substantial completion for the entire project or for the last

phase of the project, whichever occurs later, against defective materials, design, and workmanship. In addition to the equipment warranty, the Contractor shall provide all repair and adjustment service necessary for the proper operation of the entire system for a period of one (1) year after the date of acceptance, as evidenced by the date of substantial completion for the entire project or for the last phase of the project, whichever occurs later. Upon receipt of notice from the Owner's representative of failure of any part of the warranted system or equipment during the warranty period, the affected part shall be replaced promptly with a new part without cost to the Owner. Upon failure to take action within 24 hours after being notified, the work will be accomplished by the Engineer at the expense of the Contractor. See General Conditions and individual equipment specifications. Note that the warranty period of time specified in this section represents the minimum warranty period required for work performed under specification Division 21, 22 and 23. Where the General Conditions and/or individual equipment/system specifications require a warranty period of longer duration or earlier start date than specified in this paragraph, the longer duration/earlier start date shall supersede for those portions of work covered by that specification. In the event the contractor is notified of warranty issues but does not correct or address the warranty issues prior to the end of the specified warranty period, the contractor will not be relieved of the responsibility to correct the deficient items after the warranty end date has passed.

B. Make a minimum of two (2) service calls during guarantee period, free of charge, to check with Owner and to check and repair malfunctioning equipment which was installed. Service calls shall be in middle and end of guarantee period and as required to maintain systems operation. Dates shall be listed in operating and maintenance manuals, along with contractor's name and phone number.

1.25 ELECTRIC MOTORS

A. All motors shall be designed, tested, and applied in accordance with the applicable standards listed hereinbefore. Motors shall be of sufficient size for the duty to be performed and shall not exceed the full load rating when the driven equipment is operating at specified capacity. Unless otherwise specified, all motors shall be high efficiency type and shall have open frames and continuous-duty classification based on 50 degrees C. ambient temperature. Polyphase motors shall be squirrel-cage type, having normal-starting-torque and low-starting-current characteristics. Motors shall meet NEMA high efficiency standards MGI - 1.41.2 for energy efficient polyphase squirrel-cage motor. Efficiency shall be in accordance with MGI - 1.2.55. When motor horse powers required differ from those indicated on the drawings, the Contractor shall make the necessary adjustments to the wiring, disconnect devices, starters, and branch-circuit protection at no additional cost to the Owner.

1. Motors shall be rated for continuous duty capable of driving the connected loads without exceeding temperature limitations of the motor insulation. Special Class A moisture-resisting insulation (designed to operate in a 50-degree C. ambient without exceeding a temperature rise rating designated by NEMA for the type of enclosure used) shall be utilized in each motor.

B. Unless otherwise indicated or specified, the electrical components required to operate plumbing equipment, such as, motors, float and pressure switches, solenoid valves, and other devices functioning to control the plumbing equipment, shall be furnished as part of the plumbing equipment, shall be complete and operable, and shall be included under this section of the specifications. All motor starters not part of a motor control center shall be included under this

Section and shall be the hand off auto type with 3 over-loads on 3 phase units and 120V control transformer. Conduit and wires required for external electrical connections shall be furnished and are specified under DIVISION 26 - ELECTRICAL. Integral phase failure relay shall be provided as a part of all three phase motor starters. Relay shall shut motor down on phase loss or phase unbalance and automatically reset when normal phasing is restored. Phase failure relay shall have adjustable restart time capabilities. Plumbing contractor shall coordinate staggered restart times as required.

1.26 AS-BUILT DRAWINGS

A. The Contractor shall deliver to the Engineer at the completion of the work, one (1) print of "As-Built" drawings, showing legibly and accurately, plumbing and piping systems with equipment locations shown as actually installed. Changes in original plans shall be neatly shown in red pencil. Each print shall be signed by the sub-contractor who has done the work.

B. During construction the Contractor shall retain a set of blue line drawings on the site for recording all changes. These drawings shall be available for inspection by the Engineer.

1.27 TESTS

A. The Architect/Engineer shall be notified by the Contractor under this Division forty-eight (48) hours in advance of any tests so that the Architect/Engineer or his representative may be present when the tests are run. Leaks or imperfections found shall be corrected and a new test shall be run to the satisfaction of the Architect/Engineer. Upon successful completion of the test, pipe covering may be applied, and piping may be concealed. A successful test, even if witnessed, however, does not relieve the Contractor under this Division of the responsibility for any failure during the guarantee period.

B. After pipe fabrication has been completed, all water piping shall be subjected to a hydrostatic test of 100 psi and proven tight and free of leaks for a 24-hour period. Tests shall be applied to the piping before being attached to any equipment which would be damaged by the test pressure. Damage to equipment caused by testing shall be repaired or replaced without additional cost to the Owner.

C. The sanitary sewer piping and sanitary waste, vent and drainage piping installed under this Division in, under or outside the building shall be tested by means of water, smoke, or air in accordance with the Kentucky State Plumbing Law, Regulation and Code, Division of Water Quality, and the local utility company requirements. These shall be made in the presence of the Plumbing Inspector and the Architect/Engineer.

D. Exterior water piping shall be tested in strict compliance with local water company. The minimum hydrostatic test pressure is 1 1/2 times the water pressure serving the site.

E. No insulation, paint, backfill or other prohibitive covering shall be applied to piping prior to the above tests.

F. Provide all temporary equipment, materials, valves, gauges, etc., required for the preceding tests.

G. The expense of all tests shall be borne by the Contractor under this Division.

1.28 CONTRACTOR FURNISHED DRAWINGS, DESCRIPTIVE DATA AND MANUALS

A. Approval of Materials and Equipment: Within 30 days of receipt of notice to proceed, and before starting installation, the Contractor shall submit to the Architect for approval, in triplicate, lists of materials, fixtures and equipment to be incorporated in the work. If departures from the contract drawings are deemed necessary by the Contractor, details of such departures, including changes in related portions of the project and the reasons therefore shall be submitted with drawings. Where such departures require piping or equipment to be supported otherwise than shown, the details submitted shall include loadings and type and kinds of frames, brackets, stanchions, or other supports necessary. Approved departures shall be made at no additional cost to the Owner. The lists of materials and equipment shall be supported by sufficient descriptive material, such as catalog cuts, diagrams, and other data published by the manufacturer, as well as evidence of compliance with safety and performance standards, to demonstrate conformance to the specification requirements; catalog numbers alone will not be acceptable.

B. Conformance to Agency Requirements: Where materials or equipment are specified to be constructed and/or tested in accordance with the standards of the American Society of Mechanical Engineers, the Air Moving and Conditioning Association, or the American Society of Heating, Refrigerating and Air Conditioning Engineers, or to be approved by the Underwriters' Laboratories, Inc., the Contractor shall submit proof that the items furnished under this specification conform to such requirements. A certificate or published statement by the manufacturer will be sufficient evidence that the item conforms to the specified requirements. In lieu of such stamp, certificate, or statement, the Contractor may submit written certificate from any nationally recognized testing agency adequately equipped and competent to perform such services, stating that the items have been tested and that the units conform to the requirements listed hereinbefore, including methods of testing, of the specified agencies.

C. Shop Drawings

1. In accordance with the General Conditions, shop drawings shall be submitted on all units of prefabricated materials. Shop drawings shall show, in detail, all parts of the work, fully dimensioned and shall also indicate construction, concealed and other jointing, thickness of materials, method of anchoring and attachment to other materials. Where required for certain work, submit setting and bending diagrams and mark same to correspond with the design drawings, identifying locations of various items. Show types, sizes and locations of sleeves and inserts.
2. The Contractor shall check all shop drawings for completeness and for correctness before submitting the drawings. If major corrections are required on the drawings, the Contractor shall return the drawings to the originator and have the changes made. The Contractor shall indicate his corrections on the prints in green pencil and sign all prints and other material sent to the Engineer.
3. Detail and Erection Drawings: Detail and erection drawings for equipment, piping and other items of this nature shall be carefully prepared in accord with standard practice and shall show erection plans and member details with all individual parts identified on both the detail sheets and erection plans. All identification markings shall be carefully preserved until after the erection process is completed.

4. Material Data: The Contractor shall submit descriptive data, as required, on pipe, fittings, and valves to be incorporated into the work. This data shall be in sufficient detail to allow the Engineer to determine that the pipe, fittings, and valves meet the requirements of the contract drawings and specifications or that they are an acceptable equal to that specified. All data shall be in the form of manufacturer's or supplier's literature concerning the product and shall indicate catalog number, conditions of use, application instructions, and/or other information as applicable.
5. Equipment Data: The Contractor shall submit descriptive data on all items of equipment to be furnished and installed under this contract. These submittals shall consist of manufacturer's published catalog information which completely describes component materials, configuration and rough-in data for plumbing and electrical equipment shall also include cuts, diagrams, characteristic curves, and capacity information as applicable. Where more than one item of equipment is employed in the same system, the submittal of equipment data will include special diagrams showing the electrical wiring, interconnecting piping, related controls and relation and operation of the various items of equipment for the entire system.

D. Operating Instructions and Maintenance Manuals, Etc.

1. At completion of the contract, the Owner shall be provided with three (3) bound copies of operations and maintenance instructions, recommended list of spare parts required for a period of one (1) year and a list of any special tools required to maintain the equipment for the various items of the plumbing equipment. Where special tools are required, the Contractor shall furnish two (2) of each such tools to the Owner at no additional contract cost.
2. MANUAL SHALL INCLUDE ALL APPROVED SHOP DRAWINGS OF EQUIPMENT REQUIRING OPERATION AND MAINTENANCE INFORMATION.
3. MANUAL SHALL BE ORGANIZED WITH APPROVED SHOP DRAWING FOLLOWED BY ALL RELATED OPERATION AND MAINTENANCE MATERIAL.
4. EQUIPMENT SHALL BE IDENTIFIED IN ACCORDANCE WITH THE DRAWING NOMENCLATURE AND INCLUDE SUPPLIER OF SAID EQUIPMENT.
5. Instructions shall be included for routine checking of all items requiring continued maintenance.
6. Schematic drawings with actual pieces of plumbing equipment, etc., shall be included; where manufacturer’s parts numbers only are applicable, they shall be included.
7. Detailed operating instructions for plumbing equipment shall be included, as well as general maintenance procedures to be followed on such equipment. Manufacturer’s maintenance and operation manuals will be required where such are normally available with the equipment, but as such information is often of a general nature and applicable to various models of equipment, such information shall be supplemented by specified typed directions for the particular piece of equipment applicable to this project.

E. Materials, Equipment and Appliances

1. Materials: All materials, equipment, products, and incidentals to be furnished by the Contractor shall be new, unless otherwise specified, undamaged and the first line quality product of the manufacturer and/or supplier, except when competitive grades fully meet the standards specified in the various technical sections of these specifications.
2. Standard Products: Except as otherwise approved by the Engineer, the equipment, and appliances to be furnished under these specifications shall be the standard products of manufacturers regularly engaged in the production of such equipment and shall be the

manufacturer's latest standard design. Where two or more units of the same type and class of equipment are required, the units shall be the product of the same manufacturer and shall be identical insofar as possible. The component parts of the products need not be products of one manufacturer.

3. Manufacturer's Directions: Where manufacturer's instructions or recommendations are applicable to the installation or application of materials, the Contractor shall adhere to strict conformance with such instructions or recommendations unless specifically noted to the contrary in these specifications. Where such directions conflict with the drawings and specifications, the Contractor shall inform the Engineer of such conflict and request instructions.
4. Samples: The Contractor shall furnish, for approval, samples of materials, profiles, designs, finishes, etc., which are either required by the various sections of specifications or which the Engineer may request from time to time. Samples shall be clearly identified with adequate information for the Engineer's evaluation.
5. Materials and Equipment Delivered to Jobsite: All items of materials, equipment, supplies and miscellaneous items to be incorporated into the work shall be delivered to the jobsite with labels, tags, nameplates and/or containers which clearly indicate the manufacturer's item or catalog number or conformance with the applicable standards stipulated in the technical sections of the specifications. Any item which cannot be verified in the field shall not be included in the work until its identity can be established by the Engineer.

F. Equipment and Material Substitutions

1. Should the Contractor elect to use and install materials which have been approved for use other than specified, he shall be required to make any necessary changes, perform all work, and furnish any additional materials and ancillary equipment required to make such substituted materials or equipment function or perform as that specified, at no cost to the Owner. This includes structural, electrical and/or other affected trades.

1.29 DEFINITIONS

A. Plumbing Contractor: Any contractor whether bidding or working independently or under the supervision of a general contractor and/or construction manager and who installs any type of plumbing work.

B. Plumbing Sub-Contractor: Any contractor contracted to or employed by the plumbing contractor for any work required by the mechanical contractor.

C. Engineer: The consulting mechanical/electrical engineers either consulting to the owners, architects, other engineers, etc.

D. A-E: Shall construe architect and/or engineer. In all situations that involve an architect, it shall construe architect, in all others, engineer.

E. Furnish: Deliver to the site in good condition and turn over to contractor responsible for installation.

F. Provide: Furnish and install in complete working order.

G. Install: Install equipment furnished by others.

H. Indicated: Shown on the drawings or addenda thereto.

I. Contract Documents: All documents pertinent to the quality and quantity of work to be performed on the project. Includes but not limited to plans, specifications, instructions to bidders, general and special conditions, addenda, alternates, list of materials, list of sub-contractors, unit prices, shop drawings, field orders, change orders, cost breakdown, periodical payment requests, etc.

1.30 INTENT

A. It is the intention of these specifications and all associated drawings to call for finished work, tested and ready for operation. Wherever the word "provide" is used, it shall mean "furnish and install complete and ready for use".

B. Details not usually shown or specified, but necessary for the proper installation and operation of systems, equipment, materials, etc., shall be included in the work, the same as if herein specified or indicated.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION 220100

SECTION 220200 – EXCAVATION AND BACKFILLING FOR UNDERGROUND PIPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating and backfilling trenches for utilities and pits for buried utility structures.

1.2 FIELD CONDITIONS

A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.

D. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940/D 2940M; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

2.2 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.

B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is

buried up to 30 inches deep; colored to comply with local practice or requirements of authorities having jurisdiction.

C. See specification Section 220553 - Identification for Plumbing Piping and Equipment.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.

B. Protect and maintain erosion and sedimentation controls during earth-moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.3 EXCAVATION FOR STRUCTURES

A. Excavation for Underground Tanks, Basins, and Mechanical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.

3.4 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe unless otherwise indicated.

1. Clearance: 12 inches each side of pipe.

C. All trench excavation side walls greater than five (5) feet in depth shall be sloped, shored, sheeted, braced or otherwise supported by means of sufficient strength to protect workmen within them in accordance with the applicable rules and regulations established for construction

by the Department of Labor, Occupational Safety and Health Administration (OSHA), and by local ordinances. Lateral travel distance to an exit ladder or steps shall not be greater than 25 feet in trenches 4 feet or deeper.

D. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes. Remove projecting stones and sharp objects along trench subgrade.

1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

E. Trenches in Tree- and Plant-Protection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.5 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect/Engineer.

1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect/Engineer.

3.6 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.7 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 033000 "Cast-in-Place Concrete."

D. Trenches under Roadways: Provide 4-inch thick, concrete-base slab support for piping less than 30 inches below surface of roadways. After installing and testing, completely encase piping in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course. Concrete is specified in Section 033000 "Cast-in-Place Concrete."

E. Initial Backfill: Place and compact initial backfill of subbase material or satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping to avoid damage or displacement of piping. Coordinate backfilling with utilities testing.

F. Final Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.

G. Warning Tape: Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.8 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698 or ASTM D 1557:

1. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.

3.9 PROTECTION

A. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 220200

SECTION 220517 – SLEEVING, CUTTING, PATCHING AND REPAIRING FOR PLUMBING

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes requirements for the Plumbing Contractor related to sleeving, cutting, patching, and repairing associated with plumbing work.

1.2 WORK INCLUDED

A. Sleeves

B. Sleeve Seals

C. Grout

D. Escutcheons

E. Lintels

1.3 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

PART 2 - PRODUCTS

2.1 SLEEVES

A. Cast-Iron Wall Pipes: Cast or fabricated of cast or ductile iron and equivalent to ductile-iron pressure pipe, with plain ends and integral water stop unless otherwise indicated.

B. Galvanized-Steel Wall Pipes: ASTM A 53/A 53M, Schedule 40, with plain ends and welded steel collar; zinc coated.

C. Galvanized-Steel-Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, with plain ends.

D. PVC-Pipe Sleeves: ASTM D 1785, Schedule 40.

E. Galvanized-Steel-Sheet Sleeves: 0.0239-inch minimum thickness, round tube closed with longitudinal joint.

2.2 SLEEVE-SEAL SYSTEMS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Advance Products & Systems, Inc.
2. Metraflex Company (The).
3. Proco Products, Inc.

B. Description: Modular sealing-element unit, designed for field assembly, for filling annular space between piping and sleeve.

1. Sealing Elements: EPDM-rubber or NBR interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
2. Pressure Plates: Carbon steel, Plastic, or Stainless steel.
3. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, or Stainless steel of length required to secure pressure plates to sealing elements.

2.3 GROUT

A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

B. Characteristics: Nonshrink; recommended for interior and exterior applications.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

2.4 ESCUTCHEONS

A. Escutcheons shall be Beaton and Caldwell; Carpenter and Patterson; Fee and Mason or approved equivalent. Chromium-plated iron or chromium-plated brass, either one piece or split patterns, held in place by internal spring tension or set screw that completely covers opening.

2.5 LINTELS

A. New openings under 48" in width: Provide one 3 1/2" x 3 1/2" x 3/8" steel angle for each 4" of masonry width. Lintel shall have 8" bearing on either side.

B. New openings 48" to 96" in width: Provide one 3 1/2" x 6" x 3/8" steel angle for each 4" of masonry width. Lintel shall have 8" bearing on either side.

C. New openings over 96" in width: Consult the project structural engineer.

PART 3 - EXECUTION

3.1 GENERAL

A. The Contractor shall be responsible for all openings, sleeves, trenches, etc., that he may require or create by demolition in floors, roofs, ceilings, walls, etc., and shall coordinate all such work with the General Contractor and all other trades. Coordinate with the General Contractor, any openings which he is to provide before submitting a bid proposal in order to avoid conflict and disagreement during construction. Improperly located openings shall be reworked at the expense of the Contractor.

B. The Contractor shall plan his work ahead and shall place sleeves, frames or forms through the walls, floors and ceilings during the initial construction, where it is necessary for piping, ductwork, conduit, etc., to go throughout; however, when this is not done, the Contractor shall do all cutting and patching required for the installation of his work, or he shall pay other trades for doing this work when so directed by the Engineer. Any damage caused to the buildings by the workmen of the responsible Contractor must be corrected or rectified by him at his own expense.

C. The Contractor shall notify other trades in due time where he will require openings or chases in new concrete or masonry. He shall set all concrete inserts and sleeves for his work. Failing to do this, he shall cut openings for his work and patch same as required at his own expense.

D. The Contractor shall be responsible for properly shoring, bracing, supporting, etc., any existing and/or new construction to guard against cracking, settling, collapsing, displacing, or weakening while openings are being made. Any damage occurring to the existing and/or new structures, due to failure to exercise proper precautions or due to action of the elements shall be promptly and properly made good to the satisfaction of the Engineer.

E. All work improperly done or not done at all as required by the Mechanical Trades in this section, will be performed by the Contractor at the direction of the trade whose work is affected.

3.2 SLEEVES

A. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.

B. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide 1-inch annular clear space between piping and concrete slabs and walls.

1. Sleeves are not required for core-drilled holes.

C. Install sleeves in concrete floors, concrete roof slabs, and concrete walls as new slabs and walls are constructed.

1. Cut sleeves to length for mounting flush with both surfaces.

a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level.

2. Using grout, seal the space outside of sleeves in slabs and walls without sleeve-seal system.

D. Install sleeves for pipes passing through interior partitions.

1. Cut sleeves to length for mounting flush with both surfaces.
2. Install sleeves that are large enough to provide 1/4-inch (6.4-mm) annular clear space between sleeve and pipe or pipe insulation.
3. Seal annular space between sleeve and piping or piping insulation; use joint sealants appropriate for size, depth, and location of joint.

E. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials.

F. Pipes Passing Through Waterproofing Membranes: Pipes passing through floor waterproofing membrane shall be installed through a 4-pound lead-flashing sleeve, or a 0.032-inch-thick aluminum sleeve, each with an integral skirt or flange. Flashing sleeve shall be suitably formed, and the skirt of flange shall extend not less than 8 inches from the pipe and shall set over the floor membrane in a troweled coating of bituminous cement. The flashing sleeve shall extend up the pipe a minimum of 1 inch above the floor. The annular space between the flashing sleeve and the metal-jacket-covered insulation shall be sealed. At the Contractor's option, pipes passing through floor waterproofing membrane may be installed through a cast iron sleeve with caulking recess, anchor lugs, flashing clamp device, and a pressure ring with brass bolts. Waterproofing membrane shall be clamped into space and sealant shall be placed in the caulking recess.

G. Pipes Passing Through Roof: Pipes passing through the roof shall be installed where shown on the drawings. Any penetration in roof shall be approved by the Roofing Manufacturer.

3.3 SLEEVE-SEAL-SYSTEM INSTALLATION

A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at service piping entries into building.

B. Select type, size, and number of sealing elements required for piping material and size and for sleeve ID or hole size. Position piping in center of sleeve. Center piping in penetration, assemble sleeve-seal system components, and install in annular space between piping and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make a watertight seal.

3.4 ESCUTCHEONS

A. Escutcheons shall be provided at all finished surfaces where exposed piping, bare or insulated, passes through floors, walls, or ceilings. Escutcheons shall be fastened securely to pipe sleeves or to extensions of sleeves without any part of sleeves being visible. Where sleeves project slightly from floors, special deep-type escutcheons shall be used.

3.5 CUTTING

A. All trades shall coordinate all openings in masonry walls with the General Contractor, and, unless otherwise indicated on the Architectural drawings, shall provide lintels for all openings required for the plumbing work (piping, wall boxes, etc.).

B. No cutting is to be done at points or in a manner that will weaken the structure and unnecessary cutting must be avoided. If in doubt, contact the engineer.

C. Pipe openings in slabs and walls shall be cut with core drill. Hammer devices will not be permitted. Edges of trenches and large openings shall be scribe cut with a masonry saw.

D. Openings in metal building walls shall be made in strict accord with building supplier's recommendations.

3.6 PATCHING AND REPAIRING

A. Patching and repairing made necessary by work performed under this division shall be included as part of the work and shall be done by skilled mechanics of the trade or trades for work cut or damaged, in strict accordance with the provisions herein before specified for work of like type to match adjacent surfaces and in a manner acceptable to the engineer.

B. Where portions of existing lawns, shrubs, paving, etc. are disturbed for installation or work of this Division, such items shall be repaired and/or replaced to the satisfaction of the engineer.

C. Where the installation or removal of piping, etc. requires or creates the penetration of fire or smoked rated walls, ceilings or floors, the space around such pipe, etc., shall be tightly filled with an approved non-combustible fire insulating material satisfactory to maintain the rating integrity of the wall, floor or ceilings affected.

D. Piping passing through floors, ceilings, and walls in finished areas, unless otherwise specified, shall be fitted with chrome plated brass escutcheons of sufficient outside diameter to amply cover the sleeved openings and an inside diameter to closely fit the pipe around which it is installed.

E. Where pipes pass through exterior walls, the wall openings shall be sealed air and watertight. This shall include sealing on both sides of the wall to ensure air and water does not enter or exit the wall cavity. This is especially critical on exterior walls where the wall cavity may be vented to the exterior.

END OF SECTION 220517

SECTION 220529 – HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Pipe and Equipment Hangers, Supports, and Associated Anchors

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

C. Section 220719 – Plumbing Piping Insulation

D. Section 221000 - Plumbing Piping

1.3 REFERENCES

A. ANSI/ASME B31.1 - Power Piping

1.4 SCOPE

A. This specification shall apply for the design and fabrication of all hangers, supports, anchors and guides. Where piping design is such that exceptions to this specification are necessary, the particular system shall be identified, and the exceptions approved by Engineer prior to installation. See drawings.

1.5 STRUCTURE

A. This section is intended to cover the structural requirements of the piping and equipment. It is not intended to imply that the building structure will support the loads imposed. The contractor shall review the structural drawings for where loads can be applied, what load can be supported and what structural reinforcing is required. Specific questions can be directed to the structural engineer.

1.6 DESIGN

A. All supports and parts shall conform to the latest requirements of the ANSI Code for Pressure Piping B31.1.0, and MSS Standard Practice SP-58, SP-69 and SP-89 except as supplemented or modified by the requirements of this specification.

B. Designs generally accepted as exemplifying good engineering practice, using stock or production parts, shall be utilized wherever possible.

C. Accurate weight balance calculations shall be made to determine the required supporting force at each hanger location and the pipe weight load at each equipment connection.

D. Pipe hangers shall be capable of supporting the pipe in all conditions of operation. They shall allow free expansion and contraction of the piping, and prevent excessive stress resulting from transferred weight being induced into the pipe or connected equipment.

E. Where possible, steel structural attachments shall be beam clamps. Other attachments shall be as scheduled.

F. All rigid hangers shall provide a means of vertical adjustment after erection.

G. Hanger rods shall be subject to tensile loading only. At hanger locations where lateral or axial movement is anticipated, suitable linkage shall be provided to permit swing.

H. Where horizontal piping movements are greater than ½ inch, or where the hanger load angularity from the vertical is greater than 4 degrees from the cold to hot position of the pipe, the hanger rod to structural attachment shall be by use of Anvil Fig. 47 and Fig. 299 or the hanger rod and structural attachments shall be offset in such manner that the rod is vertical in the hot position.

I. Hangers shall be designed so that they cannot become disengaged by movements of the supported pipe.

J. Hangers shall be spaced in accordance with ANSI B31.1.0

K. Where practical, riser piping shall be supported independently of the connected horizontal piping.

1. Pipe support attachments to the riser piping shall be riser clamp lugs. Welded attachments shall be of material comparable to that of the pipe, and designed in accordance with ANSI B31.1 codes.

L. Supports, guides and anchors shall be so designed that excessive heat will not be transmitted to the building steel. The temperature of support parts shall be based on a temperature gradient of 100 degrees F per inch distance from the outside surface of the pipe.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Anvil, B-Line, Elcen, Mason Industries, Advanced Thermal, Fee & Mason, Piping Specialties, MIRO Industries.

2.2 SHIELDS

A. Shield for Insulated Piping 2 Inches and Smaller: galvanized steel shield over insulation in 180-degree segments, minimum 12 inches long at pipe support. See schedule for thickness.

B. Shield for Insulated Piping 2 ½ Inches and Larger: Pipe covering protective saddles.

C. Shields for Insulated Cold Water Piping 2 ½ Inches and Larger: Hard block non-conducting saddles in 90-degree segments, 12-inch minimum length, block thickness same as insulation thickness.

D. Shields for Vertical Copper Pipe Risers: Sheet lead.

2.3 HANGER RODS

A. Threaded one end, threaded both ends, threaded continuously.

2.4 INSERTS

A. Inserts: Malleable iron case or galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

2.5 PIPE HANGERS, SUPPORTS AND ANCHORS

A. Beam Clamps

1. Beam clamps shall have malleable iron jaws, steel bolt or tie rod, nuts and jamb nuts.
2. C-clamps will not be permitted unless retainer is provided.

B. Finish

1. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

2.6 ROOF SUPPORTS

A. Roof mounted piping shall be supports by pillow block pipestands as manufacturer by MIRO Industries at 800-768-6978.

PART 3 - EXECUTION

3.1 INSERTS

A. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.

B. Where concrete slabs form finished ceiling, provide inserts to be flush with slab surface.

3.2 PIPE HANGERS AND SUPPORTS

A. Support horizontal piping indicated in schedule on drawings.

B. Install hangers to provide minimum ½ inch space between finished covering and adjacent work.

C. Place a hanger within 12 inches of each horizontal elbow.

D. Provide hangers with 1-1/2-inch minimum vertical adjustment.

E. Support riser piping independently of connected horizontal piping.

F. Support horizontal piping as follows:

Nominal Pipe Size	Single Rod Diameter	Thickness of Insulation Shield	Maximum Spacing Ferrous Piping	Copper Tubing	HDPE Piping
3/4" & Under	3/8"	16 gauge	6'	5'	2.5'
1"	3/8"	16 gauge	7'	6'	3'
1 1/4	3/8"	16 gauge	8'	8'	4'
1 ½"&2"	3/8"	16 gauge	9'	8'	4'
2 ½"&3"	½"	12 gauge	12'	8'	4'
4" & 5"	5/8"	12 gauge	14'	8'	4'
6"	3/4"	10 gauge	14'	8'	4'
8"	7/8"	8 gauge	14'	10'	5'

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The

Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Pipe Hangers	X	X						
Supports	X	X						
Inserts		X						

END OF SECTION 220529

SECTION 220553 – IDENTIFICATION OF PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 SCOPE

A. Identification of products installed under Division 21 and 22 including:

1. Plastic Nameplates
2. Plastic Tags
3. Metal Tags
4. Stencils and Paint
5. Plastic Pipe Markers
6. Plastic Tape Pipe Markers
7. Underground Plastic Tape Pipe Markers

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

1.3 REFERENCES

A. ANSI/ASME A13.1 - Scheme for the Identification of Piping Systems.

1.4 SUBMITTALS

A. Submit list of wording, symbols, letter size, and color coding for mechanical identification.

B. Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

C. Submit product data and manufacturer's installation instructions.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Seton

2.2 EQUIPMENT AND MATERIALS

A. Color: Unless specified otherwise, conform with ANSI/ASME A13.1.

B. Plastic Nameplates: Laminated three-layer plastic with engraved black letters on light contrasting background color.

C. Plastic Tags: Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2-inch square.

D. Metal Tags: Brass or aluminum with stamped letters; tag size minimum 1-1/2-inch diameter with smooth edges.

E. Stencils: With clean cut symbols and letters of following size:

Outside Diameter of Insulation or Pipe	**Length of Color Field**	**Size of Letters**
3/4" - 1-1/4”	8"	1/2"
1-1/2" - 2"	8"	3/4"
2-1/2" - 6"	12"	1-1/4"
8" - 10"	24"	2-1/2"
Over 10"	32"	3-1/2"

1. Stencil Paint: Semi-gloss enamel black unless otherwise indicated.

F. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and fluid being conveyed.

G. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

H. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape of not less than 6-inch-wide by 4 mil thick, manufactured for direct burial service.

1. Underground plastic piping to be installed with a tracer wire.

PART 3 - EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials and to accept stencil painting.

3.2 INSTALLATION

A. Plastic Nameplates: Install with corrosive-resistant mechanical fasteners, or adhesive.

B. Plastic or Metal Tags: Install with corrosive-resistant chain.

C. Stencil Painting: Apply in accordance with manufacturer's instructions.

D. Plastic Pipe Markers: Install in accordance with manufacturer's instructions.

E. Plastic Tape Pipe Markers: Install complete around pipe in accordance with manufacturer's instructions.

F. Underground Plastic Pipe Markers: Install 6 to 8 inches below finished grade, directly above buried pipe.

G. Equipment: Identify plumbing equipment such as but not limited to pumps, water heaters, storage tanks, expansion tanks, water treatment devices etc. with plastic nameplates. Small devices, such as in-line pumps, may be identified with plastic or metal tags.

H. Controls: Identify control panels and major control components outside panels with plastic nameplates.

I. Valves: Identify valves in main and branch piping with tags.

J. Piping: Identify piping, concealed or exposed, with plastic pipe markers or plastic tape pipe markers. Stenciled painting may be used on insulation. Tags may be used on small diameter piping. Identify service, flow direction, and pressure. Install in clear view and align with axis of piping. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and "T", at each side of penetration of structure or enclosure, and at each obstruction.

3.3 VALVES AND CHARTS

A. The Contractor under this Division shall attach a numbered brass tag to each valve installed under this Contract. Each number shall be prefixed with the “P" for plumbing valves. Tags shall be attached to the valves by means of brass "S" hooks. Tags shall be Seton Name Plate Co., C.H. Hanson Co. or Identifications.

B. A chart headed ""PLUMBING VALVE CHART" shall be prepared. Three original charts shall be prepared and approved by the engineer. One of each approved type chart shall be framed under glass and mounted on the wall in the main mechanical room where directed. Three photocopies of each chart shall be made and shall be submitted through normal shop drawing channels for approval and subsequent owner's files. Each chart shall be formatted as shown below: (All normally closed valves shall have a brass tag marked Normally Closed.)

PLUMBING VALVE CHART
PROJECT NAME
DATE

TAG NO.	VALVE LOCATION	VALVE TYPE/SIZE	VALVE FUNCTION

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Valve Chart	X							
Valve Tags	X	X						
Stencils		X						
Tape		X						
Pipe Markers		X						

END OF SECTION 220553

SECTION 220600 – PLUMBING SYSTEMS DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1. Demonstration of operation of systems, subsystems and equipment.
2. Training in operation and maintenance of systems, subsystems and equipment.
3. Demonstration and training DVDs.

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

1.3 SUBMITTALS

A. Instruction Program: Submit copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module

1. At completion of training, submit training manual for Owner's use which includes receipts signed by the Owner acknowledging that training took place.

B. Attendance Record: For each training module, submit list of participants and length of instruction time.

C. Demonstration and Training DVDs: Provide recording of all demonstrations and training given and submit DVD within ten days of end of each training module.

1. Identification: Provide an applied label with the following:

a. Name of Project
b. Name of Engineer
c. Name of Contractor
d. Date DVD was recorded
e. Description of information recorded.

2. Transcript: Prepared on 8-1/2-by 11-inch paper, punched and bound in heavy-duty, three ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding DVD. Include name of Project and date of DVD on each page.

1.4 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with operation and maintenance manual information.

PART 2 - PRODUCTS

2.1 DEMONSTRATION AND TRAINING PROGRAM

A. Provide program that includes individual training modules for each system and equipment not a part of a system as required by individual Specification Sections and as follows, but not limited to:

1. Plumbing: Provide demonstration and training by showing Owner personnel the major components of the plumbing system as follows:

a. Domestic water meter and location of meter
b. Domestic water entrance to building and all related components
c. Domestic hot water heaters and location of each
d. Domestic hot water circulating pumps and location of each
e. Domestic water mixing valves and location of each
f. Domestic water mixing valves at emergency showers
g. Electronic flush valves and faucets
h. All plumbing fixture types
i. Overview of sanitary sewer system layout and major components such as cleanouts, manholes, grease trap, plaster trap, etc.

2. Fire Protection: Provide demonstration and training by showing Owner personnel the major components of the fire protection sprinkler system as follows:

a. Building water entrance and all associated risers
b. Location of drain valves throughout the system
c. Location of spare sprinkler heads
d. Location of fire department connection
e. Location of fire protection vault

PART 3 - EXECUTION

3.1 PREPARATION

A. Assemble materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.

3.2 INSTRUCTION

A. Engage qualified instructors to instruct Owner personnel to adjust, operate, and maintain systems, subsystems, and equipment not a part of a system.

B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.

C. Schedule training with Owner, through Architect/Engineer, with at least ten days' advance notice.

3.3 DEMONSTRATION AND TRAINING DVDS

A. Engage a qualified individual to record demonstration and training DVDs. Record each training module separately. Include classroom instructions and demonstrations.

B. DVD Format: Provide high-quality DVD in full-size cassettes.

C. Narration: Describe scenes on DVD as DVD is recorded. Include description of items being viewed.

D. Transcript: Provide typewritten transcript of the narration.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Instruction Program	X							
Attendance Record	X							
Demonstration and Training DVDs	X							

END OF SECTION 220600

SECTION 220719 – PLUMBING PIPING INSULATION

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Piping Insulation

B. Jackets and Accessories

1.2 RELATED WORK

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

C. Section 220553 - Identification of Plumbing Piping and Equipment

1.3 QUALITY ASSURANCE

A. Materials: Flame spread smoke developed rating of 25/50 in accordance with ASTM E84.

B. All pipe insulation shall be installed by mechanics specializing in this type of work. The finished product shall present a neat and workmanlike appearance. Insulation shall not be applied until all tests except operating tests have been completed, all foreign material, such as rust, scale, or dirt, has been removed and the surfaces are clean and dry. Insulation shall be clean and dry when installed and during the application of any finish.

C. The insulation, insulating materials and related items shall be delivered to the jobsite in the manufacturer's unopened containers. The containers shall have labels stating the manufacturer's name, contents, quantity and other pertinent data.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Insulations having the thermal and physical properties of the specific materials specified hereinafter, of any of the following manufacturers, or approved equal, are acceptable.

1. Armstrong
2. Certain Teed/Saint Gobain
3. Johns Mansville

4. Knauf
5. Owens Corning
6. Pittsburgh Corning
7. Rubatex

B. The Engineer reserves the right to determine if the proposed insulating materials of any one manufacturer are acceptable in lieu of the specific insulation selected for the following applications.

2.2 INSULATION

A. Type A glass fiber insulation; ANSI/ASTM C547; 'k' value of 0.23 minimum at 75 degrees F; noncombustible.

B. Type B cellular foam; flexible, plastic; 'k' value of 0.25 minimum at 75 degrees F; ASTM C534. APArmaflex W (white) or APArmaflex SS (black) or equal.

C. Type C vinyl plastisol prefabricated assemblies with 1/8 minimum wall thickness. Trap wrap protective kit by Brocar, Truebro or approved equal.

2.3 JACKETS

A. Vapor Barrier Jackets: Kraft reinforced foil vapor barrier with self-sealing adhesive joints.

B. PVC Jackets: One piece, premolded type.

C. Canvas Jackets: UL listed treated cotton fabric, 6 oz/sq. yd.

2.4 ACCESSORIES

A. Insulation Bands: 3/4-inch-wide; 0.015-inch-thick galvanized steel, stainless steel. 0.007-inch 0.18 thick aluminum.

B. Metal Jacket Bands: 3/8-inch-wide; 0.015-inch-thick aluminum. 0.010-inch-thick stainless steel.

C. Insulating Cement: ANSI/ASTM C195; hydraulic setting mineral wool.

D. Finishing Cement: ASTM C449.

E. Fibrous Glass Cloth: Unthreaded; 9 oz/sq. yd weight.

F. Adhesives: Compatible with insulation.

G. Treated wooden blocks.

PART 3 - EXECUTION

3.1 PREPARATION

A. Install materials after piping has been tested and approved.

3.2 INSTALLATION

A. Install materials in accordance with manufacturer's instructions.

B. Continue insulation with vapor barrier through penetrations, except on fire rated walls.

C. In exposed piping, locate insulation and cover seams in least visible locations.

D. On insulated piping with vapor barrier, insulate fittings, valves, unions, flanges, strainers, flexible connections, and expansion joints.

E. Provide an insert, not less than 6 inches long, of same thickness and contour as adjoining insulation, between support shield and piping, but under the finish jacket, on piping 2 inches diameter or larger, to prevent insulation from sagging at support points. Inserts shall be cork or other heavy density insulating material suitable for the planned temperature range. Factory fabricated inserts may be used. Insert shall extend around bottom 120 degrees of pipe barrel and shall be included inside vapor barrier jacket where applied. See Section 220529 for shields and hangers.

F. Neatly finish insulation at supports, protrusions, and interruptions.

G. Jackets

1. Indoor, Concealed Applications: Insulated pipes shall have standard jackets, with vapor barrier, factory-applied or field-applied. Insulate fittings, joints, and valves with insulation of like material and thickness as adjoining pipe, and finish with glass cloth and adhesive. PVC jackets may be used.
2. Indoor, Exposed Applications: For pipe exposed in mechanical equipment rooms or in finished spaces, insulate as for concealed applications. Finish with canvas jacket; size for finish painting. Do not use PVC jackets.
3. Flanges, Valves, Anchors and Fittings: Unless otherwise specified, all flanges, valves, anchors and fittings shall be insulated with factory premolded or field fabricated segments of insulation of the same materials and thickness as the adjoining pipe insulation. When segments of insulation are used, elbows shall be provided with not less than three segments. For other fittings and valves, segments shall be cut to required curvatures, or nesting size sectional insulation shall be used. The segments of the insulation shall be properly placed and jointed with fire-resistant adhesive. After the insulation segments are firmly in place, fire-resistant vapor barrier coating shall be applied over the insulation in two coats with glass tape embedded between coats. The coating shall be applied to a total dry film thickness of 1/16 inch minimum. All glass tape seams shall be terminated neatly at the ends of the unions with insulating cement troweled on the bevel. For piping operating below ambient temperature, the beveled ends shall receive a coat of vapor barrier coating. Where anchors are used and secured directly

to low temperature piping, they shall be insulated for a distance to prevent condensation, but not less than 6 inches from the surface of the pipe insulation. For jacket facing to receive finish painting, the factory applied jacket shall be as specified herein, except that the kraft paper shall be light colored with the kraft paper exposed. Field applied vapor barrier jacket shall conform to the above conditions where finish painting is required.

Piping	Type	Pipe Size (inch)	Thickness (inch)
Domestic Hot Water Supply/Recirculation	A/B	all	1
Domestic Cold-Water	A/B	all	1
Copper Water Piping Below Slab and Inside Walls	B	all	1/2
Chrome Plated Piping to Handicapped Lavatories	C	all	1/2
Chrome Plated Piping to Plumbing Fixtures	None		
Storm Water Piping	A	all	1

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Piping Insulation	X	X						

END OF SECTION 220719

SECTION 221000 – PLUMBING PIPING AND VALVES

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Pipe and Pipe Fittings

B. Valves

C. Sanitary Sewer Piping

D. Storm Water Piping

E. Domestic Water Piping

F. Gas Piping

G. Compressed Air Piping

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

C. Section 220200 – Excavation and Backfilling for Underground Piping

D. Section 220553 – Identification For Plumbing Piping and Equipment

E. Section 220719 – Plumbing Piping Insulation

F. Section 221119 – Domestic Water Plumbing Specialties

G. Section 221319 – Sanitary and Storm Piping Specialties

H. Section 224200 - Plumbing Fixtures and Equipment

1.3 QUALITY ASSURANCE

A. Valves: Manufacturer's name and pressure rating marked on valve body.

B. Welding Materials and Procedures: Conform to ASME Code.

C. Welders Certification: In accordance with ANSI/ASME Section 9.

D. Cast Iron Pipe: All cast iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute (CISPI) and shall be listed by NSF International.

E. Hubless Cast Iron Couplings: All couplings for hubless cast iron soil pipe and fittings shall conform to CISPI 310 and be certified by NSF International.

F. All drinking water system components that convey or dispense water for human consumption through drinking or cooking shall be "lead-free" in accordance with NSF/ANSI 61 and/or NSF/ANSI 372 standards and any and all state and local requirements.

PART 2 - PRODUCTS

2.1 SANITARY SEWER PIPING, BURIED INSIDE AND OUTSIDE OF BUILDING.

A. Hub-and-spigot, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 74,Service and extra-heavy classes.
2. Gaskets: ASTM C 564, rubber.
3. Calking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

B. Hubless, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 888 or CISPI 301.,
2. CISPI, Hubless-Piping Couplings:
3. Standards: ASTM C 1277 and CISPI 310.
4. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

C. PVC Pipe and Fittings (House Line):

1. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.
2. Cellular-Core PVC Pipe: ASTM F 891, Schedule 40.
3. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.
4. Adhesive Primer: ASTM F 656.
5. Solvent Cement: ASTM D 2564

D. PVC Pipe and Fittings (Between Manholes):

1. PVC Cellular-Core Piping:

a. PVC Cellular-Core Pipe and Fittings: ASTM F 891, Sewer and Drain Series, PS 50 minimum stiffness, PVC cellular-core pipe with plain ends for solvent-cemented joints.
b. Fittings: ASTM D 3034, SDR 35, PVC socket-type fittings.

2. PVC Type PSM Sewer Piping:

a. Pipe: ASTM D 3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
b. Fittings: ASTM D 3034, PVC with bell ends.
c. Gaskets: ASTM F 477, elastomeric seals.

3. Provide tracer wire for all non-metallic piping.

E. Piping below slab in kitchens shall be cast iron.

2.2 SANITARY WASTE AND VENT PIPING, INTERIOR, ABOVE GRADE

A. Hub-and-spigot, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 74,Service class.
2. Gaskets: ASTM C 564, rubber.

B. Hubless, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 888 or CISPI 301.,
2. CISPI, Hubless-Piping Couplings:
3. Standards: ASTM C 1277 and CISPI 310.
4. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

C. Copper Tube and Fittings

1. Copper DWV Tube: ASTM B 306, drainage tube, drawn temper.
2. Copper Drainage Fittings: ASME B16.23, cast copper or ASME B16.29, wrought copper, solder-joint fittings.
3. Copper Flanges: ASME B16.24, Class 150, cast copper with solder-joint end.
4. Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.
5. Solder: ASTM B 32, lead free with ASTM B 813, water-flushable flux.

D. PVC Pipe and Fittings (shall not be used within air plenums)

1. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.
2. Cellular-Core PVC Pipe: ASTM F 891, Schedule 40.
3. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.
4. Adhesive Primer: ASTM F 656.
5. Solvent Cement: ASTM D 2564.

2.3 STORM WATER PIPING, EXTERIOR, UNDERGROUND

A. Hub-and-Spigot, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 74, Service class.
2. Gaskets: ASTM C 564, rubber.
3. Calking Materials: ASTM B 29, pure lead and oakum or hemp fiber.

B. Hubless, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 888 or CISPI 301.
2. Heavy-Duty, Shielded Couplings:
3. Description: ASTM C 1277 and ASTM C 1540, with stainless-steel shield; stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

C. Ductile-Iron, Culvert Pipe and Fittings

1. Pipe: ASTM A 716, for push-on joints.
2. Standard Fittings: AWWA C110, ductile or gray iron, for push-on joints.
3. Compact Fittings: AWWA C153, for push-on joints.
4. Gaskets: AWWA C111, rubber.

D. PE Pipe and Fittings (not to be used below paved traffic areas)

1. Corrugated PE Drainage Pipe and Fittings NPS 3 to NPS 10: AASHTO M 252M, Type S, with smooth waterway for coupling joints.

    a. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with tube and fittings.
    b. Soiltight Couplings: AASHTO M 252M, corrugated, matching tube and fittings.

2. Corrugated PE Pipe and Fittings NPS 12 to NPS 60 (DN 300 to DN 1500): AASHTO M 294M, Type S, with smooth waterway for coupling joints.

    a. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings.
    b. Soiltight Couplings: AASHTO M 294M, corrugated, matching pipe and fittings.

E. PVC Pipe and Fittings

1. PVC Cellular-Core Piping:

    a. PVC Cellular-Core Pipe and Fittings: ASTM F 891, Sewer and Drain Series, PS 50 minimum stiffness, PVC cellular-core pipe with plain ends for solvent-cemented joints.
    b. Fittings: ASTM D 3034, SDR 35, PVC socket-type fittings.

2. PVC Type PSM Sewer Piping:

    a. Pipe: ASTM D 3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
    b. Fittings: ASTM D 3034, PVC with bell ends.
    c. Gaskets: ASTM F 477, elastomeric seals.

F. Concrete Pipe and Fittings

1. Non-reinforced-Concrete Sewer Pipe and Fittings: ASTM C 14 (ASTM C 14M), with bell-and-spigot or tongue-and-groove ends and gasketed joints with ASTM C 443 (ASTM C 443M), rubber gaskets.

2.4 STORM WATER PIPING, INTERIOR, UNDERGROUND

A. Hub-and-Spigot, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 74,Service class.
2. Gaskets: ASTM C 564, rubber.

B. Hubless, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 888 or CISPI 301.,
2. CISPI, Hubless-Piping Couplings:
3. Standards: ASTM C 1277 and CISPI 310.
4. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

C. PVC Pipe and Fittings

1. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.
2. Cellular-Core PVC Pipe: ASTM F 891, Schedule 40.
3. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.
4. Adhesive Primer: ASTM F 656.
5. Solvent Cement: ASTM D 2564.

2.5 STORM WATER PIPING, INTERIOR, ABOVEGROUND

A. Hub-and-Spigot, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 74,Service class.
2. Gaskets: ASTM C 564, rubber.

B. Hubless, Cast Iron Pipe and Fittings

1. Pipe and Fittings: ASTM A 888 or CISPI 301.,
2. CISPI, Hubless-Piping Couplings:
3. Standards: ASTM C 1277 and CISPI 310.
4. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

C. Copper Tube and Fittings

1. Copper DWV Tube: ASTM B 306, drainage tube, drawn temper.
2. Copper Drainage Fittings: ASME B16.23, cast copper or ASME B16.29, wrought copper, solder-joint fittings.
3. Copper Flanges: ASME B16.24, Class 150, cast copper with solder-joint end.
4. Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

5. Solder: ASTM B 32, lead free with ASTM B 813, water-flushable flux.

D. PVC Pipe and Fittings (shall not be used within air plenums)

1. Solid-Wall PVC Pipe: ASTM D 2665, drain, waste, and vent.
2. Cellular-Core PVC Pipe: ASTM F 891, Schedule 40.
3. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.
4. Adhesive Primer: ASTM F 656.
5. Solvent Cement: ASTM D 2564.

2.6 WATER PIPING, EXTERIOR

A. Soft Copper Tube: ASTM B 88, Type K (ASTM B 88M, Type A) and ASTM B 88, Type L (ASTM B 88M, Type B), water tube, annealed temper.

1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.

B. Mechanical-Joint, Ductile-Iron Pipe: AWWA C151, with mechanical-joint bell and plain spigot end unless grooved or flanged ends are indicated.

1. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
2. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

C. Push-on-Joint, Ductile-Iron Pipe: AWWA C151, with push-on-joint bell and plain spigot end unless grooved or flanged ends are indicated. NPS 4 and NPS 6.

1. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
2. Gaskets: AWWA C111, rubber.

D. Grooved-Joint, Ductile-Iron Pipe: AWWA C151, with cut, rounded-grooved ends. NPS 4 and NPS 6.

E. PVC, AWWA Pipe: AWWA C900, Class 150, with bell end with gasket, and with spigot end. NPS 4 and NPS 6.

1. Comply with UL 1285 for fire-service mains if indicated.
2. PVC Fabricated Fittings: AWWA C900, Class 150, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.
3. PVC Molded Fittings: AWWA C907, Class 150, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.
4. Provide tracer wire for all nonmetallic piping.

F. Copper Tubing: ASTM B88, Type K. Fittings: ANSI/ASME B1629, wrought copper. Joints: ANSI/ASTM B52, solder, Grade 95TA.

G. PVC Pipe: ASTM D1785, Schedule 40, or ASTM D2241, SDR 21 for not less than 150 psig pressure rating. Fittings: ANSI/ASTM D2466, PVC. Joints: ASTM D2855, solvent weld or ASTM F477 elastomeric seals.

1. Provide tracer wire for all nonmetallic piping.

2.7 WATER PIPING, INTERIOR

A. Aboveground. Hard Copper Tube: ASTM B 88, Type L (ASTM B 88M, Type B) water tube, drawn temper; cast or wrought copper, solder-joint fittings; and brazed or soldered joints.

B. Below slab. Soft Copper Tube: ASTM B 88, Type K (ASTM B 88M, Type A) and ASTM B 88, Type L (ASTM B 88M, Type B) water tube, annealed temper; wrought-copper, solder-joint fittings; and brazed joints.

C. Cast-Copper, Solder-Joint Fittings: ASME B16.18, pressure fittings.

D. Wrought-Copper, Solder-Joint Fittings: ASME B16.22, wrought-copper pressure fittings.

E. Piping Joining Materials

1. Solder Filler Metals: ASTM B 32, lead-free alloys.
2. Flux: ASTM B 813, water flushable.
3. Brazing Filler Metals: AWS A5.8/A5.8M, BCuP Series, copper-phosphorus alloys for general-duty brazing unless otherwise indicated.

2.8 NATURAL GAS PIPING, EXTERIOR UNDERGROUND

A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

1. Malleable-Iron threaded Fittings: ASME B16.3, Class 150, standard pattern.
2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
4. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and PE.

B. PE Pipe: ASTM D 2513, SDR 11. Provide with tracer wire and install per gas company standards.

1. PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe.
2. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
3. Anodeless Service-Line Risers: Factory fabricated and leak tested.

a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.

b. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering.[Vent casing aboveground.]
c. Aboveground Portion: PE transition fitting.
d. Outlet shall be threaded or suitable for welded connection.
e. Tracer wire connection.
f. Ultraviolet shield.
g. Stake supports with factory finish to match steel pipe casing or carrier pipe.

2.9 NATURAL GAS PIPING, EXTERIOR ABOVEGROUND

A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

1. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
2. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.

2.10 NATURAL GAS PIPING, INTERIOR UNDERGROUND

A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
4. Piping below slab shall be run in conduit vented to the outside

2.11 NATURAL GAS PIPING, INTERIOR ABOVEGROUND

A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.

B. Corrugated, Stainless-Steel Tubing: Comply with ANSI/IAS LC 1. Branch connections only.

1. Tubing: ASTM A 240/A 240M, corrugated, Series 300 stainless steel.
2. Coating: PE with flame retardant.
3. Fittings: Copper-alloy mechanical fittings with ends made to fit and listed for use with corrugated stainless-steel tubing and capable of metal-to-metal seal without gaskets. Include brazing socket or threaded ends complying with ASME B1.20.1.
4. Striker Plates: Steel, designed to protect tubing from penetrations.

5. Manifolds: Malleable iron or steel with factory-applied protective coating. Threaded connections shall comply with ASME B1.20.1 for pipe inlet and corrugated tubing outlets.
6. Operating-Pressure Rating: 5 psig.

2.12 COMPRESSED AIR PIPING

A. Piping: ASTM A53 or A120, Schedule 40 black steel. Fittings: ASTM B16.3 malleable iron or ASTM A234 forged steel welding type fittings over two inches and screwed for two inches and under.

B. Copper Tube: ASTM B 88, Type K or L (ASTM B 88M, Type A or B) and ASTM B 88, Type M (ASTM B 88M, Type C) seamless, drawn-temper, water tube.

1. Wrought-Copper Fittings: ASME B16.22, solder-joint pressure type or MSS SP-73, wrought copper with dimensions for brazed joints.
2. Cast-Copper-Alloy Flanges: ASME B16.24, Class 150 or 300.
3. Copper Unions: ASME B16.22 or MSS SP-123.

2.13 OXYGEN, ARGON & 75/25 WELDING GAS PIPING

A. Copper Tube: ASTM B 88, Type K seamless, drawn-temper, water tube.

1. Wrought-Copper Fittings: ASME B16.22, solder-joint pressure type or MSS SP-73, wrought copper with dimensions for brazed joints.
2. Cast-Copper-Alloy Flanges: ASME B16.24, Class 150 or 300.
3. Copper Unions: ASME B16.22 or MSS SP-123.

2.14 ACETYLENE WELDING GAS PIPING

A. Piping: ASTM A53 or A120, Schedule 40 black steel. Fittings: ASTM B16.3 malleable iron or ASTM A234 forged steel welding type fittings over two inches and screwed for two inches and under.

2.15 DIELECTRIC FITTINGS

A. Dielectric Unions: ASSE 1079 Standard; 125 psig minimum pressure rating at 180 deg F; solder-joint copper alloy and threaded ferrous end connections.

B. Dielectric Nipples: IAPMO PS 66 Standard: electroplated steel nipple complying with ASTM F 1545; 300 psig pressure rating at 225 deg F; male threaded or grooved end connections; inert and noncorrosive, propylene lining.

2.16 ESCUTCHEONS

A. Escutcheons shall be Beaton and Caldwell; Carpenter and Patterson; Fee and Mason or approved equivalent. Chromium-plated iron or chromium-plated brass, either one piece or split patterns, held in place by internal spring tension or set screw that completely covers opening.

2.17 GATE VALVES

A. Class 125, RS, Bronze Gate Valves (up to 2 inches):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Crane, NIBCO, Stockham, Watts.

2. Description:

    a. Standard: MSS SP-80, Type 2. CWP Rating: 150 psig. Body Material: Bronze with integral seat and screw-in bonnet. Ends: Threaded and soldered joint. Stem: Bronze. Disc: Solid wedge; bronze. Packing: Asbestos free. Handwheel: Malleable iron, bronze, or aluminum.

B. Class 125, OS&Y, Iron Gate Valves (over 2 inches):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Crane, NIBCO, Stockham, Watts.

2. Description:

    a. Standard: MSS SP-70, Type I. CWP Rating: 150 psig. Body Material: Gray iron with bolted bonnet. Ends: Flanged. Trim: Bronze. Disc: Solid wedge. Packing and Gasket: Asbestos free.

2.18 BALL VALVES

A. Two-Piece, Bronze Ball Valves (up to 2 inches):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Crane, NIBCO, Milwaukee, Stockham, Watts.

2. Description:

a. Standard: MSS SP-110. CWP Rating: 150 psig. Body Design: Two piece. Body Material: Bronze. Ends: Threaded and soldered. Seats: PTFE. Stem: Stainless steel. Ball: Stainless steel. Port: Full.

2.19 BUTTERFLY VALVES

A. Iron, Single-Flange Butterfly Valves with Aluminum-Bronze Disc:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Crane, NIBCO, Stockham, Watts.

2. Description:

a. Standard: MSS SP-67, Type I. CWP Rating: 150 psig. Body Design: Lug type; suitable for bi-directional dead-end service at rated pressure without use of downstream flange. Body Material: ASTM A 126, cast iron or ASTM A 536, ductile iron. Seat: EPDM. Stem: One-or-two piece stainless steel. Disc: Aluminum bronze.

2.20 SWING CHECK VALVES

A. Class 125, Bronze Swing Check Valves with Bronze Disc (up to 2 inches):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Crane, NIBCO, Stockham, Watts.

2. Description:

a. Standard: MSS SP-80, Type 3. CWP Rating: 150 psig. Body Design: Horizontal flow. Body Material: ASTM B 62, bronze. Ends: Threaded or soldered. Disc: Bronze.

B. Class 125, Iron Swing Check Valves with Metal Seats (over 2 inches):

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Crane, NIBCO, Stockham, Watts.

2. Description:

a. Standard: MSS SP-71, Type I. CWP Rating: 150 psig. Body Design: Clear or full waterway. Body Material: ASTM A 126, gray iron with bolted bonnet. Ends: Flanged or threaded. Trim: Bronze. Gasket: Asbestos free.

2.21 SPRING LOADED CHECK VALVES

A. Class 125, Lift Check Valves with Nonmetalic Disc::

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Crane, NIBCO, Stockham, Watts.

2. Description:

a. Standard: MSS SP-80, Type 2. CWP Rating: 150 psig. Body Design: Vertical flow. Body Material: ASTM B 61 or ASTM B 62, bronze. Ends: Threaded or soldered. Disc: NBR, PTFE.

2.22 RELIEF VALVES

A. Bronze body, teflon seat, steel stem and springs, automatic, direct pressure actuated, capacities ASME certified and labeled.

B. Manufactured by Apollo, Consolidated, Kunkel, Watts and Zurn.

2.23 MANUAL GAS SHUT-OFF VALVES

A. Two-Piece, Full Port, Bronze Ball Valve with Bronze Trim: MSS SP-110 (up to 2 inches).

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. A.Y. McDonald Mfg., Brasscraft, Conbraco, Perfection Corp.

2. Description

a. Body: Bronze, complying with ASTM B 584. Ball: Chrome-plated brass. Stem: Bronze; blowout proof. Seats: Reinforced TFE; blowout proof. Packing: Threaded-body packnut design with adjustable-stem packing. Ends: Threaded, flared, or socket. CWP Rating: 600 psig. Listing: Valves NPS 1and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

B. Cast-Iron, Non-Lubricated Plug Valves: MSS SP-78 (over 2 inches).

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A.Y. McDonald Mfg., Mueller Co., Xomox Corp.

2. Description

    a. Body: Cast iron, complying with ASTM A 126, Class B. Plug: Bronze or nickel-plated cast iron. Seat: Coated with thermoplastic. Stem Seat: Compatible with natural gas. Ends: Threaded or flanged. Pressure Class: 125 psig. Listing: Valves NPS 1and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

C. Bronze Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A.Y. McDonald Mfg., Lee Brass Company

2. Description

    a. Body: Bronze, complying with ASTM B 584. Plug: Bronze. Ends: Threaded or socket. Pressure Class: 125 psig. Listing: Valves NPS 1and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

2.24 SOLENOID VALVES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Asco, Fisher, Griswold.

B. Description:

1. Action: Either normally open or normally closed in the event of electrical power failure as required by the application. Size to close against the system pressure. Manual override capable. Heavy-duty assembly. Body: Brass. Seats and Discs: NBR or PTFE. Solenoid Enclosure: NEMA 250, Type 4.

2.25 MOTORIZED GAS VALVES

A. Electrically Operated Valves: Comply with UL 429.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Asco, Fisher, Griswold, Watts.

2. Description

    a. Pilot operated. Body: Brass or aluminum. Seats and Disc: Nitrile rubber.
    b. Springs and Valve Trim: Stainless steel. 120-V ac, 60 Hz, Class B, continuous-duty molded coil, and replaceable. NEMA ICS 6, Type 4, coil enclosure. Normally closed. Visual position indicator. Sized for service required.

2.26 GAUGE COCKS

A. Ashcroft No. 1092; 150 PSIG maximum working pressure; bronze; 1/4" screwed connections; tee handle.

B. All pressure gauges shall be installed with a gauge cock.

2.27 STRAINERS

A. Strainers shall be Y type equal to Leslie, Illinois, or Mueller. Sizes 2 1/2" and larger shall be flanged; sizes 2" and smaller shall be screwed.

B. Water strainers shall be cast iron or brass, designed for 125 lb. steam/200 lbs. WOG working pressure.

C. Strainers shall have a free area of strainer screen a minimum of twice the area of the adjoining pipe. Strainer baskets shall be fabricated from stainless steel or Monel sheet metal; baskets shall have 0.045" (3/64") perforations for water service.

PART 3 - EXECUTION

3.1 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt, on inside and outside, before assembly.

C. Prepare piping connections to equipment with flanges or unions.

3.2 INSTALLATION

A. Pipe shall be cut accurately to measurements established at the jobsite and worked into place without springing or forcing, properly clearing all windows, doors, and other openings.

B. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

C. Route piping in orderly manner and maintain gradient.

D. Install piping to conserve building space and not interfere with use of space. Do not change the designed path of piping, add excessive turns or offsets, or change pipe sizes without first consulting the Engineer.

E. Group piping whenever practical at common elevations.

F. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

G. Provide clearance for installation of insulation and access to valves and fittings.

H. Provide access where valves and fittings are not exposed.

I. Slope water piping and arrange to drain at low points.

J. Establish elevations of buried piping outside the building to ensure not less than 3 feet of cover.

K. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.

L. Prepare pipe, fittings, supports, and accessories not prefinished, ready for finish painting.

M. Establish invert elevations, slopes for drainage to be 1/8 inch per foot one percent minimum. Maintain gradients.

N. Install bell and spigot pipe with bell end upstream.

O. Install valves with stems upright or horizontal, not inverted.

P. Escutcheons shall be provided at all finished surfaces where exposed piping, bare or insulated, passes through floors, walls, or ceilings. Escutcheons shall be fastened securely to pipe sleeves or to extensions of sleeves without any part of sleeves being visible. Where sleeves project slightly from floors, special deep-type escutcheons shall be used.

3.3 EXCAVATION AND BACKFILL

A. See specification SECTION 220200 EXCAVATION AND BACKFILLING FOR UNDERGROUND PIPING.

B. As part of the work under these sections, provide all excavating and backfilling, including dewatering and shoring required for the introduction and completion of the work. The work performed under this heading must conform to surrounding grounds or finished grade and must be approved by the Engineer.

C. All excavation shall be classified in accordance with the General Conditions of these specifications.

D. Surplus material and materials unsuitable for use as fill or backfill of foundation or trench excavations shall be disposed of off the Owner's property at the Contractor's expense.

E. Borrow material, if required, may not be available on Owner's property and shall be the responsibility of the Contractor to import any required material at his expense.

F. Explosives and blasting shall not be permitted except by written permission of the Engineer.

G. Where adjacent surface areas are disturbed as a result of construction operations or the storage of materials, they shall be cleaned of all debris and restored to original conditions.

H. The Contractor shall be responsible for location in the field the excavation lines shown on the drawings. The location shall be approved by the Engineer before excavation is begun. The Contractor shall use reference points as shown on the drawings for locating control points for earthwork and construction. In the absence of reference points, the Contractor shall locate control points in accordance with the Engineer's instructions.

I. Active utilities shown on the drawings shall be adequately protected from damage and removed or relocated only as indicated or specified. Where active utilities are encountered but are not shown on the drawings, the Engineer shall be advised; the work shall be adequately protected, supported or relocated as directed by the Architect. In-active and abandoned utilities encountered in excavating and grading operations shall be reported to the Architect; they shall be removed, plugged or capped as directed by the Architect.

J. Trench Excavation: The bottom of the trenches shall be accurately graded to provide uniform bearing and support for the pipe or concrete trench as shown on the drawings. Pipe shall be supported at every point along its entire length. Unless otherwise indicated, excavation shall be by open cut and trench sides shall be vertical. The trench bottom shall follow a uniform grade as shown on the drawings in the direction of flow insofar as possible. Where the trench has been excavated below grade, either inadvertently or purposely, the trench shall be backfilled and thoroughly tamped so as to provide full length bearing for the pipe barrel.

K. Laying Pipe: Laying of pipe on blocks, brick or wood to bring the pipe to a uniform invert shall not be permitted. Drainage lines shall be laid conform to the drawings. All pipe joints shall be inspected and approved prior to backfilling.

3.4 APPLICATION

A. Use grooved mechanical couplings and fasteners only in accessible locations.

B. Install unions downstream of valves and at equipment or apparatus connections.

C. Install brass male adapters each side of valves in copper pipe system. Sweat solder adapters to pipe.

D. Install ball and/or butterfly valves for shut-off and to isolate equipment, parts of systems, vertical risers and branch piping serving fixtures without a means of shut-off. Valves to be located in such a manner to be accessible for service personnel. Provide access panel(s) if required to access valves.

E. Install ball valves for throttling, bypass, or manual flow control services.

F. Provide spring loaded check valves on discharge of water pumps.

G. Do not install above grade piping in areas subject to freezing. Where such an area is encountered, notify the engineer for instruction.

3.5 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Prior to starting work, verify system is complete, flushed and clean.

B. Ensure PH of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric).

C. Inject disinfectant, free chlorine in liquid, powder, tablet or gas form, throughout system to obtain 50 to 80 mg/L residual.

D. Bleed water from outlets to ensure distribution and test for disinfectant residual at minimum 15 percent of outlets.

E. Maintain disinfectant in system for 24 hours.

F. If final disinfectant residual test less than 25 mg/L, repeat treatment.

G. Flush disinfectant from system until residual equal to that of incoming water or 1.0 mg/L.

H. Take samples no sooner than 24 hours after flushing, from outlets and from water entry, and analyze in accordance with AWWA C601.

3.6 PAINTING OF GAS PIPING

A. Comply with the requirements in painting specification sections for painting interior and exterior natural gas piping.

B. Paint exposed, exterior metal piping, valves, service regulators, service meters and meter bars and piping specialties, except components with factory-applied paint or protective coating.

1. Alkyd System:

    a. Prime Coat: Alkyd anticorrosive metal primer.
    b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
    c. Topcoat: Exterior enamel.
    d. Color: By Owner.

C. Paint exposed, interior metal piping, valves, service regulators, service meters and meter bars and piping specialties, except components with factory-applied paint or protective coating.

1. Latex Over Alkyd Primer System:

    a. Prime Coat: Alkyd anticorrosive metal primer.

b. Intermediate Coat: Interior latex matching topcoat.
c. Topcoat: Interior latex.
d. Color: By Owner.

2. Alkyd System:

a. Prime Coat: Alkyd anticorrosive metal primer.
b. Intermediate Coat: Interior alkyd enamel matching topcoat.
c. Topcoat: Interior alkyd.
d. Color: By Owner.

D. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

3.7 SERVICE CONNECTIONS

A. Provide new sanitary sewer service. Before commencing work check invert elevations required for sewer connections, confirm inverts and ensure that these can be properly connected with slope for drainage and cover to avoid freezing.

B. Provide new water service complete with reduced pressure backflow preventer.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Sanitary Piping	X	X						
Domestic Water Piping	X	X						
Valves	X	X						
Storm Piping	X	X						
Gas Piping	X	X						

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Compressed Air Piping	X	X						

END OF SECTION 221000

SECTION 22 1113 – FACILITY WATER DISTRIBUTION PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes water-distribution piping and related components outside the building for water service and fire-service mains.

B. Utility-furnished products include water meters that will be furnished to the site, ready for installation.

1.3 DEFINITIONS

A. PVC: Polyvinyl chloride plastic.

B. DIP: Ductile Iron Pipe

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Detail precast concrete vault assemblies and indicate dimensions, method of field assembly, and components. Retain subparagraph below if equipment includes wiring.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: For piping and specialties including relation to other services in same area, drawn to scale. Show piping and specialty sizes and valves, meter and specialty locations, and elevations.

B. Field quality-control test reports.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For water valves and specialties to include in emergency, operation, and maintenance manuals.

1.7 QUALITY ASSURANCE

A. Regulatory Requirements:

1. Comply with requirements of utility company supplying water. Include tapping of water mains and backflow prevention.
2. Comply with standards of authorities having jurisdiction for potable-water-service piping, including materials, installation, testing, and disinfection.
3. Comply with standards of authorities having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.
4. Comply with Ten States Standards, Latest Edition for Potable Water Distribution.

B. Piping materials shall bear label, stamp, or other markings of specified testing agency.

C. Comply with ASTM F 645 for selection, design, and installation of thermoplastic water piping.

D. Comply with FMG's "Approval Guide" or UL's "Fire Protection Equipment Directory" for fire-service-main products.

E. NFPA Compliance: Comply with NFPA 24 for materials, installations, tests, flushing, and valve and hydrant supervision for fire-service-main piping for fire suppression.

F. NSF Compliance:

1. Comply with NSF 14 for plastic potable-water-service piping. Include marking "NSF-pw" on piping.
2. Comply with NSF 61 for materials for water-service piping and specialties for domestic water.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:

1. Ensure that valves are dry and internally protected against rust and corrosion.
2. Protect valves against damage to threaded ends and flange faces.
3. Set valves in best position for handling. Set valves closed to prevent rattling.

B. During Storage: Use precautions for valves, including fire hydrants, according to the following:

1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.

C. Handling: Use sling to handle valves and fire hydrants if size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.

D. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.

E. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.

F. Protect flanges, fittings, and specialties from moisture and dirt.

G. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

1.9 PROJECT CONDITIONS

A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated:

1. Notify Architect no fewer than 10 days in advance of proposed interruption of service.
2. Do not proceed with interruption of water-distribution service without Architect written permission.

1.10 COORDINATION

A. Coordinate connection to water main with utility owner and operator.

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

A. Soft Copper Tube: ASTM B 88, Type K, water tube, annealed temper.

1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.
2. Copper, Pressure-Seal Fittings:

a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1) Viega; Plumbing & Heating Systems.

b. NPS 2 and Smaller: Wrought-copper fitting with EPDM O-ring seal in each end.
c. NPS 2-1/2 to NPS 4 : Bronze fitting with stainless-steel grip ring and EPDM O-ring seal in each end.

B. Hard Copper Tube: ASTM B 88, Type K, water tube, drawn temper.

1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.

2. Copper, Pressure-Seal Fittings:

a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1) Viega; Plumbing & Heating Systems.

b. NPS 2 and Smaller: Wrought-copper fitting with EPDM O-ring seal in each end.
c. NPS 2-1/2 to NPS 4 Bronze fitting with stainless-steel grip ring and EPDM O-ring seal in each end.

C. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end. Furnish Class 300 flanges if required to match piping.

D. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends.

2.2 DUCTILE-IRON PIPE AND FITTINGS

A. Mechanical-Joint, Ductile-Iron Pipe: AWWA C151, with mechanical-joint bell and plain spigot end unless grooved or flanged ends are indicated. Pipe shall be coated with a bituminous coating in accordance with ANSI/AWWA C151/A21.51. Interior shall be cement mortar lines and seal coated in compliance with the latest Rev. of ANSI/AWWA C104/A21.4. The cement mortar lining shall be double thickness.

1. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.
2. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

a. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1) Anvil International, Inc.
2) Victaulic Company of America.

B. Flanges: ASME 16.1, Class 250, cast iron.

2.3 PVC PIPE AND FITTINGS

A. PVC, Schedule 40 Pipe: ASTM D 1785.

1. PVC, Schedule 40 Socket Fittings: ASTM D 2466.

B. PVC, Schedule 80 Pipe: ASTM D 1785.

1. PVC, Schedule 80 Socket Fittings: ASTM D 2467.
2. PVC, Schedule 80 Threaded Fittings: ASTM D 2464.

C. PVC, AWWA Pipe: AWWA C900,Class 200, with bell end with gasket, and with spigot end.

1. Comply with UL 1285 for fire-service mains if indicated.
2. PVC Fabricated Fittings: AWWA C900,Class 200, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.
3. PVC Molded Fittings: AWWA C907, Class 200, with bell-and-spigot or double-bell ends. Include elastomeric gasket in each bell.
4. Push-on-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

    a. Gaskets: AWWA C111, rubber.

5. Mechanical-Joint, Ductile-Iron Fittings: AWWA C110, ductile- or gray-iron standard pattern or AWWA C153, ductile-iron compact pattern.

    a. Glands, Gaskets, and Bolts: AWWA C111, ductile- or gray-iron glands, rubber gaskets, and steel bolts.

    b. All mechanical joint fittings where thrust blocking is required will also be secure by joint restrain glands.
6. The use of solvent Cement connections is not allowed.

2.4 SPECIAL PIPE FITTINGS

A. Ductile-Iron Rigid Expansion Joints:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. EBAA Iron, Inc.
    b. U.S. Pipe and Foundry Company.

3. Description: Three-piece, ductile-iron assembly consisting of telescoping sleeve with gaskets and restrained-type, ductile-iron, bell-and-spigot end sections complying with AWWA C110 or AWWA C153. Select and assemble components for expansion indicated. Include AWWA C111, ductile-iron glands, rubber gaskets, and steel bolts.

    a. Pressure Rating: 250 psig minimum.

B. Ductile-Iron Flexible Expansion Joints:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. EBAA Iron, Inc.
    b. Hays Fluid Controls; a division of ROMAC Industries Inc.

c. Star Pipe Products.

2. Description: Compound, ductile-iron fitting with combination of flanged and mechanical-joint ends complying with AWWA C110 or AWWA C153. Include two gasketed ball-joint sections and one or more gasketed sleeve sections. Assemble components for offset and expansion indicated. Include AWWA C111, ductile-iron glands, rubber gaskets, and steel bolts.

a. Pressure Rating: 250 psig minimum.

C. Ductile-Iron Deflection Fittings:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. EBAA Iron, Inc.

2. Description: Compound, ductile-iron coupling fitting with sleeve and 1 or 2 flexing sections for up to 15-degree deflection, gaskets, and restrained-joint ends complying with AWWA C110 or AWWA C153. Include AWWA C111, ductile-iron glands, rubber gaskets, and steel bolts.

a. Pressure Rating: 250 psig minimum.

2.5 JOINING MATERIALS

A. Brazing Filler Metals: AWS A5.8, BCuP Series.

B. Plastic Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

2.6 PIPING SPECIALTIES

A. Transition Fittings: Manufactured fitting or coupling same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.

B. Tubular-Sleeve Pipe Couplings:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Cascade Waterworks Manufacturing.
b. Dresser, Inc.; Dresser Piping Specialties.
c. Ford Meter Box Company, Inc. (The); Pipe Products Div.
d. Hays Fluid Controls; a division of ROMAC Industries Inc.
e. JCM Industries.
f. Smith-Blair, Inc.
g. Viking Johnson.

2. Description: Metal, bolted, sleeve-type, reducing or transition coupling, with center sleeve, gaskets, end rings, and bolt fasteners and with ends of same sizes as piping to be joined.

    a. Standard: AWWA C219.
    b. Center-Sleeve Material: Stainless steel
    c. Gasket Material: Natural or synthetic rubber.
    d. Pressure Rating: 200 psig minimum.
    e. Metal Component Finish: Corrosion-resistant coating or material.

C. Split-Sleeve Pipe Couplings:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Victaulic Depend-O-Lok.

2. Description: Metal, bolted, split-sleeve-type, reducing or transition coupling with sealing pad and closure plates, O-ring gaskets, and bolt fasteners.

    a. Standard: AWWA C219.
    b. Sleeve Material: Stainless steel.
    c. Sleeve Dimensions: Of thickness and width required to provide pressure rating.
    d. Gasket Material: O-rings made of EPDM rubber, unless otherwise indicated.
    e. Pressure Rating: 200 psig minimum.
    f. Metal Component Finish: Corrosion-resistant coating or material.

D. Flexible Connectors:

1. Nonferrous-Metal Piping: Bronze hose covered with bronze wire braid; with copper-tube, pressure-type, solder-joint ends or bronze flanged ends brazed to hose.
2. Ferrous-Metal Piping: Stainless-steel hose covered with stainless-steel wire braid; with ASME B1.20.1, threaded steel pipe nipples or ASME B16.5, steel pipe flanges welded to hose.

E. Dielectric Fittings:

1. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
2. Dielectric Unions:

    a. Description:

        1) Standard: ASSE 1079.
        2) Pressure Rating: 250 psig.
        3) End Connections: Solder-joint copper alloy and threaded ferrous.

3. Dielectric Flanges:

a. Description:

1) Standard: ASSE 1079.
2) Factory-fabricated, bolted, companion-flange assembly.
3) Pressure Rating: 250 psig minimum at 180 deg F
4) End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.

4. Dielectric-Flange Insulating Kits:

a. Description:

1) Nonconducting materials for field assembly of companion flanges.
2) Pressure Rating: 250 psig.
3) Gasket: Neoprene or phenolic.
4) Bolt Sleeves: Phenolic or polyethylene.
5) Washers: Phenolic with steel backing washers.

5. Dielectric Nipples:

a. Description:

1) Standard: IAPMO PS 66
2) Electroplated steel nipple. complying with ASTM F 1545.
3) Pressure Rating: 250 psig at 225 deg F
4) End Connections: Male threaded or grooved.
5) Lining: Inert and noncorrosive, propylene.

2.7 CORROSION-PROTECTION PIPING ENCASEMENT

A. Encasement for Underground Metal Piping:

1. Standards: ASTM A 674 or AWWA C105.
2. Form: Sheet
3. Material: High-density, crosslaminated PE film of 0.004-inch (0.10-mm) minimum thickness.
4. Color: Natural

2.8 GATE VALVES

A. AWWA, Cast-Iron Gate Valves:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. American AVK Co.; Valves & Fittings Div.
b. American Cast Iron Pipe Co.; American Flow Control Div.
c. American Cast Iron Pipe Co.; Waterous Co. Subsidiary.
d. Crane Co.; Crane Valve Group; Stockham Div.

e. East Jordan Iron Works, Inc.
f. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
g. McWane, Inc.; Kennedy Valve Div.
h. McWane, Inc.; M & H Valve Company Div.
i. McWane, Inc.; Tyler Pipe Div.; Utilities Div.
j. Mueller Co.; Water Products Div.
k. NIBCO INC.
l. U.S. Pipe and Foundry Company.

2. Nonrising-Stem, Resilient-Seated Gate Valves:

a. Description: Gray- or ductile-iron body and bonnet; with bronze or gray- or ductile-iron gate, resilient seats, bronze stem, and stem nut.

1) Standard: AWWA C509.
2) Minimum Pressure Rating: 250 psig .
3) End Connections: Mechanical joint.
4) Interior Coating: Complying with AWWA C550.

3. OS&Y, Rising-Stem, Resilient-Seated Gate Valves:

a. Description: Cast- or ductile-iron body and bonnet, with bronze or gray- or ductile-iron gate, resilient seats, and bronze stem.

1) Standard: AWWA C509.
2) Minimum Pressure Rating: 250 psig .
3) End Connections: Flanged.

B. UL/FMG, Cast-Iron Gate Valves:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. American Cast Iron Pipe Co.; American Flow Control Div.
b. American Cast Iron Pipe Co.; Waterous Co. Subsidiary.
c. Crane Co.; Crane Valve Group; Stockham Div.
d. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
e. McWane, Inc.; Kennedy Valve Div.
f. McWane, Inc.; M & H Valve Company Div.
g. Mueller Co.; Water Products Div.
h. NIBCO INC.
i. U.S. Pipe and Foundry Company.

2. UL/FMG, Nonrising-Stem Gate Valves:

a. Description: Iron body and bonnet with flange for indicator post, bronze seating material, and inside screw.

1) Standards: UL 262 and FMG approved.
2) Minimum Pressure Rating: 250 psig.

3) End Connections: Flanged.

3. OS&Y, Rising-Stem Gate Valves:

a. Description: Iron body and bonnet and bronze seating material.

1) Standards: UL 262 and FMG approved.
2) Minimum Pressure Rating: 250 psig.
3) End Connections: Flanged.

C. Bronze Gate Valves:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Crane Co.; Crane Valve Group; Crane Valves.
b. Crane Co.; Crane Valve Group; Jenkins Valves.
c. Crane Co.; Crane Valve Group; Stockham Div.
d. Hammond Valve.
e. Milwaukee Valve Company.
f. NIBCO INC.
g. Red-White Valve Corporation.

2.9 GATE VALVE ACCESSORIES AND SPECIALTIES

A. Tapping-Sleeve Assemblies:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. American Cast Iron Pipe Co.; Waterous Co. Subsidiary.
b. East Jordan Iron Works, Inc.
c. Flowserve.
d. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
e. McWane, Inc.; Kennedy Valve Div.
f. McWane, Inc.; M & H Valve Company Div.
g. Mueller Co.; Water Products Div.
h. U.S. Pipe and Foundry Company.

2. Description: Sleeve and valve compatible with drilling machine.

a. Standard: MSS SP-60.
b. Tapping Sleeve: Cast- or ductile-iron or stainless-steel, two-piece bolted sleeve with flanged outlet for new branch connection. Include sleeve matching size and type of pipe material being tapped and with recessed flange for branch valve.
c. Valve: AWWA, cast-iron, nonrising-stem, resilient-seated gate valve with one raised face flange mating tapping-sleeve flange.

B. Valve Boxes: Comply with AWWA M44 for cast-iron valve boxes. Include top section, adjustable extension of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over valve and with a barrel approximately 5 inches in diameter. Valve Box shall comply with KAW requirements.

1. Operating Wrenches: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and socket matching valve operating nut.

C. Indicator Posts: UL 789, FMG-approved, vertical-type, cast-iron body with operating wrench, extension rod, and adjustable cast-iron barrel of length required for depth of burial of valve.

2.10 CHECK VALVES

A. AWWA Check Valves:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. American AVK Co.; Valves & Fittings Div.
b. American Cast Iron Pipe Co.; American Flow Control Div.
c. APCO Williamette; Valve and Primer Corporation.
d. Crane Co.; Crane Valve Group; Crane Valves.
e. Crane Co.; Crane Valve Group; Stockham Div.
f. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
g. McWane, Inc.; Kennedy Valve Div.
h. McWane, Inc.; M & H Valve Company Div.
i. Mueller Co.; Water Products Div.
j. NIBCO INC.
k. Watts Water Technologies, Inc.

2. Description: Swing-check type with resilient seat. Include interior coating according to AWWA C550 and ends to match piping.

a. Standard: AWWA C508.
b. Pressure Rating: 250 psig

B. UL/FMG, Check Valves:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. American Cast Iron Pipe Co.; Waterous Co. Subsidiary.
b. Crane Co.; Crane Valve Group; Stockham Div.
c. Globe Fire Sprinkler Corporation.
d. Kidde Fire Fighting.
e. MATCO-NORCA, Inc.
f. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
g. McWane, Inc.; Kennedy Valve Div.

h. Mueller Co.; Water Products Div.
i. NIBCO INC.
j. Reliable Automatic Sprinkler Co., Inc.
k. Tyco Fire & Building Products.
l. United Brass Works, Inc.
m. Victaulic Company of America.
n. Viking Corporation.
o. Watts Water Technologies, Inc.

2. Description: Swing-check type with pressure rating; rubber-face checks, unless otherwise indicated; and ends matching piping.

a. Standards: UL 312 and FMG approved.
b. Pressure Rating: 250 psig

2.11 DETECTOR CHECK VALVES

A. Detector Check Valves:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Ames Fire & Waterworks; a division of Watts Regulator Co.
b. Badger Meter, Inc.
c. FEBCO; SPX Valves & Controls.
d. Globe Fire Sprinkler Corporation.
e. McWane, Inc.; Kennedy Valve Div.
f. Mueller Co.; Hersey Meters.
g. Victaulic Company of America.
h. Viking Corporation.
i. Watts Water Technologies, Inc.

2. Description: Galvanized cast-iron body, bolted cover with air-bleed device for access to internal parts, and flanged ends. Include one-piece bronze disc with bronze bushings, pivot, and replaceable seat. Include threaded bypass taps in inlet and outlet for bypass meter connection. Set valve to allow minimal water flow through bypass meter when major water flow is required.

a. Standards: UL 312 and FMG approved.
b. Pressure Rating: 250 psig
c. Water Meter: AWWA C700, disc type, at least one-fourth size of detector check valve. Include meter, bypass piping, gate valves, check valve, and connections to detector check valve.

3. Description: Iron body, corrosion-resistant clapper ring and seat ring material, flanged ends, with connections for bypass and installation of water meter.

a. Standards: UL 312 and FMG approved.
b. Pressure Rating: 250 psig.

2.12 CORPORATION VALVES

2.13 Manufacturers:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Amcast Industrial Corporation; Lee Brass Co.
    b. Ford Meter Box Company, Inc. (The); Pipe Products Div.
    c. Jones, James Company.
    d. Master Meter, Inc.
    e. McDonald, A. Y. Mfg. Co.
    f. Mueller Co.; Water Products Div.
    g. Red Hed Manufacturing & Supply.

B. Service-Saddle Assemblies: Comply with AWWA C800. Include saddle and valve compatible with tapping machine.

1. Service Saddle: Copper alloy with seal and AWWA C800, threaded outlet for corporation valve.
2. Corporation Valve: Bronze body and ground-key plug, with AWWA C800, threaded inlet and outlet matching service piping material.
3. Manifold: Copper fitting with two to four inlets as required, with ends matching corporation valves and outlet matching service piping material.

C. Curb Valves: Comply with AWWA C800. Include bronze body, ground-key plug or ball, and wide tee head, with inlet and outlet matching service piping material.

D. Service Boxes for Curb Valves: Similar to AWWA M44 requirements for cast-iron valve boxes. Include cast-iron telescoping top section of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over curb valve and with a barrel approximately 3 inches in diameter.

1. Shutoff Rods: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and slotted end matching curb valve.

2.14 WATER METERS

A. Water meters will be furnished by utility company.

2.15 BACKFLOW PREVENTERS

A. Double-Check, Backflow-Prevention Assemblies:

1. Refer to MEP Plan P3.0.

2. Description: Factory calibrated, with gages, fittings, hoses, and carrying case with test-procedure instructions.

2.16 WATER METER BOXES

A. Description: Cast-iron body and cover for disc-type water meter, with lettering "WATER METER" in cover; and with slotted, open-bottom base section of length to fit over service piping.

2.17 CONCRETE VAULTS

A. Description: Precast, reinforced-concrete vault, designed for A-16 load designation according to ASTM C 857 and made according to ASTM C 858.

1. Ladder: ASTM A 36/A 36M, steel or polyethylene-encased steel steps.
2. Manhole: ASTM A 48/A 48M Class No. 35A minimum tensile strength, gray-iron traffic frame and cover.

    a. Dimension: 24-inch minimum diameter, unless otherwise indicated.

2.18 FIRE HYDRANTS

A. Dry-Barrel Fire Hydrants:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
3. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:

    a. American AVK Co.; Valves & Fittings Div.
    b. American Cast Iron Pipe Co.; American Flow Control Div.
    c. American Cast Iron Pipe Co.; Waterous Co. Subsidiary.
    d. American Foundry Group, Inc.
    e. East Jordan Iron Works, Inc.
    f. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
    g. McWane, Inc.; Kennedy Valve Div.
    h. McWane, Inc.; M & H Valve Company Div.
    i. Mueller Co.; Water Products Div.
    j. Troy Valve; a division of Penn-Troy Manufacturing, Inc.
    k. U.S. Pipe and Foundry Company.

4. Description: Freestanding, with two 4 ½” outlets National Standard Hose Thread, 5-1/4-inch main valve, drain valve, and NPS 8 mechanical-joint inlet. Include interior coating according to AWWA C550. Hydrant shall have cast-iron body, compression-type valve

opening against pressure and closing with pressure. Nut type cap 15/16" square with chains. 18" center of outlet to ground.

a. Standard: AWWA C502.
b. Pressure Rating: 250 psig
c. Color: red, and according to LFUCG guidelines.

5. Certify and Service: The following companies have stated that they certify and service privately owned fire hydrants according to NFPA guidelines:
   a. Brown Sprinkler Corporation
   b. C&C Fire Sprinkler Systems and Inspections
   c. Central Kentucky sprinkler, Inc.
   d. Koorsen
   e. Landmark Sprinkler Corp.
   f. Simplex/Grinnell
   g. Kenny Buehler/Private Contractor
   h. American Fire & Security

2.19 FIRE DEPARTMENT CONNECTIONS

A. Fire Department Connections:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

   a. Elkhart Brass Mfg. Co., Inc.
   b. Fire End & Croker Corporation.
   c. Guardian Fire Equipment, Inc.
   d. Kidde Fire Fighting.
   e. Potter Roemer.
   f. Reliable Automatic Sprinkler Co., Inc.

2. Description: Freestanding, with cast-bronze body, thread inlets according to NFPA 1963 and matching local fire department hose threads, and threaded bottom outlet. Include lugged caps, gaskets, and chains; lugged swivel connection and drop clapper for each hose-connection inlet; 18-inch- high brass sleeve; and round escutcheon plate.

   a. Standard: UL 405.
   b. Connections: Two NPS 2-1/2 inlets and one NPS 6 outlet.
   c. Finish Including Sleeve: Polished bronze.
   d. Escutcheon Plate Marking: "AUTO SPKR."

3. Lexington Fire Water Control Office Standards
   a. Fire Department must be a standalone, 4 ½" male with National Standard Threads.
   b. Connection must have strainer and cap.
   c. The height of the connection should be 17"-19" from the center of the connection to the finished grade.

2.20 ALARM DEVICES

A. Alarm Devices, General: UL 753 and FMG approved, of types and sizes to mate and match piping and equipment.

B. Water-Flow Indicators: Vane-type water-flow detector, rated for 250-psig working pressure; designed for horizontal or vertical installation; with 2 single-pole, double-throw circuit switches to provide isolated alarm and auxiliary contacts, 7 A, 125-V ac and 0.25 A, 24-V dc; complete with factory-set, field-adjustable retard element to prevent false signals and tamperproof cover that sends signal when cover is removed.

C. Supervisory Switches: Single pole, double throw; designed to signal valve in other than fully open position.

D. Pressure Switches: Single pole, double throw; designed to signal increase in pressure.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Refer to Section 02300 "Earth moving" for excavating, trenching, and backfilling.

3.2 PIPING APPLICATIONS

A. General: Use pipe, fittings, and joining methods for piping systems according to the following applications.

B. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.

C. Do not use flanges or unions for underground piping.

D. Flanges, unions, grooved-end-pipe couplings, and special fittings may be used, instead of joints indicated, on aboveground piping and piping in vaults.

E. Underground water-service piping NPS 3/4 to NPS 3 shall be any of the following:

1. Soft copper tube, ASTM B 88, Type K copper, pressure-seal fittings; and pressure-sealed joints.
2. PVC, Schedule 40 pipe; PVC, Schedule 80 socket fittings; and solvent-cemented joints.
3. Soft copper tube, [ASTM B 88, Type K (ASTM B 88M,Type A)] [ASTM B 88, Type L (ASTM B 88M, Type B)]; wrought-copper, solder-joint fittings; and brazed joints.
4. Ductile-iron, [push-on-joint pipe; ductile-iron, push-on-joint fittings; and gasketed] [mechanical-joint pipe; ductile-iron, mechanical-joint fittings; and mechanical] [grooved-end pipe; ductile-iron-pipe appurtenances; and grooved] joints.

5. PE, AWWA pipe; PE, AWWA fittings; and heat-fusion joints.
6. PVC, Schedule [40 pipe; PVC, Schedule 40] [80 pipe; PVC, Schedule 80] socket fittings; and solvent-cemented joints.

F. Aboveground and Vault Water-Service Piping NPS 3/4 to NPS 3 shall be any of the following:

1. Hard copper tube, ASTM B 88, Type K wrought-copper, solder-joint fittings; and brazed joints.

G. Aboveground and vault water-service piping NPS 4 to NPS 8 shall be any of the following:

1. Hard copper tube, [ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.
2. Ductile-iron, grooved-end pipe; ductile-iron, grooved-end appurtenances; and grooved joints.

H. Underground Fire-Service-Main Piping NPS 4 to NPS 12 shall be any of the following:

1. Ductile-iron, push-on-joint pipe; ductile-iron, push-on-joint fittings; and gasketed mechanical-joint pipe; ductile-iron, mechanical-joint grooved joints.
2. PVC, AWWA Class 200 pipe listed for fire-protection service; PVC Class 200 fabricated fittings; and gasketed joints.
3. Fire service connections and fire hydrants shall have diameters and thread matching KAWC standards.
4. Fire service connections shall be installed with a metal sign, with one inch raised letters.

I. Aboveground and Vault Fire-Service-Main Piping NPS 4 to NPS 12 shall be ductile-iron, grooved-end pipe; ductile-iron-pipe appurtenances; and grooved joints.

3.3 VALVE APPLICATIONS

A. General Application: Use mechanical-joint-end valves for NPS 3 (DN 80) and larger underground installation. Use threaded- or flanged-end valves for installation in vaults. Use UL/FMG, nonrising-stem gate valves for installation with indicator posts. Use corporation valves and curb valves with ends compatible with piping, for NPS 2 (DN 50) and smaller installation.

B. Drawings indicate valve types to be used. Where specific valve types are not indicated, the following requirements apply:

1. Underground Valves, NPS 3 and Larger: AWWA, cast-iron, nonrising-stem, metal resilient-seated gate valves with valve box.
2. Underground Valves, NPS 4 and Larger, for Indicator Posts: UL/FMG, cast-iron, nonrising-stem gate valves with indicator post.
3. Use the following for valves in vaults and aboveground:

a. Gate Valves, NPS 2 and Smaller: Bronze, nonrising rising stem.
b. Check Valves: AWWA C508 UL/FMG, swing type.

3.4 PIPING INSTALLATION

A. Water-Main Connection: Arrange with utility company for tap of size and in location indicated in water main. All fittings may not be shown for clarity. It is the contractor's responsibility to include all necessary fittings in their bid. Unless otherwise noted. Bends shall be 45 degrees.

1. Install PE corrosion-protection encasement according to ASTM A 674 or AWWA C105.
2. Install copper tube and fittings according to CDA's "Copper Tube Handbook."

B. Install ductile-iron, water-service piping according to AWWA C600 and AWWA M41.

1. Install PE corrosion-protection encasement according to ASTM A 674 or AWWA C105.

C. Install PVC, AWWA pipe according to ASTM F 645 and AWWA M23.

D. Bury piping with depth of cover over top at least 30 inches , with top at least 12 inches below level of maximum frost penetration, and according to the following:

1. Under Driveways: With at least 36 inches cover over top.
2. In Loose Gravelly Soil and Rock: With at least 12 inches additional bedding.

E. Install piping by tunneling or jacking, or combination of both, under streets and other obstructions that cannot be disturbed.

F. Extend water-service piping and connect to water-supply source and building-water-piping systems at outside face of building wall in locations and pipe sizes indicated.

1. Terminate water-service piping at building wall until building-water-piping systems are installed. Terminate piping with caps, plugs, or flanges as required for piping material. Make connections to building-water-piping systems when those systems are installed.

G. Install underground piping with restrained joints at horizontal and vertical changes in direction. Use restrained-joint piping, thrust blocks, anchors, tie-rods and clamps, and other supports.

H. See Section 15140 "Domestic Water Piping" for potable-water piping inside the building.

3.5 JOINT CONSTRUCTION

A. Make pipe joints according to the following:

1. Copper-Tubing, Pressure-Sealed Joints: Use proprietary crimping tool and procedure recommended by copper, pressure-seal-fitting manufacturer.
2. Ductile-Iron Piping, Gasketed Joints for Water-Service Piping: AWWA C600 and AWWA M41.
3. Ductile-Iron Piping, Gasketed Joints for Fire-Service-Main Piping: UL 194.
4. PVC Piping Gasketed Joints: Use joining materials according to AWWA C900. Construct joints with elastomeric seals and lubricant according to ASTM D 2774 or ASTM D 3139 and pipe manufacturer's written instructions.
5. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.

a. Dielectric Fittings for NPS and Smaller: Use dielectric [unions.

b. Dielectric Fittings for NPS 2-1/2 to NPS 4 Use dielectric flanges [].
c. Dielectric Fittings for NPS 5 and Larger: Use dielectric flange kits.

3.6 ANCHORAGE INSTALLATION

A. Anchorage, General: Install water-distribution piping with restrained joints. Anchorages and restrained-joint types that may be used include the following:

1. Concrete thrust blocks.
2. Locking mechanical joints.
3. Set-screw mechanical retainer glands.
4. Bolted flanged joints.
5. Heat-fused joints.
6. Pipe clamps and tie rods.

B. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches. Include anchorages for the following piping systems:

1. Gasketed-Joint, Ductile-Iron, Water-Service Piping: According to AWWA C600.
2. Gasketed-Joint, PVC Water-Service Piping: According to AWWA M23.
3. Fire-Service-Main Piping: According to NFPA 24.

C. Apply full coat of asphalt or other acceptable corrosion-resistant material to surfaces of installed ferrous anchorage devices.

3.7 VALVE INSTALLATION

A. AWWA Gate Valves: Comply with AWWA C600 and AWWA M44. Install each underground valve with stem pointing up and with valve box.

B. AWWA Valves Other Than Gate Valves: Comply with AWWA C600 and AWWA M44.

C. UL/FMG, Gate Valves: Comply with NFPA 24. Install each underground valve and valves in vaults with stem pointing up and with vertical cast-iron indicator post.

D. UL/FMG, Valves Other Than Gate Valves: Comply with NFPA 24.

E. MSS Valves: Install as component of connected piping system.

F. Corporation Valves and Curb Valves: Install each underground curb valve with head pointed up and with service box.

3.8 DETECTOR-CHECK VALVE INSTALLATION

A. Install in vault.

B. Install for proper direction of flow. Install bypass with water meter, gate valves on each side of meter, and check valve downstream from meter.

C. Support detector check valves, meters, shutoff valves, and piping per plans and in accordance with KAW requirements.

3.9 WATER METER INSTALLATION

A. Install water meters, piping, and specialties according to utility company's written instructions.

3.10 ROUGHING-IN FOR WATER METERS

A. Rough-in piping and specialties for water meter installation according to utility company's written instructions.

3.11 VACUUM BREAKER ASSEMBLY INSTALLATION

A. Install pressure vacuum breaker assemblies of type, size, and capacity indicated. Include valves and test cocks. Install according to requirements of plumbing and health department and authorities having jurisdiction.

3.12 BACKFLOW PREVENTER INSTALLATION

A. Install backflow preventers of type, size, and capacity indicated. Refer to MEP plans. Include valves and test cocks. Install according to requirements of plumbing and health department and authorities having jurisdiction.

B. Support NPS 2-1/2 and larger backflow preventers, valves, and piping near floor and on brick or concrete piers.

3.13 WATER METER BOX INSTALLATION

A. Install water meter boxes in paved areas flush with surface.

B. Install water meter boxes in grass or earth areas with top 1/2 inches above surface.

3.14 CONCRETE VAULT INSTALLATION

A. Install precast concrete vaults according to ASTM C 891.

3.15 PROTECTIVE ENCLOSURE INSTALLATION

A. Install concrete base level and with top approximately 2 inches above grade.

B. Install protective enclosure over valves and equipment.

C. Anchor protective enclosure to concrete base.

3.16 FIRE HYDRANT INSTALLATION

A. General: Install each fire hydrant with separate gate valve in supply pipe, anchor with restrained joints or thrust blocks, and support in upright position.

B. Dry-Barrel Fire Hydrants: Install with valve below frost line. Provide for drainage.

C. AWWA Fire Hydrants: Comply with AWWA M17.

D. UL/FMG Fire Hydrants: Comply with NFPA 24.

3.17 FIRE DEPARTMENT CONNECTION INSTALLATION

A. Install ball drip valves at each check valve for fire department connection to mains.

3.18 ALARM DEVICE INSTALLATION

A. General: Comply with NFPA 24 for devices and methods of valve supervision. Underground valves with valve box do not require supervision.

B. Supervisory Switches: Supervise valves in open position.

1. Valves: Grind away portion of exposed valve stem. Bolt switch, with plunger in stem depression, to OS&Y gate-valve yoke.
2. Indicator Posts: Drill and thread hole in upper-barrel section at target plate. Install switch, with toggle against target plate, on barrel of indicator post.

C. Locking and Sealing: Secure unsupervised valves as follows:

1. Valves: Install chain and padlock on open OS&Y gate valve.
2. Post Indicators: Install padlock on wrench on indicator post.

D. Pressure Switches: Drill and thread hole in exposed barrel of fire hydrant. Install switch.

E. Water-Flow Indicators: Install in water-service piping in vault. Select indicator with saddle and vane matching pipe size. Drill hole in pipe, insert vane, and bolt saddle to pipe.

F. Connect alarm devices to building fire alarm system. Wiring and fire-alarm devices are specified in Section 13852 "Digital, Addressable Fire-Alarm System" and Section 13853 "Zoned (DC Loop) Fire-Alarm System."

3.19 CONNECTIONS

A. Connect water-distribution piping to interior [domestic water and fire-suppression piping.

3.20 FIELD QUALITY CONTROL

A. Piping Tests: Conduct piping tests before joints are covered and after concrete thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.

B. Hydrostatic Tests: Test at not less than one-and-one-half times working pressure for two hours.

1. Increase pressure in 50-psig increments and inspect each joint between increments. Hold at test pressure for 1 hour; decrease to 0 psig. Slowly increase again to test pressure and hold for 1 more hour. Maximum allowable leakage is 2 quarts per hour per 100 joints. Remake leaking joints with new materials and repeat test until leakage is within allowed limits.

C. Prepare reports of testing activities.

3.21 IDENTIFICATION

A. Install continuous underground detectable warning tape during backfilling of trench for underground water-distribution piping. Locate below finished grade, directly over piping. Underground warning tapes are specified in Section 312000 "Earth Moving."

3.22 CLEANING

A. Clean and disinfect water-distribution piping as follows:
1. Use purging and disinfecting procedure prescribed by Kentucky American Water.

B. Prepare reports of purging and disinfecting activities.

END OF SECTION 221113

SECTION 221123 – DOMESTIC WATER PUMPS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Domestic Water Circulators

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

C. Section 221000 - Plumbing Piping and Valves

1.3 QUALITY ASSURANCE

A. All drinking water system components that convey or dispense water for human consumption through drinking or cooking shall be “lead-free” in accordance with NSF/ANSI 61 and/or NSF/ANSI 372 standards and any and all state and local requirements.

B. Circulating pumps shall be rated to a maximum pressure of 145 PSI and temperature of 230 F and where applicable, bear the approved symbol of the required regulatory body (NSF/ANSI 61).

C. Electrical assemblies (circuitry, wiring terminals and internal connections) of the circulating pumps shall be certified and registered to bear the emblem of UL, CSA or ETL as required. Electrical assembly shall meet codes and standards established by national bodies.

D. The pumps shall be factory performance and hydrostatic tested as a complete unit prior to shipment. The testing shall be done in accordance with ISO 9906 Annex A.

1.4 WARANTY

A. The warranty period shall be a non-prorated period of 24 months from date of installation. Warranty shall cover pump, motor and terminal box as a complete unit.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Armstrong, Bell & Gossett, Grunfos, TACO and WILO USA.

2.2 GENERAL CHARACTERISTICS

A. Statically and dynamically balance rotating parts.

B. Pumps to operate at 1750 rpm maximum unless specified otherwise.

C. Provide all pumps 1/3 hp and larger with H.O.A. starters with 120V control transformer. See Section 220100 for details.

D. Integral phase failure relay shall be provided as a part of all three phase motor starters. Relay shall shut motor down on phase loss or phase unbalance and automatically reset when normal phasing is restored. Phase failure relay shall have adjustable restart time capabilities. Mechanical contractor shall coordinate staggered restart times as required.

2.3 VARIABLE SPEED WET ROTOR CIRCULATOR PUMPS

A. The pump shall be a maintenance-free, in-line, single stage, wet rotor type with the motor mounted directly to the pump chamber. The pump models shall be furnished as shown on the plans and installed in accordance with the recommendations of the manufacturer.

B. Materials and Construction

1. Circulating pumps shall be constructed with lead free, Stainless Steel, NSF-61 Annex G certified.
2. Shafts shall be constructed of high quality stainless steel.
3. Motor shall be a 4-pole permanent-magnet (PM motor) of the integrated variable speed drive design. Motor shall be cooled by the pumped fluid.
4. Motor bearings shall be metal-impregnated carbon.
5. Impellers with three-dimensional curved blades shall be constructed of polyphenylene (PPS) plastic, 40% glass filled, polyphenylene (PPE) plastic, 30% glass filled or polyether sulfone (PES), 30 % glass filled.
6. Control terminal box shall be poly carbonate or other high-quality composite with graphical pump display.

C. Controls, Operation and Diagnostics

1. Wet rotor, glandless inline circulating pumps shall include electronic variable speed control to operate at constant/variable differential pressure control without external sensors. Automatic night setback control available as standard using “self-taught” technology.
2. Pumps to include integrated synchronous motors using ECM technology with permanent magnetic rotors, special sensorless control electronics and single phase electronic converters.

3. Pumps to include Infra-red interface for wireless communication with the optional infra-red monitor.
4. Integrated overload motor protection shall protect the pump against over/under voltage, over temperature of motor and/or electronics, over current, locked rotor and dry run (no load condition).
5. Fault contact terminals shall be included in the terminal box and are to be potentially free, normally closed contacts that open on the event of a failure.
6. Interface modules will be included where specified, installed in the terminal box. The modules will allow BMS communication via LONworks, BACnet, MODbus, and 0 – 10-volt DC control of speed or head setpoint, external minimum speed, external off, dual pump communication and pump operation status.

PART 3 - EXECUTION

3.1 PUMP INSTALLATION

A. Install pumps in a manner to provide access to motors, impellers, couplings and accessories for periodic maintenance.

B. Pumps shall be independently supported as well as associated piping so that pump is not supported by piping and piping is not supported by pump.

C. The pump shall be installed with the motor shaft in a horizontal plane with no exceptions.

3.2 CONNECTIONS

A. See drawings and other Division 22 specifications for installation requirements and arrangement of piping, fittings and specialties.

B. Install all piping at pumps in a manner too allow for service and maintenance of pumps.

C. At piping connections to pumps, install valves the same size as piping.

1. For domestic water pumps, install check valve and throttling valve on discharge piping and shut-off valve and strainer on suction piping.

3.3 DEMONSTRATION

A. Provide owner’s maintenance personnel training as required to adjust, operate and maintain pumps.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Domestic Water Circulators	X	X	X	X	X			

END OF SECTION 221123

SECTION 221313 – EXTERIOR FACILITY SANITARY SEWERS

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipe and fittings.
2. Nonpressure couplings.
3. Expansion joints and deflection fittings.
4. Cleanouts.
5. Manholes.

1.3 DEFINITIONS

A. PVC: Polyvinyl Chloride Pipe.

1.4 SUBMITTALS

A. Product Data: For the following:

1. Expansion joints and deflection fittings.

2. Pipe and fittings

B. Shop Drawings: For manholes. Include plans, elevations, sections, details, and frames and covers.

C. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from sewer system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.

D. Product Certificates: For each type of cast-iron soil pipe and fitting, from manufacturer.

E. Field quality-control reports.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic manholes, pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage. In particular, the load shall be supported that the bottom rows of pipe are not damaged by crushing. Pipe shall be unloaded carefully and strung or stored as close to the final point of placement as is practical.

C. Handle manholes according to manufacturer's written rigging instructions.

1.6 PROJECT CONDITIONS

A. Interruption of Existing Sanitary Sewerage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Engineer or Owner no fewer than two days in advance of proposed interruption of service.
2. Do not proceed with interruption of service without Engineer's or Owner's written permission.

PART 2 - PRODUCTS

2.1 PVC PIPE AND FITTINGS FOR GRAVITY SEWER

A. PVC Sewer Piping:

1. Pipe: ASTM D 3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D 3034, PVC with bell ends.
3. Gaskets: ASTM F 477, elastomeric seals.
4. Pipe shall be homogenous throughout and free from cracks, holes, foreign inclusions or other defects. The pipe shall be as uniform as commercially practical in color. The workmanship, pipe dimensions and tolerances, outside diameters, wall thickness, eccentricity, sustained pressures, marking and all other requirements of the Commercial Standards CS 256-63 shall be conformed within all respects.

2.2 PVC PIPE AND FITTINGS FOR FORCE MAIN SEWER

1. Pipe: ASTM D 2241, SDR 21 (220 PSI), PVC Type pressure rated pipe with bell and spigot ends for sealed joints. Cell class 12454 per ASTM D 1784.
2. Fittings: Pipe and fittings shall be manufactured as a system and be the product of one manufacturers.
3. Pipe and fittings shall conform to NSF International Standard 61 or the health effects portion of NSF Standard 14.
4. Gaskets: ASTM F477
5. Standard lengths shall be 20 feet and 12.5 feet plus/minus 1 inch. All pipe shall be marked with the manufacturer's name, production lot number, ASTM designation, PVC and nominal diameter.

2.3 DUCTILE-IRON, GRAVITY SEWER PIPE AND FITTINGS

A. Pipe: ASTM A 746, for push-on joints.

B. Standard Fittings: AWWA C110, ductile or gray iron, for push-on joints.

C. Gaskets: AWWA C111, rubber.

D. Ductile iron pipe shall conform to the latest AWWA Specifications C151 (ANSI A21-51) with standard thickness as designated in AWWA C150. Thickness class shall be as follows:

DIAMETER	PRESSURE CLASS
8" - 12"	350
14" - 30"	250

2.4 NONPRESSURE-TYPE TRANSITION COUPLINGS

A. Mechanical Joint Fittings:

1. Mechanical joints shall be bolted and of the stuffing box type and shall consist of a bell with exterior flange and interior recess for the sealing gasket, a pipe or fitting plain end, a sealing gasket, a follower gland, tee-head bolts and hexagon nuts.

2. Joints for all bends and fittings for buried service shall be mechanical joint type only (AWWA C111). Flanged joint pipe shall be used in vaults, pits and above ground service installation. Flanged joint pipe may not be used for buried service.

B. Nonpressure-Type, Rigid Couplings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. ANACO-Husky.

2. Description: ASTM C 1461, sleeve-type, reducing- or transition-type mechanical coupling, molded from ASTM C 1440, TPE material; with corrosion-resistant-metal tension band and tightening mechanism on each end.

2.5 CLEANOUTS

A. Cast-Iron Cleanouts:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Josam Company.
    b. MIFAB, Inc.
    c. Smith, Jay R. Mfg. Co.
    d. Tyler Pipe.
    e. Watts Water Technologies, Inc.
    f. Zurn Specification Drainage Operation; Zurn Plumbing Products Group.

2. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, gray-iron cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.
3. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, cast-iron soil pipe and fittings.

2.6 MANHOLES

A. Standard Precast Concrete Manholes:

1. Description: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 48 inches minimum unless otherwise indicated.
3. Ballast: Increase thickness of precast concrete sections or add concrete to base section, as required to prevent flotation.
4. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section; with separate base slab or base section with integral floor.
5. Riser Sections: 4-inch minimum thickness, of length to provide depth indicated.
6. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated; with top of cone of size that matches grade rings.
7. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
8. Resilient Pipe Connectors: ASTM C 923, cast or fitted into manhole walls, for each pipe connection.
9. Steps: ASTM A 615/A 615M, deformed, 1/2-inch steel reinforcing rods encased in ASTM D 4101, PP; wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
10. Adjusting Rings: Interlocking HDPE rings, with level or sloped edge in thickness and diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.
11. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, with diameter matching manhole frame and cover, and with height as required to adjust manhole frame and cover to indicated elevation and slope.
12. Waterproof seal coating shall be applied to the exterior of all manholes.

13. Manholes over 12 feet deep shall utilize Class III concrete.

B. Manhole Frames and Covers:

1. Material: ASTM A 48/A 48M, Class 35 gray iron unless otherwise indicated.

C. Manhole Types:

1. Type "A" Manholes: The Type "A" manhole shall be a four foot diameter manhole five feet or more in depth, measured from the base of the cover frame to the lowest flowline elevation and shall be of eccentric cone top construction.

2. Type "AA" Manholes: The Type "AA" manhole shall be a five foot diameter manhole five feet or more in depth, measured from the base of the cover frame to the lowest flowline elevation and shall be of eccentric cone top construction.

3. Type "AAA" Manholes: The Type "AAA" manhole shall be a six foot diameter manhole five feet or more in depth, measured from the base of the cover frame to the lowest flowline elevation and shall be of eccentric cone top construction.

4. Type "B" Manholes: Type "B" manholes shall be a four foot diameter manhole five feet or less in depth, measured from the base of the cover frame to the lowest flowline elevation and shall be of flat slab top construction.

5. Type "D" Manholes: A drop pipe shall be provided for a sewer entering a manhole at an elevation of 25 inches or more above the manhole invert and shall be built as a part of the standard manhole. The pipe shall be laid as shown on the Drawings and encased with 3500 psi concrete from the drop stack to the reinforced base of the manhole.

2.7 CONCRETE

A. General: Cast-in-place concrete complying with ACI 318, ACI 350/350R, and the following:

1. Cement: ASTM C 150, Type II.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.
4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.

1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.

   a. Invert Slope: 1 percent through manhole.

2. Benches: Concrete, sloped to drain into channel.

   a. Slope: 4 percent.

D. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

E. Concrete Cradle, Anchors or Encasement:

1. Concrete cradle or encasement of sewer lines and/or fittings shall be placed where shown on the plans. Sewers on 19 percent slopes or greater shall be anchored securely with concrete anchors, spaced as follows:

   A) Not over 36 feet center to center on grades 19 percent and up to 35 percent.

   B) Not over 24 feet center to center on grades 35 percent and up to 50 percent

   C) Not over 16 feet center to center on grades 50 percent and over

2. Concrete shall be KYDOH Class "B" and shall be mixed sufficiently wet to permit it to flow under the pipe to form a continuous bed. In tamping concrete, care shall be taken not to disturb the grade or line of pipe or injure the joints.

3. For this contract, concrete for pipe encasement and anchors is considered an incidental item included in the linear foot price of pipe.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavating, trenching, and backfilling are specified in Division 310 Section "Earth Moving."

3.2 PIPING INSTALLATION

A. Contractor shall provide necessary leveling equipment to check the elevation of the flow line of the pipe as follows:

GRADE	FLOW LINE ELEVATION CHECK	ALLOWABLE ERROR
.004 - .008	Every 100 feet	± .03
.008 - .012	Every 150 feet	± .05
Above .012	Every 190 feet	± .07

B. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground sanitary sewer piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

C. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.

D. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

E. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

F. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.

G. Install gravity-flow, nonpressure, drainage piping according to the following:

1. Install piping pitched down in direction of flow, at minimum slope of 1 percent unless otherwise indicated.
2. Install piping NPS 6 and larger with restrained joints at tee fittings and at changes in direction. Use corrosion-resistant rods, pipe or fitting manufacturer's proprietary restraint system, or cast-in-place-concrete supports or anchors.
3. Install piping with 36-inch minimum cover.
4. Install PVC sewer piping according to ASTM D 2321 and ASTM F 1668.

H. Clear interior of piping and manholes of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, nonpressure, drainage piping according to the following:

1. Join PVC sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasket joints.
2. Join dissimilar pipe materials with nonpressure-type, rigid couplings.

B. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.

1. Use nonpressure flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.

a. Shielded flexible or rigidcouplings for pipes of same or slightly different OD.
b. Ring-type flexible couplings for piping of different sizes where annular space between smaller piping's OD and larger piping's ID permits installation.

3.4 MANHOLE INSTALLATION

A. General: Install manholes complete with appurtenances and accessories indicated.

B. Install precast concrete manhole sections with sealants according to ASTM C 891.

C. Form continuous concrete channels and benches between inlets and outlet.

D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 3 inches above finished surface elsewhere unless otherwise indicated.

E. Pipe entering and leaving manholes shall be installed a link seal compression device in accordance with ASTM d-2240, D412, s-395, d-297

F. Visual Inspection/Test: The ENGINEER shall visually inspect the manhole barrel, in the presence of the CONTRACTOR, after CONTRACTOR completes the preparatory cleaning activities. If the Engineer's visual inspection reveals obvious defects such as a poorly formed invert, misaligned frame and lid, cracks, leakage, or if the inspection reveals that the CONTRACTOR has not constructed the manhole plumb, the ENGINEER shall notify the CONTRACTOR and OWNER in writing of the manhole’s failing the visual inspection. The CONTRACTOR shall subsequently repair or replace all defective materials and/or workmanship, necessary to meet the visual test requirements, at no additional cost to the OWNER.

G. Leakage: The ENGINEER will direct the CONTRACTOR to conduct leakage tests if the manhole is located in an area of unusually high ground water, if the manhole is located within the limits of a stream course, or if, in the ENGINEER's opinion the manhole has not been constructed well. The CONTRACTOR shall subsequently conduct a leakage test in the presence of the ENGINEER. The leakage test shall be an exfiltration test conducted in accordance with ASTM C 969, Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines. The maximum allowable exfiltration rate shall be 0.1 gallon per foot of diameter, per foot of head, per hour. If the exfiltration rate exceeds this value, the CONTRACTOR shall make the necessary repairs, at no additional cost to the OWNER.

3.5 INSTALLATION OF FORCE MAINS

A. General. Before any length of pipe is placed in the trench, make a careful inspection to see that no foreign material is in the pipe. In order to properly remove any foreign materials, a swab of necessary length is to be available at all times. All pipe shall be lowered carefully into the trench, properly aligned and properly jointed by use of suitable tools and equipment, in such manner as

to prevent damage to protective coatings and linings. Excessive scratching of the exterior surface of the pipe will be cause for rejection of the pipe.

Under no circumstances shall pipeline materials be dropped or dumped into the trench. The pipe and fittings shall also be inspected for the purpose of determining if they are sound and free from cracks. Laying of pipe shall be commenced immediately after excavation is started. Pipe shall be laid with bell ends facing in the direction of laying.

When pipe laying is not in progress, the open ends of pipe shall be closed to prevent entrance of trench water into the line. Whenever water is excluded from the interior of the pipe, adequate backfill shall be deposited on the pipe to prevent floating. Any pipe which has floated shall be removed from the trench and installed properly. No pipe shall be laid in water or on frozen trench bottom or whenever the trench conditions or the weather are unsuitable for such work.

If any defective pipe and fittings shall be discovered after the pipeline is laid, they shall be removed and replaced with a satisfactory pipe or fitting without additional charge to the Owner. Open ends of unfinished pipelines shall be securely plugged or closed at the end of each day's work or when the line is left temporarily at any other time.

B. Thrust Blocking and Anchorage. All angles or bends in the pipeline, either vertical or horizontal, shall be braced or anchored against the tendency of movement with concrete thrust blocking. Where joint harness is used, all component parts shall be stainless steel. Cost of installing concrete thrust blocking or joint harness materials shall be considered incidental to installing the line. Thrust blocks for plastic pipe will not be attached to couplings.

C. Pipe Bedding. Standard Pipe Bedding. The standard pipe bedding shall be evenly spread fine granular earth material or bank run sand and gravel or dense graded aggregate as shown on the PLANS.

D. Special Pipe Foundation. When ordered by the Engineer, yielding and mucking material in subgrade shall be removed below ordinary trench depth in order to prepare a proper bed for the pipe. In such locations, a special pipe foundation shall be constructed utilizing encasement class concrete.

E. Standard Concrete Encasement. Concrete encasement of pipe shall be placed as directed by the Engineer. Concrete shall form a continuous bed under pipe. In tamping concrete, care should be taken not to disturb the grade or line of the pipe or injure the joints.

F. Parallel Water and Sewer Lines. Water lines must, if possible, be located a minimum lateral distance of 10 feet from any existing or future sewer lines measured from outside diameters. Where water lines and sewer lines must be placed in the same trench, the water line must be located above the sewer line such that there is a minimum of 18” vertical distance between the outside of the water line and the outside of the sewer line.

G. Crossing Water and Sewer Lines. Wherever sewer lines and water lines cross, it is desirable, if practical, that the sewer line be at least 24 inches below the water line. Where it is not practical to provide such a separation, care shall be taken to ascertain that the existing water line or existing sewer line is in good sound condition and that no evidence of joint leakage is known in that vicinity. If any such evidence does exist, expose the existing line at least 10 feet on each side of the water line crossing. The Owner will arrange for examining and correcting any defects in the

existing lines. When the water line must be below or less than two feet above the sewer line, encase the water line five feet in each direction from the crossing.

3.6 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318.

3.7 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts, and use cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.

1. Use Heavy-Duty, top-loading classification cleanouts in all areas.

B. Set cleanout frames and covers in earth in cast-in-place-concrete block, 12 by 12 by 12 inches deep. Set with tops 1 inch above surrounding grade.

C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.8 CONNECTIONS

A. Connect nonpressure, gravity-flow drainage piping to building's sanitary building drains specified in Division 220 Section "Sanitary Waste and Vent Piping."

B. Make connections to existing piping and underground manholes.

1. Make branch connections to underground manholes by cutting opening into existing unit large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe or manhole wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.

    a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.
    b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.

2. Protect existing piping and manholes to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

3.9 IDENTIFICATION

A. Materials and their installation are specified in Division 312 Section "Earth Moving." Arrange for installation of green warning tapes directly over piping and at outside edges of underground manholes.

1. Use detectable warning tape over nonferrous piping and over edges of underground manholes.

3.10 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate report for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Prior to owner acceptance, piping systems shall be tested according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Hydrostatic Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction and the following:

    a. Fill sewer piping with water. Test with pressure of at least 10-foot head of water, and maintain such pressure without leakage for at least 15 minutes.
    b. Close openings in system and fill with water.
    c. Purge air and refill with water.
    d. Disconnect water supply.
    e. Test and inspect joints for leaks.

6. Air Tests: Test sanitary sewerage according to requirements of authorities having jurisdiction, UNI-B-6, and the following:

    a. Option: Test plastic gravity sewer piping according to ASTM F 1417.
    b. Option: Test concrete gravity sewer piping according to ASTM C 924.

7. Manholes: Perform hydraulic test according to ASTM C 1244.

8. Force Mains: The Contractor will be required to test all pipelines and appurtenances with water at pressure class of pipe installed. The pipe shall be slowly filled with water, care being taken to expel all air from the pipes. If necessary, the pipe shall be tapped at high points to vent the air. Pressure at least equal to 150 PSI (or the operating pressure if higher) as measured at the point of lowest elevation shall be applied for not less than one hour and all pipes, fittings, valves, hydrants and joints shall be carefully examined for defects or leakage. Any observed leakage shall be corrected.

    a. The pipe pressure must be held at 150 PSI for one hour before beginning the test for leakage. No pipe shall be accepted unless or until the leakage, determined by this test, is less than 10 U.S. gallons over 24 hours, per mile, per inch nominal diameter of pipe. The leakage test shall be applied to the pipe for a period of not less than 4 hours.
    b. The test shall be made between valves as far as practical in sections of pipe and shall, in general, be made within twelve working days of the completion of each section of line.
    c. Furnish a suitable pump, pressure gauge and water meter or other appliance for measuring the amount of water pumped. The instrument used to measure leakage shall be tested for accuracy. Furnish all necessary labor and materials to make the test and to perform any work incidental thereto. Where it is impractical to test between the valves, temporarily place caps and plugs on the lines and test sections of the new line.
    d. Wherever practicable, corporation stops and service lines shall be installed before testing. If these items are installed after the main is tested, then a visual inspection of the tap and service line must be permitted while under pressure before backfilling service line.
    e. Where any section of the main is provided with concrete thrust blocking, the hydrostatic pressure test shall not be made until at least five days have elapsed after the concrete reaction blocking was installed. If high early strength cement is used in the reaction blocking, the hydrostatic pressure test shall not be made until at least two days have elapsed.
    f. Should there be leakage over the allowable amount, the Contractor will be required to locate and repair the leaks and retest the section. It is suggested, but not required, that the Contractor have a geophone (underground listening device) on the job at the time of testing.
    g. If the leakage of the section of pipeline being tested is below the allowable amount, but leakage is obvious due to water at the surface of the ground, or by listening the leak can be heard underground with a geophone, or any other means of determining a leak, the Contractor will be required to repair these leaks.
    h. The Contractor shall furnish a meter or suction tank, pipe test plugs and by-pass piping and make all connections for conducting the above tests. The pumping equipment used shall be centrifugal pump, or other pumping equipment which will not place shock pressures on the pipeline. Power plunger or positive displacement pumps will not be permitted for use on closed systems for any purpose.
    i. Inspection of pipe laying shall in no way relieve the Contractor of the responsibility for stopping leakage or correcting poor workmanship.

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.11 CLEANING

A. Clean dirt and superfluous material from interior of piping. Flush with potable water.

END OF SECTION 22 1313

SECTION 221319 – SANITARY AND STORM PIPING SPECIALTIES

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Manholes

B. Cleanouts

C. Floor Drains

D. Roof Drains

E. Drainage Piping Specialties

1.2 RELATED WORK

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

C. Section 221000 - Plumbing Piping

D. Section 224200 - Plumbing Fixtures

1.3 REFERENCES

A. ASTM C478 - Precast Reinforced Concrete Manhole Sections

1.4 QUALITY ASSURANCE

A. Manufacturer: For each product specified, provide components by same manufacturer throughout.

B. Products listed in schedule on drawings shall determine quality and grade required. If other than those listed in schedule are to be used, equivalent or parallel grade shall be used.

C. All drains shall be constructed of the finest quality cast iron, coated with the manufacturer's standard protective paint and furnished with all items specified. Drain shall be as manufactured by Josam, Sioux Chief, Smith, Wade, Watts and Zurn.

PART 2 - PRODUCTS

2.1 MANHOLES

A. Concrete blocks or standard reinforced precast concrete sections in accordance with ASTM C 478 laid on cast-in-place reinforced concrete foundation pad.

B. Formed bottom manholes shall be 48-inch diameter with standard cast iron manhole cover, with minimum sized pick hole, and frame. Use heavy duty cover and frame in vehicular traffic areas. Provide 3/4-inch diameter galvanized steel steps on 16-inch centers.

2.2 CLEANOUTS

A. Provide cleanouts as detailed and specified on Drawings. Cleanout types are as follows:

1. Exposed Cast Iron Cleanouts
2. Cast Iron Floor Cleanouts
3. Cast Iron Wall Cleanouts

B. Manufactured by Josam, MIFAB, J.R. Smith, Sioux Chief, Watts, and Zurn.

2.3 FLOOR DRAINS

A. Provide floor drains as detailed and specified on Drawings. Floor drain types are as follows:

1. Cast Iron Floor Drains
2. Manufactured by Josam, MIFAB, J.R. Smith, Sioux Chief, Watts, and Zurn.

2.4 ROOF DRAINS

A. Provide roof drains as detailed and specified on Drawings. Roof drain types are as follows:

1. Cast Iron, Large, Medium, or Small Sump General Purpose Roof Drain
2. Manufacturer by Josam, MIFAB, J.R. Smith, Sioux Chief, Watts and Zurn.

2.5 MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES

A. Open Drains (receptacles):

1. Description: Shop or field fabricated from ASTM A 74, Service class hub-and- spigot cast-iron, soil-pipe fittings or Schedule 40 PVC. Include P-trap, hub-and-spigot riser section: and where required, increaser fitting.

B. Floor Drain, Trap-Seal Primer Fittings

1. Description: Cast iron, with threaded inlet and threaded or spigot outlet, and trap-seal primer valve connection. Size: Same as floor drain outlet with NPS ½ side inlet.

C. Air-Gap Fittings

1. ASME A112.1.12, for fitting designed to ensure fixed, positive air gap between installed inlet and outlet piping. Bronze or cast-iron body.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install specialties in accordance with manufacturer's instructions to permit intended performance.

B. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:

1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
2. Locate at each change in direction of piping greater than 45 degrees.
3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
4. Locate at base of each vertical soil and waste stack.

C. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

D. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.

E. Install floor drains at low points of surface areas to be drained. Set grates of drains flush with finished floor, unless otherwise indicated.

1. Position floor drains for easy access and maintenance.
2. Install floor-drain flashing collar or flange so no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes where penetrated.

F. Assemble open drain fittings and install with top of hub 1 inch above floor.

G. Install floor-drain, trap-seal primer fittings on inlet to floor drains that require trap-seal primer connection.

1. Exception: Fitting may be omitted if trap has trap-seal primer connection.
2. Size: Same as floor drain inlet.

H. Install grease interceptors, including trapping, venting, and flow-control fitting, according to authorities having jurisdiction and with clear space for servicing.

1. Above-Floor Installation: Set unit with bottom resting on floor, unless otherwise indicated.
2. Flush with Floor Installation: Set unit and extension, if required, with cover flush with finished floor.

3. Recessed Floor Installation: Set unit in receiver housing having bottom or cradle supports, with receiver housing cover flush with finished floor.
4. Install cleanout immediately downstream from interceptors not having integral cleanout on outlet.

I. Install roof drains at low points of roof areas according to roof membrane manufacturer's written installation instructions.

1. Install flashing collar or flange of roof drain to prevent leakage between drain and adjoining roofing. Maintain integrity of waterproof membranes where penetrated.
2. Position roof drains for easy access and maintenance.

3.2 PROTECTION

A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.

B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Manholes	X	X						
Cleanouts	X	X						
Floor Drains	X	X						
Roof Drains	X	X						
Drainage Piping Specialties	X	X						

END OF SECTION 221319

SECTION 221429 – SUMP PUMPS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Submersible, Fixed-Position, Single –Seal Sump Pumps

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - General Provisions for Plumbing Work

C. Section 221000 - Plumbing Piping and Valves

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Armstrong, Bell & Gossett, Ebara, Flo Fab, Gould, Little Giant, Peerless, Vertiflo, Weil, Weinman, and Zoeller.

2.2 GENERAL CHARACTERISTICS

A. Statically and dynamically balance rotating parts.

B. Pumps to operate at 1750 rpm maximum unless specified otherwise.

C. Provide all pumps 1/3 hp and larger with H.O.A. starters with 120V control transformer. See Section 220100 for details.

D. Integral phase failure relay shall be provided as a part of all three phase motor starters. Relay shall shut motor down on phase loss or phase unbalance and automatically reset when normal phasing is restored. Phase failure relay shall have adjustable restart time capabilities. Mechanical contractor shall coordinate staggered restart times as required.

2.3 SUBMERSIBLE, FIXED-POSITION, SINGLE SEAL SUMP PUMPS

A. Description: Factory-assembled and -tested sump-pump unit, (simplex or duplex arrangement as specified).

B. Pump Type: Submersible, end-suction, single-stage, close-coupled, overhung-impeller, centrifugal sump pump.

C. Pump Casing: Cast iron, with strainer inlet, legs that elevate pump to permit flow into impeller, and vertical discharge for piping connection.

D. Impeller: Statically and dynamically balanced, ASTM B 584, cast bronze, semi open design for clear wastewater handling, and keyed and secured to shaft.

E. Pump and Motor Shaft: Stainless steel or steel, with factory-sealed, grease-lubricated ball bearings.

F. Seal: Mechanical.

G. Motor: Hermetically sealed, capacitor-start type; with built-in overload protection; lifting eye or lug; and three-conductor, waterproof power cable of length required and with grounding plug and cable-sealing assembly for connection at pump.

H. Controls:

1. Enclosure: NEMA 250, pedestal or wall mounted.
2. Switch Type: Mechanical-float type, in NEMA 250, Type 6 enclosures with mounting rod and electric cables.
3. Automatic Alternator (for duplex arrangements): Start pumps on successive cycles and start multiple pumps if one cannot handle load.
4. High-Water Alarm: Rod-mounted, NEMA 250, Type 6 enclosure with mechanical-float, switch matching control and electric bell; 120-V ac, with transformer and contacts for remote alarm bell.

I. Control-Interface Features:

1. Remote Alarm Contacts: For remote alarm interface.
2. Building Automation System Interface: Auxiliary contacts in pump controls for interface to building automation system and capable of providing the following:

    a. On-off status of pump.
    b. Alarm status.

PART 3 - EXECUTION

3.1 PUMP INSTALLATION

A. Install pumps in a manner to provide access to motors, impellers, couplings and accessories for periodic maintenance.

B. Pumps shall be independently supported as well as associated piping so that pump is not supported by piping and piping is not supported by pump.

3.2 CONNECTIONS

A. See drawings and other Division 22 specifications for installation requirements and arrangement of piping, fittings and specialties.

B. Install all piping at pumps in a manner too allow for service and maintenance of pumps.

C. At piping connections to pumps, install valves the same size as piping.

1. For sump pumps, install check and shut-off valves on discharge piping.

3.3 DEMONSTRATION

A. Provide owner's maintenance personnel training as required to adjust, operate and maintain pumps.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Sump Pumps	X	X	X	X	X			

END OF SECTION 221429

SECTION 223400 – FUEL FIRED DOMESTIC WATER HEATERS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Gas-Fired, High Efficiency, Storage, Domestic Water Heaters

B. Expansion Tank

C. Stand-alone Storage Tanks

D. Venting

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - GENERAL PROVISIONS FOR PLUMBING WORK

C. Section 221000 - PLUMBING PIPING AND VALVES

1.3 QUALITY ASSURANCE

A. Insure products and installation of specified products are in conformance with recommendations and requirements of the following organizations:

1. National Sanitation Foundation (NSF).
2. American Society of Mechanical Engineers (ASME).
3. National Board of Boiler and Pressure Vessel Inspectors (NBBPVI).
4. National Electrical Manufacturers' Association (NEMA).
5. Underwriters Laboratories (UL).
6. American Gas Association (AGA)
7. National Fire Protection Association (NFPA)

PART 2 - PRODUCTS

2.1 GAS-FIRED, HIGH-EFFICIENCY, STORAGE DOMESTIC WATER HEATER

A. Acceptable Manufacturers

1. State, A.O. Smith, Rheem, PVI, or Lochinvar, gas water heater of size as shown on drawings.

B. Standard: ANSI Z21.10.3/CSA 4.3. Manufacturer's proprietary design to provide at least 95 percent minimum combustion efficiency at optimum operating conditions.

C. Storage-Tank Construction: ASME-code steel with 150-psig minimum working pressure rating.

1. Tappings: Factory fabricated of materials compatible with tank. Attach tappings to tank before testing.

a. NPS 2 and Smaller: Threaded ends according to ASME B1.20.1.
b. NPS 2-1/2 and Larger: Flanged ends according to ASME B16.5 for steel and stainless-steel flanges and according to ASME B16.24 for copper and copper-alloy flanges.

2. Interior Finish: Comply with NSF 61 Annex G barrier materials for potable-water tank linings, including extending finish into and through tank fittings and outlets.
3. Lining: Glass lined complying with NSF 61 Annex G barrier materials for potable-water tank linings, including extending lining into and through tank fittings and outlets.

D. Factory-Installed Storage-Tank Appurtenances:

1. Anode Rod: Replaceable magnesium.
2. Dip Tube: Required unless cold-water inlet is near bottom of tank.
3. Drain Valve: Corrosion-resistant metal complying with ASSE 1005.
4. Insulation: Comply with ASHRAE/IESNA 90.1. Surround entire storage tank except connections and controls.
5. Jacket: Steel with enameled finish.
6. Burner or Heat Exchanger: Comply with UL 795 or approved testing agency requirements for gas-fired, high-efficiency, domestic-water heaters and natural-gas fuel.
7. Temperature Control: Adjustable thermostat.
8. Safety Controls: Automatic, high-temperature-limit and low-water cutoff devices or systems.
9. Combination Temperature-and-Pressure Relief Valves: ANSI Z21.22/CSA 4.4-M. Include one or more relief valves with total relieving capacity at least as great as heat input, and include pressure setting less than domestic-water heater working-pressure rating. Select one relief valve with sensing element that extends into storage tank.

E. Provide ASME rating on all water heaters with an input rating of 200,000 Btuh and above.

2.2 GAS-FIRED, TANKLESS, DOMESTIC WATER HEATERS

A. Acceptable Manufacturers

1. Bosch, Noritz, Rheem, Rinnia, A.O. Smith, State and Takagi, gas water heater of size as shown on drawings.

B. Standard: ANSI Z21.10.3/CSA 4.3 for gas-fired, instantaneous, domestic-water heaters for indoor application.

C. Construction: Copper piping or tubing complying with NSF 61 Annex G barrier materials for potable water, without storage capacity.

1. Tappings: ASME B1.20.1 pipe thread.
2. Pressure Rating: 150 psig.
3. Heat Exchanger: Copper tubing.
4. Insulation: Comply with ASHRAE/IESNA 90.1 or ASHRAE 90.2.
5. Jacket: Metal, with enameled finish, or plastic.
6. Burner: For use with tankless, domestic-water heaters and natural-gas or LP-gas fuel.
7. Automatic Ignition: Manufacturer's proprietary system for automatic, gas ignition.
8. Temperature Control: Adjustable thermostat.

D. Support: Bracket for wall mounting.

2.3 DIAPHRAGM - TYPE EXPANSION TANKS

A. Acceptable Manufacturers

1. Amtrol, State or Watts for potable water.

B. Construction: Welded steel, tested and stamped in accordance with Section 8D of ANSI/ASME Code; supplied with National Board Form U-1, rated for working pressure of 125 psig, with flexible EPDM diaphragm sealed into tank, and steel legs or saddles.

2.4 STAND-ALONE STORAGE TANKS

A. Acceptable Manufacturers

1. State, A.O. Smith, Lochinvar PVI, or Rheem.

B. Insulation to be 2" thick polyurethane foam that prevents heat loss as effectively as 5-1/2" of standard fiberglass.

C. Glass lined tank featuring a durable, high silica that is best suited for commercial water tanks. Must be ASME rated.

D. Anode Rod suspended in tank to provide electrolytic protection against rust.

E. Separate T&P Valve Opening provided for installation of a properly sized Temperature and Pressure Relief Valve.

F. Welded Steel Couplings with no internal threads to rust or corrode.

G. Brass Drain Valve with long shank for easy hose connection.

H. Handhole Cleanout for easy access to tank interior for periodic inspection.

I. Maximum Hydrostatic Working Pressure: ASME 160 psi. Meet performance criteria set forth in ASHRAE 90.lb 1992 requirements and IMC Code.

PART 3 - EXECUTION

3.1 DOMESTIC WATER HEATER INSTALLATION

A. Install water heaters in accordance with manufacturer’s instructions and to all relevant NFPA, ASME and NSP requirements.

B. Storage Domestic Water Heater Mounting: Install domestic-water heaters on concrete base. Comply with requirements for concrete base.

1. Exception: Omit concrete bases for commercial domestic-water heaters if installation on stand, bracket, suspended platform, or directly on floor is indicated.
2. Maintain manufacturer's recommended clearances.
3. Arrange units so controls and devices that require servicing are accessible.
4. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
5. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
6. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
7. Install anchor bolts to elevations required for proper attachment to supported equipment.
8. Anchor domestic-water heaters to substrate.

C. Tankless, Domestic-Water Heater Mounting: Install tankless, domestic-water heaters at least 18 inches above floor on wall bracket.

1. Maintain manufacturer's recommended clearances.
2. Arrange units so controls and devices that require servicing are accessible.
3. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
4. Install anchor bolts to elevations required for proper attachment to supported equipment.
5. Anchor domestic-water heaters to substrate.

D. Install domestic-water heaters level and plumb, according to layout drawings, original design, and referenced standards. Maintain manufacturer's recommended clearances. Arrange units so controls and devices needing service are accessible.

1. Install shutoff valves on domestic-water-supply piping to domestic-water heaters and on domestic-hot-water outlet piping.

E. Install gas-fired, domestic-water heaters according to NFPA 54.

1. Install gas shutoff valves on gas supply piping to gas-fired, domestic-water heaters without shutoff valves.
2. Install gas pressure regulators on gas supplies to gas-fired, domestic-water heaters without gas pressure regulators if gas pressure regulators are required to reduce gas pressure at burner.
3. Install automatic gas valves on gas supplies to gas-fired, domestic-water heaters if required for operation of safety control.

F. Install combination temperature-and-pressure relief valves in top portion of storage tanks. Use relief valves with sensing elements that extend into tanks. Extend water-heater relief-valve outlet, with drain piping same as domestic-water piping in continuous downward pitch, and discharge by positive air gap onto closest floor drain.

G. Install water-heater drain piping as indirect waste to spill by positive air gap into open drains or over floor drains.

H. Install thermometer on outlet piping of domestic-water heaters.

I. Assemble and install inlet and outlet piping manifold kits for multiple domestic-water heaters. Fabricate, modify, or arrange manifolds for balanced water flow through each domestic-water heater. Include shutoff valve and thermometer in each domestic-water heater inlet and outlet, and throttling valve in each domestic-water heater outlet.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Fuel-Fired Water Heaters	X	X	X	X	X	X		
Expansion Tanks	X	X	X	X				
Storage Tanks	X	X	X	X				
Venting	X	X	X	X				

END OF SECTION 223400

SECTION 224200 – PLUMBING FIXTURES AND EQUIPMENT

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Water Closets

B. Urinals

C. Lavatories

D. Stainless Steel Sinks

E. Service Sinks

F. Electric Water Coolers

G. Mop Basins

H. Showers

I. Shower Trim

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - GENERAL PROVISIONS FOR PLUMBING WORK

C. Section 211000 - PLUMBING PIPIING AND VALVES

1.3 GENERAL REQUIREMENTS

A. All plumbing fixtures and their installation shall conform to the requirements of the Kentucky State Plumbing Code.

B. Exposed metal work shall be bright chrome-plated brass except as noted.

C. All fixtures shall be by the same manufacturer.

D. All ADA accessible water closets provided with manual flush valve/trip lever shall have the flush valve handle/trip lever mounted on the wide(open) side of the water closet.

E. All drinking water system components that convey or dispense water for human consumption through drinking or cooking shall be “lead-free” in accordance with NSF/ANSI 61 and/or NSF/ANSI 372 standards and any and all state and local requirements.

F. Provide all plumbing fixtures complete with trim required, and connect in a manner conforming to the state and local plumbing codes. Certain fixtures will be furnished by others under other sections of these Specifications. Provide rough-in and final connections including all valves, traps, specialties, etc. required.

G. Provide traps for all waste connections where not furnished with the fixture and or equipment; unions; and stops or shut-off valves for all water connections to all sinks and other items of equipment as required. All exposed pipe and metal, including that within cabinets, shall be chrome plated brass.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Acorn, Ancorn Aqua, American Standard, Bemis, Briggs/Proflo, Chicago, Clarion Bathware, Church, Component Hardware, Crane, Delany, Delta, Eljer, Elkay, Encon, Fiat, Guardian, Haws, Intersan, Jay R. Smith, Just, Kohler, Lawler, Leonard, Moen, Murdock, Mustee, Oasis, Olsonite, Powers, Sioux Chief, Sloan, Speakman, Stearn-Williams, Stingray Systems, Symmons, T&S Brass, Toto, Willoughby, Watersaver, Watts and Zurn. SEE SCHEDULES ON DRAWINGS.

B. Products listed in schedule on drawings shall determine quality and grade required. If other than those listed in schedule are to be used, equivalent or parallel grade shall be used.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for potable, hot- and cold-water supply piping systems; soil, waste, and vent piping systems; and supports. Verify that locations and sizes of piping and locations and types of supports match those indicated, before installing and connecting fixtures. Use manufacturer's roughing-in data when roughing-in data are not indicated.

B. Examine walls, floors, and cabinets for suitable conditions where fixtures are to be installed.

C. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PLUMBING FIXTURE INSTALLATION

A. Assemble plumbing fixtures and trim, fittings, faucets, and other components according to manufacturers' written instructions.

B. Install fixtures level and plumb according to manufacturers' written instructions, roughing-in drawings, and referenced standards.

C. Install floor-mounted, back-outlet water closets with fittings and gasket seals.

D. Install wall-hanging, back-outlet water closets with support manufacturer's tiling frame or setting gage.

E. Install wall-hanging, back-outlet urinals with gasket seals.

F. Install flush valves for accessible water closets and urinals with handle mounted on wide side of compartment. Install other actuators in locations that are easy for handicapped people to reach.

G. Fasten wall-hanging plumbing fixtures securely to supports attached to building substrate when supports are specified, and to building wall construction where no support is indicated.

H. Fasten recessed, wall-mounted fittings to reinforcement built into walls.

I. Fasten wall-mounted fittings to reinforcement built into walls.

J. Fasten counter-mounting plumbing fixtures to casework.

K. Secure supplies to supports or substrate within pipe space behind fixture.

L. Set shower receptors and mop basins in leveling bed of cement grout as specified by Architect.

M. Install individual stop valve in each water supply to fixture. Use gate or globe valve where specific stop valve is not specified.

N. Exception: Omit stop valves on supplies to emergency equipment, except when permitted by authorities having jurisdiction. When permitted, install valve chained and locked in OPEN position.

O. Install water-supply stop valves in accessible locations.

P. Install faucet, laminar-flow fittings with specified flow rates and patterns in faucet spouts when faucets are not available with required rates and patterns. Include adapters when required.

Q. Install supply, flow-control fittings with specified flow rates in fixture supplies at stop valves.

R. Install shower, flow-control fittings with specified maximum flow rates in shower arms.

S. Install traps on fixture outlets. Omit traps on fixtures having integral traps. Omit traps on indirect wastes, except where otherwise indicated.

T. Install disposers in sink outlets. Install switch where indicated, or in wall adjacent to sink if location is not indicated.

U. Install escutcheons at wall, floor, and ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons where required to conceal protruding pipe fittings.

V. Seal joints between fixtures and walls, floors, and counters using sanitary-type, 1-part, mildew-resistant, silicone sealant. Coordinate this requirement with Architectural trades.

3.3 CONNECTIONS

A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties. The following are specific connection requirements:

B. Install piping connections between plumbing fixtures and piping systems and plumbing equipment specified in other Division 22 Sections.

C. Supply and Waste Connections to Plumbing Fixtures: Refer to plumbing fixture schedules for fitting sizes and connection requirements for each plumbing fixture.

D. Supply and Waste Connections to Equipment Specified in Other Sections: Connect equipment with supply inlets, supply stops, supply risers, and traps specified in this Section. Use fitting sizes required to match connected equipment. Connect fittings to plumbing piping.

E. Arrange for electric-power connections to fixtures and devices that require power. Electric power is specified in Division 26 Sections and individual equipment sections.

3.4 FIELD QUALITY CONTROL

A. Verify that installed fixtures are categories and types specified for locations where installed.

B. Check that fixtures are complete with trim, faucets, fittings, and other specified components.

C. Inspect installed fixtures for damage. Replace damaged fixtures and components.

D. Test installed fixtures after water systems are pressurized and demonstrate proper operation. Replace malfunctioning fixtures and components, then retest. Repeat procedure until units operate properly.

3.5 ADJUSTING AND CLEANING

A. Operate and adjust faucets and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.

B. Operate and adjust disposers, hot-water dispensers, and controls. Replace damaged and malfunctioning units and controls.

C. Adjust water pressure at drinking fountains, electric water coolers, faucets, shower valves, and flushometer valves having controls, to produce proper flow and stream.

D. Replace washers and seals of leaking and dripping faucets and stops.

E. Clean fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials. Include the following:

1. Remove faucet spouts and strainers, remove sediment and debris, and reinstall strainers and spouts.
2. Remove sediment and debris from drains.

3.6 PROTECTION

A. Provide protective covering for installed fixtures and fittings.

B. Do not allow use of fixtures for temporary facilities, except when approved in writing by Owner.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Water Closets	X	X						
Urinals	X	X		X				
Lavatories	X	X		X				
Stainless Steel Sinks	X	X		X				
Service Sinks	X	X		X				
Electric Water Coolers	X	X		X	X			
Mop Basins	X	X		X				
Showers	X	X		X				
Shower Trim	X	X		X				

END OF SECTION 224200

SECTION 224500 - EMERGENCY PLUMBING FIXTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Combination units.
2. Water-tempering equipment.

1.3 DEFINITIONS

A. Accessible Fixture: Emergency plumbing fixture that can be approached, entered, and used by people with disabilities.

B. Plumbed Emergency Plumbing Fixture: Fixture with fixed, potable-water supply.

C. Self-Contained Emergency Plumbing Fixture: Fixture with flushing-fluid-solution supply.

D. Tepid: Moderately warm.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include flow rates and capacities, furnished specialties, and accessories.

B. Shop Drawings: Diagram power, signal, and control wiring.

1.5 INFORMATIONAL SUBMITTALS

A. Field quality-control test reports.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For emergency plumbing fixtures to include in operation and maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Flushing-Fluid Solution: Separate lot and equal to at least 200 percent of amount of solution installed for each self-contained unit.

1.8 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. ANSI Standard: Comply with ANSI Z358.1, "Emergency Eyewash and Shower Equipment."

C. NSF Standard: Comply with NSF 61 Annex G, "Drinking Water System Components - Health Effects," for fixture materials that will be in contact with potable water.

PART 2 - PRODUCTS

2.1 COMBINATION UNITS

A. Plumbed Emergency Shower with Eyewash Combination Units,:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Acorn Safety.
b. Bradley Corporation.
c. Guardian Equipment Co.

2. See plans and schedules for product details.

2.2 WATER-TEMPERING EQUIPMENT

A. Hot- and Cold-Water, Water-Tempering Equipment,:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Acorn Safety.
b. Bradley Corporation.
c. Guardian Equipment Co.

2. Description: Factory-fabricated equipment with thermostatic mixing valve.

a. Thermostatic Mixing Valve: Designed to provide 70 deg F tepid, potable water at emergency plumbing fixtures, to maintain temperature at plus or minus 5 deg F throughout required 15-minute test period, and in case of unit failure to continue cold-water flow, with union connections, controls, metal piping, and corrosion-resistant enclosure.
b. Supply Connections: For hot and cold water.

2.3 SOURCE QUALITY CONTROL

A. Certify performance of emergency plumbing fixtures by independent testing organization acceptable to authorities having jurisdiction.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for water piping systems to verify actual locations of piping connections before plumbed emergency plumbing fixture installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 EMERGENCY PLUMBING FIXTURE INSTALLATION

A. Assemble emergency plumbing fixture piping, fittings, control valves, and other components.

B. Install fixtures level and plumb.

C. Fasten fixtures to substrate.

D. Install shutoff valves in water-supply piping to fixtures. Use ball or gate valve if specific type valve is not indicated. Install valves chained or locked in open position if permitted. Install valves in locations where they can easily be reached for operation. Comply with requirements for valves specified in Section 221000 “Plumbing Piping and Valves."

E. Install dielectric fitting in supply piping to emergency equipment if piping and equipment connections are made of different metals.

F. Install thermometers in supply and outlet piping connections to water-tempering equipment.

G. Install escutcheons on piping wall and ceiling penetrations in exposed, finished locations.

H. Fill self-contained fixtures with flushing fluid.

3.3 CONNECTIONS

A. Connect hot- and cold-water-supply piping to hot- and cold-water, water-tempering equipment. Connect output from water-tempering equipment to emergency plumbing fixtures.

B. Where installing piping adjacent to emergency plumbing fixtures, allow space for service and maintenance of fixtures.

3.4 IDENTIFICATION

A. Install equipment nameplates or equipment markers on emergency plumbing fixtures and equipment and equipment signs on water-tempering equipment. Comply with requirements for identification materials specified in Section 220553 "Identification for Plumbing Piping and Equipment."

3.5 FIELD QUALITY CONTROL

A. Mechanical-Component Testing: After plumbing connections have been made, test for compliance with requirements. Verify ability to achieve indicated capacities.

B. Tests and Inspections:

1. Perform each visual and mechanical inspection.
2. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
3. Operational Test: After electrical circuitry has been energized, start units to confirm proper unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Emergency plumbing fixtures and water-tempering equipment will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.6 ADJUSTING

A. Adjust or replace fixture flow regulators for proper flow.

B. Adjust equipment temperature settings.

END OF SECTION 224500

DIVISION 23

HEATING, VENTILATING, AND AIR-CONDITIONING

SECTION 230100 – GENERAL PROVISIONS FOR MECHANICAL

PART 1 - GENERAL

1.1 SUMMARY

A. This section covers the general arrangement of the mechanical systems and related items to complete the work as shown on the drawings and as specified herein.

B. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the FORM OF PROPOSAL insofar as they affect this portion of the work.

C. The Contractor shall familiarize himself with the work of all other trades, general type construction and the relationship of his work to other sections. He shall examine all working drawings, specifications and conditions affecting his work. The Contractor shall visit the premises and thoroughly familiarize himself with all details of the work and working conditions, verify all dimensions in the field and advise the Engineer of any discrepancy before performing any work.

D. The work shall include complete testing of all equipment and piping at the completion of the work and making any minor connection changes or adjustments necessary for the proper functioning of the system and equipment.

E. The Contractor shall perform all necessary temporary work during construction.

F. Work under this section shall conform to all governing codes, ordinances and regulations of the City, County and State.

G. The Contractor shall be responsible for all errors in fabrication, for the correct fitting, installation and erection of the various mechanical systems as shown on the drawings.

1.2 SCOPE

A. This branch of the work includes coordination with all utility companies; agency review fees and all inspection fees; all labor, materials, tools, excavation and backfill and all equipment necessary for the installation of all Heating, Ventilating and Air Conditioning, System as shown on the Drawings and Specifications and/or as required for complete and operating systems. The work shall include starting, balancing and the necessary and required tests to insure the proper operation of the complete system.

B. A complete and operating mechanical system shall be provided. See plans for diagrams and details.

C. All work for this project must comply and be in strict accordance with the Kentucky Building Code, Kentucky Plumbing Code, Kentucky Boiler Code, NFPA, ADA, NEC and all local codes and regulations.

D. In general (as a minimum) all materials and equipment must be installed in strict accordance with manufacturer's requirements; and provided with all required controls, internal fusing, relays, piping connections, electrical connections, ductwork connections, etc., to provide for complete and operable systems.

1.3 PERMITS, FEES, CODES AND APPROVALS

A. Permits and Fees

1. All permits, tap on fees and agency review and inspection fees necessary for the complete HVAC, system shall be obtained by the Contractor from the authorities governing such work. The cost of all permits shall be borne by the Contractor.

B. Codes

1. The minimum standard for all mechanical work shall be the current requirements of the Kentucky State Plumbing Law, Regulation and Code, Kentucky Building Code, ADA, International Mechanical Code, Kentucky Boiler Code, NFPA and local ordinances.

C. Approvals

1. All work must be approved by the Architect/Engineer, Owner and all related Code Agencies before final payment will be made.
2. As a minimum, the following approval Certificates of Inspection and Approval shall be required:

    a. HVAC Inspection
    b. Local and State Building Inspections.

3. Final payment will be contingent upon all Approval Certificates.

1.4 DRAWINGS AND SPECIFICATIONS

A. Contract drawings for work under this section are in part diagrammatic, intended to convey the scope of work and indicate the general arrangement of equipment, piping and the approximate size and location of equipment and outlets. The Contractor shall follow these drawings in laying out his work and shall verify spaces in which his work will be installed, indicating to the Engineer where any conflicts or overlapping of systems occur. Any item of work not clearly included, specified and/or shown, errors or conflict between Plans (Mechanical, Architectural, Structural or Electrical), Specifications, codes and field conditions, shall be clarified by a written request to the Architect by the Bidder before bidding; otherwise, the bidder shall, at his own expense, supply the proper labor and materials to include these items of work and to make good any damages or defects in his work caused by such error, omission or conflict. Under no circumstances shall a Contractor scale the Drawings for the location of equipment and work.

B. Where job conditions require reasonable changes in indicated locations and arrangement, proposed departures shall be submitted with detailed drawings to the Engineer for approval before any of the proposed work is commenced. All approved departures shall be made at no additional cost to the Owner.

C. The drawings and the specifications are intended to indicate complete and working systems, unless specifically indicated to the contrary. The work includes the furnishing, installing and connecting of a complete working installation in each case to the full extent set forth in the drawings and herein specified. The Contractor shall be responsible for the complete functioning system, unless specifically noted otherwise.

D. The drawings and specifications shall be considered as cooperative, work and material included in either, though not mentioned in both, shall be a part of the work to be accomplished and shall be carried out completely in as thorough manner as if covered by both.

E. Because of the small scale of the drawings, it is not possible to indicate all offsets, fittings and accessories that may be required. The Contractor shall carefully investigate the structural and finish conditions affecting all his work and shall arrange such work accordingly, furnishing such fittings, pipe, traps, valves and accessories as may be required to make a functional installation at no additional cost to the Owner.

F. Mechanical as built "Record Drawings" shall be kept up to date each day. "Record Drawings" shall be reviewed by Architect/Engineer each month with contractor's pay request review.

G. Any deviation in work as shown on plans and specifications must be approved in writing by Architect/Engineer prior to installation.

1.5 EXAMINATION OF SITE

A. Bidders shall visit the site before submitting proposals to satisfy themselves as to the nature and scope of the work and any difficulties attending to the execution.

B. The submission of a proposal will be construed as evidence that such an examination has been made. Later claims for labor, equipment, materials, etc., required for difficulties encountered which could have been foreseen had such an examination been made, will not be recognized.

1.6 EQUIPMENT DESIGN AND INSTALLATION

A. The design, manufacture, testing and method of installation of all apparatus and materials furnished under the requirements of these specifications shall conform to the applicable standard rules of the following. Where materials are not specifically referred to, but are required, they shall meet the requirements of the applicable code.

1.	NEMA	National Electrical Manufacturer's Assoc.
2.	UL	Underwriter's Laboratories, Inc.
3.	ASME	American Society of Mechanical Engineers
4.	ASTM	American Society of Testing Materials
5.	ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
6.	BOCA	Building Officials & Code Administrators International, Inc.
7.	NFPA	National Fire Protection Association
8.	AWWA	American Water Works Association
9.	AWS	American Welding Society
10.	AMCA	Air Moving and Conditioning Assoc.
11.	ANSI	American National Standards Institute

12.	NEC	National Electrical Code
13.	AIEE	American Institute of Electrical Eng.
14.	ARI	Air Conditioning & Refrigeration Institute
15.	SMACNA	Sheet Metal and Air Conditioning Contractors National Assoc.
16.	LSDHBC	Local and/or State Division of Housing, Building and Construction
17.	SPC	State Plumbing Code
18.	NPC	National Plumbing Code
19.	OSHA	Occupational Safety and Health Adm.
20.	EPA	Environmental Protection Agency
21.	DOE	U.S. Department of Energy
22.	IMC	International Mechanical Code
23.	IECC	International Energy Conservation Code

B. Unless otherwise specified, equipment and materials of the same type and used for the same purpose, shall be products of the same manufacturer.

1.7 CAPACITIES, SIZES AND OPERATING CONDITIONS

A. Capacities, sizes and conditions specified or shown on drawings shall be regarded as minimum allowable. If the Contractor proposes to furnish any equipment which would have to operate at other than specified conditions to produce final effects, all other directly or indirectly related components of the entire systems (as well as of the structure, finish and other systems in the building) must be properly coordinated to the satisfaction of the Engineer. That is: Operating conditions through the entire system must be such that no motor is overloaded, no equipment operates noisier, faster, or hotter than manufacturer's publication recommends and that no excess stress or demand is imposed on any component of any system or the structure; also that no quality, architectural feature, function or "end result" is affected adversely, in the opinion of the Architect.

B. The Architect/Engineer reserves the right to determine if the contractor's proposed materials and equipment of any one manufacturer is acceptable in lieu of the specified material or equipment.

C. Where materials and equipment are listed on Drawings and specifications as acceptable or equivalent, this does not relieve the contractor and/or manufacturer from providing and proving to Architect/Engineer that their materials and equipment are equivalent to items the Architect/Engineer used as a guide specification.

D. The contractor and manufacturer must confirm to the Architect/Engineer that their equipment and materials will meet the space requirements of the project and that the equipment is easily accessible for maintenance and operation.

1.8 LAYOUT AND COORDINATION DRAWINGS

A. The Contractor's work lines and established heights shall be in strict accordance with drawings and specifications insofar as these drawings and specifications extend. The Contractor shall verify all dimensions shown and establish all elevations and detail dimensions not shown. He shall also correlate the time so that the work will proceed to the best advantage of the complete job as a unit. The Contractor shall be responsible for furnishing in ample time, any information required to revise footing elevations, build all chases and openings in floors, walls, partitions, ceilings, and roofs to provide clearance which may be required to accommodate the work. The

contractor shall set all sleeves, anchor bolts and inserts required to accommodate his equipment before masonry is constructed.

B. The Contractor shall layout his work well enough in advance to foresee any conflicts or interferences with work of other sections so that in case of interference, his layout may be altered to suit the conditions, prior to the installation of any work. This procedure will require constant coordination with all sections of the work.

C. Detailed electronic coordination drawings shall be required for all trades. Coordination drawings are a tool for the Contractor and will not be reviewed by the Engineer unless the Contractor has specific questions. The Engineer will not review or approve any Contractor Coordination Drawings. Coordination Drawings shall include at a minimum all HVAC ductwork and hydronic piping, HVAC equipment, domestic water piping, roof drainage piping, fire protection piping, electrical conduits 1.5" and greater, cable trays and all wall/roof/floor penetrations.

1.9 DEMOLITION AND SCHEDULE

A. All existing mechanical equipment noted on drawings and listed herein that is to be removed or demolished, shall be removed on schedule and disposed of as hereinafter directed.

B. All items removed shall become the property of the contractor and shall be immediately disposed of off-site at contractor's expense except as noted on drawings unless otherwise directed by owner.

C. All demolition shall be carefully accomplished in accordance with master construction schedule so as not to remove any item required for support operation during the planned schedule. No item shall be removed until full schedule is worked out with contractors according to owner's demands and agreed to in writing by the Engineer.

D. Storage will be arranged during scheduling process. Contractors to provide own storage and security.

E. Contractor doing the demolition of equipment must conform to the Clean Air Act of 1990. Refrigerant must be recovered from any air conditioning or refrigeration equipment prior to disconnecting and disposal. The contractor must own and use recovery equipment to meet this requirement. The contractor will be responsible for disposal of refrigerant, refrigerant oil or equipment.

F. If pipe, insulation or equipment to remain is damaged in appearance or is unserviceable, remove damage or unserviceable portion and replace with new products of equal capacity and quality. All existing piping to remain shall be permanently capped, new or existing valves are not adequate.

1.10 ACCESSIBILITY

A. All equipment, valves, motors, damper operators, traps, unions and all other items which require adjustment, maintenance, repair and observation shall be installed in such a fashion that such maintenance, repair and observation can be readily achieved without undue difficulty. Where the drawings show these items in locations not conforming to the above, the Contractor shall

advise the Architect/Engineer of this conflict prior to bid Date otherwise he shall, at his own expense, relocate such items as directed by the Architect/Engineer. Where such items are installed above inaccessible ceilings or in or behind walls, this contractor shall provide approved access panels unless otherwise directed in these Specifications.

1.11 ARCHITECTURAL DRAWING AND SPECIFICATIONS

A. Each Contractor shall refer to the Architectural and Structural Drawings and Specifications for the general construction of the building, for floor and ceiling heights, for location of walls, partitions, beams etc., and shall be guided accordingly for the setting of all sleeves and equipment.

B. Under no circumstances shall a Contractor scale the Drawings for the locations of equipment and work.

1.12 COOPERATION WITH OTHER CONTRACTORS

A. Each Contractor shall demand and examine all Drawings and Specifications pertaining to the construction before installing the work described and shown under these Drawings and Specifications. Each Contractor shall cooperate with all other contractors in locating piping, openings, chases and equipment in order to avoid conflict with any other contractor's work. It is the responsibility of all trades to examine all shop drawings of other trades that would require equipment to occupy the same space and plane within the building to eliminate any potential conflicts. No extra payment will be allowed for relocation of piping, and equipment not installed in accordance with the above instructions, and which interferes with work and equipment of other contractors.

1.13 INSTALLATION OF EQUIPMENT

A. All appliances, materials and equipment shall be installed and connected in accordance with the best engineering practice and in accordance with manufacturer's instructions and recommendations. All auxiliary piping, special controls, water seals, valves, electrical connections, drains, etc., recommended by the manufacturer, required for proper operation, or required by code shall be furnished and installed complete.

B. All equipment designed and constructed for indoor use shall not be shipped to the site until such time that the equipment is ready for permanent installation in a dry building or may be stored on site provided equipment is stored in a water and moisture tight storage building or job trailer. Covering equipment outdoors with plastic or tarp is not acceptable.

1.14 PROTECTION OF EQUIPMENT AND MATERIALS

A. No piping shall be installed in any part of the building where danger of freezing may exist without adequate protection being given, whether or not insulation is specified for the particular piping. All damage resulting from leaking pipes shall be borne by the Contractor under this Division.

B. All work, equipment and materials shall be protected at all times. All pipe and ductwork openings shall be closed with caps or plugs during construction. All equipment and accessories shall be tightly covered and protected against dirt, water or other injury during the period of construction.

C. If the permanent HVAC equipment is used during construction period for temporary heating, cooling and ventilating, the equipment must be carefully protected, and filters changes at minimum of once a week. All return air and exhaust air ductwork used in temporary HVAC systems during construction period must be filtered at each opening to prevent construction dust from entering the ductwork system.

D. Before the building is turned over to the Owner all of the equipment must be carefully cleaned of debris and dust, coils cleaned and flushed out, new filters installed, and all ductwork cleaned of debris and dust.

1.15 PROTECTION FROM MOVING PARTS

A. Belts, pulleys, chains, gears, couplings, projecting setscrews, keys and other rotating parts located so that any person can come in close proximity thereto shall be fully enclosed or properly guarded.

1.16 CUTTING AND PATCHING

A. All cutting and patching required in connection with the installation of this work, and work due to errors, defective work, ill-timed work or tardiness in properly designating size and location in sufficient time or by failure to notify other trades, shall be done under this section, but only in the manner directed by the Engineer so as to prevent or minimize damage to installed work. Damage as a result of cutting for installation, shall be repaired by mechanics skilled in the trade involved, at no additional expense to the Owner.

B. No cutting of structural members will be permitted, except when prior permission of the Engineer has been obtained. This work must conform in every respect to the surrounding finish and to the quality of workmanship and materials used.

C. Piercing of any waterproofing or roofing shall be done only by the trade involved. After the part piercing the waterproofing has been set in place, the opening made for this purpose shall be filled and made absolutely watertight to the satisfaction of the Engineer.

D. See Section: 230510 - SLEEVING, CUTTING, PATCHING AND REPAIRING - MECHANICAL

1.17 FIRE AND SMOKE-STOPPING

A. Fire-stopping and smoke-stopping shall be provided around all piping and ductwork penetrations of fire rated and/or smoke-rated floors, walls, ceilings or other barriers.

B. The materials used shall be UL 263 or UL 1479 classified and meet ASTM E814 standards and be rated for assemblies where applied.

C. Clean surfaces to be in contact with penetration seal materials, of dirt, grease, oil, loose materials, rust or other substances that may affect proper fitting, adhesion, or the required fire resistance.

D. Install penetration seal materials in accordance with manufacturer's instruction.

E. Seal holes or voids may be penetrations to ensure an effective fire and/or smoke barrier.

F. Protect materials from damage on surfaces subject to traffic.

G. Stop insulation flush with wall on insulated pipe and seal edges.

H. All exposed piping passing through floors, ceilings and walls in finished areas shall be fitted with a chrome plated escutcheon of sufficient outside diameter to amply cover the sleeved opening and ad inside diameter to closely fit the pipe around which it is installed.

I. Galvanized sheet metal collars shall be provided around all ducts, equipment, etc., exposed in finished areas. Where such openings are finished and the space around the unit is small, the collar may be omitted with the approval of the Architect.

1.18 CONCRETE WORK AND ANCHOR BOLTS

A. The Contractor under this Division shall provide all concrete bases, curbs and pads for all floor and ground mounted equipment unless otherwise indicated.

B. The Contractor under this Division shall verify the sizes and locations of all supports, bases and pads prior to pouring of same to be certain that the installed units will be compatible.

C. The Contractor under this Division shall set anchor bolts when required for the equipment prior to pouring of concrete. Sizes and exact locations of bolts shall be determined by the manufacturer's recommendations for the equipment served.

D. Concrete work must be provided in strict accordance with Section 03 Concrete Work. As a minimum provide pads using 3500 psi concrete not less than 3.5 inches high reinforced with WI.4 x WI.4 welded wire fabric. Chamfer top and edge corners with 3/4" preformed chamfer strips. Subbases shall rest on structural floor and shall be reinforced with steel rods and interconnected with floor reinforcing bars by tie bars hooked at both ends or suitable dowels. Slope top to floor drain if drain is provided in pad.

1.19 ACCESS PANELS

A. The Mechanical Contractor shall furnish all other access panels needed for access to valves, open receptacles, vents, fire dampers, mechanical units, etc., in inaccessible locations installed under this Division of the work.

B. Access panels shall have a minimum size of 12" x 12" and shall be centered beneath equipment for accessibility and maintenance. Access panels must be of adequate size to service, observe, remove and maintain equipment.

C. Access panels shall be equal to the types specified under the Architectural Specifications. As a minimum the access panels shall be equivalent to Cesco Products style FB/FB SS, Besco, Inryco/Milcor, Phillips or equivalent, 14 gauge with vandal proof lock and frame as selected by Architect.

D. Ceiling Types

1. In areas with suspended acoustical tile ceilings (installed on exposed metal grid suspension system so that the tile may be readily removed), equipment, valves, etc., install above these ceilings will be considered to be accessible.
2. All plastered ceilings or ceilings having concealed spline type of suspension system will be considered as not removable for accessibility to equipment; therefore, access panels will be required.
3. See Architectural Drawings and Specifications for the types of ceilings throughout the building.

E. Access panels shall be installed by sub-contractor specialized in access panel installation.

1.20 CONNECTION TO EQUIPMENT SPECIFIED IN OTHER SECTIONS

A. Examine all Contract Documents and be thoroughly familiar with all items of equipment in other sections or by Owner, unless otherwise specified or indicated on Drawings. Rough-in for and make final connections to all equipment which requires any of the services specified in this Section and including furnishing and install all valves, P-traps, unions, vacuum breakers and all other specialties as required to make all work and equipment final and operating. It is the intent of the Contract Drawings to detail and indicate all such equipment; however, be responsible for notifying Architect/Engineer in writing of major discrepancies seven (7) days prior to Bid Date; otherwise, all such connections shall be made at no extra cost.

B. Unless specified otherwise, all conduit, wiring and connections for power to mechanical equipment will be provided by Electrical Contractor. Be responsible for correct sequences of operation of all mechanical equipment after all wiring has been completed.

1.21 OPERATING INSTRUCTIONS

A. After all tests have been completed and work accepted by the Owner, a competent representative shall, at a time determined by the Engineer, present verbal and visual instructions to the Owner's personnel in the proper operation of his respective system. For this purpose, each section of work shall be demonstrated and explained to the Owner's personnel and sufficient time allotted for instructions. See Specification Section 230600.

1.22 SAFETY

A. The contractor and his subcontractors for the project shall comply with all applicable Federal, State, and local laws governing safeguards, safety devices, and protective equipment and shall take all other needed actions which they may determine or which the Department may determine to be reasonably necessary to protect the life and health of all employees and personnel on the project, provide for the safety of the public and protect all property affected by the performance of the work covered by the contract.

B. As provided in KRS Chapter 338 in the Kentucky Occupational Safety and Health Act and in subsequent regulations and standards promulgated by the Kentucky Occupational Safety and Health Standards Board, neither the Contractor nor his subcontractors shall require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his health and safety.

C. The contractor shall not remove or disturb any suspected hazardous materials, including asbestos-containing materials, lead based paints, electrical equipment containing PCB's, or any other except as instructed in this contract. If any material not covered by the contract is encountered, notify the Engineer immediately.

1.23 TESTS - GENERAL

A. All tests required to establish the adequacy, quality, safety, completed status and suitable operation of each system and all components thereof shall be made in the presence of and to the satisfaction of the Engineer or his authorized representative and other representatives of State and local Government. All instruments, labor and expert service necessary to conduct these tests shall be supplied by the Contractor; power and fuel will be furnished by the Owner.

B. The final inspection and tests are to be made only after the Engineer is satisfied that the work described in these specifications has been completely installed in accordance with the true spirit and intent of these specifications and that complete preliminary tests were made which indicate adequacy, quality, completion and satisfactory operation. The acceptance of the work herein specified, shall not in any way prejudice the Owner's right to demand replacement of defective material and/or workmanship.

1.24 CLEANING

A. General: Clean all piping and equipment systems as required to leave the piping and equipment clean and free from scale, silt, contamination, etc., as normally required and as specified herein.

B. Utilities and Equipment: The Contractor shall provide all necessary temporary materials and equipment to clean the piping and equipment installed under this specification. No permanent equipment shall be used for storage, mixing, settling, compressing, pumping, etc., without the approval of the Architect. The Contractor shall supply a separate and independent source of clean, dry, oil-free air for the blowdown of systems requiring this method of cleaning.

C. Use of Chemicals: No chemicals, wetting or drying agents shall be used to clean systems or equipment where the materials of the system undergo any changes in their physical or structural characteristics. In case of any doubt as to the compatibility of any materials to the cleaning solution used, the Contractor shall obtain prior written approval for the use of the solution from the manufacturer of the equipment. Piping systems, equipment and sub-assemblies shall be cleaned after completion of welding, machining, threading, testing and any other operations capable of contaminating the system piping or equipment. After cleaning, the permanent strainers shall be removed, cleaned and replaced. Temporary strainers shall be periodically removed, cleaned and replaced during cleaning in lines ahead of equipment to protect against particles becoming lodged in the equipment.

D. After the Architect/Engineer has complete examination, this Contractor shall remove all stickers, tags, etc., and shall thoroughly clean all equipment, fixtures, and materials installed under his section of the work.

E. Surplus material, rubbish and equipment resulting from the work shall be removed from the building and premises by the Contractor upon completion of the work in accordance with the General Conditions.

F. All equipment shall be thoroughly cleaned to "Factory New" condition prior to turning over to owner. Touch up or completely repaint equipment as required.

G. Keep all nameplates on equipment clean and exposed for easy reading.

1.25 WARRANTY AND SERVICE

A. All equipment shall be warranted for a period of at least one (1) year from the date of acceptance, as evidenced by date of substantial completion for the entire project or for the last phase of the project, whichever occurs later, against defective materials, design, and workmanship. In addition to the equipment warranty, the Contractor shall provide all repair and adjustment service necessary for the proper operation of the entire system for a period of one (1) year after the date of acceptance, as evidenced by the date of substantial completion for the entire project or for the last phase of the project, whichever occurs later. Upon receipt of notice from the Owner's representative of failure of any part of the warranted system or equipment during the warranty period, the affected part shall be replaced promptly with a new part without cost to the Owner. Upon failure to take action within 24 hours after being notified, the work will be accomplished by the Engineer at the expense of the Contractor. See General Conditions and individual equipment specifications. Note that the warranty period of time specified in this section represents the minimum warranty period required for work performed under specification Division 21, 22 and 23. Where the General Conditions and/or individual equipment/system specifications require a warranty period of longer duration or earlier start date than specified in this paragraph, the longer duration/earlier start date shall supersede for those portions of work covered by that specification. In the event the contractor is notified of warranty issues but does not correct or address the warranty issues prior to the end of the specified warranty period, the contractor will not be relieved of the responsibility to correct the deficient items after the warranty end date has passed.

B. Make a minimum of two (2) service calls during guarantee period, free of charge, to check with Owner and to check and repair malfunctioning equipment which was installed. Service calls shall be in middle and end of guarantee period and as required to maintain systems operation. Dates shall be listed in operating and maintenance manuals, along with contractor's name and phone number.

1.26 ELECTRIC MOTORS

A. All motors shall be designed, tested and applied in accordance with the applicable standards listed hereinbefore. Motors shall be of sufficient size for the duty to be performed and shall not exceed the full load rating when the driven equipment is operating at specified capacity. Unless otherwise specified, all motors shall be high efficiency type and shall have open frames and continuous-duty classification based on 50 degrees C. ambient temperature. Polyphase motors shall be squirrel-cage type, having normal-starting-torque and low-starting-current

characteristics. Motors shall meet NEMA high efficiency standards MGI - 1.41.2 for energy efficient polyphase squirrel-cage motor. Efficiency shall be in accordance with MGI - 1.2.55. When motor horse powers required differ from those indicated on the drawings, the Contractor shall make the necessary adjustments to the wiring, disconnect devices, starters and branch-circuit protection at no additional cost to the Owner.

1. Motors shall be rated for continuous duty capable of driving the connected loads without exceeding temperature limitations of the motor insulation. Special Class A moisture-resisting insulation (designed to operate in a 122-degree F. ambient without exceeding a temperature rise rating designated by NEMA for the type of enclosure used) shall be utilized in each motor.

B. Unless otherwise indicated or specified, the electrical components required to operate mechanical equipment, such as, motors, float and pressure switches, solenoid valves, and other devices functioning to control the mechanical equipment, shall be furnished as part of the mechanical equipment, shall be complete and operable, and shall be included under this section of the specifications. All motor starters not part of a motor control center shall be included under this Section and shall be the hand off auto type with 3 over-loads on 3 phase units and 120V control transformer. Conduit and wires required for external electrical connections shall be furnished and are specified under DIVISION 26 - ELECTRICAL. Integral phase failure relay shall be provided as a part of all three phase motor starters. Relay shall shut motor down on phase loss or phase unbalance and automatically reset when normal phasing is restored. Phase failure relay shall have adjustable restart time capabilities. Mechanical contractor shall coordinate staggered restart times as required.

1.27 DRIVES

A. Each belt-connected motor-driven unit or fan shall be provided with a variable pitch V-belt drive.

B. Sheaves shall be of cast iron or of steel, statically and dynamically balanced, bored to fit properly on the shafts and secured with key of proper size. Sheaves having set screws alone will not be permitted. Sheaves shall be variable pitched and shall be designed to give the required rpm at approximately the mid-position of adjustment. Pitch diameters of sheaves shall be not less than 3.0 inches for "A" section belts; 5.4 inches for "B" section belts; 9.0 inches for "C" section belts; and 13.0 inches for "D" section belts.

C. Belts shall be selected for a minimum service factor of 1.5 (based on motor nameplate horsepower) and selected and matched in sets for equal tension.

D. All other drives shall be as described under the respective equipment paragraph of these Specifications, as applicable.

1.28 AS-BUILT DRAWINGS

A. The Contractor shall deliver to the Engineer at the completion of the work, one (1) print of "As-Built" drawings, showing legibly and accurately, mechanical and piping systems with equipment locations shown as actually installed. Changes in original plans shall be neatly shown in red pencil. Each print shall be signed by the sub-contractor who has done the work.

B. During construction the Contractor shall retain a set of blue line drawings on the site for recording all changes. These drawings shall be available for inspection by the Engineer.

1.29 TESTS

A. The Architect/Engineer shall be notified by the Contractor under this Division forty-eight (48) hours in advance of any tests so that the Architect/Engineer or his representative may be present when the tests are run. Leaks or imperfections found shall be corrected and a new test shall be run to the satisfaction of the Architect/Engineer. Upon successful completion of the test, pipe covering may be applied, and piping may be concealed. A successful test, even if witnessed, however, does not relieve the Contractor under this Division of the responsibility for any failure during the guarantee period.

B. After pipe fabrication has been completed, all water piping shall be subjected to a hydrostatic test of 100 psi and proven tight and free of leaks for a 24-hour period. Tests shall be applied to the piping before being attached to any equipment which would be damaged by the test pressure. Damage to equipment caused by testing shall be repaired or replaced without additional cost to the Owner.

C. Exterior water piping shall be tested in strict compliance with local water company. The minimum hydrostatic test pressure is 1 1/2 times the water pressure serving the site.

D. No insulation, paint, backfill or other prohibitive covering shall be applied to piping prior to the above tests.

E. Provide all temporary equipment, materials, valves, gauges, etc., required for the preceding tests.

F. The expense of all tests shall be borne by the Contractor under this Division.

G. In addition to the testing specified above the contractor shall perform the following HVAC systems tests and place the system(s) in operation to demonstrate that all features of the system(s) including instrumentation, controls and equipment function as specified for final acceptance.

1. At such time as the Engineer determines that the new heating, ventilating and cooling system is ready to be placed into service, the Contractor shall place the new equipment in operation and demonstrate that the safety devices are in proper working order to the satisfaction of the Engineer.
2. The Contractor shall then maintain operation and demonstrate each system's capability of producing at full load capacity. Within 24 hours after the systems have been satisfactorily tested, Owner operating personnel will relieve the Contractor of the operations and the Contractor shall continue his work on a joint occupation basis.
3. Depending on the status of the work, the Contractor may at his option conduct other required tests concurrent with, prior to, or following the system testing, providing the Engineer is satisfied the installation is in conformance with the specifications. However, all features of the system(s) shall be tested individually for proper operation at partial and full load conditions and collectively where normal operations require the several components to operate concurrently to constitute an acceptable system.
4. Final acceptance of the entire installation will be based on an acceptable demonstration that all components, local and remote, respond to safety manual and Automatic System

controls. During this test the Contractor shall cause simulated perturbations for which the control system is designed to respond. All control, monitor and readout points in the system shall function properly before final acceptance is made.

1.30 CONTRACTOR FURNISHED DRAWINGS, DESCRIPTIVE DATA AND MANUALS

A. Approval of Materials and Equipment: Within 30 days of receipt of notice to proceed, and before starting installation, the Contractor shall submit to the Architect for approval, in triplicate, lists of materials, fixtures and equipment to be incorporated in the work. If departures from the contract drawings are deemed necessary by the Contractor, details of such departures, including changes in related portions of the project and the reasons therefore shall be submitted with drawings. Where such departures require piping or equipment to be supported otherwise than shown, the details submitted shall include loadings and type and kinds of frames, brackets, stanchions, or other supports necessary. Approved departures shall be made at no additional cost to the Owner. The lists of materials and equipment shall be supported by sufficient descriptive material, such as catalog cuts, diagrams, and other data published by the manufacturer, as well as evidence of compliance with safety and performance standards, to demonstrate conformance to the specification requirements; catalog numbers alone will not be acceptable.

B. Conformance to Agency Requirements: Where materials or equipment are specified to be constructed and/or tested in accordance with the standards of the American Society of Mechanical Engineers, the Air Moving and Conditioning Association, or the American Society of Heating, Refrigerating and Air Conditioning Engineers, or to be approved by the Underwriters' Laboratories, Inc., the Contractor shall submit proof that the items furnished under this specification conform to such requirements. A certificate or published statement by the manufacturer will be sufficient evidence that the item conforms to the specified requirements. In lieu of such stamp, certificate, or statement, the Contractor may submit written certificate from any nationally recognized testing agency adequately equipped and competent to perform such services, stating that the items have been tested and that the units conform to the requirements listed hereinbefore, including methods of testing, of the specified agencies.

C. Shop Drawings

1. In accordance with the General Conditions, shop drawings shall be submitted on all units of prefabricated materials. Shop drawings shall show, in detail, all parts of the work, fully dimensioned and shall also indicate construction, concealed and other jointing, thickness of materials, method of anchoring and attachment to other materials. Where required for certain work, submit setting and bending diagrams and mark same to correspond with the design drawings, identifying locations of various items. Show types, sizes and locations of sleeves and inserts.
2. The Contractor shall check all shop drawings for completeness and for correctness before submitting the drawings. If major corrections are required on the drawings, the Contractor shall return the drawings to the originator and have the changes made. The Contractor shall indicate his corrections on the prints in green pencil and sign all prints and other material sent to the Engineer.
3. Detail and Erection Drawings: Detail and erection drawings for equipment, piping and other items of this nature shall be carefully prepared in accord with standard practice and shall show erection plans and member details with all individual parts identified on both the detail sheets and erection plans. All identification markings shall be carefully preserved until after the erection process is completed.

4. Material Data: The Contractor shall submit descriptive data, as required, on pipe, fittings and valves to be incorporated into the work. This data shall be in sufficient detail to allow the Engineer to determine that the pipe, fittings and valves meet the requirements of the contract drawings and specifications or that they are an acceptable equal to that specified. All data shall be in the form of manufacturer's or supplier's literature concerning the product and shall indicate catalog number, conditions of use, application instructions, and/or other information as applicable.
5. Equipment Data: The Contractor shall submit descriptive data on all items of equipment to be furnished and installed under this contract. These submittals shall consist of manufacturer's published catalog information which completely describes component materials, configuration and rough-in data for mechanical and electrical equipment shall also include cuts, diagrams, characteristic curves and capacity information as applicable. Where more than one item of equipment is employed in the same system, the submittal of equipment data will include special diagrams showing the electrical wiring, interconnecting piping, related controls and relation and operation of the various items of equipment for the entire system.

D. Operating Instructions and Maintenance Manuals, Etc.

1. At completion of the contract, the Owner shall be provided with three (3) bound copies of operations and maintenance instructions, recommended list of spare parts required for a period of one (1) year and a list of any special tools required to maintain the equipment for the various items of the mechanical equipment. Where special tools are required, the Contractor shall furnish two (2) of each such tools to the Owner at no additional contract cost.
2. MANUAL SHALL INCLUDE ALL APPROVED SHOP DRAWINGS OF EQUIPMENT REQUIRING OPERATION AND MAINTENANCE INFORMATION.
3. MANUAL SHALL BE ORGANIZED WITH APPROVED SHOP DRAWING FOLLOWED BY ALL RELATED OPERATION AND MAINTENANCE MATERIAL.
4. EQUIPMENT SHALL BE IDENTIFIED IN ACCORDANCE WITH THE DRAWING NOMENCLATURE AND INCLUDE SUPPLIER OF SAID EQUIPMENT.
5. Instructions shall be included for routine checking of all items requiring continued maintenance.
6. Schematic drawings with actual pieces of mechanical equipment, etc., shall be included; where manufacturer’s parts numbers only are applicable, they shall be included.
7. Detailed operating instructions for mechanical equipment shall be included, as well as general maintenance procedures to be followed on such equipment. Manufacturers maintenance and operation manuals will be required where such are normally available with the equipment, but as such information is often of a general nature and applicable to various models of equipment, such information shall be supplemented by specified typed directions for the particular piece of equipment applicable to this project.

E. Materials, Equipment and Appliances

1. Materials: All materials, equipment, products and incidentals to be furnished by the Contractor shall be new, unless otherwise specified, undamaged and the first line quality product of the manufacturer and/or supplier, except when competitive grades fully meet the standards specified in the various technical sections of these specifications.
2. Standard Products: Except as otherwise approved by the Engineer, the equipment and appliances to be furnished under these specifications shall be the standard products of manufacturers regularly engaged in the production of such equipment and shall be the manufacturer's latest standard design. Where two or more units of the same type and

class of equipment are required, the units shall be the product of the same manufacturer and shall be identical insofar as possible. The component parts of the products need not be products of one manufacturer.

3. Manufacturer's Directions: Where manufacturer's instructions or recommendations are applicable to the installation or application of materials, the Contractor shall adhere to strict conformance with such instructions or recommendations unless specifically noted to the contrary in these specifications. Where such directions are in conflict with the drawings and specifications, the Contractor shall inform the Engineer of such conflict and request instructions.
4. Samples: The Contractor shall furnish, for approval, samples of materials, profiles, designs, finishes, etc., which are either required by the various sections of specifications or which the Engineer may request from time to time. Samples shall be clearly identified with adequate information for the Engineer's evaluation.
5. Materials and Equipment Delivered to Jobsite: All items of materials, equipment, supplies and miscellaneous items to be incorporated into the work shall be delivered to the jobsite with labels, tags, nameplates and/or containers which clearly indicate the manufacturer's item or catalog number or conformance with the applicable standards stipulated in the technical sections of the specifications. Any item which cannot be verified in the field shall not be included in the work until its identity can be established by the Engineer.

F. Equipment and Material Substitutions

1. Should the Contractor elect to use and install materials which have been approved for use other than specified, he shall be required to make any necessary changes, perform all work and furnish any additional materials and ancillary equipment required to make such substituted materials or equipment function or perform as that specified, at no cost to the Owner. This includes structural, electrical and/or other affected trades.

1.31 DEFINITIONS

A. Mechanical Contractor: Any contractor whether bidding or working independently or under the supervision of a general contractor and/or construction manager and who installs any type of mechanical work.

B. Mechanical Sub-Contractor: Any contractor contracted to or employed by the mechanical contractor for any work required by the mechanical contractor.

C. Engineer: The consulting mechanical/electrical engineers either consulting to the owners, architects, other engineers, etc.

D. A-E: Shall construe architect and/or engineer. In all situations that involve an architect, it shall construe architect, in all others, engineer.

E. Furnish: Deliver to the site in good condition and turn over to contractor responsible for installation.

F. Provide: Furnish and install in complete working order.

G. Install: Install equipment furnished by others.

H. Indicated: Shown on the drawings or addenda thereto.

I. Contract Documents: All documents pertinent to the quality and quantity of work to be performed on the project. Includes but not limited to: plans, specifications, instructions to bidders, general and special conditions, addenda, alternates, list of materials, list of sub-contractors, unit prices, shop drawings, field orders, change orders, cost breakdown, periodical payment requests, etc.

1.32 INTENT

A. It is the intention of these specifications and all associated drawings to call for finished work, tested and ready for operation. Wherever the word "provide" is used, it shall mean "furnish and install complete and ready for use".

B. Details not usually shown or specified, but necessary for the proper installation and operation of systems, equipment, materials, etc., shall be included in the work, the same as if herein specified or indicated.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

NOT APPLICABLE

END OF SECTION 230100

SECTION 230517 – SLEEVING, CUTTING, PATCHING AND REPAIRING FOR MECHANICAL

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes requirements for the Mechanical Contractor related to sleeving, cutting, patching, and repairing associated with mechanical work.

1.2 WORK INCLUDED

A. Sleeves

B. Sleeve Seals

C. Grout

D. Escutcheons

E. Lintels

1.3 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISIONS FOR MECHANICAL WORK

PART 2 - PRODUCTS

2.1 SLEEVES

A. Cast-Iron Wall Pipes: Cast or fabricated of cast or ductile iron and equivalent to ductile-iron pressure pipe, with plain ends and integral water stop unless otherwise indicated.

B. Galvanized-Steel Wall Pipes: ASTM A 53/A 53M, Schedule 40, with plain ends and welded steel collar; zinc coated.

C. Galvanized-Steel-Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, with plain ends.

D. PVC-Pipe Sleeves: ASTM D 1785, Schedule 40.

E. Galvanized-Steel-Sheet Sleeves: 0.0239-inch minimum thickness, round tube closed with longitudinal joint.

2.2 SLEEVE-SEAL SYSTEMS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Advance Products & Systems, Inc.
2. Metraflex Company (The).
3. Proco Products, Inc.

B. Description: Modular sealing-element unit, designed for field assembly, for filling annular space between piping and sleeve.

1. Sealing Elements: EPDM-rubber or NBR interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
2. Pressure Plates: Carbon steel, Plastic, or Stainless steel.
3. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, or Stainless steel of length required to secure pressure plates to sealing elements.

2.3 GROUT

A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

B. Characteristics: Non-shrink; recommended for interior and exterior applications.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

2.4 ESCUTCHEONS

A. Escutcheons shall be Beaton and Caldwell; Carpenter and Patterson; Fee and Mason or approved equivalent. Chromium-plated iron or chromium-plated brass, either one piece or split patterns, held in place by internal spring tension or set screw that completely covers opening.

2.5 LINTELS

A. New openings under 48" in width: Provide one 3 1/2" x 3 1/2" x 3/8" steel angle for each 4" of masonry width. Lintel shall have 8" bearing on either side.

B. New openings 48" to 96" in width: Provide one 3 1/2" x 6" x 3/8" steel angle for each 4" of masonry width. Lintel shall have 8" bearing on either side.

C. New openings over 96" in width: Consult the project structural engineer.

PART 3 - EXECUTION

3.1 GENERAL

A. The Contractor shall be responsible for all openings, sleeves, trenches, etc., that he may require or create by demolition in floors, roofs, ceilings, walls, etc., and shall coordinate all such work with the General Contractor and all other trades. Coordinate with the General Contractor, any openings which he is to provide before submitting a bid proposal in order to avoid conflict and disagreement during construction. Improperly located openings shall be reworked at the expense of the Contractor.

B. The Contractor shall plan his work ahead and shall place sleeves, frames or forms through the walls, floors and ceilings during the initial construction, where it is necessary for piping, ductwork, conduit, etc., to go throughout; however, when this is not done, the Contractor shall do all cutting and patching required for the installation of his work, or he shall pay other trades for doing this work when so directed by the Engineer. Any damage caused to the buildings by the workmen of the responsible Contractor must be corrected or rectified by him at his own expense.

C. The Contractor shall notify other trades in due time where he will require openings or chases in new concrete or masonry. He shall set all concrete inserts and sleeves for his work. Failing to do this, he shall cut openings for his work and patch same as required at his own expense.

D. The Contractor shall be responsible for properly shoring, bracing, supporting, etc., any existing and/or new construction to guard against cracking, settling, collapsing, displacing or weakening while openings are being made. Any damage occurring to the existing and/or new structures, due to failure to exercise proper precautions or due to action of the elements shall be promptly and properly made good to the satisfaction of the Engineer.

E. All work improperly done or not done at all as required by the Mechanical Trades in this section, will be performed by the Contractor at the direction of the trade whose work is affected.

3.2 SLEEVES

A. Install sleeves for piping passing through penetrations in floors, partitions, roofs, and walls.

B. For sleeves that will have sleeve-seal system installed, select sleeves of size large enough to provide 1-inch annular clear space between piping and concrete slabs and walls.

1. Sleeves are not required for core-drilled holes.

C. Install sleeves in concrete floors, concrete roof slabs, and concrete walls as new slabs and walls are constructed.

1. Cut sleeves to length for mounting flush with both surfaces.

a. Exception: Extend sleeves installed in floors of mechanical equipment areas or other wet areas 2 inches above finished floor level.

2. Using grout, seal the space outside of sleeves in slabs and walls without sleeve-seal system.

D. Install sleeves for pipes passing through interior partitions.

1. Cut sleeves to length for mounting flush with both surfaces.
2. Install sleeves that are large enough to provide 1/4-inch (6.4-mm) annular clear space between sleeve and pipe or pipe insulation.
3. Seal annular space between sleeve and piping or piping insulation; use joint sealants appropriate for size, depth, and location of joint.

E. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials.

F. Pipes Passing Through Waterproofing Membranes: Pipes passing through floor waterproofing membrane shall be installed through a 4-pound lead-flashing sleeve, or a 0.032-inch thick aluminum sleeve, each with an integral skirt or flange. Flashing sleeve shall be suitably formed, and the skirt of flange shall extend not less than 8 inches from the pipe and shall set over the floor membrane in a troweled coating of bituminous cement. The flashing sleeve shall extend up the pipe a minimum of 1 inch above the floor. The annular space between the flashing sleeve and the metal-jacket-covered insulation shall be sealed. At the Contractor's option, pipes passing through floor waterproofing membrane may be installed through a cast iron sleeve with caulking recess, anchor lugs, flashing clamp device, and a pressure ring with brass bolts. Waterproofing membrane shall be clamped into space and sealant shall be placed in the caulking recess.

G. Pipes Passing Through Roof: Pipes passing through the roof shall be installed where shown on the drawings. Any penetration in roof shall be approved by the Roofing Manufacturer.

H. Openings for ductwork, fixtures, equipment, etc. through floors, walls, ceiling and roofs, shall be located and sized by the Contractor under this division who shall provide and set necessary lintels, sleeves and sheet metal forms for all such openings.

I. Galvanized sheet metal collars shall be provided around all ducts, equipment, etc., exposed in finished areas. Where such openings and finished and the space around the penetration is small, the collar may be omitted with the approval of the Architect/Engineer.

3.3 SLEEVE-SEAL-SYSTEM INSTALLATION

A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at service piping entries into building.

B. Select type, size, and number of sealing elements required for piping material and size and for sleeve ID or hole size. Position piping in center of sleeve. Center piping in penetration, assemble sleeve-seal system components, and install in annular space between piping and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make a watertight seal.

3.4 ESCUTCHEONS

A. Escutcheons shall be provided at all finished surfaces where exposed piping, bare or insulated, passes through floors, walls, or ceilings. Escutcheons shall be fastened securely to pipe sleeves or to extensions of sleeves without any part of sleeves being visible. Where sleeves project slightly from floors, special deep-type escutcheons shall be used.

3.5 CUTTING

A. All rectangular or special shaped openings in plaster, stucco or similar materials, including gypsum board, shall be framed by means of plaster frames, casing beads, wood or metal angle members as required. The intent of this requirement is to provide smooth even termination of wall, floor and ceiling finishes as well as to provide a fastening means for grilles, diffusers, lighting fixtures, etc.

B. All trades shall coordinate all openings in masonry walls with the General Contractor, and, unless otherwise indicated on the Architectural drawings, shall provide lintels for all openings required for the plumbing work (piping, wall boxes, etc.).

C. No cutting is to be done at points or in a manner that will weaken the structure and unnecessary cutting must be avoided. If in doubt, contact the engineer.

D. Pipe openings in slabs and walls shall be cut with core drill. Hammer devices will not be permitted. Edges of trenches and large openings shall be scribe cut with a masonry saw.

E. Openings in metal building walls shall be made in strict accord with building suppliers recommendations.

3.6 PATCHING AND REPAIRING

A. Patching and repairing made necessary by work performed under this division shall be included as part of the work and shall be done by skilled mechanics of the trade or trades for work cut or damaged, in strict accordance with the provisions herein before specified for work of like type to match adjacent surfaces and in a manner acceptable to the engineer.

B. Where portions of existing lawns, shrubs, paving, etc. are disturbed for installation or work of this Division, such items shall be repaired and/or replaced to the satisfaction of the engineer.

C. Where the installation or removal of piping, etc. requires or creates the penetration of fire or smoked rated walls, ceilings or floors, the space around such pipe, etc., shall be tightly filled with an approved non-combustible fire insulating material satisfactory to maintain the rating integrity of the wall, floor or ceilings affected.

D. Piping passing through floors, ceilings and walls in finished areas, unless otherwise specified, shall be fitted with chrome plated brass escutcheons of sufficient outside diameter to amply cover the sleeved openings and an inside diameter to closely fit the pipe around which it is installed.

E. Where pipes pass through exterior walls, the wall openings shall be sealed air and water tight. This shall include sealing on both sides of the wall to insure air and water does not enter or exit the wall cavity. This is especially critical on exterior walls where the wall cavity may be vented to the exterior.

END OF SECTION 230517

SECTION 230529 – HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Pipe and Equipment Hangers, Supports, and Associated Anchors

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISION FOR MECHANICAL WORK

C. Section 230719 – HVAC PIPING INSULATION

D. Section 232113 - HYDRONIC PIPING AND VALVES

1.3 REFERENCES

A. ANSI/ASME B31.1 - Power Piping

1.4 SCOPE

A. This specification shall apply for the design and fabrication of all hangers, supports, anchors and guides. Where piping design is such that exceptions to this specification are necessary, the system shall be identified, and the exceptions approved by Engineer prior to installation. See drawings.

1.5 STRUCTURE

A. This section is intended to cover the structural requirements of the piping and equipment. It is not intended to imply that the building structure will support the loads imposed. The contractor shall review the structural drawings for where loads can be applied, what load can be supported and what structural reinforcing is required. Specific questions can be directed to the structural engineer.

1.6 DESIGN

A. All supports and parts shall conform to the latest requirements of the ANSI Code for Pressure Piping B31.1.0, and MSS Standard Practice SP-58, SP-69 and SP-89 except as supplemented or modified by the requirements of this specification.

B. Designs generally accepted as exemplifying good engineering practice, using stock or production parts, shall be utilized wherever possible.

C. Accurate weight balance calculations shall be made to determine the required supporting force at each hanger location and the pipe weight load at each equipment connection.

D. Pipe hangers shall be capable of supporting the pipe in all conditions of operation. They shall allow free expansion and contraction of the piping, and prevent excessive stress resulting from transferred weight being induced into the pipe or connected equipment.

E. Where possible, steel structural attachments shall be beam clamps. Other attachments shall be as scheduled.

F. All rigid hangers shall provide a means of vertical adjustment after erection.

G. Hanger rods shall be subject to tensile loading only. At hanger locations where lateral or axial movement is anticipated, suitable linkage shall be provided to permit swing.

H. Where horizontal piping movements are greater than ½ inch, or where the hanger load angularity from the vertical is greater than 4 degrees from the cold to hot position of the pipe, the hanger rod to structural attachment shall be by use of Anvil Fig. 47 and Fig. 299 or the hanger rod and structural attachments shall be offset in such manner that the rod is vertical in the hot position.

I. Hangers shall be designed so that they cannot become disengaged by movements of the supported pipe.

J. Hangers shall be spaced in accordance with ANSI B31.1.0

K. Where practical, riser piping shall be supported independently of the connected horizontal piping.

1. Pipe support attachments to the riser piping shall be riser clamp lugs. Welded attachments shall be of material comparable to that of the pipe, and designed in accordance with ANSI B31.1 codes.

L. Supports, guides and anchors shall be so designed that excessive heat will not be transmitted to the building steel. The temperature of support parts shall be based on a temperature gradient of 100 degrees F per inch distance from the outside surface of the pipe.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Anvil, Elcen, Mason Industries, Advanced Thermal, Fee & Mason, Piping Specialties, MIRO Industries.

2.2 SHIELDS

A. Shield for Insulated Piping 2 Inches and Smaller: galvanized steel shield over insulation in 180-degree segments, minimum 12 inches long at pipe support. See schedule for thickness.

B. Shield for Insulated Piping 2 ½ Inches and Larger: Pipe covering protective saddles.

C. Shields for Insulated Cold Water Piping 2 ½ Inches and Larger: Hard block non-conducting saddles in 90-degree segments, 12-inch minimum length, block thickness same as insulation thickness.

D. Shields for Vertical Copper Pipe Risers: Sheet lead.

2.3 HANGER RODS

A. Threaded one end, threaded both ends, threaded continuously.

2.4 INSERTS

A. Inserts: Malleable iron case or galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

2.5 PIPE HANGERS, SUPPORTS AND ANCHORS

A. BEAM CLAMPS

1. Beam clamps shall have malleable iron jaws, steel bolt or tie rod, nuts and jamb nuts.
2. C-clamps will not be permitted unless retainer is provided.

2.6 FINISH

A. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

2.7 ROOF SUPPORTS

A. Roof mounted piping shall be supported by pillow block pipe stands as manufactured by MIRO Industries at 800-768-6978 or 615-849-9431.

PART 3 - EXECUTION

3.1 INSERTS

A. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.

B. Where concrete slabs form finished ceiling, provide inserts to be flush with slab surface.

3.2 PIPE HANGERS AND SUPPORTS

A. Support horizontal piping indicated in schedule on drawings.

B. Install hangers to provide minimum ½ inch space between finished covering and adjacent work.

C. Place a hanger within 12 inches of each horizontal elbow.

D. Provide hangers with 1-1/2-inch minimum vertical adjustment.

E. Support riser piping independently of connected horizontal piping.

F. Support horizontal piping as follows:

Nominal Pipe Size	Single Rod Diameter	Thickness of Insulation Shield	Maximum Spacing Ferrous Piping	Copper Tubing	HDPE Piping
3/4" & Under	3/8"	16 gauge	6'	5'	2.5'
1"	3/8"	16 gauge	7'	6'	3'
1 1/4	3/8"	16 gauge	8'	8'	4'
1 ½"&2"	3/8"	16 gauge	9'	8'	4'
2 ½"&3"	½"	12 gauge	12'	8'	4'
4" & 5"	5/8"	12 gauge	14'	8'	4'
6"	3/4"	10 gauge	14'	8'	4'
8"	7/8"	8 gauge	14'	10'	5'

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Pipe Hangers	X	X						
Supports	X	X						
Inserts		X						

END OF SECTION 230529

SECTION 230530 – METAL FABRICATIONS AND STRUCTURAL STEEL

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included: Provide all miscellaneous metal and metal fabrications, complete, in place, as shown on the drawings, specified herein, or needed for a complete and proper installation and not specifically called for under other sections of these specifications.

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISIONS FOR MECHANICAL WORK

1.3 QUALITY ASSURANCE

A. Standards: Comply with standards specified herein.

B. Qualifications of personnel: Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

C. Welding: Perform all shop and field welding required in connection with the work of this section, adhering strictly to the current pertinent recommendations of the American Welding Society.

1.4 PRODUCT HANDLING

A. Protection: Use all means necessary to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.

B. Replacement: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the owner.

PART 2 - PRODUCTS

2.1 MATERIALS AND COMPONENTS

A. Metal surfaces, general: For fabrication of the work of this section which will be exposed to view, use only those materials which are smooth and free from surface blemishes including pitting, seam marks, roller marks, rolled trade names, and roughness.

B. Standards: All materials shall comply with:

1. Steel plates, shapes, and bars: ASTM A36.
2. Steel plates to be bent or cold formed: ASTM A283, Grade C.
3. Steel tubing, hot-formed, welded, or seamless: ASTM A501.
4. Steel bars and bar-size shapes: ASTM A306, Grade 65, or ASTM A36.
5. Cold-finished steel bars: ASTM A108, grade as selected by the fabricator.
6. Cold-rolled carbon steel sheets: ASTM A336.
7. Galvanized carbon steel sheets: ASTM A526, with ASTM A525, G90 zinc coating.
8. Gray iron castings: ASTM A48, Class 30.
9. Non-shrink nonferrous grout: CE CRD C588.

2.2 FASTENERS

A. General: Provide zinc-coated fasteners for exterior use and where built into exterior walls. Select fasteners for the type, grade, and class required.

B. Standards: All fasteners shall comply with:

1. Bolts and nuts: Regular hexagon-head type, ASTM A307, Grade A.
2. Lag bolts: Square-head type, Fed. Spec. FF-B-561.
3. Machine screws: Cadmium plated steel.
4. Masonry anchorage devices: Expansion shields.

2.3 PAINT PRIMER

A. Standard primer: SSPC Paint System Guide No. 7.00.

2.4 FABRICATION

A. Workmanship

1. Use materials of size and thickness shown or, if not shown, of required size and thickness to produce strength and durability in the finished product.
2. Work to dimensions shown or accepted on the shop drawings, using proven details of fabrication and support.
3. Use type of materials shown or specified for the various components of the work.
4. Form exposed work true to line and level, with accurate angles and surfaces and with straight sharp edges.
5. Ease the exposed edges to a radius of approximately 1/32" unless otherwise shown.
6. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
7. Weld corners and seams continuously, complying with AWS recommendations. At exposed connections, grind exposed welds smooth and flush; match and blend with adjoining surfaces.
8. Form exposed connections with hairline joints, flush and smooth.
9. Provide for anchorage of the type shown. Coordinate with supporting structure. Fabricate and space the anchoring devices to provide adequate support for intended use.

10. Cut, reinforce, drill, and tap miscellaneous metal work as indicated to receive finish hardware and similar items.

2.5 SHOP PAINTING

A. Shop paint miscellaneous metal work, except members or portions of members to be embedded in concrete or masonry, surfaces and edges to be field welded, and galvanized surfaces, unless otherwise specified.

B. Remove scale, rust, and other deleterious materials before applying shop coat.

C. Use painting methods which will result in full coverage of joints, corners, edges, and exposed surfaces.

2.6 MISCELLANEOUS METAL FABRICATIONS

A. Rough Hardware

1. Provide bent or otherwise custom fabricated bolts, plates, anchors hangers, dowels, and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete and other structures.
2. Manufacture or fabricate items of sizes, shapes, and dimensions required.
3. Provide malleable iron washers for heads and nuts which bear on wood structural connections; elsewhere furnish steel washers.

B. Loose bearing and leveling plates:

1. Provide loose bearing and leveling plates for steel items bearing on concrete construction, made flat, free from warps or twists, and of required thickness and bearing area.
2. Drill plates to receive anchor bolts and for grouting as required.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions under which miscellaneous metal items are to be installed, and correct conditions detrimental to the proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Setting loose plates:

1. Clean concrete bearing surfaces free from bond- reducing materials, and roughen to improve bond to surfaces. Clean the bottom surface of bearing plates.
2. Set loose leveling and bearing plates on wedges, or other adjustable devices.

3. After the bearing members have been positioned and plumbed, tighten the anchor bolts. Do not remove wedges or shim; but if protruding, cut off flush with the edge of the bearing plate before packing with grout.
4. Pack grout solidly between bearing surfaces and plates to ensure that no voids remain.

B. Fastening to in-place construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction including threaded fasteners for concrete inserts, toggle bolts, through-bolts, lag bolts, wood screws, and other connectors as required.

C. Cutting, fitting, and placement:

1. Perform cutting, drilling, and fitting required for installation of miscellaneous metal fabrications.
2. Set work accurately in location, alignment, and elevation, and make plumb, level, true, and free from rack, measured from established lines and levels.
3. Provide temporary bracing or anchors in formwork for items which are to be built into concrete or similar construction.
4. Fit exposed connections accurately together to form tight hairline joints.
5. Weld connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations.
6. Grind exposed joints smooth, and touch up shop paint coat. Do not weld, cut, or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication and are intended for bolted or screwed field connections.

D. Field Welding: Comply with AWS code for procedures of manual shielded metal-arc welding, appearance and quality of weld made, and methods in correcting welding work.

E. Touch up painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting. Apply by brush or spray to provide minimum dry film thickness of 0.051 mm (2.0 mils).

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Metal Fabrications	X	X						

END OF SECTION 230530

SECTION 230548 – VIBRATION CONTROL FOR HVAC

PART 1 - GENERAL

1.1 SUMMARY

A. This specification includes vibration isolation, equipment balancing requirements and sound level criteria for equipment spaces and exterior mounted equipment.

B. Mechanical and electrical equipment and associated piping and ductwork shall be mounted on vibration isolators as specified and/or required to minimize transmission of vibration and structure-borne noise to building structure or spaces.

C. All rotating equipment shall be balanced both statically and dynamically. The equipment when mounted and placed in operation shall not exceed a self-excited vibration velocity of 0.10 inches per second in the vertical, horizontal or axial directions when measured with a vibration meter on the bearing caps or at the equipment mounting feet if the bearings are concealed.

D. All electrical motors shall comply with the balancing requirements of NEMA Standard HG-1-4.23.

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISIONS FOR MECHANICAL WORK

1.3 SHOP DRAWINGS

A. Shop drawings shall be submitted as required in Section 230100: GENERAL PROVISIONS FOR MECHANICAL WORK. See Submittal Sheet.

B. Shop drawings for neoprene mounts, or pads and spring isolators with neoprene components shall contain a certification that the neoprene compound complies with the industry standards for physical properties.

C. All steel frames, steel bases and rails and vibration isolation units except those installed as part of the packaged equipment prior to shipment shall be furnished by one vibration isolation manufacturer.

D. All submittals for equipment bases and equipment and piping isolation shall be in one brochure. The isolation units including steel base for each piece of equipment and connected piping shall be grouped together. Each isolation unit in the group shall show the equipment location, weight supported, type unit specified, and type unit selected. Data for each spring isolator shall include

outside diameter, deflection, operating spring height, solid spring height and the ratio of outside diameter to the operating height. Submittal shall include detail drawings, cut sheets and catalog data showing foundations, bases and isolators for all equipment. Certifications required for isolation materials shall be placed on all submittal drawings and catalog sheets containing neoprene items. The sound power levels in Db with reference to 10 - 12 watts, in the nine frequency bands between 31 and 8000 Hertz, exterior to the equipment as it effects the equipment space sound level shall be included with the data submitted for approval of the equipment. The sound power levels of the equipment with the resultant sound pressure levels for a room acoustics factor of 0.15 shall be plotted on an octave band analysis chart containing the broad band and pure tone Db sound pressure levels specified. When the equipment sound levels exceed the specification levels in any of the frequencies, the submittal shall include the sound attenuating enclosure or other method proposed to reduce the equipment sound level to that specified, with supporting data.

E. The submittals for equipment mounted at the exterior of the building, or generating outside noise, shall include sound level calculations showing equipment sound level limitations based on the requirements hereinbefore specified and applicable sound level ordinances. The equipment sound pressure levels in all nine frequency bands between 31 and 8000 Hertz shall be included in the data. Where required to comply with the sound level limitations, the sound attenuation method proposed, with supporting data, shall be included with the equipment submittal.

1.4 EQUIPMENT SOUND ATTENUATION

A. The sound pressure levels in occupied spaces generated by any mechanical and electrical equipment as transmitted by the building structure, supply or return duct borne, duct breakout or airborne through mechanical room wall and ceiling shall not exceed the following:

Octave Band Hertz							
Mid Frequency	63	125	250	500	1000	2000	4000
Sound Pressure Level dB	57	48	41	35	31	29	28

B. The maximum allowable sound pressure levels shall be reduced by 5 Db in any octave band where field tests indicate pure tone generation.

C. When equipment sound levels exceed the specified noise criteria removable acoustical enclosures, alterations to the equipment, or other approved means shall be provided to reduce the noise level to that specified. Ventilation openings in enclosures shall be provided with sound traps, access openings, observation ports and lights shall be provided where required for normal operation, observation and servicing.

D. Equipment sound power levels may be obtained by laboratory tests measured in accordance with ASHRAE Standard No. 35-36 or by field testing. All equipment sound power tests shall be certified for compliance with the specified test procedure and accuracy by the test personnel and a responsible official of the test company.

E. Mechanical equipment installed within or outside the building shall comply with all local, city, state and OSHA sound level requirements.

F. Test instruments shall be calibrated for accuracy by an approved testing laboratory or by the manufacturer. Certificates showing degree of accuracy shall be furnished to the Engineer.

G. All labor, instruments and appliances required for the tests shall be furnished by the Contractor.

1.5 VIBRATION

A. Isolation system shall be stable during starting and stopping of equipment without excessive transverse or eccentric movement.

B. The installed vibration isolation system shall have a maximum lateral motion under start-up and shut-down conditions of 0.25 inch. Motions in excess shall be restrained by approved spring type mountings.

C. All electrical and piping connections shall be sufficiently flexible to permit proper isolation.

D. Isolation components shall be selected for the lowest operating speed of the equipment.

E. Isolators, including springs, exposed to weather shall be hot dip galvanized after fabrication.

F. Isolators shall be selected and located to produce uniform loading and deflection even when equipment weight is not evenly distributed.

G. The type of isolation, base and minimum deflection shall be as required for each specific application when supported on a solid concrete slab, 6 inches total thick minimum. Vibration isolators with a deflection greater than the minimum specified shall be submitted for approval if they are needed to meet the noise criteria.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Mason Industries, Amber/Booth Company, Vibration Elimination Co., Inc.

2.2 ELASTOMERIC ISOLATORS

A. Elastomeric isolators shall be one of the following:

1. Neoprene isolation mounts of the straight-line deflection curve type. The isolation mounts shall be manufactured with bolt holes for bolting to equipment base. Bottom steel plates for mounting to subbase shall be provided where required to prevent movement of equipment. These isolators shall be molded in black oil-resistant neoprene and color coded. All metal parts shall be embedded in neoprene.
2. Neoprene pads shall be of cross-ribbed or waffle design, 5/16-inch minimum thickness. Where concentrated load bearing is encountered, steel bearing plates shall be bonded to the neoprene pads. The neoprene pads shall be sized for a load of 50 psi.

2.3 SPRING ISOLATORS

A. Spring isolators shall be free-standing, laterally stable without any housing and complete with 1/4-inch-thick neoprene acoustical friction pads between the base plate and the support.

B. All mountings shall have leveling bolts. Coil outside diameters shall be not less than 0.8 of the operating height.

C. Spring shall have an additional travel to solid equal to 50% of the operating deflection.

D. The horizontal stiffness of spring isolators shall be not less than 0.8 of the vertical (axial) stiffness.

E. Springs shall be designed and installed so that the ends remain parallel during and after deflection to operating height.

2.4 SUSPENSION TYPE ISOLATION

A. Suspension type spring isolation for piping system or equipment hangers shall be a combination of spring and neoprene in series. The spring and elastomer combination shall be encased in a structurally stable steel bracket. Spring diameters shall be large enough to permit a 15-degree angular misalignment of the rod without rubbing on the hanger box.

B. Suspension type elastomeric isolators shall be double deflection. Isolators shall be mounted in an open steel bracket with openings for hanger rod connections. The hanger rod shall be separated from contact with the hanger bracket by a neoprene grommet. The neoprene isolator shall have a minimum deflection of 0.35 inch.

C. Where required, pipe hangers shall be equipped with a method of holding the piping at a fixed elevation during installation and a secondary adjustment to transfer the load to the spring and maintain the same elevation. Deflection shall be clearly indicated by a permanent pointer and scale.

D. Duct isolation hangers shall consist of spring and neoprene grommet or mount encased in a steel bracket with suitable means of connecting to ducts and building structure.

2.5 FOUNDATIONS FOR MACHINERY

A. Subbases of 3500 PSI concrete not less than 4 inches high shall be provided for all floor and ground mounted mechanical equipment. Subbases shall rest on structural floor and shall be reinforced with steel rods and interconnected with floor reinforcing bars by tie bars hooked at both ends or suitable dowels. A minimum clearance of 1 percent of the maximum base dimension or 1 inch shall be provided between subbases and all steel bases and steel saddles with equipment in operation.

B. Each electric motor shall be mounted on the same foundation as the driven machine.

C. Foundations for machines shall be a minimum of 2500 psi concrete with all exposed surfaces, steel troweled smooth and corners beveled.

D. Machines shall be secured to steel bases with anchor bolts of ample size. All machines having baseplates shall be grouted under the full area of the baseplate with a non-shrinking, premixed grout.

2.6 FLEXIBLE CONNECTIONS

A. Flexible hose shall be designed for an operating temperature of 50 degrees F above the maximum system design temperature and for a working pressure of not less than 125 psig or 150 percent of the system operating pressure whichever is greater.

B. Metal flexible hose shall be Grade E phosphor bronze, monel or stainless steel corrugated tube covered with comparable bronze or stainless braid restraining and pressure cover. Stainless steel grade shall be 304. Live lengths of flexible metal hose shall generally be not less than recommended by the manufacturer for continuous vibration application.

PART 3 - - EXECUTION

A. Provide equipment and piping vibration isolation where required by equipment manufacturer and where called for on drawings.

B. Type of vibration isolators to be provided shall be based as follows:

1. Static deflection up to 1/4 inch - single deflection neoprene mounting or pads.
2. Static deflection 5/16 inch to 3/8 inch - double deflection neoprene mountings.
3. Static deflection above 3/8 inch - spring isolators.

C. Furnish vibration isolation for all piping connected to equipment mounted on vibration isolation. Equipment that has internally isolated units (compressors, etc.) shall be considered separately as to isolation requirements.

3.2 FLEXIBLE CONNECTIONS

A. Flexible connections shall be provided for all connections indicated on drawings, manufactured of materials suitable for the operating temperatures and pressures of the fluid or gas it is conveying.

B. Flexible hose shall be installed in accordance with the manufacturer’s recommendations including placement in the pipe line without damage, misalignment or change in its normal length. Prior to filling the system, the alignment and length shall be checked by loosening the flange bolts to determine the installation conditions. The piping installation shall be corrected if necessary and the flexible hose replaced if damaged, at no cost to the Owner.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Elastomeric Isolators	X	X	X					
Suspension Type Isolators	X	X	X					
Spring Isolators	X	X	X					
Flexible Connections	X	X	X					

END OF SECTION 230548

SECTION 230553 – IDENTIFICATION OF HVAC PIPING, DUCTWORK, AND EQUIPMENT

PART 1 - GENERAL

1.1 SCOPE

A. Identification of products installed under Division 23 including:

1. Plastic Nameplates
2. Plastic Tags
3. Metal Tags
4. Stencils and Paint
5. Plastic Pipe Markers
6. Plastic Tape Pipe Markers
7. Underground Plastic Tape Pipe Markers

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISIONS FOR MECHANICAL WORK

1.3 REFERENCES

A. ANSI/ASME A13.1 - Scheme for the Identification of Piping Systems.

1.4 SUBMITTALS

A. Submit list of wording, symbols, letter size, and color coding for mechanical identification.

B. Submit valve chart and schedule, including valve tag number, location, function, and valve manufacturer's name and model number.

C. Submit product data and manufacturer's installation instructions.

PART 2 - - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Seton

2.2 EQUIPMENT AND MATERIALS

A. Color: Unless specified otherwise, conform with ANSI/ASME A13.1.

B. Plastic Nameplates: Laminated three-layer plastic with engraved black letters on light contrasting background color.

C. Plastic Tags: Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2-inch square.

D. Metal Tags: Brass or aluminum with stamped letters; tag size minimum 1-1/2-inch diameter with smooth edges.

E. Stencils: With clean cut symbols and letters of following size:

Outside Diameter of Insulation or Pipe	**Length of Color Field**	**Size of Letters**
3/4" - 1-1/4”	8"	1/2"
1-1/2" - 2"	8"	3/4"
2-1/2" - 6"	12"	1-1/4"
8" - 10"	24"	2-1/2"
Over 10"	32"	3-1/2"

1. Stencil Paint: Semi-gloss enamel black unless otherwise indicated.

F. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and fluid being conveyed.

G. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

H. Underground Plastic Pipe Markers: Bright colored continuously printed plastic ribbon tape of not less than 6-inch-wide by 4 mil thick, manufactured for direct burial service.

1. Underground plastic piping to be installed with a tracer wire.

I. Ceiling Tacks: Provide colored marking tacks, 7/8” diameter for use with acoustical lay-in type ceilings. Provide minimum four different colors.

PART 3 - EXECUTION

3.1 PREPARATION

A. Degrease and clean surfaces to receive adhesive for identification materials and to accept stencil painting.

3.2 INSTALLATION

A. Plastic Nameplates: Install with corrosive-resistant mechanical fasteners, or adhesive.

B. Plastic or Metal Tags: Install with corrosive-resistant chain.

C. Stencil Painting: Apply in accordance with manufacturer's instructions.

D. Plastic Pipe Markers: Install in accordance with manufacturer's instructions.

E. Plastic Tape Pipe Markers: Install complete around pipe in accordance with manufacturer's instructions.

F. Underground Plastic Pipe Markers: Install 6 to 8 inches below finished grade, directly above buried pipe.

G. All stencil painting and pipe markers for all piping and ductwork shall be located so it is readable from the floor.

H. Equipment: Identify HVAC equipment such as but not limited to air handing equipment, fans, condensing units, boilers, heaters, chillers, cooling towers, pumps, terminal units, storage tanks, expansion tanks, water treatment devices etc. with plastic nameplates with 1" high white letters on the front of each piece of equipment. Small devices, such as in-line pumps, may be identified with plastic or metal tags.

I. Controls: Identify control panels and major control components outside panels with plastic nameplates.

J. Valves: Identify valves in main and branch piping with tags. Attach tags to valve handles or stems with stainless steel or solid brass chain and/or S-hooks, in such manner that valve shall be operable without damaging or removing tag.

K. Piping: Identify piping, concealed or exposed, with plastic pipe markers or plastic tape pipe markers. Stenciled painting may be used on insulation. Tags may be used on small diameter piping. Each pipe label shall identify service of pipe and indicate direction of flow on all piping installed under this contract. Install in clear view from the floor and align with axis of piping. Locate identification not to exceed 20 feet on straight runs including risers and drops, adjacent to each valve and "T", at each side of penetration of structure or enclosure, and at each obstruction. All piping shall be minimally identified once above all room ceilings.

L. Ductwork: Identify all ductwork with stenciled painting or manufactured labels. Identify equipment designation, service of ductwork, and direction of flow (ex. "AHU-1 - SA →") for all ductwork installed under this contract. Locate ductwork identifications at air handling unit, at each side of wall/floor penetrations, and not to exceed 20-ft intervals. All ductwork shall also be minimally identified once above all room ceilings. All duct labels shall include black letters and shall be 2" tall. All ductwork access panels for fire dampers, smoke dampers, and smoke detectors shall be stenciled with minimum 1/2" high letters to indicate devices located within.

M. Ceiling Pins: Mark each lay-in ceiling panel which is nearest access to all equipment service locations, filter access points, valves, control access points, fire and/or smoke damper access

points, or other locations designated in Documents. Press pins into ceiling panels after all finishes are complete.

3.3 VALVES AND CHARTS

A. The Contractor under this Division shall attach a numbered brass tag to each valve installed under this Contract. Each number shall be prefixed with the “H" for hydronic valves. Tags shall be attached to the valves by means of brass "S" hooks. Tags shall be Seton Name Plate Co., C.H. Hanson Co. or Identifications.

B. A chart headed ""HYDRONIC VALVE CHART" shall be prepared. Three original charts shall be prepared and approved by the engineer. One of each approved type chart shall be framed under glass and mounted on the wall in the main mechanical room where directed. Three photocopies of each chart shall be made and shall be submitted through normal shop drawing channels for approval and subsequent owner's files. Each chart shall be formatted as shown below: (All normally closed valves shall have a brass tag marked Normally Closed.)

HYDRONIC VALVE CHART
PROJECT NAME
DATE

TAG NO.	VALVE LOCATION	VALVE TYPE/SIZE	VALVE FUNCTION

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Valve Chart	X							
Valve Tags	X	X						
Stencils		X						
Tape		X						
Pipe Markers		X						

END OF SECTION 230553

SECTION 230593 – TEST, ADJUSTING, AND BALANCING FOR HVAC

PART 1 - GENERAL SPECIFICATIONS

1.1 DESCRIPTION OF WORK

A. The total system balance shall be performed by an independent test and balance firm that specializes in testing and balancing of HVAC systems.

B. This specialty firm shall perform the following:

1. On-going job site inspections of equipment, controls and metering devices during construction to verify conformance with design specifications.
2. Air System Balance

a. Outside Air Systems
b. Supply Air Systems
c. Return Air Systems
d. Exhaust Air Systems

3. Control Systems Verification

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 – GENERAL PROVISIONS FOR MECHANICAL WORK

1.3 DEFINITIONS

A. ASHRAE: American Society of Heating, Refrigerating and Air Conditioning Engineers.

B. HVAC: Heating, Ventilating and Air Conditioning.

C. NAS: National Account Services. An enhanced program of testing and balancing offering an expanded range of services including a Quality Assurance Guaranty.

D. TAB: Testing, Adjusting and Balancing of HVAC systems to meet design objectives and obtain optimum system performance.

E. TBE: Test and Balance Engineer is an individual certified by AABC or NEBB as having a degree in engineering and 3 years of test and balance experience, or, 5 years of background in the air conditioning field and 5 years continuous field experience in testing and balancing work.

1.4 REFERENCES

A. 2011 ASHRAE Handbook, HVAC Applications, Chapter 38, Testing, Adjusting and Balancing.

1.5 AGENCY QUALIFICATIONS

A. Testing and Balancing (TAB) Agency shall be a member of the AABC or NEBB.

B. A certified Test-and-Balance Engineer (TBE) shall be responsible for certification of the total work of this section.

C. All work shall be performed in accordance with AABC National Standards. If these specifications set forth more stringent requirements than the AABC National Standards, these specifications shall prevail.

1.6 QUALIFICATION SUBMITTALS

A. Testing and Balancing (TAB) Agency shall submit a company resume listing personnel and project experience in the field of air and hydronic system balancing.

B. TAB Agency shall furnish all necessary calibrated instrumentation to adequately perform the specified products. TAB Agency shall submit an inventory and calibration data of all instruments and devices in possession of the balancing agency, to enable the Owner, or his representative, to evaluate the balancing agency's performance capability.

C. The TAB Agency shall, upon acceptance of the contract, submit to the Owner, or the Owner's representative, a "Quality Assurance Guaranty".

D. Within 30 days after acceptance of the contract, the TAB Agency shall submit to the Design Engineer a working agenda which will include procedures for testing and balancing each type of air and water flow system. The Test and Balance Report format will also be submitted indicating data to be recorded.

1.7 NOTIFICATION AND SCHEDULING

A. A pre-balance conference shall be held prior to job start as scheduled by the Tab Agency. Attendees at the meeting shall include representatives of the Test and Balance (TAB) Agency, General Contractor, Mechanical Sub Contractor, Control Sub Contractor, Owner and Mechanical Engineer.

B. The schedule for testing and balancing the HVAC system shall be established by the General Contractor, and/or Owner’s representative, in coordination with the TAB Agency on a critical path network.

C. The TAB Agency is responsible for initiating this continuing coordinating to determine schedule for final testing and balancing services.

D. It will be necessary for the TAB Agency to perform its services in close coordination with the Mechanical Contractor, with all scheduling and deficiencies reported through the General Contractor, and/or Owner's representative.

E. Before testing and balancing commences, the TAB Agency shall receive notification in writing from the Mechanical Contractor that the system is operational, complete and ready for balancing.

F. A completed system means more than just physical installation. The Mechanical Contractor shall certify that all prime movers; fans, pumps, refrigeration machines, boilers, etc., are installed in good working order, and that full load performance has been preliminarily tested.

G. The Mechanical Contractor shall certify in writing that all equipment has been checked, started and adjusted by the manufacturer and operated for the specified period.

1.8 COORDINATION WITH OTHER TRADES

A. To bring the HVAC system into a state or readiness for testing adjusting and balancing, the Mechanical Contractor shall perform the following:

1. Air Distribution Systems

    a. Ensure that all splitters, extractors, volume, smoke and fire dampers are properly located and functional. Dampers serving requirements of smoke, minimum and maximum outside, return, relief, and exhaust air shall provide tight closure and full opening, with a smooth and free operation.
    b. Verify that all supply, return, exhaust, and transfer grilles, registers, diffusers, and high-pressure terminal units are installed and operational.
    c. Ensure that air handling systems, units, and associated apparatus, such as heating and cooling coils, filter sections, access doors, etc. are blanked and/or sealed to eliminate excessive bypass or leakage of air.
    d. Ensure that all fans (supply, return, relief, and exhaust) are operating and free of vibration. All fans and drives shall be checked for proper fan rotation and belt tension. Overload protection shall be of proper size and rating. A record of motor current and voltage shall be made to verify that the motors do not exceed nameplate rating.
    e. Make any necessary changes to the sheaves, belts, and dampers, as required by the TAB Agency, at no additional cost to Owner.
    f. Install clean filters prior to testing.

B. The Temperature Control Subcontractor Shall Perform the Following:

1. Verify that all control components are installed in accordance with project requirements and are functional, including all electrical interlocks, damper sequences, air and water resets, and fire and freeze stats.
2. Verify that all controlling instruments are calibrated and set for design operating conditions.
3. Calibrate room thermostats after installation and before the thermostat control verification tests are performed. The Test and Balance (TAB) Agency shall verify the

accuracy of final settings by taking temperature readings. The readings shall be in a typical conditioned space for each separately controlled zone.

4. The Control Contractor shall allow sufficient time in the project to provide assistance and instruction to the TAB Agency in the proper use and setting of control components such as, but not limited to, computers, static pressure controllers, or any other device that may need set points changed so that the testing and balancing work can be performed.

C. The General Contractor and/or Owner's representative, Mechanical Contractor, Temperature Control Subcontractor, and the suppliers of the HVAC equipment shall all cooperate with the TAB Agency to provide all necessary data on the design and proper application of the system components. In addition, they shall furnish all labor and materials required to eliminate any system deficiencies.

D. In coordination with the General Contractor and/or Owner's representative, the TAB Agency shall arrange for an area of ample size and convenient location for storage of tools, equipment, and other items as required.

PART 2 - PRODUCTS - (Not applicable)

PART 3 - EXECUTION

3.1 ON-GOING JOB SITE INSPECTIONS

A. During construction, the balancing agency shall inspect the installation of pipe systems, sheet metal work, temperature controls, and other component parts of the HVAC systems. Inspections shall be conducted a minimum of 3 times. (Typically this is performed when 60% of the duct work is installed and again when 90% of the total system is installed and prior to insulation of the piping.)

B. The balancing agency shall submit a written report of each inspection to the Owner or owner's representative, and the contractors responsible for correcting noted deficiencies.

C. Check for necessary balancing hardware (dampers, flow meters, valves, pressure taps, thermometer wells, etc.) to determine if they are installed properly and readily accessible.

D. Identify and evaluate any variations from system design.

E. Identify and report possible restrictions in systems (closed fire dampers, long runs of flexible duct, poorly designed duct fittings, etc.).

3.2 AIR SYSTEM TEST AND BALANCE PROCEDURES

A. Fan Speeds: Test and adjust fan RPM to achieve design CFM requirements.

B. Current and Voltage: Measure and record motor current and voltage.

C. Pitot Tube Traverse: Perform a Pitot tube traverse of main supply and return ducts to obtain total CFM. If a Pitot tube traverse is not practical, the summation of the outlets or inlets may be

used. An explanation of why a traverse was not made must appear on the appropriate data sheet.

D. Outside Air: Test and adjust system minimum outside air by Pitot tube traverse. If a Pitot tube traverse is not practical, the percentage of outside air may be determined by calculations from the return air, outside air, and mixed air temperature. Make allowances for heat of compression and motor heat where applicable.

E. Static Pressure: Test and record system static pressures, including suction and discharge static pressure profile of each fan.

F. Air Temperature: Take wet bulb and dry bulb air temperatures on the entering and leaving side of each cooling coil. Dry bulb temperatures shall be taken on the entering and leaving side of each heating coil.

G. Zone Ducts (supply and return): Adjust zone ducts to within design CFM requirements. At least one zone balancing damper shall be completely open.

H. Main Ducts: Adjust main ducts to within design CFM requirements. Multi-diffuser branch ducts shall have at least one outlet or inlet volume damper completely open.

I. Branch Ducts: Adjust branch ducts to within design CFM requirements. Multi-diffuser branch ducts shall have at least one outlet or inlet volume damper completely open.

J. Tolerance - test and balance each diffuser, grille, and register to within 10 percent of design requirement.

K. Identification: Identify the location and area of each grille, diffuser, register, and terminal box. This information shall be recorded on air outlet data sheets.

L. Description: Record the size and type of each diffuser, grille, and register on air outlet data sheets.

M. Minimizing Drafts: Adjust all diffusers, grilles, and registers to minimize drafts in all areas.

N. Exhaust Fans: Measure exhaust fan static pressure, total CFM, makeup air and fan RPM. Measure motor operating voltage and amperage.

O. Measure exhaust fan static pressures, total CFM, makeup air and fan RPM.

P. Measure motor operating voltage and amperage.

Q. Record the specified against the actual supplied horsepower and electrical characteristics of all motors.

3.3 TOLERANCES

A. Set HVAC system's airflow rates and water flow rates within the following tolerances:

1. Supply, Return, and Exhaust Fans and Equipment with Fans: Plus 10 percent or minus 5 percent. If design value is less than 100 cfm, within 10 cfm.

2. Air Outlets and Inlets: Plus or minus 10 percent. If design value is less than 100 cfm, within 10 cfm.

3.4 CONTROL SYSTEMS VERIFICATION

A. Verify that all control devices are properly connected.

B. Verify that all dampers, valves and other controlled devices are operated by the intended controller.

C. Verify that all dampers and valves are in the position indicated by the controller (open, closed or modulating).

D. Verify the integrity of valves and dampers in terms of tightness of close-off and full-open positions. This includes dampers in multizone units.

E. Check that all valves are properly installed in the piping system in relation to direction of flow and location.

F. Check the calibration of all controllers.

G. Verify the proper application of all normally open and normally closed valves.

H. Check the location of all thermostats and humidistats for potential erratic operation from outside influences such as sunlight, drafts or cold walls.

I. Check the locations of all sensors to determine whether their position will allow them to sense only the intended temperatures or pressures of the media. Control Contractor will relocate as deemed necessary by the TAB Agency.

J. Check the sequence of operation that any control mode is in accordance with approved shop drawings. Verify that only minimum simultaneous heating and cooling occurs.

K. Verify that all controller set points meet the design intent.

L. Check all dampers for free travel.

M. Verify the operation of all interlock systems.

N. Perform all system verification to assure the safety of the system and its components.

3.5 SYSTEM PERFORMANCE VERIFICATION

A. At the time of final inspection, the Test and Balance (TAB) Agency shall recheck, in the presence of the Owner's Representative, specific and random selections of data, air quantities, and air motion recorded in the Certified Report.

B. Points and areas for recheck shall be selected by the Owner's Representative.

C. Measurement and test procedures shall be the same as approved for work forming basis of Certified Report.

D. Selections for recheck, specific plus random, will not normally exceed 25 percent of the total number tabulated in the report, except that special air systems may require a complete recheck for safety reasons.

E. If random tests elicit a measured flow deviation of ten percent or more from that recorded in the Certified Report listings, by ten percent or more of the selected recheck stations, the report is rejected, all systems shall be readjusted and tested, new data recorded, new Certified Report submitted, and new inspection tests made, all at no additional cost to Owner.

F. Following system verification of the Certified Report by the Owner's Representative, the settings of all valves, splitters, dampers, and other adjustment devices shall be permanently marked by the TAB Agency, so that adjustment can be restored if disturbed at any time. Devices shall not be marked until after system verification.

G. Opposite Season Test

1. The Testing and Balancing (TAB) Agency shall perform an inspection of the HVAC system during the opposite season from that in which the initial adjustments were made. The TAB Agency shall make any necessary modifications to the initial adjustments to produce optimum system operation.

3.6 RECORD AND REPORT DATA

A. The Test and Balance Report shall be complete with logs, data and records as required herein. All logs, data and records shall be typed on white bond paper and bound. The report shall be certified accurate and complete by the Testing and Balancing (TAB) Agency's certified Test and Balance Engineer.

B. Copies of the Test and Balance Report are required and shall be submitted to the Owner, or the Owner's representative.

C. The report shall contain the following general data in a format selected by the TAB Agency.

1. Project number.
2. Contract number.
3. Project title.
4. Project location.
5. Project architect.
6. Project mechanical engineer.
7. Test and balance agency.
8. Test and Balance Engineer.
9. General contractor.
10. Mechanical subcontractor.
11. Date tests were performed.
12. Certification.

D. The Test and Balance Report shall be recorded on report forms conforming to the recommended forms in AABC National Standards. At a minimum, the report shall include:

1. Preface: A general discussion of the system, any abnormalities and problems encountered.
2. Instrumentation List: The list of instruments including type, model, manufacturer, serial number, and calibration dates.
3. Air Handling Equipment / Rooftop Unit Equipment

    a. Manufacturer, model number, and serial number. Also include unit identification number.
    b. All design and manufacturer related data.
    c. Total actual CFM by traverse if practical, if not practical, the sum of the outlets may be used, or a combination of each of these procedures. For specific systems, such as ones with diversity, see the AABC National Standards.
    d. Suction and discharge static pressure of each fan, as applicable.
    e. Outside air and return air total CFM.
    f. Actual operating current, voltage, and brake horsepower of each fan motor.
    g. Final RPM of each fan.
    h. Fan and motor sheave manufacturer, model, size, number of grooves, and center distance.
    i. Belt size and quantity.
    j. Static pressure controls' final operating set points.

4. Fans

    a. Manufacturer, model number, and serial number.
    b. All design and manufacturer rated data.
    c. Unit Identification.
    d. Location.
    e. Suction and discharge static pressure of each fan, as applicable.
    f. Motor make, and frame type and size.
    g. Fan motor horsepower and speed.
    h. Volts, phase, and hertz.
    i. Full load amperage and service factor.
    j. Total airflow rate in cfm.

5. Air Terminal Devices

    a. System and air-handling unit identification.
    b. Room location and zone.
    c. Size and type of each grille, register, and diffuser.
    d. Design airflow rate in cfm.
    e. Preliminary airflow rate in cfm.
    f. Final airflow rate in cfm.

END OF SECTION 230593

SECTION 230600 – MECHANICAL SYSTEMS DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1. Demonstration of operation of systems, subsystems and equipment.
2. Training in operation and maintenance of systems, subsystems and equipment.
3. Demonstration and training recordings.

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISION FOR MECHANICAL WORK

1.3 SUBMITTALS

A. Instruction Program: Submit copies of outline of instructional program for demonstration and training, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module

1. At completion of training, submit training manual for Owner's use which includes receipts signed by the Owner acknowledging that training took place.

B. Attendance Record: For each training module, submit list of participants and length of instruction time.

C. Demonstration and Training Videos: Provide recording of all demonstrations and training given and submit video within ten days of end of each training module.

1. Identification: Provide an applied label with the following:

a. Name of Project
b. Name of Engineer
c. Name of Contractor
d. Date video was recorded
e. Description of information recorded.

2. Transcript: Prepared on 8-1/2-by 11-inch paper, punched and bound in heavy-duty, three ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.

1.4 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with operation and maintenance manual information.

PART 2 - PRODUCTS

2.1 DEMONSTRATION AND TRAINING PROGRAM

A. Provide program that includes individual training modules for each system and equipment not a part of a system as required by individual Specification Sections and as follows, but not limited to:

1. HVAC: Provide demonstration and training by showing Owner personnel the major components of the HVAC system as follows:

a. Electric Unit Heaters and location of each
b. Packaged Rooftop Units and location of each
c. Exhaust Fans and location of each
d. Air Filter replacement instructions
e. Instrumentation and Controls overview

PART 3 - EXECUTION

3.1 PREPARATION

A. Assemble materials necessary for instruction, including documentation and training module. Assemble training modules into a combined training manual.

3.2 INSTRUCTION

A. Engage qualified instructors to instruct Owner personnel to adjust, operate, and maintain systems, subsystems, and equipment not a part of a system.

B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.

C. Schedule training with Owner, through Architect/Engineer, with at least ten days' advance notice.

3.3 DEMONSTRATION AND TRAINING RECORDINGS

A. Engage a qualified individual to record demonstration and training video(s). Record each training module separately. Include classroom instructions and demonstrations.

B. Format: Provide high-quality DVD or thumb drive. Cloud storage is unacceptable.

C. Narration: Describe scenes on video while recording. Include description of items being viewed.

D. Transcript: Provide typewritten transcript of the narration.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Instruction Program	X							
Attendance Record	X							
Demonstration and Training DVDs	X							

END OF SECTION 230600

SECTION 230800 – COMMISSIONING OF HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

B. Section 230100 – GENERAL PROVISIONS FOR MECHANICAL WORK

1.2 SUMMARY

A. Fundamental commissioning of the building energy systems will be performed by a certified Commissioning Agent under a separate contract with the Owner. The Mechanical Contractor, Temperature Control Contractor and Testing and Balancing Contractor shall assist the commissioning agent as required. Section includes commissioning process requirements for HVAC & R systems, assemblies, and equipment.

1.3 CONTRACTOR'S RESPONSIBILITIES

A. Perform commissioning tests at the direction of the CxA.

B. Attend construction phase controls coordination meeting.

C. Attend testing, adjusting, and balancing review and coordination meeting.

D. Participate in HVAC & R systems, assemblies, equipment, and component maintenance orientation and inspection as directed by the CxA.

E. Provide information requested by the CxA for commissioning documentation.

1.4 CxA'S RESPONSIBILITIES

A. Provide Project-specific construction checklists and commissioning process test procedures for actual HVAC & R systems, assemblies, equipment, and components to be furnished and installed as part of the construction contract.

B. Direct commissioning testing:

C. Verify testing, adjusting, and balancing of Work are complete.

D. Provide test data, inspection reports, and certificates in Systems Manual.

1.5 COMMISSIONING DOCUMENTATION

A. Provide the following information to the CxA for inclusion in the commissioning plan:

1. Plan for delivery and review of submittals, systems manuals, and other documents and reports.
2. Identification of installed systems, assemblies, equipment, and components including design changes that occurred during the construction phase.
3. Process and schedule for completing construction checklists and manufacturer's prestart and startup checklists for HVAC & R systems, assemblies, equipment, and components to be verified and tested.
4. Certificate of completion certifying that installation, prestart checks, and startup procedures have been completed.
5. Certificate of readiness certifying that HVAC & R systems, subsystems, equipment, and associated controls are ready for testing.
6. Test and inspection reports and certificates.
7. Corrective action documents.
8. Verification of testing, adjusting, and balancing reports.

1.6 SUBMITTALS

A. Certificates of readiness.

B. Certificates of completion of installation, prestart, and startup activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TESTING PREPARATION

A. Certify that HVAC & R systems, subsystems, and equipment have been installed, calibrated, and are operating according to the Contract Documents.

B. Certify that HVAC & R instrumentation and control systems have been completed and calibrated, that they are operating according to the Contract Documents, and that pretest set points have been recorded.

C. Certify that testing, adjusting, and balancing procedures have been completed and that testing, adjusting, and balancing reports have been submitted, discrepancies corrected, and corrective work approved.

D. Set systems, subsystems, and equipment into operating mode to be tested (e.g., normal shutdown, normal auto position, normal manual position, unoccupied cycle, emergency power, and alarm conditions).

E. Inspect and verify the position of each device and interlock identified on checklists.

F. Check safety cutouts, alarms, and interlocks with smoke control and life-safety systems during each mode of operation.

3.2 TESTING AND BALANCING VERIFICATION

A. Prior to performance of testing and balancing Work, provide copies of reports, sample forms, checklists, and certificates to the CxA.

B. Notify the CxA at least ten (10) days in advance of testing and balancing Work, and provide access for the CxA to witness testing and balancing Work.

C. Provide technicians, instrumentation, and tools to verify testing and balancing of HVAC & R systems at the direction of the CxA.

1. The CxA will notify testing and balancing Subcontractor ten (10) days in advance of the date of field verification. Notice will not include data points to be verified.
2. The testing and balancing Subcontractor shall use the same instruments (by model and serial number) that were used when original data were collected.
3. Failure of an item includes, other than sound, a deviation of more than 10 percent. Failure of more than 10 percent of selected items shall result in rejection of final testing, adjusting, and balancing report. For sound pressure readings, a deviation of 3 dB shall result in rejection of final testing. Variations in background noise must be considered.
4. Remedy the deficiency and notify the CxA so verification of failed portions can be performed.

3.3 GENERAL TESTING REQUIREMENTS

A. Provide technicians, instrumentation, and tools to perform commissioning test at the direction of the CxA.

B. Scope of HVAC & R testing shall include entire HVAC & R installation, from central equipment for heat generation and refrigeration through distribution systems to each conditioned space. Testing shall include measuring capacities and effectiveness of operational and control functions.

C. Test all operating modes, interlocks, control responses, and responses to abnormal or emergency conditions, and verify proper response of building automation system controllers and sensors.

D. The CxA along with the HVAC & R Subcontractor, testing and balancing Subcontractor, and HVAC & R Instrumentation and Control Subcontractor shall prepare detailed testing plans, procedures, and checklists for HVAC & R systems, subsystems, and equipment.

E. Tests will be performed using design conditions whenever possible.

F. Simulated conditions may need to be imposed using an artificial load when it is not practical to test under design conditions. Before simulating conditions, calibrate testing instruments. Provide equipment to simulate loads. Set simulated conditions as directed by the CxA and

document simulated conditions and methods of simulation. After tests, return settings to normal operating conditions.

G. The CxA may direct that set points be altered when simulating conditions is not practical.

H. The CxA may direct that sensor values be altered with a signal generator when design or simulating conditions and altering set points are not practical.

I. If tests cannot be completed because of a deficiency outside the scope of the HVAC & R system, document the deficiency and report it to the Owner. After deficiencies are resolved, reschedule tests.

J. If the testing plan indicates specific seasonal testing, complete appropriate initial performance tests and documentation and schedule seasonal tests.

END OF SECTION 230800

SECTION 230900 – INSTRUMENTATION AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. This section covers Instrumentation and Controls which are not supplied with the various items of equipment. See all other applicable sections of this specification.

B. The Building Automation System (BAS) manufacturer shall furnish and install a fully integrated building automation system, incorporating direct digital control (DDC) for energy management, equipment monitoring and control, and subsystems as herein specified. All labor, material and software necessary to meet the functional intent of the system shall be included. Equipment and labor not specifically referred to herein or on the plans, that are required to meet the functional intent, shall be provided without additional cost to the owner.

C. The BAS system shall be BacNet via MSTP and have open protocol capabilities to access any part of the control system. BacNet over IP will not be acceptable per direction from the Owner. The BAS system shall be capable of being accessed over the Internet.

1.2 APPROVED CONTROL SYSTEM CONTRACTORS

A. The BAS system shall be designed, installed, commissioned and serviced by manufacturer employed, factory trained personnel. No independent distributors, mechanical contractors or any contractor that is not listed below shall be approved.

1. Automated Logic and Niagara only per direction from Owner.

1.3 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 220100 - GENERAL PROVISION FOR MECHANICAL WORK

1.4 QUALITY ASSURANCE

A. Installer Qualifications: The installer shall have an established working relationship with the Control System Manufacturer of not less than three years and be trained and approved by the Control System Manufacturer for installation of system components required for this Project.

1.5 WARRANTY

A. Labor and materials for the control system specified shall be warranted free from defects for a period of 12 months after substantial completion and acceptance. Control system failures during the warranty period shall be adjusted, repaired, or replaced at no additional cost or reduction in service to the Owner.

B. The TCC shall respond to the Owner's request for warranty service within 24 hours during normal business hours. The TCC shall respond to the Owner's request for Emergency service (defined as life-threatening or creating the potential to cause property damage) during the warranty period within 4 hours.

C. The TCC shall provide technical phone support to the owner during the warranty period for warranty related issues and for two years after the warranty period. If the technical support location of the TCC is outside of the toll free calling area for the customer, the TCC shall have a toll free number or accept collect calls for the purpose of providing technical support.

D. During warranty period, standard parts for the DDC system shall arrive at the facility within 48 hours of placing an order. Non-standard parts (requiring re-manufacturing or ordering from another supplier) shall be shipped within 96 hours.

E. Operator workstation software, project-specific software, graphic software, database software, and firmware updates which resolve known software deficiencies as identified by the TCC shall be provided and correctly installed at no charge during the warranty period.

PART 2 - PRODUCTS

2.1 TEMPERATURE SENSORS AND THERMOSTATS

A. Refer to the drawings for proper type and location.

B. Temperature sensors shall be Resistance Temperature Device (RTD) or Thermistor.

C. Duct sensors shall be rigid or averaging as shown. Averaging sensors shall be a minimum of 5 feet in length.

D. Immersion sensors shall be provided with a separable stainless steel well. Pressure rating of well is to be consistent with the system pressure in which it is to be installed.

E. Space temperature thermostats shall be surface mounted and equipped with a warmer-cooler knob/slide or digital adjustment, override switch, digital room temperature display, and communication port. Programmed setpoints shall be locally adjustable limited to 2 degrees plus/minus setpoint set by BAS.

F. Generally, thermostats/sensors shall be installed at 5’-0” above finished floor. Where thermostats/sensors are to be mounted next to a light switch, install at the same height as the light switch.

G. Provide matched temperature sensors for differential temperature measurement. Differential accuracy shall be within 0.1 F.

2.2 TEMPERATURE INDICATORS

A. Five-inch diameter, industrial dial type thermometers shall be installed at the locations shown on the drawings. Stem length shall be appropriate for pipe size with at least 2 inches of immersion where possible in liquids. The thermometers shall be as manufactured by Ametek, Ashcroft, Trevice or Weiss.

B. Provide brass separable well or insertion tap on inlet and outlet of each item requiring water.

2.3 WATER SENSORS

A. Temperature sensors for water lines are to be the well type. Wells are to be threaded brass with sensor coated with a heat transfer compound. Strap on sensors will not be acceptable. Water sensors shall be same manufacturer as temperature sensors.

2.4 MIXED AIR SENSORS

A. Sensors shall be bendable averaging, type made of copper or aluminum elements. For AHUs, RTUs, etc, the sensors shall be at least 20 feet in length.

2.5 DISCHARGE AIR AND DUCT ROOM RETURN AIR SENSORS.

A. Sensors shall be rigid insertion type. Care shall be taken to ensure the sensors are securely mounted as not to allow any vibration and installed in such a manner as to indicate the truest possible temperature.

2.6 FREEZE/LOW LIMIT THERMOSTAT

A. Provide a freeze/low limit thermostat in each AHU, RTU, etc with a water coil for freeze protection. These devices shall be manual reset type. This device shall be wired by using a normally closed contact in series with the motor starting circuit and a normally open set of contacts as an input to the unitary controller. The element shall be constructed of copper and be at least 20 feet in length. It shall be installed serpentine across the air entering the coil. Each application shall be closely evaluated before installation. The device shall sense the lowest temperature by any one foot section of its element.

2.7 HUMIDTY SENSORS

A. Sensors shall be 100% solid state, linear and temperature compensated with scaling 0-100% RH range with LED or LCD display. Accuracy shall be 1% between 0%-90% RH. Operating range shall be -40 deg F to 122 deg F. Do not submit products that do not mee this range. The output of the device shall utilize an analog output 4-20 mA, 2-wire, polarity insensitive. The device shall use a power supply of 24 VAC or VDC. Duct mounted sensors shall have at least 4-inch insertion probe with a 16 gauge steel enclosure. Wall mounted sensors shall have enclosure of polystyrene plastic and mounted next to and same height as temperature sensors. Both shall have same appearance. Combination temperature sensors and humidity sensors are allowed.

2.8 LOW PRESSURE TRANSDUCERS

A. These devices shall be 100% solid state, linear and temperature compensated. Accuracy shall be no less than plus or minus 1% of its full range. Linearity, repeatability and hysteresis shall be no less than plus or minus 0.1%. All pressure sensors shall utilize output averaging/output clipping to adjust and stabilize and fluctuations in the output. The output of the device shall utilize a 0-10 VDC signal. The device shall use a power supply of 24 VAC or VDC. The enclosure shall be 16 gauge steel. For sensing internal static pressure of air handling ducts utilize sensors with a range of 0-5 inches column. For sensing building static pressure utilize a sensor with a range of -0.5 to 0.5 inches water column.

2.9 RELAYS

A. Relays for starting and stopping fractional horsepower motors shall be rated as follows:

1. 1/4 HP motors or less use 15 ampere rated relays.
2. 1/3 HP motors use 20 ampere rated relays.
3. 1/2 HP motors use 30 ampere rated relays.
4. Relays used for pilot duty service shall be rated at minimum 10 amperes.
5. Provide auxiliary pilot duty relays on motor starters as required for control function.

2.10 CENTRAL STATION AIR HANDLING UNITS

A. All AHUs, DOAUs, RTUs, etc. shall be provided with differential air pressure switches across supply fans to provide fan status for each unit.

2.11 SMOKE SHUTDOWN

A. All AHUs, DOAUs, RTUs, etc with fans at 2,000 CFM or greater are required to have smoke shutdown safeties as required by the Building Code. These smoke detectors shall have a set of auxiliary contacts wired to a dedicated input of the unitary controller to provide status of the smoke detector. All units must be provided with a current sensor to provide fan status for each unit. For projects with Outside Air units, any system fire alarm activation shall shutdown all OA units. Coordinate with the Fire Alarm Contractor and Electrical Contractor to ensure a complete and code complaint installation.

2.12 SINGLE DIRECTION WATER FLOW METER

A. Onicon Model F-1200 series dual turbine insertion flow meter. 50:1 turn down with 2% accuracy with 0.4 to 20 fps range. Install flow meter with sufficient pipe diameters as recommended by manufacturer. Provide factory authorized startup verification or operation and calibration. Provide with remote display where indicated.

2.13 BI-DIRECTIONAL WATER FLOW METER

A. Onicon Model FB-1200 series dual turbine insertion flow meter. 50:1 turn down with 2% accuracy with 0.4 to 20 fps range. Install flow meter with sufficient pipe diameters as

recommended by manufacturer. Provide factory authorized startup verification or operation and calibration. Provide with remote display where indicated.

2.14 POTABLE WATER FLOW METER

A. Onicon Model F-1330/F-1130 series dual turbine insertion flow meter suitable for potable water applications. 50:1 turn down with 2% accuracy with 0.4 to 20 fps range. Install flow meter with sufficient pipe diameters as recommended by manufacturer. Provide factory authorized startup verification or operation and calibration. Provide with remote display where indicated.

2.15 BTU METER

A. Provide and install Onicon System – 10 MTU Meter System, including F-1200 dual turbine insertion flow meter, supply and return temperature sensors and wells and control panel. The entire system shall be factory calibrated and programmed for particular system where installed and shall be re-programmable at the control panel keyboard. Furnish a certificate of calibration for each BTU meter. Interface the control panel into the DDC controls system to obtain energy totals, flow rates, temperatures for trending. Install flow meter with sufficient pipe diameters as recommended by manufacturer. Provide factory authorized startup verification or operation and calibration. Provide with remote display where indicated.

2.16 DIFFERENTIAL PRESSURE TRANSMITTERS

A. Provide Rosemount (ITT Bell & Gossett ST-102R) or Johnson Controls Setra DPT 2302-050-V field mounted differential pressure sensor transmitters as indicated on the plans. Range shall be 0-25 psig. Accuracy shall be 0.025% full span.

2.17 CARBON DIOXIDE SENSORS

A. Sensor shall have range of 0-2000 ppm with plus/minus 5% accuracy. Analog output of 0-10 or 2-20 VDC. Power shall be 24 VAC. Sensor provided with no display. Honeywell Model C7232 or equal.

2.18 WEATHER STATION HOUSING

A. Provide Kele Model A21 Outdoor Aspirated Humidity/Temperature housing. NEMA 3R enclosure is painted white to reduce the effect of radiation, and the enclosure has a lockable latch for security. The outdoor air sensor will be installed on the north wall in the shade as not to be effected by sunlight, building ventilation or weather. This location shall be indicated on the control drawings. Installation in outside air ductwork or louvers is not acceptable. If not installed to provide "accurate" temperature readings, it shall be relocated (at the TCC’s expense) until a suitable location is found.

2.19 NETWORK CONTROLLER

A. Install the Network Controller in a surface mounted panel, NEMA type 1 enclosures, with a removable hinged door. Provide a flush mounted key lock. All control panels must be painted the same color and identified. The boxes are to be made from 16 gauge material. Panels should not be provided with knockouts.

B. Control panels shall be constructed by a UL approved panel manufacturer. The standard used shall be UL508A. All proper labels are to be attached. Panel shall meet arc flash requirements.

C. The Network Controller shall be web-based and communicate BACnet MSTP. It shall issue all time schedules, summer/winter commands, customized trending, holiday scheduling, alarm handling, clock or other shared commands to all unitary controllers within the building network. If for any reason communications between the unitary(s)/ASCs and the Network Controller is lost, the unitary(s) shall operate in a stand-alone manner (in day operation) until communications is restored. It shall also operate in the "summer" or "winter" mode as last commanded.

D. The Network Controller shall be integrated and interoperable with the facility infrastructure and include user access to all system data locally over the Local Area Network (LAN) / Wide Area Network (WAN) within the building and remotely by a standard Web Browser over the Internet. Any computer connected to the network, utilizing a web browser and having the proper password.

E. The Network Controller shall be a fully user-programmable, supervisory controller. It shall monitor the network of distributed unitary controllers, provide global strategy and direction, and communicate on a peer-to-peer basis with other Network Controllers.

F. The Network Controller shall have battery back-up to allow a minimum of seven days of operation. The Network Controller shall be composed of one or more independent, stand-alone, microprocessor to manage the network strategies described in Application software section. The network controller shall have ample memory to support its operating system, database and programming requirements. The operating system of the Network Controller shall manage the input and output communications signals to allow distributed unitary controllers to share real and virtual point information and allow central monitoring and alarms. The database and custom programming routines of the Network Controller shall be editable from a single operator station.

G. The Network Controller shall be remotely monitored via the internet. Additionally, it shall include automatic emailing and texting out alarms, gathering alarms, reports and logs, programming and downloading database.

H. The Network Controller shall continually check the status of all processor and memory circuits. If a failure is detected, the controller shall:

1. Assume a predetermined failure mode.
2. Emit an alarm.
3. Display card failure identification.

I. Under no circumstance shall more than 75% of the total number of sensor and control points be connected through a single Network Controller. Each DDC system component shall provide for the future addition of at least 20% of each type of the number of sensor and control points connected to that component including a minimum of one universal input and one universal output.

2.20 APPLICATION SPECIFIC CONTROLLERS (ASC) / UNITARY CONTROLLER

A. Each DDC Controller shall be able to extend its performance and capacity using remote application specific controllers (ASCs) through factory Networks. Each ASC shall operate as a stand-alone controller capable of performing its specified control responsibilities independently of other controllers in the network. Each ASC shall be a microprocessor-based, multi-tasking, real-time digital control processor. Provide ASCs as a minimum to all equipment as applicable to this project.

B. Each ASC shall be capable of control of the terminal device independent of the manufacturer of the terminal device.

1. Each controller shall support its own real-time operating system. Provide a time clock with battery backup to allow for stand-alone operation in the event communication is lost and to insure protection during power outages.
2. Programming of central system controllers shall utilize the same language and code as used by DDC Controllers to maximize system flexibility and ease of use. Should the system controller utilize a different control language, provide a DDC Controller to meet the specified functionality.
3. Each controller shall have connection provisions for a portable operator's terminal. This tool shall allow the user to display, generate or modify all point databases and operating programs.
4. Each controller shall have 15% spare point capacity to be provided for all applications.

2.21 GRAPHICS SCREENS AND TRENDS

A. All graphics screens shall be submitted for review by Engineer. Provide the following animated, color graphics screens minimally:

B. Entire floor plan home screen with OAT, Time and Date displays

1. Floor plan showing major zones.
2. Click major zone displays enlarged floor plan of the zone showing individual equipment zones & numbers. Include link to respective mechanical room.
3. Click individual zone shows equipment graphic. Display all data points from points list, occ/unocc schedule and setpoints, VAV cfm and setpoint, OAT, Time and Date.

C. Color graphic screens shall be designed for all mechanical systems and shall include the following:

1. A graphic shall be the starting page with the building graphically indicated. Break up the floor plan into zones to match Contract Documents. The building shall be the point of reference to enter into the respective building control system.
2. All RTUs.
3. All exhaust fans
4. All ductless split system units
5. All miscellaneous items shown on Control Drawings
6. Domestic hot water heaters and pumps

7. All floor plans indicating all actual room numbers, thermostats and mechanical equipment. Operator shall be capable of clicking on any equipment and pull up the respective graphic screen.

D. Graphics to include floor plans with room numbers (as-built room numbers) and thermostat locations, links to flow diagrams for heat pumps, zone dampers, hydronic loop systems, outside air systems, domestic hot water and lighting controls.

E. All new graphics shall match the existing system graphics, unless noted otherwise.

F. The graphical programming software shall allow for interactive mouse-driven placement of block icons on the graphic screen and connection of block inputs to block outputs by means of drawing lines to form a graphic logic diagram. The user shall not have to manually input text to assign block input/output interconnections. Blocks shall allow entry of adjustable settings and parameters via pop-up windows.

G. The clarity of sequence shall be such that the user has the ability to verify that the system programming meets the specs without having to learn or interpret a manufacturer's unique programming language. Provide a means for testing and/or debugging the control programs off-line (not communicating with control units) using operator entered values for physical inputs and time. Provide a means for testing and/or debugging the control programs on-line (communicating with control units), showing actual physical inputs land all block outputs in real time.

H. Provide a utility that shall allow the graphic logic diagrams to be directly compiled into application programs. Logic diagrams shall be viewable either off-line, or on-line with real-time output values.

I. All graphic software shall be in the html web browser format and support multiple simultaneous screens to be opened and resizable in a "Windows" type environment. All functions, except text entry, shall be executable with a mouse. Graphic software shall provide for multitasking such that third party programs can be used while the Operator Workstation Software is on-line. Provide the ability to alarm graphically even when operator is in another software package. The software shall allow for Owner to create user defined, color graphic displays of geographic maps, building plans, floor plans, and mechanical and electrical system schematics.

J. The contractor shall provide libraries of pre-engineered screens and symbols depicting standard air handling unit components (e.g. fans, coils, filters, dampers, etc.), mechanical system components (e.g., pumps, heat pumps, etc.), complete mechanical systems (e.g. VAV, etc.) and electrical symbols.

K. The graphic development package shall use a mouse or similar pointing device to allow the user to perform the following:

1. Define symbols
2. Position items on graphic screens
3. Attach physical or virtual points to a graphic
4. Define background screens
5. Define connecting lines and curves
6. Locate, orient and size descriptive text
7. Define and display colors for all elements

8. Establish correlation between symbols or text and associated system points or other displays
9. Create hot spots or link triggers to other graphic displays or other functions in the software

L. The TCC shall including programming of point trends as directed by the Engineer. These can be requested at any time during the project including the warranty period. Trend "change of state" for digital inputs. Trend analog points in 60 minute increments. Maintain trend history for 30 days or as shown on Drawings. Include the following:

1. Outside air temperature
2. AHU/RTU leaving air temperatures for each unit
3. Domestic hot water supply temperatures
4. Others as directed in the field or on Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. The project plans shall be thoroughly examined for control device and equipment locations, and any discrepancies, conflicts, or omissions shall be reported to the Architect/Engineer for resolution before rough-in work is started.

B. The contractor shall inspect the site to verify that equipment is installable as shown, and any discrepancies, conflicts, or omissions shall be reported to the Architect/Engineer for resolution before rough-in work is started.

3.2 GENERAL WORKMANSHIP

A. Install equipment, piping, wiring/conduit parallel to building lines (i.e. horizontal, vertical, and parallel to walls) wherever possible.

B. Provide sufficient slack and flexible connections to allow for vibration of piping and equipment.

C. Install all equipment in readily accessible location as defined by chapter 1 article 100-part A of the NEC. Control panels shall be attached to structural walls unless mounted in equipment enclosure specifically designed for that purpose. Panels shall be mounted to allow for unobstructed access for service.

D. Verify integrity of all wiring to ensure continuity and freedom from shorts and grounds.

E. All equipment, installation, and wiring shall comply with acceptable industry specifications and standards for performance, reliability, and compatibility and be executed in strict adherence to local codes and standard practices.

3.3 WIRING

A. All control and interlock wiring shall comply with the national and local electrical codes and Division 26 of these specifications. Where the requirements of this section differ with those in Division 26, the requirements of this section shall take precedence.

B. Per direction from Owner, all control wiring shall be orange and shall not conflict with other system's wiring. TCC shall coordinate control wiring color with Owner and Owner's IT Department prior to installation.

C. Where Class 2 wires are in concealed and accessible locations including ceiling return air plenums, approved cables not in raceway may be used provided that:

1. Circuits meet NEC Class 2 (current-limited) requirements. (Low-voltage power circuits shall be sub-fused when required to meet Class 2 current-limit.)
2. All cables shall be UL listed for application, i.e., cables used in ceiling plenums shall be UL listed specifically for that purpose.

D. Do not install Class 2 wiring in conduit containing Class 1 wiring. Boxes and panels containing high voltage may not be used for low voltage wiring except for the purpose of interfacing the two (e.g. relays and transformers).

E. Where class 2 wiring is run exposed, wiring shall be run parallel along a surface or perpendicular to it, and bundled, using approved wire ties at no greater than 3 m [10 ft] intervals. Such bundled cable shall be fastened to the structure, using specified fasteners, at 1.5 m [5 ft] intervals or more often to achieve a neat and workmanlike result.

F. All wire-to-device connections shall be made at a terminal blocks or terminal strip. All wire-to wire connections shall be at a terminal block, or with a crimped connector. All wiring within enclosures shall be neatly bundled and anchored to permit access and prevent restriction to devices and terminals.

G. Maximum allowable voltage for control wiring shall be 120V. If only higher voltages are available, the Control System Contractor shall provide step down transformers.

H. All wiring shall be installed as continuous lengths, where possible. Any required splices shall be made only within an approved junction box or other approved protective device.

I. Install plenum wiring in sleeves where it passes through walls and floors. Maintain fire rating at all penetrations in accordance with other sections of this specification and local codes.

J. Size of conduit and size and type of wire shall be the design responsibility of the Control System Contractor, in keeping with the manufacturer's recommendation and NEC.

K. Control and status relays are to be in designated enclosures only. These relays may also be located within packaged equipment control panel enclosures. These relays shall not be located within Class 1 starter enclosures.

L. Follow manufacturer's installation recommendations for all communication and network cabling. Network or communication cabling shall be run separately from other wiring.

M. This Contractor shall terminate all control and/or interlock wiring and shall maintain updated (as-built) wiring diagrams with terminations identified at the job site.

N. Flexible metal conduits and liquid-tight, flexible metal conduits shall not exceed 3' in length and shall be supported at each end. Flexible metal conduit less than 1/2" electrical trade size shall not be used. In areas exposed to moisture, including chiller and boiler rooms, liquid-tight, flexible metal conduits shall be used.

O. Control wiring shall not be run in building's data cable tray.

3.4 INSTALLATION OF SENSORS

A. Install sensors in accordance with the manufacturer's recommendations.

B. Mount sensors rigidly and adequate for the environment within which the sensor operates.

C. Room temperature sensors shall be installed on concealed junction boxes properly supported by the wall framing.

D. All wires attached to sensors shall be air sealed in their conduits or in the wall to stop air transmitted from other areas affecting sensor readings.

E. Install duct static pressure tap with tube end facing directly down-stream of air flow.

F. Sensors used in mixing plenums, and hot and cold decks shall be of the averaging type. Averaging sensors shall be installed in a serpentine manner horizontally across duct. Each bend shall be supported with a capillary clip.

G. All pipe mounted temperature sensors shall be installed in wells. Install all liquid temperature sensors with heat conducting fluid in thermal wells.

H. Wiring for space sensors shall be concealed in building walls. EMT conduit is acceptable within mechanical and service rooms.

I. Install outdoor air temperature sensors on north wall complete with sun shield at designated location.

J. Furnish and install at all thermostat and sensor locations shown on the Mechanical Drawings, 1 or 2 gang boxes as required at 48" AFF with blank stainless-steel plates for field mounting of thermostats and sensors. Extend wiring in 3/4" conduit from box to a point above finished ceiling. Extension of conduit system and installation of control conductors shall be provided by the temperature control contractor.

3.5 VALVES, DAMPERS, AND ACTUATORS

A. Unless otherwise specified, control valves shall be furnished and sized by TCC. The valves are to provide the required capacity and the close off rating shall be in excess of the system pressures encountered (minimum 40 psi differential). Proportioning-type valve bodies shall be packed type with throttling type inner valve (quick close plug shall not be acceptable). Proportional type

valves to be rated at 125 psi static pressure. Modulating control valves shall be selected within a 3-5 psig pressure drop range. Two position control valves (open/close) shall be line size.

B. Dampers for various units requiring field mounting shall be tight closing, "ultra low leakage", opposed blade with side and edge seals. They shall be sized and furnished under this section. Installation of dampers shall be by the sheet metal contractor, coordinated by the TCC. Frames shall be no less than 16 gauge galvanized steel and furnished with mounting holes for duct mounting. Damper blades shall be no less than 14 gauge galvanized steel with maximum blade width of 8 inches. Blades shall be secured to 1/2 inch zinc plated axles and hardware with nylon bearings. Provide thrust bearings at the end of each blade. All dampers shall have end switches to positively prove damper position.

C. All damper and valve actuators shall be fail safe spring return type with sufficient force to operate the dampers or valves under all normal operating conditions. They shall return to the normally open position upon a loss of power. Exceptions to the spring return applications are (1) face and bypass actuators, (2) boiler 3-way loop mixing valves, (2) boiler room seasonal changeover valves. Actuators for fan coil units, terminal units, etc. shall fail in the last position.

D. All actuators shall be of the same manufacturer and have internal feedback circuitry to provide a positive action to ensure proper positioning of the damper or valve through the entire sequence. Actuators shall have an adjustable starting point to accurately set the range of travel to the output of the controller. All actuators shall also utilize the same input signal (6-9 VDC, 0-010V, 2-10 VDC, 4-20 MA) in order to maintain some consistency in the control application. Analog actuation is 6-9 VDC, 0-010V, 2-10 VDC or 4-20 MA, floating point control with 2 digital outputs is NOT approved as analog actuation.

E. Actuators may be factory installed. If not factory installed they shall be installed as per instructions by the terminal equipment manufacturer.

F. Locations mounted above ceiling shall be marked on ceiling grid.

G. Install damper motors on the outside of the duct in warm areas where possible, not in air stream or locations exposed to outdoor conditions.

3.6 IDENTIFICATION OF HARDWARE AND WIRING

A. All wiring and cabling, including that within factory-fabricated panels, shall be labeled at each end within 2" of termination with a cable identifier and other descriptive information.

B. Permanently label or code each point of field terminal strips to show the instrument or item served.

C. Identify control panels with minimum 1-cm letters on laminated plastic nameplates.

D. Identify all other control components with permanent labels. Identifiers shall match record documents. All plug-in components shall be labeled such that removal of the component does not remove the label.

3.7 CONTROLLERS

A. Provide a separate Controller for each major piece of HVAC equipment. Points used for control loop reset such as outside air or space temperature are exempt from this requirement.

B. Building Controllers and Custom Application Controllers shall be selected to provide a minimum of 15% spare I/O point capacity for each point type found at each location. If input points are not universal, 15% of each type is required. If outputs are not universal, 15% of each type is required. A minimum of one spare is required for each type of point used.

C. Future use of spare capacity shall require providing the field device, field wiring, points database definition, and custom software. No additional Controller boards or point modules shall be required to implement use of these spare points.

3.8 TRAINING AND SYSTEM EVALUATION

A. Provide a minimum of four system hands on training sessions (quarterly), 8 hours each during the contract period for personnel designated by the Owner.

B. The BAS operator training and instructional program will be initiated to ensure that the owner/operators are instructed and trained on the many functions of their building management system. The building owner/operator will be taught to perform the following functions by factory trained, authorized building automation service representatives. The building operators will learn how to perform daily operations including:

1. An overview of the building management system architecture and unit level controllers.
2. System logon/logoff procedures
3. Access system using menus and graphics
4. Respond to alarms
5. Make schedule changes
6. Monitor and command objects and properties
7. How to utilize and set up trends
8. Generate and save reports
9. Verification that the specified equipment sequences of operation and building control strategies are maintained intact

C. This program will be performed on quarterly intervals with the building operators throughout the first year of system operation.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS AND POINT LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SEQUENCE OF OPERATIONS	OTHER
Temperature Controls	X	X	X	X	X	X	X	

END OF SECTION 230900

SECTION 231123 - FACILITY NATURAL GAS PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipes, tubes, and fittings.
2. Piping specialties.
3. Piping and tubing joining materials.
4. Valves.
5. Pressure regulators.
6. Service meters.
7. Concrete bases.

1.3 DEFINITIONS

A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

1.4 PERFORMANCE REQUIREMENTS

A. Minimum Operating-Pressure Ratings:

1. Piping and Valves: 100 psi minimum unless otherwise indicated.
2. Service Regulators: 65 psig minimum unless otherwise indicated.
3. Minimum Operating Pressure of Service Meter: 5 psig .

B. Natural-Gas System Pressure within Buildings: **see Mechanical specifications and drawings.**

C. Delegated Design: Design restraints and anchors for natural-gas piping and equipment, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

1.5 SUBMITTALS

A. Product Data: For each type of the following:

1. Piping specialties.
2. Corrugated, stainless-steel tubing with associated components.
3. Valves. Include pressure rating, capacity, settings, and electrical connection data of selected models.
4. Pressure regulators. Indicate pressure ratings and capacities.
5. Service meters. Indicate pressure ratings and capacities. Include bypass fittings and meter bars supports.
6. Dielectric fittings.

B. Shop Drawings: For facility natural-gas piping layout. Include plans, piping layout and elevations, sections, and details for fabrication of pipe anchors, hangers, supports for multiple pipes, alignment guides, expansion joints and loops, and attachments of the same to building structure. Detail location of anchors, alignment guides, and expansion joints and loops.

1. Shop Drawing Scale: 1/4 inch per foot.

C. Qualification Data: For qualified professional engineer.

D. Welding certificates.

E. Field quality-control reports.

F. Operation and Maintenance Data: For pressure regulators and service meters to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Steel Support Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

B. Pipe Welding Qualifications: Qualify procedures and operators according to ASME Boiler and Pressure Vessel Code.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Handling Flammable Liquids: Remove and dispose of liquids from existing natural-gas piping according to requirements of authorities having jurisdiction.

B. Deliver pipes and tubes with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe end damage and to prevent entrance of dirt, debris, and moisture.

C. Store and handle pipes and tubes having factory-applied protective coatings to avoid damaging coating, and protect from direct sunlight.

D. Protect stored PE pipes and valves from direct sunlight.

1.8 PROJECT CONDITIONS

A. Perform site survey, research public utility records, and verify existing utility locations. Contact utility-locating service for area where Project is located.

B. Interruption of Existing Natural-Gas Service: Do not interrupt natural-gas service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide purging and startup of natural-gas supply according to requirements indicated:

1. Notify Architect no fewer than 10 days in advance of proposed interruption of natural-gas service.
2. Do not proceed with interruption of natural-gas service without Utility Owner's written permission.

1.9 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

B. Coordinate requirements for access panels and doors for valves installed concealed behind finished surfaces. Comply with requirements in Division 08 Section "Access Doors and Frames."

PART 2 - PRODUCTS

2.1 PIPES, TUBES, AND FITTINGS

A. Steel Pipe: ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.

1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
4. Forged-Steel Flanges and Flanged Fittings: ASME B16.5, minimum Class 150, including bolts, nuts, and gaskets of the following material group, end connections, and facings:

a. Material Group: 1.1.
b. End Connections: Threaded or butt welding to match pipe.
c. Lapped Face: Not permitted underground.
d. Gasket Materials: ASME B16.20, metallic, flat, asbestos free, aluminum o-rings, and spiral-wound metal gaskets.

e. Bolts and Nuts: ASME B18.2.1, carbon steel aboveground and stainless steel underground.

5. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and PE.

a. Joint Cover Kits: Epoxy paint, adhesive, and heat-shrink PE sleeves.

6. Mechanical Couplings:

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1) Dresser Piping Specialties; Division of Dresser, Inc.
2) Smith-Blair, Inc.

b. Steel flanges and tube with epoxy finish.
c. Buna-nitrile seals.
d. Steel bolts, washers, and nuts.
e. Coupling shall be capable of joining PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.
f. Steel body couplings installed underground on plastic pipe shall be factory equipped with anode.

B. Corrugated, Stainless-Steel Tubing: Comply with ANSI/IAS LC 1.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. OmegaFlex, Inc.
b. Parker Hannifin Corporation; Parflex Division.
c. Titeflex.
d. Tru-Flex Metal Hose Corp.

2. Tubing: ASTM A 240/A 240M, corrugated, Series 300 stainless steel.
3. Coating: PE with flame retardant.

a. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1) Flame-Spread Index: 25 or less.
2) Smoke-Developed Index: 50 or less.

4. Fittings: Copper-alloy mechanical fittings with ends made to fit and listed for use with corrugated stainless-steel tubing and capable of metal-to-metal seal without gaskets. Include brazing socket or threaded ends complying with ASME B1.20.1.
5. Striker Plates: Steel, designed to protect tubing from penetrations.

6. Manifolds: Malleable iron or steel with factory-applied protective coating. Threaded connections shall comply with ASME B1.20.1 for pipe inlet and corrugated tubing outlets.
7. Operating-Pressure Rating: 5 psig .

C. Aluminum Tubing: Comply with ASTM B 210 and ASTM B 241/B 241M.

1. Aluminum Alloy: Alloy 5456 is prohibited.
2. Protective Coating: Factory-applied coating capable of resisting corrosion on tubing in contact with masonry, plaster, insulation, water, detergents, and sewerage.
3. Flare Fittings: Comply with ASME B16.26 and SAE J513.

    a. Copper-alloy fittings.
    b. Metal-to-metal compression seal without gasket.
    c. Dryseal threads shall comply with ASME B1.20.3.

D. Drawn-Temper Copper Tube: Comply with ASTM B 88, Type K .

1. Copper Fittings: ASME B16.22, wrought copper, and streamlined pattern.
2. Bronze Flanges and Flanged Fittings: ASME B16.24, Class 150.

    a. Gasket Material: ASME B16.20, metallic, flat, asbestos free, aluminum o-rings, and spiral-wound metal gaskets.
    b. Bolts and Nuts: ASME B18.2.1, carbon steel or stainless steel.

3. Protective Coating for Underground Tubing: Factory-applied, extruded PE a minimum of 0.022 inch thick.

E. Annealed-Temper Copper Tube: Comply with ASTM B 88, Type K

1. Copper Fittings: ASME B16.22, wrought copper, and streamlined pattern.
2. Flare Fittings: Comply with ASME B16.26 and SAE J513.

    a. Copper fittings with long nuts.
    b. Metal-to-metal compression seal without gasket.
    c. Dryseal threads complying with ASME B1.20.3.

3. Protective Coating for Underground Tubing: Factory-applied, extruded PE a minimum of 0.022 inch thick.

F. Tin-Lined Copper Tube: ASTM B 280, seamless, annealed, with interior tin-plated lining.

1. Flare Fittings: Comply with ASME B16.26 and SAE J513.

    a. Copper fittings with long nuts.
    b. Metal-to-metal compression seal without gasket.
    c. Dryseal threads complying with ASME B1.20.3.

G. PE Pipe: ASTM D 2513, SDR 11.

1. PE Fittings: ASTM D 2683, socket-fusion type or ASTM D 3261, butt-fusion type with dimensions matching PE pipe.

2. PE Transition Fittings: Factory-fabricated fittings with PE pipe complying with ASTM D 2513, SDR 11; and steel pipe complying with ASTM A 53/A 53M, black steel, Schedule 40, Type E or S, Grade B.
3. Anodeless Service-Line Risers: Factory fabricated and leak tested.

    a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet.
    b. Casing: Steel pipe complying with ASTM A 53/A 53M, Schedule 40, black steel, Type E or S, Grade B, with corrosion-protective coating covering. Vent casing aboveground.
    c. Aboveground Portion: PE transition fitting.
    d. Outlet shall be threaded or flanged or suitable for welded connection.
    e. Tracer wire connection.
    f. Ultraviolet shield.
    g. Stake supports with factory finish to match steel pipe casing or carrier pipe.

4. Transition Service-Line Risers: Factory fabricated and leak tested.

    a. Underground Portion: PE pipe complying with ASTM D 2513, SDR 11 inlet connected to steel pipe complying with ASTM A 53/A 53M, Schedule 40, Type E or S, Grade B, with corrosion-protective coating for aboveground outlet.
    b. Outlet shall be threaded or flanged or suitable for welded connection.
    c. Bridging sleeve over mechanical coupling.
    d. Factory-connected anode.
    e. Tracer wire connection.
    f. Ultraviolet shield.
    g. Stake supports with factory finish to match steel pipe casing or carrier pipe.

5. Plastic Mechanical Couplings, NPS 1-1/2 and Smaller: Capable of joining PE pipe to PE pipe.

    a. Manufacturers: Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**:

        1) Lyall, R. W. & Company, Inc.
        2) Mueller Co.; Gas Products Div.
        3) Perfection Corporation; a subsidiary of American Meter Company.

    b. PE body with molded-in, stainless-steel support ring.
    c. Buna-nitrile seals.
    d. Acetal collets.
    e. Electro-zinc-plated steel stiffener.

6. Plastic Mechanical Couplings, NPS 2 and Larger: Capable of joining PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.

    a. Manufacturers: Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**:

        1) Lyall, R. W. & Company, Inc.

2) Mueller Co.; Gas Products Div.
3) Perfection Corporation; a subsidiary of American Meter Company.

b. Fiber-reinforced plastic body.
c. PE body tube.
d. Buna-nitrile seals.
e. Acetal collets.
f. Stainless-steel bolts, nuts, and washers.

7. Steel Mechanical Couplings: Capable of joining plain-end PE pipe to PE pipe, steel pipe to PE pipe, or steel pipe to steel pipe.

a. Manufacturers: Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**:

1) Dresser Piping Specialties; Division of Dresser, Inc.
2) Smith-Blair, Inc.

b. **Stainless-steel** flanges and tube with epoxy finish.
c. Buna-nitrile seals.
d. **Stainless-steel** bolts, washers, and nuts.
e. Factory-installed anode for steel-body couplings installed underground.

2.2 PIPING SPECIALTIES

A. Appliance Flexible Connectors:

1. Indoor, Fixed-Appliance Flexible Connectors: Comply with ANSI Z21.24.
2. Indoor, Movable-Appliance Flexible Connectors: Comply with ANSI Z21.69.
3. Outdoor, Appliance Flexible Connectors: Comply with ANSI Z21.75.
4. Corrugated stainless-steel tubing with polymer coating.
5. Operating-Pressure Rating: 0.5 psig .
6. End Fittings: Zinc-coated steel.
7. Threaded Ends: Comply with ASME B1.20.1.
8. Maximum Length: 72 inches .

B. Quick-Disconnect Devices: Comply with ANSI Z21.41.

1. Copper-alloy convenience outlet and matching plug connector.
2. Nitrile seals.
3. Hand operated with automatic shutoff when disconnected.
4. For indoor or outdoor applications.
5. Adjustable, retractable restraining cable.

C. Y-Pattern Strainers:

1. Body: ASTM A 126, Class B, cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.

3. Strainer Screen: 40-mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig .

D. Basket Strainers:

1. Body: ASTM A 126, Class B, high-tensile cast iron with bolted cover and bottom drain connection.
2. End Connections: Threaded ends for NPS 2 and smaller; flanged ends for NPS 2-1/2 and larger.
3. Strainer Screen: 40 mesh startup strainer, and perforated stainless-steel basket with 50 percent free area.
4. CWP Rating: 125 psig .

E. T-Pattern Strainers:

1. Body: Ductile or malleable iron with removable access coupling and end cap for strainer maintenance.
2. End Connections: Grooved ends.
3. Strainer Screen: 40-mesh startup strainer, and perforated stainless-steel basket with 57 percent free area.
4. CWP Rating: 750 psig .

F. Weatherproof Vent Cap: Cast- or malleable-iron increaser fitting with corrosion-resistant wire screen, with free area at least equal to cross-sectional area of connecting pipe and threaded-end connection.

2.3 JOINING MATERIALS

A. Joint Compound and Tape: Suitable for natural gas.

B. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

C. Brazing Filler Metals: Alloy with melting point greater than 1000 deg F complying with AWS A5.8/A5.8M. Brazing alloys containing more than 0.05 percent phosphorus are prohibited.

2.4 MANUAL GAS SHUTOFF VALVES

A. See "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles for where each valve type is applied in various services.

B. General Requirements for Metallic Valves, NPS 2 and Smaller: Comply with ASME B16.33.

1. CWP Rating: 125 psig.
2. Threaded Ends: Comply with ASME B1.20.1.
3. Dryseal Threads on Flare Ends: Comply with ASME B1.20.3.

4. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
5. Listing: Listed and labeled by an NRTL acceptable to authorities having jurisdiction for valves 1 inch and smaller.
6. Service Mark: Valves 1-1/4 inches to NPS 2 shall have initials "WOG" permanently marked on valve body.

C. General Requirements for Metallic Valves, NPS 2-1/2 and Larger: Comply with ASME B16.38.

1. CWP Rating: 125 psig.
2. Flanged Ends: Comply with ASME B16.5 for steel flanges.
3. Tamperproof Feature: Locking feature for valves indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
4. Service Mark: Initials "WOG" shall be permanently marked on valve body.

D. One-Piece, Bronze Ball Valve with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. BrassCraft Manufacturing Company; a Masco company.
    b. Conbraco Industries, Inc.; Apollo Div.
    c. Lyall, R. W. & Company, Inc.
    d. McDonald, A. Y. Mfg. Co.
    e. Perfection Corporation; a subsidiary of American Meter Company.

2. Body: Bronze, complying with ASTM B 584.
3. Ball: Chrome-plated brass.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE; blowout proof.
6. Packing: Separate packnut with adjustable-stem packing threaded ends.
7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

E. Two-Piece, Full-Port, Bronze Ball Valves with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. BrassCraft Manufacturing Company; a Masco company.
    b. Conbraco Industries, Inc.; Apollo Div.
    c. Lyall, R. W. & Company, Inc.

d. McDonald, A. Y. Mfg. Co.
e. Perfection Corporation; a subsidiary of American Meter Company.

2. Body: Bronze, complying with ASTM B 584.
3. Ball: Chrome-plated bronze.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE; blowout proof.
6. Packing: Threaded-body packnut design with adjustable-stem packing.
7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

F. Two-Piece, Regular-Port Bronze Ball Valves with Bronze Trim: MSS SP-110.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. BrassCraft Manufacturing Company; a Masco company.
b. Conbraco Industries, Inc.; Apollo Div.
c. Lyall, R. W. & Company, Inc.
d. McDonald, A. Y. Mfg. Co.
e. Perfection Corporation; a subsidiary of American Meter Company.

2. Body: Bronze, complying with ASTM B 584.
3. Ball: Chrome-plated bronze.
4. Stem: Bronze; blowout proof.
5. Seats: Reinforced TFE.
6. Packing: Threaded-body packnut design with adjustable-stem packing.
7. Ends: Threaded, flared, or socket as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
8. CWP Rating: 600 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

G. Bronze Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Lee Brass Company.
b. McDonald, A. Y. Mfg. Co.

2. Body: Bronze, complying with ASTM B 584.
3. Plug: Bronze.

4. Ends: Threaded, socket, or flanged as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
5. Operator: Square head or lug type with tamperproof feature where indicated.
6. Pressure Class: 125 psig.
7. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
8. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

H. Cast-Iron, Nonlubricated Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. McDonald, A. Y. Mfg. Co.
    b. Mueller Co.; Gas Products Div.
    c. Xomox Corporation; a Crane company.

2. Body: Cast iron, complying with ASTM A 126, Class B.
3. Plug: Bronze or nickel-plated cast iron.
4. Seat: Coated with thermoplastic.
5. Stem Seal: Compatible with natural gas.
6. Ends: Threaded or flanged as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
7. Operator: Square head or lug type with tamperproof feature where indicated.
8. Pressure Class: 125 psig.
9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

I. Cast-Iron, Lubricated Plug Valves: MSS SP-78.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Flowserve.
    b. Homestead Valve; a division of Olson Technologies, Inc.
    c. McDonald, A. Y. Mfg. Co.
    d. Milliken Valve Company.
    e. Mueller Co.; Gas Products Div.
    f. R&M Energy Systems, A Unit of Robbins & Myers, Inc.

2. Body: Cast iron, complying with ASTM A 126, Class B.
3. Plug: Bronze or nickel-plated cast iron.
4. Seat: Coated with thermoplastic.
5. Stem Seal: Compatible with natural gas.
6. Ends: Threaded or flanged as indicated in "Underground Manual Gas Shutoff Valve Schedule" and "Aboveground Manual Gas Shutoff Valve Schedule" Articles.
7. Operator: Square head or lug type with tamperproof feature where indicated.
8. Pressure Class: 125 psig.

9. Listing: Valves NPS 1 and smaller shall be listed and labeled by an NRTL acceptable to authorities having jurisdiction.
10. Service: Suitable for natural-gas service with "WOG" indicated on valve body.

J. PE Ball Valves: Comply with ASME B16.40.

1. Manufacturers: Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**:

    a. Kerotest Manufacturing Corp.
    b. Lyall, R. W. & Company, Inc.
    c. Perfection Corporation; a subsidiary of American Meter Company.

2. Body: PE.
3. Ball: PE.
4. Stem: Acetal.
5. Seats and Seals: Nitrile.
6. Ends: Plain or fusible to match piping.
7. CWP Rating: 80 psig.
8. Operating Temperature: Minus 20 to plus 140 deg F.
9. Operator: Nut or flat head for key operation.
10. Include plastic valve extension.
11. Include tamperproof locking feature for valves where indicated on Drawings.

K. Valve Boxes:

1. Cast-iron, two-section box.
2. Top section with cover with "GAS" lettering.
3. Bottom section with base to fit over valve and barrel a minimum of 5 inches in diameter.
4. Adjustable cast-iron extensions of length required for depth of bury.
5. Include tee-handle, steel operating wrench with socket end fitting valve nut or flat head, and with stem of length required to operate valve.

2.5 MOTORIZED GAS VALVES

A. Automatic Gas Valves: Comply with ANSI Z21.21.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

    a. ASCO Power Technologies, LP; Division of Emerson.
    b. Dungs, Karl, Inc.
    c. Eaton Corporation; Controls Div.
    d. Eclipse Combustion, Inc.
    e. Honeywell International Inc.

f. Johnson Controls.

3. Body: Brass or aluminum.
4. Seats and Disc: Nitrile rubber.
5. Springs and Valve Trim: Stainless steel.
6. Normally closed.
7. Visual position indicator.
8. Mechanical operator for actuation by appliance automatic shutoff device.

B. Electrically Operated Valves: Comply with UL 429.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

a. ASCO Power Technologies, LP; Division of Emerson.
b. Dungs, Karl, Inc.
c. Eclipse Combustion, Inc.
d. Goyen Valve Corp.; Tyco Environmental Systems.
e. Magnatrol Valve Corporation.
f. Parker Hannifin Corporation; Climate & Industrial Controls Group; Skinner Valve Div.
g. Watts Regulator Co.; Division of Watts Water Technologies, Inc.

3. Pilot operated.
4. Body: Brass or aluminum.
5. Seats and Disc: Nitrile rubber.
6. Springs and Valve Trim: Stainless steel.
7. 120-V ac, 60 Hz, Class B, continuous-duty molded coil, and replaceable.
8. NEMA ICS 6, Type 4, coil enclosure.
9. Normally closed.
10. Visual position indicator.

2.6 PRESSURE REGULATORS

A. General Requirements:

1. Single stage and suitable for natural gas.
2. Steel jacket and corrosion-resistant components.
3. Elevation compensator.
4. End Connections: Threaded for regulators NPS 2 and smaller; flanged for regulators NPS 2-1/2 and larger.

B. Service Pressure Regulators: Comply with ANSI Z21.80.

1. Manufacturers: Subject to compliance with requirements, **available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**:

2. Basis-of-Design Product: Subject to compliance with requirements, provide **product indicated on Drawings** or comparable product by one of the following:

    a. Actaris.
    b. American Meter Company.
    c. Fisher Control Valves and Regulators; Division of Emerson Process Management.
    d. Invensys.
    e. Richards Industries; Jordan Valve Div.

3. Body and Diaphragm Case: Cast iron or die-cast aluminum.
4. Springs: Zinc-plated steel; interchangeable.
5. Diaphragm Plate: Zinc-plated steel.
6. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
7. Orifice: Aluminum; interchangeable.
8. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
9. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.
10. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
11. Overpressure Protection Device: Factory mounted on pressure regulator.
12. Atmospheric Vent: Factory- or field-installed, stainless-steel screen in opening if not connected to vent piping.
13. Maximum Inlet Pressure: 100 psig.

C. Line Pressure Regulators: Comply with ANSI Z21.80.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

    a. Actaris.
    b. American Meter Company.
    c. Eclipse Combustion, Inc.
    d. Fisher Control Valves and Regulators; Division of Emerson Process Management.
    e. Invensys.
    f. Maxitrol Company.
    g. Richards Industries; Jordan Valve Div.

3. Body and Diaphragm Case: Cast iron or die-cast aluminum.
4. Springs: Zinc-plated steel; interchangeable.
5. Diaphragm Plate: Zinc-plated steel.
6. Seat Disc: Nitrile rubber resistant to gas impurities, abrasion, and deformation at the valve port.
7. Orifice: Aluminum; interchangeable.
8. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
9. Single-port, self-contained regulator with orifice no larger than required at maximum pressure inlet, and no pressure sensing piping external to the regulator.

10. Pressure regulator shall maintain discharge pressure setting downstream, and not exceed 150 percent of design discharge pressure at shutoff.
11. Overpressure Protection Device: Factory mounted on pressure regulator.
12. Atmospheric Vent: Factory- or field-installed, stainless-steel screen in opening if not connected to vent piping.
13. Maximum Inlet Pressure: **Refer to Mechanical plans and specifications.**

D. Appliance Pressure Regulators: Comply with ANSI Z21.18.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

    a. Canadian Meter Company Inc.
    b. Eaton Corporation; Controls Div.
    c. Harper Wyman Co.
    d. Maxitrol Company.
    e. SCP, Inc.

3. Body and Diaphragm Case: Die-cast aluminum.
4. Springs: Zinc-plated steel; interchangeable.
5. Diaphragm Plate: Zinc-plated steel.
6. Seat Disc: Nitrile rubber.
7. Seal Plug: Ultraviolet-stabilized, mineral-filled nylon.
8. Factory-Applied Finish: Minimum three-layer polyester and polyurethane paint finish.
9. Regulator may include vent limiting device, instead of vent connection, if approved by authorities having jurisdiction.
10. Maximum Inlet Pressure: **Refer to Mechanical plans and Specifications.**

2.7 SERVICE METERS

A. Diaphragm-Type Service Meters: Comply with ANSI B109.2.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

    a. Actaris.
    b. American Meter Company.
    c. Invensys.

3. Case: Die-cast aluminum.
4. Connections: Steel threads.
5. Diaphragm: Synthetic fabric.
6. Diaphragm Support Bearings: Self-lubricating.

7. Compensation: Continuous temperature and pressure.
8. Meter Index: Cubic feet .
9. Meter Case and Index: Tamper resistant.
10. Remote meter reader compatible.
11. Maximum Inlet Pressure: 100 psig.
12. Pressure Loss: Maximum 0.5-inch wg.
13. Accuracy: Maximum plus or minus 1.0 percent.

B. Service-Meter Bypass Fittings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

    a. Lyall, R. W. & Company, Inc.
    b. Williamson, T. D., Inc.

3. Ferrous, tee, pipe fitting with capped side inlet for temporary natural-gas supply.
4. Integral ball-check bypass valve.

2.8 DIELECTRIC FITTINGS

A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.

B. Dielectric Unions:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Capitol Manufacturing Company.
    b. Central Plastics Company.
    c. Hart Industries International, Inc.
    d. Jomar International Ltd.
    e. Matco-Norca, Inc.
    f. McDonald, A. Y. Mfg. Co.
    g. Watts Regulator Co.; a division of Watts Water Technologies, Inc.
    h. Wilkins; a Zurn company.

2. Description:

    a. Standard: ASSE 1079.
    b. Pressure Rating: 125 psig minimum at 180 deg F.
    c. End Connections: Solder-joint copper alloy and threaded ferrous.

C. Dielectric Flanges:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

    a. Capitol Manufacturing Company.
    b. Central Plastics Company.
    c. Matco-Norca, Inc.
    d. Watts Regulator Co.; a division of Watts Water Technologies, Inc.
    e. Wilkins; a Zurn company.

2. Description:

    a. Standard: ASSE 1079.
    b. Factory-fabricated, bolted, companion-flange assembly.
    c. Pressure Rating: 125 psig minimum at 180 deg F.
    d. End Connections: Solder-joint copper alloy and threaded ferrous; threaded solder-joint copper alloy and threaded ferrous.

D. Dielectric-Flange Insulating Kits:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

    a. Advance Products & Systems, Inc.
    b. Calpico, Inc.
    c. Central Plastics Company.
    d. Pipeline Seal and Insulator, Inc.

2. Description:

    a. Nonconducting materials for field assembly of companion flanges.
    b. Pressure Rating: 150 psig.
    c. Gasket: Neoprene or phenolic.
    d. Bolt Sleeves: Phenolic or polyethylene.
    e. Washers: Phenolic with steel backing washers.

2.9 LABELING AND IDENTIFYING

A. Detectable Warning Tape: Acid- and alkali-resistant, PE film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored yellow.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in for natural-gas piping system to verify actual locations of piping connections before equipment installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Close equipment shutoff valves before turning off natural gas to premises or piping section.

B. Inspect natural-gas piping according to NFPA 54 to determine that natural-gas utilization devices are turned off in piping section affected.

C. Comply with NFPA 54requirements for prevention of accidental ignition.

3.3 OUTDOOR PIPING INSTALLATION

A. Comply with NFPA 54 for installation and purging of natural-gas piping.

B. Install underground, natural-gas piping buried at least 36 inches below finished grade. Comply with requirements in Division 31 Section "Earth Moving" for excavating, trenching, and backfilling.

1. If natural-gas piping is installed less than 36 inches below finished grade, install it in containment conduit.

C. Install underground, PE, natural-gas piping according to ASTM D 2774.

D. Steel Piping with Protective Coating:

1. Apply joint cover kits to pipe after joining to cover, seal, and protect joints.
2. Repair damage to PE coating on pipe as recommended in writing by protective coating manufacturer.
3. Replace pipe having damaged PE coating with new pipe.

E. Copper Tubing with Protective Coating:

1. Apply joint cover kits over tubing to cover, seal, and protect joints.
2. Repair damage to PE coating on pipe as recommended in writing by protective coating manufacturer.

F. Install fittings for changes in direction and branch connections.

G. Install pressure gage downstream from each service regulator. Pressure gages are specified in Division 23 Section "Meters and Gages for HVAC Piping."

3.4 INDOOR PIPING INSTALLATION

A. Comply with NFPA 54 for installation and purging of natural-gas piping.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements are used to size pipe and calculate friction loss, expansion, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

C. Arrange for pipe spaces, chases, slots, sleeves, and openings in building structure during progress of construction, to allow for mechanical installations.

D. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

E. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

F. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

G. Locate valves for easy access.

H. Install natural-gas piping at uniform grade of 2 percent down toward drip and sediment traps.

I. Install piping free of sags and bends.

J. Install fittings for changes in direction and branch connections.

K. Verify final equipment locations for roughing-in.

L. Comply with requirements in Sections specifying gas-fired appliances and equipment for roughing-in requirements.

M. Drips and Sediment Traps: Install drips at points where condensate may collect, including service-meter outlets. Locate where accessible to permit cleaning and emptying. Do not install where condensate is subject to freezing.

1. Construct drips and sediment traps using tee fitting with bottom outlet plugged or capped. Use nipple a minimum length of 3 pipe diameters, but not less than 3 inches long and same size as connected pipe. Install with space below bottom of drip to remove plug or cap.

N. Extend relief vent connections for service regulators, line regulators, and overpressure protection devices to outdoors and terminate with weatherproof vent cap.

O. Conceal pipe installations in walls, pipe spaces, utility spaces, above ceilings, below grade or floors, and in floor channels unless indicated to be exposed to view.

P. Concealed Location Installations: Except as specified below, install concealed natural-gas piping and piping installed under the building in containment conduit constructed of steel pipe

with welded joints as described in Part 2. Install a vent pipe from containment conduit to outdoors and terminate with weatherproof vent cap.

1. Above Accessible Ceilings: Natural-gas piping, fittings, valves, and regulators may be installed in accessible spaces without containment conduit.
2. In Floors: Install natural-gas piping with welded or brazed joints and protective coating in cast-in-place concrete floors. Cover piping to be cast in concrete slabs with minimum of 1-1/2 inches of concrete. Piping may not be in physical contact with other metallic structures such as reinforcing rods or electrically neutral conductors. Do not embed piping in concrete slabs containing quick-set additives or cinder aggregate.
3. In Floor Channels: Install natural-gas piping in floor channels. Channels must have cover and be open to space above cover for ventilation.
4. In Walls or Partitions: Protect tubing installed inside partitions or hollow walls from physical damage using steel striker barriers at rigid supports.

    a. Exception: Tubing passing through partitions or walls does not require striker barriers.

5. Prohibited Locations:

    a. Do not install natural-gas piping in or through circulating air ducts, clothes or trash chutes, chimneys or gas vents (flues), ventilating ducts, or dumbwaiter or elevator shafts.
    b. Do not install natural-gas piping in solid walls or partitions.

Q. Use eccentric reducer fittings to make reductions in pipe sizes. Install fittings with level side down.

R. Connect branch piping from top or side of horizontal piping.

S. Install unions in pipes NPS 2 and smaller, adjacent to each valve, at final connection to each piece of equipment. Unions are not required at flanged connections.

T. Do not use natural-gas piping as grounding electrode.

U. Install strainer on inlet of each line-pressure regulator and automatic or electrically operated valve.

V. Install pressure gage downstream from each line regulator. Pressure gages are specified in Division 23 Section "Meters and Gages for HVAC Piping."

W. Install sleeves for piping penetrations of walls, ceilings, and floors. Comply with requirements for sleeves specified in Division 23 Section "Sleeves and Sleeve Seals for HVAC Piping."

X. Install sleeve seals for piping penetrations of concrete walls and slabs. Comply with requirements for sleeve seals specified in Division 23 Section "Sleeves and Sleeve Seals for HVAC Piping."

Y. Install escutcheons for piping penetrations of walls, ceilings, and floors. Comply with requirements for escutcheons specified in Division 23 Section "Escutcheons for HVAC Piping."

3.5 SERVICE-METER ASSEMBLY INSTALLATION

A. Install service-meter assemblies aboveground**,** on concrete bases.

B. Install metal shutoff valves upstream from service regulators. Shutoff valves are not required at second regulators if two regulators are installed in series.

C. Install strainer on inlet of service-pressure regulator and meter set.

D. Install service regulators mounted outside with vent outlet horizontal or facing down. Install screen in vent outlet if not integral with service regulator.

E. Install metal shutoff valves upstream from service meters. Install dielectric fittings downstream from service meters.

F. Install service meters downstream from pressure regulators.

G. Install metal bollards to protect meter assemblies. Comply with requirements in Division 05 Section "Metal Fabrications" for pipe bollards.

3.6 VALVE INSTALLATION

A. Install manual gas shutoff valve for each gas appliance ahead of corrugated stainless-steel tubing, aluminum, or copper connector.

B. Install underground valves with valve boxes.

C. Install regulators and overpressure protection devices with maintenance access space adequate for servicing and testing.

D. Install earthquake valves aboveground outside buildings according to listing.

E. Install anode for metallic valves in underground PE piping.

3.7 PIPING JOINT CONSTRUCTION

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Threaded Joints:

1. Thread pipe with tapered pipe threads complying with ASME B1.20.1.
2. Cut threads full and clean using sharp dies.
3. Ream threaded pipe ends to remove burrs and restore full inside diameter of pipe.
4. Apply appropriate tape or thread compound to external pipe threads unless dryseal threading is specified.
5. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

D. Welded Joints:

1. Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators.
2. Bevel plain ends of steel pipe.
3. Patch factory-applied protective coating as recommended by manufacturer at field welds and where damage to coating occurs during construction.

E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter.

F. Flanged Joints: Install gasket material, size, type, and thickness appropriate for natural-gas service. Install gasket concentrically positioned.

G. Flared Joints: Cut tubing with roll cutting tool. Flare tube end with tool to result in flare dimensions complying with SAE J513. Tighten finger tight, then use wrench. Do not overtighten.

H. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.

1. Plain-End Pipe and Fittings: Use butt fusion.
2. Plain-End Pipe and Socket Fittings: Use socket fusion.

3.8 HANGER AND SUPPORT INSTALLATION

A. Install seismic restraints on piping. Comply with requirements for seismic-restraint devices specified in Division 23 Section "Vibration and Seismic Controls for HVAC Piping and Equipment."

B. Comply with requirements for pipe hangers and supports specified in Division 23 Section "Hangers and Supports for HVAC Piping and Equipment."

C. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:

1. NPS 1 and Smaller: Maximum span, 96 inches; minimum rod size, 3/8 inch.
2. NPS 1-1/4: Maximum span, 108 inches; minimum rod size, 3/8 inch.
3. NPS 1-1/2 and NPS 2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
4. NPS 2-1/2 to NPS 3-1/2: Maximum span, 10 feet; minimum rod size, 1/2 inch.
5. NPS 4 and Larger: Maximum span, 10 feet ; minimum rod size, 5/8 inch .

D. Install hangers for horizontal drawn-temper copper tubing with the following maximum spacing and minimum rod sizes:

1. NPS 3/8: Maximum span, 48 inches; minimum rod size, 3/8 inch.
2. NPS 1/2 and NPS 5/8: Maximum span, 72 inches ; minimum rod size, 3/8 inch.
3. NPS 3/4 and NPS 7/8: Maximum span, 84 inches; minimum rod size, 3/8 inch.
4. NPS 1 : Maximum span, 96 inches; minimum rod size, 3/8 inch.

E. Install hangers for horizontal, corrugated stainless-steel tubing with the following maximum spacing and minimum rod sizes:

1. NPS 3/8: Maximum span, 48 inches; minimum rod size, 3/8 inch.
2. NPS 1/2: Maximum span, 72; minimum rod size, 3/8 inch.
3. NPS 3/4 and Larger: Maximum span, 96 inches; minimum rod size, 3/8 inch.

3.9 CONNECTIONS

A. Connect to utility's gas main according to utility's procedures and requirements.

B. Install natural-gas piping electrically continuous, and bonded to gas appliance equipment grounding conductor of the circuit powering the appliance according to NFPA 70.

C. Install piping adjacent to appliances to allow service and maintenance of appliances.

D. Connect piping to appliances using manual gas shutoff valves and unions. Install valve within 72 inches of each gas-fired appliance and equipment. Install union between valve and appliances or equipment.

E. Sediment Traps: Install tee fitting with capped nipple in bottom to form drip, as close as practical to inlet of each appliance.

3.10 LABELING AND IDENTIFYING

A. Comply with requirements in Division 23 Section "Identification for HVAC Piping and Equipment" for piping and valve identification.

B. Install detectable warning tape directly above gas piping, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.11 PAINTING

A. Comply with requirements in Division 09 painting Sections for painting interior and exterior natural-gas piping.

B. Paint exposed, exterior metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory-applied paint or protective coating.

1. Alkyd System: MPI EXT 5.1D.

a. Prime Coat: Alkyd anticorrosive metal primer.
b. Intermediate Coat: Exterior alkyd enamel matching topcoat.
c. Topcoat: Exterior alkyd enamel (flat).
d. Color: Gray.

C. Paint exposed, interior metal piping, valves, service regulators, service meters and meter bars, earthquake valves, and piping specialties, except components, with factory-applied paint or protective coating.

1. Latex Over Alkyd Primer System: MPI INT 5.1Q.

a. Prime Coat: Alkyd anticorrosivemetal primer.
b. Intermediate Coat: Interior latex matching topcoat.
c. Topcoat: Interior latex (flat).
d. Color: Gray.

2. Alkyd System: MPI INT 5.1E.

a. Prime Coat: Alkyd anticorrosive metal primer.
b. Intermediate Coat: Interior alkyd matching topcoat.
c. Topcoat: Interior alkyd (flat).
d. Color: Gray.

D. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish.

3.12 CONCRETE BASES

A. Concrete Bases: Anchor equipment to concrete base according to seismic codes at Project.

1. Construct concrete bases of dimensions indicated, but not less than 4 inches larger in both directions than supported unit.
2. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of the base.
3. Install epoxy-coated anchor bolts for supported equipment that extend through concrete base, and anchor into structural concrete floor.
4. Place and secure anchorage devices. Use supported equipment manufacturer's setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Install anchor bolts to elevations required for proper attachment to supported equipment.
6. Use 3000-psig , 28-day, compressive-strength concrete and reinforcement as specified in Division 03 Section "Cast-in-Place Concrete."

3.13 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Test, inspect, and purge natural gas according to NFPA 54 and authorities having jurisdiction.

C. Natural-gas piping will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

3.14 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain earthquake valves.

3.15 OUTDOOR PIPING SCHEDULE

A. Underground natural-gas pipingshall be one of the following:

1. PE pipe and fittings joined by heat fusion, or mechanical couplings; service-line risers with tracer wire terminated in an accessible location.
2. Steel pipe with wrought-steel fittings and welded joints, or mechanical couplings. Coat pipe and fittings with protective coating for steel piping.
3. Annealed-temper copper tube with wrought-copper fittings and brazed joints. Coat pipe and fittings with protective coating for copper tubing.

B. Aboveground natural-gas pipingshall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.
3. Annealed-temper copper tube with wrought-copper fittings and brazed joints.

C. Branch Piping in Cast-in-Place Concrete to Single Appliance: Annealed-temper copper tube with wrought-copper fittings and brazed joints. Install piping embedded in concrete with no joints in concrete.

D. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

3.16 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES LESS THAN 0.5 PSIG

A. Aboveground, branch piping NPS 1 and smaller shall be one ofthe following:

1. Corrugated stainless-steel tubing with mechanical fittings having socket or threaded ends to match adjacent piping.
2. Annealed-temper, tin-lined copper tube with flared joints and fittings.
3. Annealed-temper, copper tube with wrought-copper fittings and brazed joints.
4. Aluminum tube with flared fittings and joints.
5. Steel pipe with malleable-iron fittings and threaded joints.

B. Aboveground, distribution piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.
3. Drawn-temper copper tube with wrought-copper fittings and brazed joints.

C. Underground, below building, piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.

D. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

E. Containment Conduit Vent Piping: Steel pipe with malleable-iron fittings and threaded or wrought-steel fittings with welded joints. Coat underground pipe and fittings with protective coating for steel piping.

3.17 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES MORE THAN 0.5 PSIG AND LESS THAN 5 PSIG

A. Aboveground, branch piping NPS 1 and smaller shall be one of the following:

1. Corrugated stainless-steel tubing with mechanical fittings having socket or threaded ends to match adjacent piping.
2. Annealed-temper, tin-lined copper tube with flared joints and fittings.
3. Annealed-temper, copper tube with wrought-copper fittings and brazed joints.
4. Aluminum tube with flared fittings and joints.
5. Steel pipe with malleable-iron fittings and threaded joints.

B. Aboveground, distribution piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with steel welding fittings and welded joints.
3. Drawn-temper copper tube with wrought-copper fittings and brazed joints.

C. Underground, below building, piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.

D. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat underground pipe and fittings with protective coating for steel piping.

E. Containment Conduit Vent Piping: Steel pipe with malleable-iron fittings and threaded or wrought-steel fittings with welded joints. Coat underground pipe and fittings with protective coating for steel piping.

3.18 INDOOR PIPING SCHEDULE FOR SYSTEM PRESSURES MORE THAN 5 PSIG

A. Aboveground Piping: Maximum operating pressure more than 5 psig.

B. Aboveground, Branch Piping: Steel pipe with steel welding fittings and welded joints.

C. Aboveground, distribution piping shall be one of the following:

1. Steel pipe with steel welding fittings and welded joints.
2. Drawn-temper copper tube with wrought-copper fittings and brazed joints.

D. Underground, below building, piping shall be one of the following:

1. Steel pipe with malleable-iron fittings and threaded joints.
2. Steel pipe with wrought-steel fittings and welded joints.

E. Containment Conduit: Steel pipe with wrought-steel fittings and welded joints. Coat pipe and fittings with protective coating for steel piping.

F. Containment Conduit Vent Piping: Steel pipe with malleable-iron fittings and threaded or wrought-steel fittings with welded joints. Coat underground pipe and fittings with protective coating for steel piping.

3.19 UNDERGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Connections to Existing Gas Piping: Use valve and fitting assemblies made for tapping utility's gas mains and listed by an NRTL.

B. Underground:

1. PE valves.
2. NPS 2 and Smaller: Bronze plug valves.
3. NPS 2-1/2 and Larger: Cast-iron, lubricated plug valves.

3.20 ABOVEGROUND MANUAL GAS SHUTOFF VALVE SCHEDULE

A. Valves for pipe sizes NPS 2 and smaller at service meter shall be one of the following:

1. One-piece, bronze ball valve with bronze trim.
2. Two-piece, full -port, bronze ball valves with bronze trim.
3. Bronze plug valve.

B. Valves for pipe sizes NPS 2-1/2 and larger at service meter shall be one of the following:

1. Two-piece, full-port, bronze ball valves with bronze trim.
2. Bronze plug valve.
3. Cast-iron, nonlubricated plug valve.

C. Distribution piping valves for pipe sizes NPS 2 and smaller shall be one of the following:

1. One-piece, bronze ball valve with bronze trim.
2. Two-piece, full -port, bronze ball valves with bronze trim.
3. Bronze plug valve.

D. Distribution piping valves for pipe sizes NPS 2-1/2 and larger shall be one of the following:

1. Two-piece, full-port, bronze ball valves with bronze trim.
2. Bronze plug valve.
3. Cast-iron, nonlubricatedplug valve.

E. Valves in branch piping for single appliance shall be one of the following:

1. One-piece, bronze ball valve with bronze trim.

2. Two-piece, full-port, bronze ball valves with bronze trim.
3. Bronze plug valve.

END OF SECTION 231123

SECTION 232300 – REFRIGERANT PIPING & VALVES

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Pipe and pipe fittings

B. Valves

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISIONS FOR MECHANICAL WORK

C. Section 230700 – HVAC PIPING INSULATION

1.3 QUALITY ASSURANCE

A. Welding: Qualify procedures and personnel according to ASME Boiler and Pressure Vessel Code: Section IX, “Welding and Brazing Qualification.”

B. Comply with ASHRAE 15, “Safety Code for Refrigerant Systems.”

C. Comply with ASME B31.5, “Refrigerant Piping and Heat Transfer Components.”

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

A. Copper Tube: ASTM B 88, Type K or L or ASTM B 280, Type ACR.

B. Wrought-Copper Fittings: ASME B16.22.

C. Wrought-Copper Unions: ASME B16.22. Solder Filler Metals: ASTM B 32. Use 95-5 tin antimony or alloy HB solder to join copper socket fittings on copper pipe.

D. Brazing Filler Metals: AWS A5.8.

2.2 PIPING APPLICATIONS FOR REFRIGERANT R-410A

A. Suction, Hot-Gas and Liquid Lines: Copper, Type ACR or L or K, annealed- or drawn-temper tubing and wrought-copper fittings with brazed or soldered joints.

2.3 VALVES AND SPECIALTIES

A. All valves and specialties to be rated for a working pressure of 500 psig and a maximum operating temperature of 240 deg F.

B. Diaphragm Packless Valves:

1. Body and Bonnet: Forged brass or cast bronze; globe design with straight-through or angle pattern.
2. Diaphragm: Phosphor bronze and stainless steel with stainless-steel spring.
3. Operator: Rising stem and hand wheel.
4. Seat: Nylon.

C. Packed-Angle Valves:

1. Body and Bonnet: Forged brass or cast bronze.
2. Packing: Molded stem, back seating, and replaceable under pressure.
3. Operator: Rising stem.
4. Seat: Nonrotating, self-aligning polytetrafluoroethylene.
5. Seal Cap: Forged-brass or valox hex cap.

D. Check Valves:

1. Body: Ductile iron, forged brass, or cast bronze; globe pattern.
2. Bonnet: Bolted ductile iron, forged brass, or cast bronze; or brass hex plug.
3. Piston: Removable polytetrafluoroethylene seat.
4. Closing Spring: Stainless steel.
5. Manual Opening Stem: Seal cap, plated-steel stem, and graphite seal.
6. Maximum Opening Pressure: 0.50 psig.

E. Service Valves:

1. Body: Forged brass with brass cap including key end to remove core.
2. Core: Removable ball-type check valve with stainless-steel spring.
3. Seat: Polytetrafluoroethylene.

F. Solenoid Valves: Comply with ARI 760 and UL 429; listed and labeled by an NRTL.

G. Safety Relief Valves: Comply with ASME Boiler and Pressure Vessel Code; listed and labeled by an NRTL.

H. Thermostatic Expansion Valves: Comply with ARI 750.

I. Hot-Gas Bypass Valves: Comply with UL 429; listed and labeled by an NRTL.

J. Straight-Type Strainers:

1. Body: Welded steel with corrosion-resistant coating.
2. Screen: 100-mesh stainless steel.

K. Angle-Type Strainers:

1. Body: Forged brass or cast bronze.
2. Drain Plug: Brass hex plug.
3. Screen: 100-mesh monel.

L. Moisture/Liquid Indicators:

1. Body: Forged brass.
2. Window: Replaceable, clear, fused glass window with indicating element protected by filter screen.
3. Indicator: Color coded to show moisture content in ppm.
4. Minimum Moisture Indicator Sensitivity: Indicate moisture above 60 ppm.

M. Replaceable-Core Filter Dryers: Comply with ARI 730.

N. Permanent Filter Dryers: Comply with ARI 730.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems; indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Shop Drawings.

B. Install refrigerant piping according to ASHRAE 15.

C. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.

D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

F. Install piping adjacent to machines to allow service and maintenance.

G. Install piping free of sags and bends.

H. Install fittings for changes in direction and branch connections.

I. Select system components with pressure rating equal to or greater than system operating pressure.

J. Install piping as short and direct as possible, with a minimum number of joints, elbows, and fittings.

K. Arrange piping to allow inspection and service of refrigeration equipment. Install valves and specialties in accessible locations to allow for service and inspection. Install access doors or panels as required if valves or equipment requiring maintenance is concealed behind finished surfaces.

L. Install refrigerant piping in protective conduit where installed belowground.

M. Install refrigerant piping in rigid or flexible conduit in locations where exposed to mechanical injury.

N. Slope refrigerant piping as follows:

1. Install horizontal hot-gas discharge piping with a uniform slope downward away from compressor.
2. Install horizontal suction lines with a uniform slope downward to compressor.
3. Install traps and double risers to entrain oil in vertical runs where required.
4. Liquid lines may be installed level.

O. When brazing or soldering, remove solenoid-valve coils and sight glasses; also remove valve stems, seats, and packing, and accessible internal parts of refrigerant specialties. Do not apply heat near expansion-valve bulb.

P. Install pipe sleeves at penetrations in exterior walls and floor assemblies.

Q. Seal penetrations through fire and smoke barriers.

R. Install piping with adequate clearance between pipe and adjacent walls and hangers or between pipes for insulation installation.

S. Install sleeves through floors, walls, or ceilings, sized to permit installation of full-thickness insulation.

T. Seal pipe penetrations through exterior walls.

3.2 PIPE JOINT CONSTRUCTION (per manufacturer)

A. Ream ends of pipes and tubes and remove burrs.

B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

C. Fill pipe and fittings with an inert gas (nitrogen or carbon dioxide), during brazing or welding, to prevent scale formation.

D. Soldered Joints: Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook."

E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," Chapter "Pipe and Tube."

1. Use Type BcuP, copper-phosphorus alloy for joining copper socket fittings with copper pipe.
2. Use Type BAg, cadmium-free silver alloy for joining copper with bronze or steel.

3.3 FIELD QUALITY CONTROL

A. Perform tests and inspections and prepare test reports.

B. Tests and Inspections:

1. Comply with ASME B31.5, Chapter VI.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Refrigerant Piping & Valves	X	X	X	X				

END OF SECTION 232300

SECTION 233113 – DUCTWORK AND DUCTWORK INSULATION

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Low Pressure Ducts

B. Insulation

C. Duct Cleaning

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISIONS FOR MECHANICAL WORK

C. Section 233300 – DUCTWORK ACCESSORIES

1.3 REFERENCES

A. ASHRAE - Handbook 2013 Fundamentals; Chapter 21- Duct Design.

B. ASHRAE - Handbook 1989 HVAC Systems and Equipment; Chapter 19 - Duct Construction.

C. ASHRAE - Surface Burning Characteristics of Building Materials.

D. NFPA 90A - Installation of Air Conditioning and Ventilating Systems.

E. NFPA 90B - Installation of Warm Air Heating and Air Conditioning Systems.

F. NFPA 96 - Installation of Equipment for the removal of Smoke and Grease- Laden Vapors from Commercial Cooling Equipment.

G. IMC - International Mechanical Code - Latest Issue

H. SMACNA - HVAC Duct Construction Standards, Metal and Flexible.

I. UL 181 - Factory-made Air Ducts and Connections.

1.4 DEFINITIONS

A. Duct Sizes: Inside clear dimensions. For lined ducts, maintain sizes inside lining.

B. Low Pressure: Three pressure classifications: 2-inch WG positive or negative static pressure and velocities less than 2, 000 fpm; 1-inch WG positive or negative static pressure and velocities less than 2,500 fpm and 2-inch WG positive or negative static pressure and velocities less than 2,500 fpm.

C. Medium Pressure: Three pressure classifications: 3-inch WG positive or negative static pressure and velocities less than 4,000 fpm, 4-inch WG positive static pressure and velocities greater than 2,000 fpm, 6-inch WG positive static pressure and velocities grater thank 2,000 fpm and

D. High Pressure: 10-inch WG positive static pressure and velocities greater than 2,000 fpm.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. C&R Sheet Metal, Ductmate, DuctSox Corporation, Eastern Sheet Metal, Euro-Aire, Fabricair, FlexmasterUSA, KE Fibertec, Lindab, Nordfab, Turnkey or Hamlin.

2.2 MATERIALS

A. General: Non-combustible or conforming to requirements for Class 1 air duct materials, or UL 181.

B. All duct material and covering shall have a flame spread rating of 24 or less and a smoke developed rating of 50 or less when tested in accordance with ASTM E84.

C. Steel Ducts: ASTM A653/A653M galvanized steel sheet, lock forming quality, having zinc coating of 1.25 oz. Per sq. ft. for each side in conformance with ASTM G90.

D. Flexible Ducts: Interlocking spiral of galvanized steel, or fabric supported on helically wound spring steel wire rated to 2 inches WG positive and 1.5 inches WG negative for low pressure ducts and 15 inches positive or negative for medium high-pressure ducts. Flexible ducts shall conform to UL 181. Maximum length per run shall be 48".

E. Insulated Flexible Duct: Flexible duct wrapped with flexible glass fiber insulation, enclosed by seamless aluminum pigmented plastic vapor barrier jacket; maximum 0.23 K value at 75 degrees F. Maximum length per run shall be 48".

F. Stainless Steel Ducts: ASTM A480/A480M, Type 304.

G. Double-Wall Duct and Fittings

1. Outer Duct to conform with SMACNA Duct Construction Standards.
2. Inner Duct: Minimum 0.028-inch perforated galvanized sheet steel having 3/32-inch diameter perforations, with overall open area of 23%.

3. Interstitial Insulation: Fibrous-glass liner complying with ASTM C1071, NFPA 90A or NFPA 90B; and NAIMA AH124, “Fibrous Glass Duct Liner Standard”.

    a. Maximum Thermal Conductivity: 0.27 Btu x in./hr. x sq. ft. x deg F at 75 deg F mean temperature.
    b. Install spacers that position the duct liner at uniform distance from the outer duct without compressing insulation.
    c. Coat insulation with antimicrobial coating.
    d. Cover insulation with polyester film complying with UL 181, Class 1.

H. Fasteners: Rivets, bolts, or sheet metal screws.

I. Sealant: Non-hardening, water resistant, fire resistive, compatible with mating materials; liquid used along or with tape, or heavy mastic.

J. Hanger Rod: Steel, galvanized; threaded both ends, threaded one end, or continuously threaded. Stainless steel for stainless steel duct.

2.3 DRYER VENT DUCTWORK

A. Install dryer vent ductwork per IMC Chapter 5 requirements.

B. All dryer ductwork shall be minimum of 4-inches in diameter. Refer to the drawings for duct sizing.

C. Flexible transition hose connection at the dryer shall be aluminum flexible duct type. Plastic or vinyl is not acceptable.

D. Dryer vent ductwork shall be rigid metal 20-gauge aluminum duct. Dryer ducts shall have a smooth interior finish and be supported at 4-foot intervals. Duct joins shall be installed so that the male end of the duct points in the direction of the airflow. Joints shall be secured with metal tape. Do not use rivets or screws in the joints or anywhere else in the duct since they would cause lint buildup.

E. Dryer vent duct length shall not exceed the dryer manufacturer requirements or requirements outlined in IMC Chapter 5.

F. Termination of the dryer vent duct system to the exterior shall be per the dryer manufacturer requirements utilizing a proper hood or roof jack equipped with backdraft damper. Verify painting of termination hoods and/or roof jacks with General Contractor and Owner. The hood opening shall point down and maintain a minimum of 12-inches clearance between hood and ground/roof.

2.4 INSULATION

A. Internal: Glass fiber; ASTM C1071, G21 and G22 with an NRC not less than .65, 1.5 lb./.cu. ft. minimum density; smooth black matted air side surface for maximum 5000 FPM air velocity.

B. External (choose one of the following):

1. Flexible or rigid glass fiber; ASTM C1290 and C1136 all-service duct wrap; K value of .27 at 75 degrees F and a minimum installed R-value of R-6. Provide with foil scrim facing.
2. Reflectix (or equal) R-6.0 insulation having two layers of aluminum foil with polyethylene bonded for strength, and two inner layers of insulated bubbles; 5/16" thick; 1.25 oz./sq. ft. Flame and smoke 25/50.

C. Insulation material and jackets shall have a flame spread rating of 25 or less and a smoke developed rating of 50 or less when tested in accordance with ASTM E84.

D. Adhesives: Waterproof fire-retardant tape.

E. Lagging Adhesives: Fire resistive to ASTM E84, NFPA 255, UL723.

F. Impale Anchors: Galvanized steel, 12- gauge, spot welded or self-adhesive pad. No anchors shall penetrate duct walls.

G. Joint Tape: Glass fiber cloth, open mesh.

H. Tie Wire: Annealed steel, 16-gauge.

2.5 DUCT HANGERS

A. All duct hangers in direct contact with galvanized duct shall be galvanized steel.

B. All duct hangers in direct contact with stainless steel ducts shall be stainless steel.

PART 3 - - EXECUTION

3.1 LOW PRESSURE DUCTWORK

A. Fabricate and support in complete accordance with SMACNA HVAC Duct Construction Standards, Metal and Flexible and ASHRAE handbooks latest editions, except as indicated. Provide duct material, gauges, reinforcing, and sealing for operation pressures indicated. For ductwork gauges and materials use the table below or latest SMACNA HVAC Duct Construction Standards. When gauge thickness differs, the heavier gauge shall be utilized. The table below shall serve as a minimum.

Round Diameter	**Duct Gauge**	**Rectangular Width**	**Duct Gauge**
3-12 inches	26 Ga.	3-12 inches	26 Ga.
12-18 inches	24 Ga.	13-30 inches	24 Ga.
19-28 inches	22 Ga.	31-54 inches	22 Ga.
29-36 inches	20 Ga.	55-84 inches	20 Ga.
37-52 inches	18 Ga.	85 inches and up	18 Ga.

B. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts. No variation of duct configuration or sizes permitted except by written permission.

C. Construct T's, bends, and elbows with a radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows are used, provide turning vanes. Where acoustical lining is indicated, provide turning vanes of perforated metal with glass fiber insulation fill.

D. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible. Divergence upstream of equipment shall not exceed 30 degrees; convergence downstream shall not exceed 30 degrees.

E. Provide easements where low pressure ductwork conflicts with piping and structure. Where easements exceed 10 percent duct area, split into two ducts maintaining original duct area.

F. Connect flexible ducts to metal ducts with draw bands or adhesive plus sheet metal screws.

G. Use crimp joints with or without bead for joining round duct sizes 8 inch and smaller with crimp in direction of air flow.

3.2 DUCTWORK INSTALLATION

A. Provide engineered openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring and maintain vapor barrier where applicable.

B. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

C. Provide residue traps in kitchen hood exhaust ducts at base of vertical risers with provisions for cleanout. Use stainless steel for ductwork exposed to view and stainless steel or galvanized steel for ducts where concealed.

D. During construction, ductwork shall be kept clean at all times. All ductwork stored on the job site shall be placed a minimum of 4" above the floor and shall be completely covered in plastic. Installed ductwork shall have all openings protected with plastic to prevent construction dust from entering ductwork system. Do not install the ductwork if the building is not "dried-in". If this is required, the entire lengths of duct shall be protected by completely covering in plastic. The Owner/Engineer shall periodically inspect that these procedures are followed. If deemed unacceptable, the Contractor shall be required to clean the duct system utilizing a NADCA certified contractor.

E. Clean duct system and force air at high velocity through duct to remove accumulated dust. To obtain sufficient air, clean half the system at a time. Protect equipment which may be harmed by excessive dirt with temporary filters, or bypass during cleaning.

F. Space between duct and floor or masonry wall openings shall be sealed with fire rated caulk.

G. Verify all field conditions before fabrication of ductwork to avoid installation conflicts. Notify Engineer of any conflict areas.

H. Do not change the designed path of ductwork, add excessive turns or offsets, or change duct sizes without first consulting the Engineer.

I. Duct dimensions shown on Drawings are required inside clear dimensions. Plan duct layouts for adequate insulation and fitting clearance.

J. Provide approved flexible connectors at inlet and outlet of each HVAC equipment associated with fans and/or motorized equipment. Install as to facilitate removal of equipment as well as for vibration and noise control.

K. All branch duct runouts to grilles, registers, and diffusers shall be provided with a high efficiency type takeoff with round damper and a 2-inch insulation standoff. The high efficiency takeoff shall be Crown Products 3300-DS or approved equal. Refer to detail on Drawings for additional details.

3.3 INSULATION INSTALLATION

A. Install materials in accordance with manufacturer's instructions.

B. Exterior Insulation Application

1. Secure insulation with vapor barrier with wires and seal jacket joints with vapor barrier adhesive or tape to match jacket.
2. Seal vapor barrier penetrations by mechanical fasteners with vapor barrier adhesive.
3. Continue insulation with vapor barrier though penetrations.

C. Internal Application

1. Adhere insulation with adhesive for 100 percent coverage. Secure insulation with mechanical fasteners on 15-inch centers maximum on top and side of ductwork with dimension exceeding 20 inches. Seal and smooth joints. DO not use nail-type fasteners. Seal vapor barrier penetrations by mechanical fasteners with vapor barrier adhesive.
2. Ductwork dimensions indicated are net inside dimensions required for air flow. Increase ductwork to allow for insulation thickness.

D. Insulation Schedule

1. Ductwork listed below that is to be externally insulated:

    a. All supply and return air ductwork shall be externally insulated unless otherwise noted. Return air ductwork located in return air plenums does not require insulation.

2. Externally insulated ductwork shall be insulated using one of the following methods:

    a. Ductwork shall be externally insulated with Reflectix (or equal) R-6.0 insulation having two layers of aluminum foil with polyethylene bonded for strength, and two inner layers of insulated bubbles; 5/16" thick; 1.25 oz./sq. ft. Flame and smoke 25/50.

1) Ductwork may also be insulated with fiberglass insulation, maintaining the insulation value of R-6.0, in lieu of Reflectix insulation.

3. Insulation must be installed in strict accordance with insulation manufacturer's requirements. Provide spacers, pins, bands and adhesive as required. Special care must be taken on large ductwork to prevent sagging of insulation away from ductwork.
4. Interior exhaust duct shall not require insulation
5. Combustion air duct shall have 1½ inch external insulation.
6. Where duct is scheduled to be insulated (either externally or internally) herein and shown to be routed in an area that will be exposed based on Architectural drawings, the Contractor shall provide double-wall duct conforming with the specifications provided herein.
7. All ductwork insulation must conform to the minimum requirements of ASHRAE 90.1 (current edition) and International Energy Conservation Code (current edition) unless otherwise specified in this section.

3.4 HANGERS

A. Duct hangers may be directly attached to ducts. Ducts shall be hung by angles or straps as listed in the following schedule. Rods, straps or angles may be used in trapeze hangers. Hangers shall be in accordance with the following schedule, except that there shall be no less than one set of hangers for each section of ductwork. Where elbows or tees are installed for changes in direction, hangers shall be provided. No ductwork shall rest on the building structural system. No ductwork shall be supported by suspended ceiling systems. All ductwork must be independently supported from building structural system.

B. Where trapeze hangers are used, the bottom of the duct shall be supported to angle sized as follows (for round ducts, the angle shall conform to the bottom 120 degrees of the duct):

Diameter of Duct	Width of Duct	Bottom Angle Sizes
0"-32"	0"-30"	1" x 1" x 1/8"
35" and Larger	31" - 48"	1-1/2" x 1-1/2" x 1/8"

C. All hangers shall be sufficiently across-braced to eliminate, in the opinion of the Architect, excessive sway. Wherever ductwork contains filter sections, coils, fans or other heavy equipment (excluding registers, grilles, diffusers, splitter dampers, etc.) such equipment shall be hung independently of the ductwork, with rods or angles of sizes adequate to support the load.

D. Special Duct Hanging Conditions

1. In the event ductwork interferes with suspended ceiling support hangers, provide cross members from hangers affected. These cross members shall be of reinforcing steel or furring channels and shall run under ductwork in question from which additional ceiling hangers shall be supported.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor

shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Duct Work	X	X						
Insulation	X	X					X	
Hangers	X	X						

END OF SECTION 233113

SECTION 233300 – DUCTWORK ACCESSORIES

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Volume Control Dampers

B. Fire Dampers

C. Backdraft Dampers

D. Air Turning Devices

E. Flexible Duct Connectors

F. Duct Access Doors

G. Duct Test Holes

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - General Provisions for Mechanical Work

C. Section 233113 – Ductwork and Ductwork Insulation

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product specified.

PART 2 - PRODUCTS

2.1 VOLUME CONTROL DAMPERS

A. Acceptable Manufacturers

1. United Enertech, Air Balance, American Warming, Arrow, Cesco, Creative Metals, Nailor, Ruskin, Vent Products, and Whiz Air.

B. Fabricate in accordance with SMACNA Low Pressure Duct Construction Standards, and as indicated.

C. Fabricate splitter dampers of material same gage as duct to 24 inches size in either direction, and two gages heaver for sizes over 24 inches.

D. Fabricate splitter dampers to streamline shape. Secure blade with continuous hinge or rod. Operate with minimum 1/4-inch diameter rod in self aligning, universal joint action flanged bushing with set screw.

E. Fabricate single blade dampers for duct sizes to 12 inch.

F. Fabricate multi-blade damper of opposed blade pattern with maximum blade sizes 12 x 72 inches. Assemble center and edge crimped blades in prime coated or galvanized channel frame with suitable hardware.

G. Except in round ductwork 12 inches and smaller, provide end bearings. On multiple blade dampers, provide oil-impregnated nylon or sintered bronze bearings.

H. Provide locking, indicating quadrant regulators on single and multi-blade dampers. Where rod lengths exceed 30 inches provide regulator at both ends.

2.2 FIRE DAMPERS

A. Acceptable Manufacturers

1. United Enertech, Air Balance, Arrow, Cesco, Greenheck, Metalaire, Prefco, Ruskin, and Vent Products.

B. Fabricate in accordance with NFPA 90A and UL 555, and as indicated. Provide dynamic type damper unless otherwise specified as static.

C. Fabricate ceiling firestop flaps of galvanized steel, 22 gage frame and 16 gage flap, two layers 0.125-inch ceramic fiber on top side, and one layer on bottom side for round flaps, with locking clip.

D. Fabricate ceiling dampers of galvanized steel, 22 gage frame, stainless steel closure spring, and light weight, heat retardant non-asbestos fabric blanket closure.

E. Fabricate curtain type dampers of galvanized steel with interlocking blades. Provide stainless steel closure springs and latches for horizontal installations. Configure with blades out of air stream.

F. Fabricate multiple blade fire dampers with 16 gage galvanized steel frame and blades, oil-impregnated bronze or stainless-steel sleeve bearings and plated steel axles, 1/8 x ½ inch plated steel concealed linkage, stainless steel closure spring, blade stops, and lock. Fire dampers shall have UL rating.

G. Fusible links, UL 33, shall separate at 160 degrees F. Provide adjustable link straps for combination fire/balancing dampers.

2.3 BACKDRAFT DAMPERS

A. Acceptable Manufacturers

1. United Enertech, Air Balance, Arrow, Cesco, Nailor, Ruskin, and Vent Products.

B. Gravity backdraft dampers, size 18 x 18 inches or smaller, furnished with air moving equipment, may be air moving equipment manufacturers standard construction.

C. Fabricate multi-blade, parallel action gravity balanced backdraft dampers of 16 gage galvanized steel, with center pivoted blades of maximum 6-inch width, with felt or flexible vinyl sealed edges, linked together in rattle-free manner with 90 degree stop, steel ball bearings, and plated steel pivot pin; adjustment device to permit setting for varying differential static pressure.

2.4 AIR TURNING DEVICES

A. Acceptable Manufacturers

1. Ductmate Industries, Duro-Dyne, Metalaire, Semco, Ward Industries.

B. Multi-blade device with blades aligned in short dimension; steel or aluminum construction; with individually adjustable blades, mounting straps. Provide in all square turns.

2.5 FLEXIBLE DUCT CONNECTORS

A. Acceptable Manufacturers

1. Ductmate Industries, Duro-Dyne, Vent Fabrics, Ward Industries.

B. Fabricate in accordance with SMACNA Low Pressure Duct Construction Standards, and as indicated.

C. UL listed fire-retardant neoprene coated woven glass fiber fabric to NFPA 90A, minimum density 20 oz per square yard, approximately 6 inches wide, crimped into metal edging strip.

2.6 DUCT ACCESS DOORS

A. Acceptable Manufacturers

1. American Warming, Cesco, Ductmate Industries, Kees, Safe Air/Dowco, Vent Fabrics

B. Fabricate in accordance with SMACNA Low Pressure Duct Construction Standards and as indicated.

C. Fabricate rigid and close-fitting doors of galvanized steel with sealing gaskets and quick fastening locking devices. For insulated ductwork, install minimum one-inch thick insulation with sheet metal cover.

D. Access doors smaller than 12 inches square may be secured with sash locks.

E. Provide two hinges and two sash locks for sizes up to 18 inches square, three hinges and two compression latches with outside and inside handles for sizes up to 24 x 48 inches. Provide an additional hinge for larger sizes.

F. Access doors with sheet metal screw fasteners are not acceptable.

2.7 DUCT TEST HOLES

A. Cut or drill temporary test holes in ducts as required. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.

B. Permanent test holes shall be factory fabricated, air tight flanged fittings with screw cap. Provide extended neck fittings to clear insulation.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories in accordance with manufacturer's instructions.

B. Provide balancing dampers at points on low pressure supply, return, and exhaust systems where branches are taken from larger ducts as required for air balancing. Use splitter dampers where required.

C. Provide backdraft dampers on exhaust fans or exhaust ducts nearest to outside and where indicated.

D. Provide flexible connections immediately adjacent to equipment in ducts associated with fans and motorized equipment.

E. Provide duct access doors for inspection and cleaning before and after filters, coils, fans, automatic dampers, at fire dampers, and elsewhere as indicated. Provide minimum 8 x 8-inch size for hand access, 18 x 18-inch size for shoulder access, and as indicated.

F. Provide duct test holes where indicated and required for testing and balancing purposes.

G. Provide fire dampers at locations indicated, where ducts and outlets pass through fire rated components, and where required by authorities having jurisdiction. Install with required perimeter mounting angles, sleeves, breakaway duct connections, corrosion resistant springs, bearings, bushings and hinges.

H. Only dynamic fire dampers are to be used unless otherwise specified. Dynamic fire dampers are specifically to be used where heating, ventilating and air conditioning systems are designed to operate with fans on during a fire.

I. Demonstrate re-setting of fire dampers to authorities having jurisdiction and Owner’s representative.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Volume Control Dampers	X	X						
Fire Dampers	X	X						
Backdraft Dampers	X	X					X	
Air Turning Devices	X	X						
Flexible Duct Connectors	X	X						
Duct Access Doors	X	X						
Duct Test Holes	X	X						

END OF SECTION 233300

SECTION 233423 – POWER VENTILATORS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Roof Exhaust Fans

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISIONS FOR MECHANICAL WORK

C. Section 230529 - SUPPORTS AND ANCHORS FOR HVAC PIPING AND EQUIPMENT

D. Section 230548 - VIBRATION ISOLATION FOR HVAC EQUIPMENT AND PIPING

E. Section 233113 – DUCTWORK AND DUCTWORK INSULATION

F. Section 230900 – INSTRUMENTATION AND CONTROLS FOR HVAC

1.3 REFERENCES

A. AMCA 99 - Standards Handbook.

B. AMCA 210 - Laboratory Methods of Testing Fans for Rating Purposes.

C. AMCA 300 - Test Code for Sound Rating Air Moving Devices.

D. AMCA 301 - Method of Publishing Sound Ratings for Air Moving Devices.

E. SMACNA - Low Pressure Duct Construction Standard.

1.4 QUALITY ASSURANCE

A. Performance Ratings: Conform to AMCA 210.

B. Sound Ratings: AMCA 301, tested to AMCA 300.

C. Fabrication: Conform to AMCA 99.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Wiring Diagrams: For power, signal, and control wiring.

1.6 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Greenheck, Penn, Carnes, Loren Cook, Jenn-Aire, Acme.

2.2 GENERAL

A. Provide all fans with disconnect.

B. Provide all fans with motor starters. See Section 230100 for details.

C. Integral phase relay shall be provided as a part of all three phase motor starters. Relay shall shut motor down on phase loss or phase unbalance and automatically reset when normal phasing is restored. Phase failure relay shall have adjustable restart time capabilities. Mechanical contractor shall coordinate staggered restart times as required.

D. See drawings or Specification Section 230900 – INSTRUMENTATION AND CONTROLS FOR HVAC for control of fans.

2.3 ROOF EXHAUST FAN

A. Roof exhaust fans shall be of the centrifugal, belt driven or direct drive type, refer to Schedule on Drawings. The fan housing shall be constructed of heavy gauge aluminum mounted on a rigid support structure. The shroud shall have a rolled bead and internal structural members. The fan wheel shall be of the aluminum backward curved, centrifugal type with inlet venturi for maximum performance. Wheels shall be dynamically and statically balanced. Motors and centrifugal wheels shall be mounted on vibration isolators.

B. Motors shall be isolated from the exhaust airstream. Air for cooling the motor shall be taken into the motor compartment from a location free from contaminants. Motors shall be readily accessible for maintenance.

C. A disconnect switch shall be factory installed and wired from the fan motor to the disconnect junction box. A conduit chase shall be provided for running electrical wiring through the curb cap into the power compartment.

D. All fans shall bear the AMCA Certified Ratings Performance Seal for both air and sound performance.

E. Provide with gravity back draft dampers.

F. Provide factory roof curb to match the slope of the roof, minimum 12-inch height.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install equipment in a manner to provide required clearances for proper operation and maintenance.

C. For roof mounted fans, secure roof exhausters with lag screws to roof curb.

PART 4 - SUBMITTALS

4.1 In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Roof Exhausters	X	X	X	X	X			

END OF SECTION 233423

SECTION 233439 - HIGH-VOLUME, LOW-SPEED FANS

PART 1 - GENERAL

1.1 SUMMARY

A. High-volume, low-speed fans.

1.2 DEFINITIONS

A. HVLS - High volume, low speed.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include rated capacities, furnished specialties, and accessories for each fan.
2. Certified fan performance curves with system operating conditions indicated.
3. Certified fan sound-power ratings.
4. Motor ratings and electrical characteristics, plus motor and electrical accessories.
5. Material thickness and finishes, including color charts.
6. Fan speed controllers.

B. Shop Drawings:

1. Include plans, elevations, sections, and mounting details.
2. Include details of equipment assemblies. Show dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include diagrams for power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Floor plans and details, drawn to scale and coordinated with each other, using input from installers of the items involved.

B. Qualification Data:

1. For Installer: Certificate from HVLS fan manufacturer certifying that Installer has successfully completed prerequisite training administered by manufacturer for proper installation of systems, including but not limited to, equipment, controls, and accessories indicated and furnished for installation.

C. Field quality-control reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For HVLS fans to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Provide certification that manufacturer complies with the most recent edition of ISO 9001.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store products in a clean and dry place.

B. Comply with manufacturer's written rigging and installation instructions for unloading and moving to final installed location.

C. Handle products carefully to prevent damage, breaking, denting, and scoring. Do not install damaged products.

D. Protect products from weather, dirt, dust, water, construction debris, and physical damage.

1. Retain factory-applied coverings on equipment to protect finishes during construction and remove just prior to operating unit.
2. Cover unit openings before installation to prevent dirt and dust from entering inside of units. If required to remove coverings during unit installation, reapply coverings over openings after unit installation and remove just prior to operating unit.

E. Replace installed products damaged during construction.

1.8 WARRANTY

A. Warranty: Manufacturer and Installer agree to repair or replace components of fans that fail in materials or workmanship within specified warranty period.

1. Warranty Period:

a. For Motor, Including Controls: 10 years from date of Substantial Completion.
b. For Parts, Including Blades and Hub: 10 years from date of Substantial Completion.
c. For Labor: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. UL Compliance: Listed and labeled to UL 507.

C. CSA Compliance: Listed and labeled to CSA C22.2, No. 113.

D. Comply with NFPA 13 requirements for HVLS fans.

E. AMCA Compliance:

1. Test HVLS fans according to AMCA 230.
2. Certify HVLS fan performance according to AMCA 211.

F. Performance Data: Comply with ANSI 230 test procedure standard, based on five rating points: 20-, 40-, 60-, 80-, and 100-percent of maximum speed. Comply with AMCA 211 for publication of performance data.

2.2 MANUFACTURERS

A. Big Ass Fans, Greenheck.

B. Source Limitations: Obtain HVLS fans from single source from single manufacturer.

2.3 HIGH-VOLUME, LOW-SPEED FANS

A. Description: Factory-assembled and -tested horizontal, non-ducted fan unit, consisting of large-diameter blade set, direct-drive electric motor, with variable-speed motor control.

1. Provide fan designed to circulate large air volume, vertically, at low velocity.
2. Maximum Operating Temperature: 122 deg F.
3. Controls: Provide wall-mounted keypad for multiple fans.

a. Provide automatic and manual speed control.

4. Standard Mounting Bracket: Steel beam/steel angle.
5. Accessories:

a. Mounting extension tube.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions for compliance with requirements for installation tolerances and other conditions affecting HVLS fan performance, maintenance, and operations.

1. Fan locations indicated on Drawings are approximate. Determine exact locations before roughing-in for mounting, control, and electrical connections.

B. Examine roughing-in for mounting location, anchor-bolt sizes, and locations, to verify actual locations for mounting connections before installation of fan.

C. Examine areas for suitable conditions where fan will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF HIGH-VOLUME LOW-SPEED FANS

A. Install fan according to manufacturer's published instructions.

B. Comply with NECA 1 and NFPA 70.

C. Comply with NFPA 13 for installation of HVLS fans and maximum allowable fan diameter. Center HVLS fans between four adjacent sprinklers. Minimum vertical clearance from HVLS fan to sprinkler deflector is 3 feet (0.9 m).

D. Comply with NFPA 72 and interlock HVLS fans to shut down upon receiving an alarm from fire alarm system.

E. Equipment Mounting:

1. Anchor fan to building structure with manufacturer's recommended mounting bracket for installed condition.
2. Consult a licensed professional structural engineer for mounting methods and approval for mounting to the structure. Structure must be able to withstand the torque and forces generated by the fan.
3. Comply with requirements for hangers and supports specified in Section 230529 "Hangers and Supports for HVAC Piping and Equipment."
4. Comply with requirements for vibration isolation devices specified in Section 230548 "Vibration Control for HVAC."

F. Install unit to permit access for maintenance.

G. Install parts and accessories shipped loose.

3.3 ELECTRICAL CONNECTIONS

A. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, according to NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch (13 mm) high.

E. Install power wiring to field-mounted electrical devices, furnished by fan manufacturer, but not factory mounted.

3.4 CONTROL CONNECTIONS

A. Connect control wiring to field-mounted control devices.

B. Connect control wiring according to Section 260523 "Control-Voltage Electrical Power Cables."

C. Connect control interlock wiring between HVLS fan and other equipment to provide a complete and functioning system.

D. Connect control wiring between fan unit control interface and control system to provide remote control and monitoring.

E. Install control devices furnished by manufacturer, but not factory mounted.

F. Install control wiring to field-mounted control devices, furnished by fan manufacturer, but not factory mounted.

G. Protect installed units from damage caused by other work.

3.5 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

B. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Fan Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.

2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Fan or components will be considered defective if fan or components do not pass tests and inspections.

D. Prepare and submit test and inspection reports.

3.6 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Verify that fan is secure on mountings and supporting devices and that connections to electrical systems are complete. Verify that proper thermal-overload protection is installed in motors, controllers and switches.
3. Verify proper motor rotation direction and free fan rotation.
4. Check bearing lubrication.
5. Verify proper fan rotation.

3.7 ADJUSTING

A. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC" for air-handling system testing, adjusting, and balancing.

3.8 CLEANING

A. Clean equipment externally; remove coatings applied for protection during shipping and storage, foreign material, and oily residue according to manufacturer's written instructions. Following manufacturer's cleaning procedures, and clean with manufacturer-recommended cleaning products.

3.9 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain HVLS fans.

B. Video training sessions, and provide electronic copy of video to Owner.

END OF SECTION 233439

SECTION 233713 – AIR DISTRIBUTION DEVICES

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Diffusers

B. Registers/grilles

C. Louvers

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 – GENERAL PROVISIONS FOR MECHANICAL WORK

C. Section 233113 – DUCTWORK AND DUCTWORK INSULATION

D. Section 233300 - DUCTWORK ACCESSORIES

1.3 REFERENCES

A. ADC 1062 - Certification, Rating and Test Manual.

B. AMCA 500 - Test Method for Louvers, Dampers and Shutters.

C. ANSI/NFPA 90A - Installation of Air Conditioning and Ventilating Systems.

D. ARI 650 - Air Outlets and Inlets.

E. ASHRAE 70 - Method of Testing for Rating the Air Flow Performance of Outlets and Inlets.

F. SMACNA - Low Pressure Duct Construction Standard.

1.4 QUALITY ASSURANCE

A. Test and rate performance of air outlets and inlets in accordance with ADC Equipment Test Code 1062 and ASHRAE 70.

B. Test and rate performance of louvers in accordance with AMCA 500.

1.5 REGULATORY REQUIREMENTS

A. Conform to ANSI/NFPA 90A.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturer listed in schedule is for design selection only.

B. Registers, Grilles, and Diffusers

1. Anemostat, Carnes, Hart and Cooley, Krueger, Metalaire, Price, Titus, Tuttle and Bailey.

C. Louvers

1. Arrow, Cesco, Greenheck, Louvers and Dampers, Ruskin, Vent Products and United Enertech.

2.2 RECTANGULAR CEILING DIFFUSERS

A. Square, stamped, multicore type diffuser to discharge air in 360-degree pattern.

B. Provide for surface mount and inverted T-bar where shown. In plaster ceilings, provide plaster frame and ceiling frame.

C. Fabricate of steel with baked enamel finish.

D. Provide radial opposed blades damper adjustable from diffuser face for surface mounted unit where specified.

2.3 CEILING GRID CORE EXHAUST AND RETURN REGISTERS/GRILLES

A. Fixed grilles of 1/2 x 1/2 x 1-inch louvers.

B. Fabricate margin frame with countersunk screw mounting or lay-in frame for suspended grid ceilings as shown in schedule on drawings.

C. Fabricate of aluminum with factory clear lacquer finish.

D. Where scheduled provide integral, gang-operated opposed blade dampers with removable key operator, operable from face.

E. All louver-faced grilles shall be provided with pattern controller blades unless scheduled otherwise on the Drawings.

2.4 WALL SUPPLY REGISTERS/GRILLES

A. Streamlined and individually adjustable blades, depth of which exceeds 3/4 inch with adjustable blades, vertical, horizontal face, and horizontal rear deflectors.

B. Fabricate margin frame with countersunk screw or concealed mounting and gasket suitable for surface or duct mounting.

C. Fabricate of steel with 20 gage minimum frames and 22 gage minimum blades, steel and aluminum with 20 gage minimum frame, or aluminum extrusions, with factory baked enamel finish.

D. Provide integral, gang-operated opposed blade dampers with removable key operator, operable from face.

2.5 WALL EXHAUST AND RETURN REGISTERS/GRILLES

A. Streamlined blades, fixed, non-adjustable, horizontal face.

B. Fabricate margin frame with countersunk screw or concealed mounting.

C. Fabricate of steel with 20 gage minimum frames and 22 gage minimum blades, steel and aluminum with 20 gage minimum frame, or aluminum extrusions, with factory baked enamel finish.

2.6 LOUVERS

A. Provide louvers with blades on 37.5- or 45-degree slope, heavy channel frame, bird screen with 1/2 inch square mesh for exhaust and 3/4 inch for intake.

B. Fabricate of extruded aluminum, welded assembly with factory bake-enamel finish.

C. Furnish with required flange to match installation required.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Furnish and install where shown on drawings all registers, grilles, diffusers and louvers in accordance with the tabulation in the schedule on drawings.

B. Provide accessories and modifications as indicated in schedule notes.

C. Install items in accordance with manufacturer’s instructions.

D. Install in locations as shown on drawings. Items have been located as shown to provide maximum performance. Coordinate with architectural features and notify Architect/Engineer of any conflicts.

E. Install diffusers to ductwork with air tight connection.

F. Provide accessible balancing dampers on duct take-off to diffusers, and grilles and registers, regardless of whether dampers are specified as part of the diffuser, or grille and register.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Diffusers	X	X						
Registers/Grilles	X	X						
Louvers	X	X						

END OF SECTION 233713

SECTION 235533 – GAS FIRED UNIT HEATERS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Gas Fired Unit Heaters

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - General Provisions for Mechanical Work

C. Section 221000 – Plumbing Piping and Valves

D. See drawings for further conditions, requirements and schedules.

1.3 QUALITY ASSURANCE

A. All electrical components and accessories shall be listed and labeled per requirements of NFPA 70, Article 100.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Reznor

2.2 GAS FIRED UNIT HEATERS

A. Gas Fired, Separated Combustion Unit Heater: Provide (82%, 83%) high-efficiency, separated-combustion, power vented, gas-fired unit heaters. The unit shall be designed for use in a building with negative pressures up to 0.15" w.c. and for use in building where a non-explosive atmosphere exist that is dust laden and/or contains mildly corrosive fumes.

B. The heater shall be equipped with a multi-cell, 4 pass serpentine style steel heat exchanger. Heat exchanger tubes shall be press fabricated of (corrosion resistant aluminized steel). All heat exchangers shall be fabricated with no welding or brazing, only tool pressed mechanical joints. All heat exchanger cells shall be designed with an aerodynamic cross section to provide maximum airflow.

C. The units shall incorporate a single, one-piece burner assembly with a single orifice. The burner shall have a continuous wound close pressed stainless-steel ribbon separating the flame from the burner interior. All units shall have a single venturi tube and orifice supplying fuel to a one-piece burner housing. Each heat exchanger cell shall use balanced draft induction to maintain optimum flame control.

D. Controls shall include a (single-stage) gas valve; direct spark multi-try ignition with electronic flame supervision with 100% lockout integrally controlled via a printed circuit control board. The control board shall also incorporate diagnostic lights, DIP switches for fan overrun settings, and a relay for fan only operation. All units shall be equipped with a safety limit switch.

E. All controls shall be enclosed in the sealed controlled compartment to protect them from accidental damage, dust, and atmospheric corrosion.

F. Combustion Air and Venting

1. The unit shall have a factory-installed power venter device to draw combustion air from outside of the building. The outside air shall enter the unit through a factory-installed round inlet air terminal on the rear of the heater. The control compartment shall be sealed, and the access door shall be gasketed to prevent dirt, lent, dust, or other contaminants present in the heated space from injuring a unit. The control compartment door shall be equipped with a safety interlock switch to prevent operation when the door is open.
2. The combustion air supply pipe and flue exhaust pipe shall be run in parallel from the heater to a factory supplied concentric adaptor assembly, which allows for a single wall or roof penetration to the vertical air inlet and vent terminal.
3. The combustion air/venting system shall include a vibration isolated power venter motor and wheel assembly and a combustion air pressure switch.

G. Electrical

1. Operation shall be controlled by an integrated circuit board that includes LED diagnostic indicator lights. Supply voltage connections shall be made in a sealed junction box. 24-volt controlled connections shall be made on an externally mounted terminal strip with connections (W1, W2, R, and G). All internal wiring both lined and controlled voltages, shall be terminated by insulated terminal connectors to minimize shock hazard during service.
2. All units will be equipped with a built-in disconnect switch.

H. Cabinet

1. The cabinet shall be low profile with a pre-coat or powder-coat paint finish. Finish shall be a minimum 80 gloss on G30 galvanized steel. The cabinet shall be constructed so that screws are not visible from the bottom, front, or sides, except for service panel and accessories. Unit construction shall incorporate a beveled front corner on control side for additional cabinet rigidity. All units shall be manufactured with a tool drawn supply air orifice on the rear panel to reduce fan inlet noise.
2. The unit shall be designed for ceiling suspension featuring 3/8"-16 female threads (hanger kits for 1" pipe) at both 2-point and 4-point locations with no additional adaptor kits.

3. The cabinet shall be equipped with painted, rolled-formed horizontal louvers. Louvers shall be spring held and adjustable for directing air flow.
4. The cabinet shall be equipped with a full safety fan guard with no more than half-inch grill spacing. The (enclosed) motor and fan assembly shall be resiliently mounted to the cabinet to reduce cabinet noise.
5. The unit shall be designed with a full opening service access panel complete with screw closure attachment and lifting handle for removal. Service panel shall be fully gasketed and equipped with a safety interlock switch. All components in the gas train, all standard electrical controls, and the power venter shall be within the sealed service compartment.

2.3 CERTIFICATIONS

A. Units shall be manufactured in an ISO9002 certified facility. Manufacturer must have a minimum of 50 years' experience in the manufacturer of gas-fired unit heaters.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install all units and accessories in accordance with manufacturer's recommendations.

B. Install all units in a manner to provide clearances for proper operation accessibility and maintenance.

C. Coordinate electrical and gas connections required.

3.2 DEMONSTRATION

A. Provide Owner's maintenance personal training as required to adjust, operate and maintain heaters.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Gas-Fired Unit Heaters	X	X	X	X	X			

END OF SECTION 235533

SECTION 237416 - PACKAGED ROOFTOP AIR CONDITIONING UNIT WITH GAS HEAT

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Package roof top unit.

B. Refrigeration components.

C. Gas heat.

D. Unit operating controls.

E. Hot Gas Reheat.

F. Roof curb.

G. Electrical power connections.

H. Operation and maintenance service.

1.2 REFERENCES

A. NFPA 90 A & B - Installation of Air Conditioning and Ventilation Systems and Installation of Warm Air Heating and Air Conditioning Systems.

B. ANSI/ASHRAE 15 - Safety Code for Mechanical Refrigeration.

C. AHRI 360 - Commercial and Industrial Unitary Air Conditioning Equipment testing and rating standard.

D. ANSI/ASHRAE 37 - Testing Unitary Air Conditioning and Heat Pump Equipment.

E. ANSI/ASHRAE/IESNA 90.1-1999 - Energy Standard for New Buildings Except Low-Rise Residential Buildings.

F. ANSI Z21.47/UL1995 - Unitary Air Conditioning Standard for safety requirements.

G. California Energy Commission Administrative Code - Title 20/24 - Establishes the minimum efficiency requirements for HVAC equipment installed in new buildings in the State of California.

H. AHRI 210/240 - Unitary Air-Conditioning Equipment and Air- Source Heat Pump Equipment.

I. AHRI 270 - Sound Rating of Outdoor Unitary Equipment.

J. AHRI 370 - Sound Rating of Large Outdoor Refrigerating and Air Conditioning Equipment.

K. ANSI/NFPA 70-1995 - National Electric Code.

1.3 SUBMITTALS

A. Submit unit performance data including: capacity, nominal and operating performance.

B. Submit Mechanical Specifications for unit and accessories describing construction, components and options.

C. Submit shop drawings indicating overall dimensions as well as installation, operation and services clearances. Indicate lift points and recommendations and center of gravity. Indicate unit shipping, installation and operating weights including dimensions.

D. Submit data on electrical requirements and connection points. Include recommended wire and fuse sizes or MCA, sequence of operation, safety and start-up instructions.

E. Shop drawings submitted for approval shall be accompanied by a copy of the purchase agreement between the Contractor and an authorized service representative of the manufacturer for check, test and start up and first year service.

1.4 DELIVERY, STORAGE and HANDLING

A. Comply with manufacturer's installation instructions for rigging, unloading, and transporting units.

B. Protect units from physical damage. Leave factory-shipping covers in place until installation.

1.5 WARRANTY

A. Provide parts warranty for 24 months from date of start-up or 30 months from shipment, whichever occurs first.

B. Provide five-year extended warranty for compressors.

C. Provide 15-year warranty for stainless steel gas-fired heat exchangers.

1.6 MAINTENANCE SERVICE

A. Provide maintenance service for one-year with a two-month interval as maximum time period between calls. Provide 24 hour emergency service on breakdowns and malfunctions. Refer to Schedule Drawings for Add Alternate pricing for additional maintenance service request.

B. Include maintenance items as outlined in manufacturer's operating and maintenance data.

C. Submit copies of service call work order or report and include description of work performed.

1.7 REGULATORY REQUIREMENTS

A. Unit shall conform to ANSI Z21.47/UL1995 for construction of packaged air conditioner.

1. In the event the unit is not UL approved, the manufacturer must, at his expense, provide for a field inspection by a UL representative to verify conformance to UL standards. If necessary, contractor shall perform modifications to the unit to comply with UL, as directed by the UL representative, at no additional expense to the Owner.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an "NRTL" (nationally recognized testing laboratory), and marked for intended location and application.

B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of units and components.

C. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

D. ASHRAE 15 and ASHRAE 34 Compliance: For refrigeration system safety.

E. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

F. ASHRAE 84 Compliance: Comply with capacity ratings for heat-wheel energy-recovery equipment.

G. UL Compliance:

1. Electric Coils: Comply with requirements in UL 1995.

2.2 CAPACITIES AND CHARACTERISTICS

A. Refer to Schedules on Drawings.

2.3 ACCEPTABLE MANUFACTURERS

A. Trane, Daikin, Carrier, McQuay, York/JCI

2.4 UNIT CASING

A. General Fabrication Requirements for Casings: Formed and reinforced double-wall insulated panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed.

B. Configuration: Horizontal unit with bottom discharge for roof-mounting installation.

C. Single-Wall Configuration:

1. Outside Casing Wall: Galvanized steel, minimum 18 gauge thick with manufacturer's standard finish, with pitched roof panels and knockouts with grommet seals for electrical and piping connections and lifting lugs.
2. Inside: Provide cleanable foil-faced, fire-retardant permanent, odorless glass fiber insulation.

D. Double-Wall Configuration:

1. Outside Casing Wall: Galvanized steel, minimum 18 gauge thick with manufacturer's standard finish, with pitched roof panels and knockouts with grommet seals for electrical and piping connections and lifting lugs.
2. Inside Casing Wall:

    a. Inside Casing, All Other Sections: Galvanized steel, solid.
    b. Antimicrobial Coating: Applied during the manufacturing process. Coating is to be EPA approved, NSF approved, or FDA listed.

3. Floor Plate: Reinforced metal surface; reinforced to limit deflection when walked on by service personnel. Insulation is provided below metal walking surface.
4. Roof: Standing seam or membrane; sloped to drain water.
5. Casing Insulation:

    a. Materials: Polyurethane foam insulation.
    b. Casing Panel R-Value: Minimum R-13.
    c. Insulation Thickness: 2 inches.
    d. Thermal Break: Provide continuity of insulation with no through-casing metal in casing walls, floors, or roofs of air-handling unit.

E. Access Doors:

1. Doors:

    a. Fabrication: Formed and reinforced double-wall and insulated panels of same materials and thicknesses as casing.
    b. Hinges: A minimum of two ball-bearing hinges or stainless steel piano hinge and two wedge-lever latches, operable from inside and outside. Arrange doors to be opened against airflow. Provide safety latch retainers on doors so that doors do not open uncontrollably. All access doors shall be hinged access doors.
    c. Gasket: Neoprene, applied around entire perimeters of panel frames.
    d. Size: Large enough to allow for unobstructed access for inspection and maintenance of air-handling unit's internal components.

F. Condensate Drain Pans:

1. Location: Each refrigerant coil and rotary heat exchanger.
2. Construction:

    a. Single-wall, stainless steel.

3. Size: Large enough to collect condensate from cooling coils, including coil piping connections, coil headers, and return bends.
4. Drain Connection:

    a. Located on one end or both ends of pan, at lowest point of pan.
    b. Terminated with threaded nipple.
    c. Minimum Connection Size: NPS 1NPS 2.

5. Slope: Minimum 0.125-inch/ft. slope, to comply with ASHRAE 62.1, in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and from humidifiers and to direct water toward drain connection.
6. Length: Extend drain pan downstream from leaving face for distance to comply with ASHRAE 62.1.
7. Width: Entire width of water-producing device.
8. Depth: A minimum of 2 inches deep.
9. Pan-Top Surface Coating for Galvanized-Steel Drain Pans: Asphaltic waterproofing compound.
10. Provide units having stacked coils with intermediate drain pan to collect condensate from top coil.
11. Provide each unit with condensate overflow shutoff switch.

2.5 FANS, DRIVES, AND MOTORS

A. Fan and Drive Assemblies: Statically and dynamically balanced and designed for continuous operation at maximum-rated fan speed and motor horsepower.

B. Supply-Air Fans and Relief-Air Fans: Centrifugal; galvanized or painted steel; mounted on solid-steel shaft.

1. Shafts: With field-adjustable alignment.

    a. Turned, ground, and polished hot-rolled steel with keyway.

2. Shaft Bearings:

    a. Heavy-duty, self-aligning, pillow-block type with an L-50 rated life of minimum 100,000 hours in accordance with ABMA 9.

3. Housings: Formed- and reinforced-steel panels to form curved scroll housings with shaped cutoff and spun-metal inlet bell.

    a. Bracing: Steel angle or channel supports for mounting and supporting fan scroll, wheel, motor, and accessories.

4. Housings, Plenum Fans: Steel frame and panel; fabricated without fan scroll and volute housing. Provide inlet screens for Type SWSI fans.
5. Airfoil, Centrifugal Fan Wheels (Plenum Fan Wheels): Smooth-curved inlet flange, backplate, and hollow die-formed airfoil-shaped blades continuously welded at tip flange and backplate; steel hub riveted to backplate and fastened to shaft with setscrews.
6. Mounting: For internal vibration isolation. Factory mount fans with manufacturer's standard vibration isolation mounting devices having a minimum static deflection of 1 inch.
7. Shaft Lubrication Lines: Extended to a location outside the casing.
8. Flexible Connector: Factory fabricated with a fabric strip minimum 3-1/2 inches wide, attached to two strips of minimum 2-3/4-inch wide by 0.028-inch thick, galvanized-steel sheet.

    a. Flexible Connector Fabric: Glass fabric, double coated with neoprene. Fabrics, coatings, and adhesives shall comply with UL 181, Class 1.

C. Drive, Direct: Factory-mounted direct drive.

D. Motors:

1. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
2. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
3. Enclosure Type: Open, dripproof or Totally enclosed, fan cooled.
4. Enclosure Materials: Cast iron.
5. Efficiency: Premium efficient as defined in NEMA MG 1.
6. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in electrical Sections.
7. Mount unit-mounted disconnect switches on exterior of unit.

E. Comply with Section 262923 "Variable-Frequency Motor Controllers."

F. Variable-Frequency Motor Controller: Serving each fan individually in fan array.

1. Manufactured Units: Pulse-width modulated; constant torque and variable torque for inverter-duty motors.
2. Output Rating: Three phase; 10 to 60 Hz, with voltage proportional to frequency throughout voltage range; maximum voltage equals input voltage.
3. Unit Operating Requirements:

    a. Internal Adjustability:

        1) Minimum Speed: 5 to 25 percent of maximum rpm.
        2) Maximum Speed: 80 to 100 percent of maximum rpm.
        3) Current Limit: 30 to minimum of 150 percent of maximum rating.

    b. Self-Protection and Reliability Features:

        1) Surge suppression.
        2) Loss of input signal protection.

3) Under- and overvoltage trips.
4) Variable-frequency motor controller and motor-overload/overtemperature protection.
5) Critical frequency rejection.
6) Loss-of-phase protection.
7) Reverse-phase protection.
8) Motor-overtemperature fault.

c. Bidirectional autospeed search.
d. Torque boost.
e. Motor temperature compensation at slow speeds.

1) Panel-mounted operator station.
2) Historical logging information and displays.
3) Digital indicating devices.

f. Control Signal Interface: Electric.
g. Proportional Integral Directive (PID) control interface.
h. DDC system for HVAC Protocols for Network Communications: ASHRAE 135.

4. Line Conditioning:

a. Input line conditioning.
b. Output filtering.
c. EMI/RFI filtering.

2.6 COILS

A. Coils section side panel shall be removable to allow for removal and replacement of coils without impacting the structural integrity of the unit.

B. Install coils such that headers and return bends are enclosed by unit casing to ensure that if condensate forms on the header or return bends, it is captured by the drain pan under the coil.

C. Coils shall be manufactured with plate fins to minimize water carryover and maximize airside thermal efficiency. Fin tube holes shall have drawn and belled collars to maintain consistent fin spacing to ensure performance and air pressure drop across the coil as scheduled. Tubes shall be mechanically expanded and bonded to fin collars for maximum thermal conductivity. Use of soldering or tinning during the fin-to-tube bonding process is not acceptable due to the inherent thermal stress and possible loss of bonding at that joint.

D. Construct coil casings of stainless steel. End supports and tube sheets shall have belled tube holes to minimize wear of the tube wall during thermal expansion and contraction of the tube.

E. All coils shall be completely cleaned prior to installation into the air handling unit. Complete fin bundle shall be degreased and cleaned to remove any lubricants used in the manufacturing of the fins, or dirt that may have accumulated, in order to minimize the chance for water carryover.

F. When two or more cooling coils are stacked in the unit, an intermediate drain pan shall be installed between each coil. The intermediate drain pan shall be designed being of sufficient size to collect

all condensation produced from the coil and sloped to promote positive drainage to eliminate stagnant water conditions. The intermediate drain pan shall be constructed of the same material as the primary drain pan.

G. The intermediate drain pan shall begin at the leading face of the water-producing device and be of sufficient length extending downstream to prevent condensate from passing through the air stream of the lower coil.

H. Intermediate drain pan shall include downspouts to direct condensate to the primary drain pan. The intermediate drain pan outlet shall be located at the lowest point of the pan and shall be sufficient diameter to preclude drain pan overflow under any normally expected operating condition.

2.7 INDIRECT-FIRED GAS BURNER

A. Description: Factory assembled, piped, and wired; and complying with ANSI Z21.47, "Gas-Fired Central Furnaces," and with NFPA 54, "National Fuel Gas Code."

1. Burners: Stainless steel.

a. Gas Control Valve: Modulating. Refer to Schedule for turndown ratio.
b. Fuel: Natural gas.
c. Minimum Combustion Efficiency: 80 percent.
d. Ignition: Electronically controlled electric spark with flame sensor.

B. Venting: Power vented, with integral, motorized centrifugal fan interlocked with gas valve.

C. Heat Exchanger: Stainless steel.

D. Heat-Exchanger Drain Pan: Stainless steel.

E. Safety Controls:

1. Vent Flow Verification: Flame rollout switch.
2. Control Transformer: 24-V ac.
3. High Limit: Thermal switch or fuse to stop burner.
4. Gas Train: Regulated, redundant, 24-V ac gas valve assembly containing pilot solenoid valve, electronic-modulating temperature control valve, pilot filter, pressure regulator, pilot shutoff, and manual shutoff all in one body.
5. Purge-period timer shall automatically delay burner ignition and bypass low-limit control.
6. Gas Manifold: Safety switches and controls complying with ANSI standards and FM Global.
7. Airflow Proving Switch: Differential pressure switch senses correct airflow before energizing pilot.
8. Automatic-Reset, High-Limit Control Device: Stops burner and closes main gas valve if high-limit temperature is exceeded.
9. Safety Lockout Switch: Locks out ignition sequence if burner fails to light after three tries. Controls are reset manually by turning the unit off and on.

2.8 HOT GAS REHEAT

1. Adaptive Dehumidification System.

    a. The Adaptive Dehumidification System shall be factory-installed in single stage condenser coils, and shall provide greater dehumidification of the occupied space by two modes of dehumidification operations beside its normal design cooling mode:

        1) Subcooling mode further subcools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
        2) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a two-phase heat transfer in the system, resulting in a neutral leaving-air temperature when only humidity in the space is not satisfied.
        3) Includes Head Pressure Controller.

2.9 AIR FILTRATION

A. Panel Filters:

1. Description: Flat, nonpleated or Pleated factory-fabricated, self-supported disposable air filters with holding frames.
2. Two-inch MERV-13.
3. Filter Unit Class: UL 900.
4. Media: Interlaced glass, synthetic, or cotton fibers coated with nonflammable adhesive and antimicrobial coating.
5. Filter-Media Frame: High wet-strength beverage board with perforated metal retainer, or metal grid, on outlet side.

B. Mounting Frames:

1. Panel filters arranged for flat or angular orientation, with access doors on both sides of unit. Filters shall be removable from one side or from access plenum.
2. Cartridge filters arranged for flat orientation, removable from access plenum.
3. Galvanized or stainless steel with gaskets and fasteners, suitable for bolting together into built-up filter banks.

2.10 DAMPERS

A. Outdoor- and Relief-Air Dampers: Low-leakage, double-skin, airfoil-blade, galvanized-steel dampers with compressible jamb seals and extruded-vinyl blade edge seals in opposed or parallel-blade arrangement with zinc-plated steel operating rods rotating in sintered bronze or nylon bearings mounted in a single galvanized-steel frame, and with operating rods connected with a common linkage. Leakage rate shall not exceed 4 cfm/sq. ft. at 1 inch wg and 8 cfm/sq. ft. at 4 inches wg.

B. Electronic Damper Operators:

1. Direct-coupled type designed for minimum 60,000 full-stroke cycles at rated torque.
2. Electronic damper position indicator shall have visual scale indicating percentage of travel and 2 to 10 V dc feedback signal.
3. Operator Motors:

    a. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
    b. Size to operate with sufficient reserve power to provide smooth modulating action or two-position action.
    c. Permanent Split-Capacitor or Shaded-Pole Type: Gear trains completely oil immersed and sealed. Equip spring-return motors with integral spiral-spring mechanism in housings designed for easy removal for service or adjustment of limit switches, auxiliary switches, or feedback potentiometer.

4. Nonspring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running torque of 150 in. x lbfand breakaway torque of 300 in. x lbf.
5. Spring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running and breakaway torque of 150 in. x lbf.
6. Size dampers for running torque calculated as follows:

    a. Parallel-Blade Damper with Edge Seals: 7 inch-lb/sq. ft. of damper.
    b. Opposed-Blade Damper with Edge Seals: 5 inch-lb/sq. ft. of damper.
    c. Parallel-Blade Damper without Edge Seals: 4 inch-lb/sq. ft. of damper.
    d. Opposed-Blade Damper without Edge Seals: 3 inch-lb/sq. ft. of damper.
    e. Dampers with 2 to 3 Inches wgof Pressure Drop or Face Velocities of 1000 to 2500 fpm: Increase running torque by 1.5.
    f. Dampers with 3 to 4 Inches wgof Pressure Drop or Face Velocities of 2500 to 3000 fpm: Increase running torque by 2.0.

7. Coupling: V-bolt and V-shaped, toothed cradle.
8. Overload Protection: Electronic overload or digital rotation-sensing circuitry.
9. Fail-Safe Operation: Mechanical, spring-return mechanism with external, manual gear release on nonspring-return actuators.
10. Power Requirements (Two-Position Spring Return): 24 V dc or 120 V ac.
11. Power Requirements (Modulating): Maximum 10 VA at 24 V ac or 8 W at 24 V dc.
12. Proportional Signal: 2 to 10 V dc or 4 to 20 mA, and 2 to 10 V dc position feedback signal.
13. Temperature Rating: Minus 22 to plus 122 deg F.
14. Run Time: 12 seconds open, 5 seconds closed.

2.11 ELECTRICAL POWER CONNECTIONS

A. Single-Point Power Connection: Factory-installed and -wired switches, motor controllers, transformers, and other necessary electrical devices shall provide a single-point field power connection to unit except for service lights and convenience outlets, which are to be powered separately.

B. Enclosure: NEMA 250, Type 3R, mounted in unit with hinged access door in unit cabinet having a lock and key or padlock and key.

C. Wiring: Numbered and color-coded to match wiring diagram.

D. Wiring Location: Install factory wiring outside an enclosure in a raceway.

E. Power Interface: Field power interface to be wire lugs or NEMA KS 1, heavy-duty, nonfused disconnect switch.

F. Factory Wiring: Branch power circuit to each motor and to controls with one of the following disconnecting means:

1. NEMA KS 1, heavy-duty, fusible switch with rejection-type fuse clips rated for fuses. Select and size fuses to provide Type 2 protection in accordance with IEC 60947-4-1.
2. NEMA KS 1, heavy-duty, nonfusible switch.
3. UL 489, motor-circuit protector (circuit breaker) with field-adjustable, short-circuit trip coordinated with motor locked-rotor amperes.

G. Factory-Mounted, Overcurrent-Protection Service: For each motor.

H. Transformer: Factory mounted with primary and secondary fuses and sized with enough capacity to operate electrical load plus spare capacity.

I. Controls: Factory wire unit-mounted controls where indicated.

1. Service Lights: LED vaporproof luminaire with individual switched junction box located inside, adjacent to each access door and panel.

a. Locations: Each section accessed with door or panel.

2. Convenience Outlets: One 20 A duplex GFCI receptacle per location with junction box located on outside casing wall.

a. Locations: Fan section.

J. Control Relays: Auxiliary and adjustable time-delay relays.

2.12 CONTROLS

A. Comply with requirements in Section 230900 "Direct Digital Control (DDC) System for HVAC".

B. Control Wiring: Factory wire connection for controls' power supply.

C. Control Devices: Sensors, transmitters, relays, switches, detectors, operators, actuators, and valves shall be manufacturer's standard items to accomplish indicated control functions.

D. Unit-Mounted Status Panel:

1. Cooling/Off/Heating Controls: Control operational mode.
2. Damper Position: Indicate position of outdoor-air dampers in terms of percentage of outdoor air.
3. Status Lights:

a. Filter dirty.
b. Fan operating.
c. Cooling operating.
d. Heating operating.
e. Smoke alarm.
f. General alarm.

4. Digital Numeric Display:

a. Outdoor airflow.
b. Supply airflow.
c. Outdoor dry-bulb temperature.
d. Outdoor dew point temperature.
e. Space temperature.
f. Supply temperature.
g. Space relative humidity.

E. Refrigeration System Controls:

1. Unit-mounted enthalpy controller shall lock out refrigerant system when outdoor-air enthalpy is less than 28 Btu/lb of dry air or outdoor-air temperature is less than 60 deg F.
2. Outdoor-air sensor de-energizes dehumidifier operation when outdoor-air temperature is less than 60 deg F.
3. Relative-humidity sensor energizes dehumidifier operation when relative humidity is more than 50 percent.

F. Gas Heat Controls:

1. Factory-mounted sensor in unit discharge or Remote sensor for field installation in supply-air duct with sensor adjustment located in control panel to control gas heating section to maintain temperature.
2. Wall-mounted, space-temperature sensor with temperature adjustment to control gas heating section to maintain temperature.
3. Capacity Controls: Modulating burner with turndown ratio as specified on Schedules.

G. Damper Controls: Space-pressure sensor modulates outdoor- and relief-air dampers to maintain a positive pressure in space at a minimum of 0.05 inch wg with respect to outdoor reference.

H. DDC Temperature Control: Standalone control module for link between unit controls and DDC temperature-control system. Control module shall be compatible with control system specified in Section 230923 "Direct Digital Control (DDC) System for HVAC." Links shall include the following:

1. Start/stop interface relay and relay to notify DDC temperature-control system alarm condition.
2. Hardware interface or additional sensors for the following:

a. Room temperature.
b. Discharge-air temperature.
c. Refrigeration system operation.
d. Furnace operation.

I. Interface with DDC System for HVAC: Factory-installed hardware and software to enable the DDC system for HVAC to monitor, control, and display unit status and alarms.

1. Hardwired Points:

a. Monitoring: On-off status, common trouble alarm.
b. Control: On-off operation, space temperature set-point adjustment, supply temperature set-point adjustment, space humidity set-point adjustment, space pressure set-point adjustment.

2. ASHRAE 135 (BACnet) communication interface with the DDC system for HVAC shall enable the DDC system for HVAC operator to remotely control and monitor the unit from an operator workstation. Control features and monitoring points displayed locally at unit control panel shall be available through the DDC system for HVAC. Coordinate and match communication interface with existing county BAS system.

2.13 ROOF CURBS

A. Materials: Galvanized steel with corrosion-resistant coating, watertight gaskets, and factory-installed wood nailer; complying with National Roofing Contractors Association manuals for the specific type of roofing applicable to the Project.

1. Curb Insulation and Adhesive: Comply with NFPA 90A or NFPA 90B.

a. Materials: ASTM C1071, Type I or II.
b. Thickness: 2 inches.

2. Application: Factory applied with adhesive and mechanical fasteners to the internal surface of curb.

a. Liner Adhesive: Comply with ASTM C916, Type I.
b. Mechanical Fasteners: Galvanized steel, suitable for adhesive attachment, mechanical attachment, or welding attachment to duct without damaging liner when applied as recommended by manufacturer and without causing leakage in cabinet.
c. Liner materials applied in this location shall have airstream surface coated with a temperature-resistant coating or faced with a plain or coated fibrous mat or fabric, depending on service air velocity.

B. Curb Dimensions: Height of 14 inches. Refer to Schedules and Drawings for units requiring curb adapters.

C. Wind and Seismic Restraints: Metal brackets compatible with the curb and casing, painted to match unit, used to anchor unit to the curb, and designed for loads at Project site. Comply with requirements in Section 230548 "Vibration and Seismic Controls for HVAC" for wind-load requirements.

2.14 INTAKE AND RELIEF OPENINGS

A. Type: Manufacturer's standard hood or louver, including moisture eliminator, at all unit intake and relief openings.

B. Materials: Match material and finish of casing exterior.

C. Bird Screen: Comply with requirements in ASHRAE 62.1.

D. Configuration: Designed to inhibit wind-driven rain and snow from entering unit.

2.15 MATERIALS

A. Steel:

1. ASTM A36/A36M for carbon structural steel.
2. ASTM A568/A568M for steel sheet.

B. Stainless Steel:

1. Manufacturer's standard grade for casing.
2. Manufacturer's standard type, ASTM A240/A240M for bare steel exposed to airstream or moisture.

C. Galvanized Steel: ASTM A653/A653M.

D. Aluminum: ASTM B209.

E. Corrosion-Resistant Coating: Coat casing, coils and fan guards with a corrosion-resistant coating capable of withstanding a 3,000-hour salt-spray test in accordance with ASTM B117.

1. Standards:

a. ASTM B117 for salt spray.
b. ASTM D2794 for minimum impact resistance of 100 in-lb.
c. ASTM D3359 for cross-hatch adhesion of 5B.

2. Application: Immersion or Spray.
3. Thickness: 1 mil.
4. Gloss: Minimum gloss of 50 gloss units on a single angle 60-degree meter.

2.16 SOURCE QUALITY CONTROL

A. AHRI 920: Manufacturer to certify that performance ratings are in accordance with AHRI 920 if AHRI 920 certification program is not in place. Provide AHRI 920 certification if AHRI 920 certification program is in place.

B. AHRI 260 or AMCA 311 Sound Performance Rating Certification: Test, rate, and label unit fan sound ratings in accordance with AHRI 260 or AMCA 311.

C. Fan Aerodynamic Performance Rating: Test and rate fan performance for airflow, pressure, power, air density, rotation speed, and efficiency.

D. Fan Energy Index (FEI): Test in accordance with AMCA 210 and rate in accordance with AMCA 99, AMCA 207, and AMCA 208.

E. Fan Operating Limits: Classify fans in accordance with AMCA 99, Section 14.

F. Damper Leakage and Air Performance:

1. Damper Rating: Test and rate dampers for leakage and air performance in accordance with AMCA 510.
2. AMCA Damper Certification: Test, rate, and label in accordance with AMCA 511.

G. Refrigerant Coils: Factory tested to minimum 300 psig 450 psig internal pressure and to minimum 300 psig internal pressure while under water, in accordance with AHRI 410 and ASHRAE 33.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Examine roughing-in for piping, ducts, and electrical systems to verify actual locations of connections before equipment installation.

C. Examine roof curbs and equipment supports for suitable conditions where units will be installed.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Roof Curb: Install on roof structure or concrete base, level and secure, in accordance with NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" or AHRI Guideline B. Install units on curbs and coordinate roof penetrations and flashing with roof construction specified in Section 077200 "Roof Accessories." Secure units to upper curb rail, and secure curb base to roof framing or concrete base with anchor bolts. Coordinate sizes and locations of roof curbs with actual equipment provided.

B. Do not operate fan system until filters (temporary or permanent) are in place. Replace temporary filters used during construction and testing with new, clean filters.

C. Install filter-gauge, static-pressure taps upstream and downstream of filters. Mount filter gauges on outside of filter housing or filter plenum in accessible position. Provide filter gauges on filter banks, installed with separate static-pressure taps upstream and downstream of filters.

D. Connect duct to air-handling units with flexible connections. Comply with requirements in Section 233300 "Air Duct Accessories."

E. Install wall- and duct-mounted sensors furnished by manufacturer for field installation. Install control wiring and make final connections to control devices and unit control panel.

F. Comply with requirements for gas-fired furnace installation in NFPA 54.

G. Install separate devices furnished by manufacturer and not factory installed.

H. Install new filters at completion of equipment installation and before testing, adjusting, and balancing.

3.3 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to units, allow space for service and maintenance.

C. Connect piping to units mounted on vibration isolators with flexible connectors.

D. Refrigerant Piping: Comply with applicable requirements in Section 232300 "Refrigerant Piping." Install shutoff valve and union or flange at each supply and return connection.

E. Duct Connections:

1. Comply with requirements in Section 233113 "Metal Ducts."
2. Drawings indicate the general arrangement of ducts.
3. Connect ducts to units with flexible duct connectors. Comply with requirements for flexible duct connectors in Section 233300 "Air Duct Accessories."

3.4 ELECTRICAL CONNECTIONS

A. Connect wiring in accordance with Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, in accordance with NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.

1. Nameplate shall be laminated acrylic or melamine plastic signs, as specified in Section 260553 "Identification for Electrical Systems."

3.5 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

B. Connect control wiring in accordance with Section 260523 "Control-Voltage Electrical Power Cables."

3.6 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks in accordance with manufacturer's written instructions.
2. Inspect units for visible damage to refrigerant compressor, condenser and evaporator coils, and fans.
3. Start refrigeration system when outdoor-air temperature is within normal operating limits. and measure and record the following:

    a. Cooling coil leaving-air, dry- and wet-bulb temperatures.
    b. Cooling coil entering-air, dry- and wet-bulb temperatures.

4. Inspect casing insulation for integrity, moisture content, and adhesion.
5. Verify that clearances have been provided for servicing.
6. Verify that controls are connected and operable.
7. Verify that filters are installed.
8. Clean coils and inspect for construction debris.
9. Inspect and adjust vibration isolators.
10. Verify bearing lubrication.
11. Clean fans and inspect fan-wheel rotation for movement in correct direction without vibration and binding.
12. Adjust fan belts to proper alignment and tension.
13. Start unit.
14. Inspect and record performance of interlocks and protective devices, including response to smoke detectors by fan controls and fire alarm.
15. Operate unit for run-in period.
16. Calibrate controls.
17. Adjust and inspect high-temperature limits.
18. Inspect outdoor-air dampers for proper stroke and interlock with return-air dampers.
19. Verify operational sequence of controls.
20. Measure and record the following airflows. Plot fan volumes on fan curve.

    a. Supply-air volume.
    b. Relief-air flow.
    c. Outdoor-air flow.

B. After startup, change filters, verify bearing lubrication, and adjust belt tension.

C. Remove and replace components that do not properly operate, and repeat startup procedures as specified above.

D. Prepare written report of the results of startup services.

3.7 ADJUSTING

A. Adjust initial temperature and humidity set points.

B. Set field-adjustable switches and circuit-breaker trip ranges as indicated.

C. Occupancy Adjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

3.8 CLEANING

A. After completing system installation; testing, adjusting, and balancing dedicated outdoor-air unit and air-distribution systems; and completing startup service, clean air-handling units internally to remove foreign material and construction dirt and dust. Clean fan wheels, casings, dampers, coils, and filter housings, and install new, clean filters.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Leak Test: After installation, fill water and steam coils with water, and test coils and connections for leaks.
2. Fan Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.

3.10 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain units.

END OF SECTION 237416.11

SECTION 238127 – MINI-SPLIT SYSTEM AIR CONDITIONER

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Fan coil unit

B. Outdoor unit

C. Refrigerant piping

D. Controls

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices insofar as they affect this portion of the work.

B. Section 230100 - GENERAL PROVISION FOR MECHANICAL WORK

C. See drawings for further conditions, requirements and schedules.

1.3 WARRANTY

A. Provide two-year parts and labor warranty on equipment and five-year warranty on compressors.

PART 2 - PRODUCTS

2.1 DUCTLESS SPLIT SYSTEMS

A. Provide self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, controls, air filter, refrigerant cooling coil and outdoor package containing compressor, condenser coil and condenser fan.

2.2 ACCEPTABLE MANUFACTURERS

A. Daikin, Trane, Mitsubishi, LG, Samsung.

2.3 INDOOR UNIT

A. The indoor unit shall be completely factory assembled and tested. Units shall have factory wiring, piping, electronic proportional expansion valve, control circuit board, fan motor thermal protector, flare connections, condensate drain pan, self-diagnostics, auto restart function, 3-minute fused time delay and test run switch. The unit shall have an auto-swing louver which ensures efficient air distribution, which closes automatically when the unit stops. The front grille shall be easily removed for cleaning.

B. Indoor unit and refrigerant pipes will be charged with dehydrated air prior to shipment from the factory.

C. Both refrigerant lines shall be insulated from the outdoor unit.

D. The indoor units shall be equipped with a return air thermistor.

E. Unit Cabinet

1. The indoor unit shall have a white, “flat screen” finish.
2. The drain and refrigerant piping shall be accessible from six (6) positions for flexible installation (right side, right back, right bottom, left side, left back and left bottom).
3. The cabinet shall be supplied with a mounting plate to be installed onto a wall for securely mounting the cabinet.

F. Fan

1. The evaporator fan shall be an assembly consisting of a direct-driven fan by a single motor.
2. The fan shall be statically and dynamically balanced and operate on a motor with permanent lubricated bearings.
3. An auto-swing louver for adjustable air flow (vertically) shall be standard.

G. Coil

1. The evaporator coil shall be a nonferrous, aluminum fin on copper tube heat exchanger.
2. All tube joints shall be brazed with silver alloy or phoscopper.
3. All coils will be factory pressure tested.
4. Condensate pad shall be located in unit.
5. Provide with a remote condensate pump for condensate removal. Power from unit.

H. Filter

1. The return air filter provided will be a mildew proof, removable and washable filter.

I. Refrigerant Piping

1. All refrigeration piping shall be Type ACR hard drawn copper tubing and shall be precapped, precleaned and dry nitrogen charged at the factory. This piping shall be capped throughout the construction to prevent any foreign materials from entering the piping. Fittings shall be wrought copper solder joint type. Dry nitrogen shall be bled through piping while joints are being brazed. Joints shall be as follows:

a. Copper to Brass - Silver Solder
b. Copper to Copper - Silfos.

2. Joints: Copper tubing connections shall be made up with 95/5 tin antimony solder or silfos, in accordance with the recommendations of the manufacturer or as specified hereinafter.
3. Refrigerant Piping Insulation: Armstrong Armaflex insulation ½" thick with fittings covered with mitered sections of insulation and sealed with 520 adhesive. All insulation on outdoor installation shall be additionally protected with two (2) coats of Armaflex vinyl-lacquer type finish.

J. Controls

1. As noted in equipment schedule, unit shall be provided with either a wall-mounted thermostat or a remote mounted with wall bracket.
2. The unit shall have a wall mounted remote infra-red controller capable to operate the system. Provide wall-mounting bracket to mount adjacent to light switch.
3. The unit shall also be provided with wall-mounted thermostat to be mounted adjacent to light switch. Unit shall be capable of operating based on return air temperature or thermostat reading, as programmed at the wall-mounted thermostat.
4. The infrared remote controller and wall controller shall both consist of an On/Off Power switch, Mode Selector, Fan Setting, On/Off Timer Setting, Temperature Adjustment.

a. On/Off switch power the system on or off mode.
b. Mode selector shall operate the system in auto, cool, heat (if available), fan or dry operation.
c. Fan setting shall provide high, medium or low fan speed.
d. On/Off timer is used for automatically switching the unit on or off.
e. Temperature adjustment allows for the increase or decrease of the desired temperature.

2.4 OUTDOOR UNIT

A. Unit Cabinet

1. The outdoor unit shall be completely weatherproof and corrosive resistant.
2. The unit shall be constructed from rust-proofed mild steel panels coated with a baked enamel finish.

B. Fan

1. The fan shall be a direct drive, propeller type fan.
2. The motor shall be inverter drive, permanently lubricated type bearings, inherent.
3. A fan guard is provided on the outdoor unit to prevent contact with fan operation.

C. Coil

1. The outdoor coil shall be nonferrous construction with corrugated fin tube.
2. Refrigerant flow from the condenser will be controlled via a metering device.

D. Compressor

1. The compressor shall be a rotary swing inverter-driven compressor.
2. The compressor shall have an internal thermal overload.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install all components in accordance with manufacturer's recommendation.

B. Install all components in a manner to provide clearances required for proper operation and maintenance.

C. Furnish equipment with charge of refrigerant and oil.

D. Coordinate electrical connections required.

3.2 DEMONSTRATION

A. Provide owner's maintenance personnel training as required to adjust, operate and maintain pumps.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Mini-Split System AC	X	X	X	X	X			

END OF SECTION 238127

SECTION 238239 – ELECTRIC UNIT HEATERS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Electric Unit Heaters

1.2 RELATED DOCUMENTS

A. The General and Special Conditions and all other Contract Documents are applicable to work under this section of the specifications. All the work under this section of the specifications shall be governed by any alternates and unit prices called for in the Form of Proposal insofar as they affect this portion of the work.

B. Section 230100 - General Provisions for Mechanical Work

C. See drawings for further conditions, requirements and schedules.

1.3 QUALITY ASSURANCE

A. All electrical components and accessories shall be listed and labeled per requirements of NFPA 70, Article 100.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Markel, Trane, TPI/Reddi, QMark

2.2 ELECTRIC UNIT HEATERS

A. Provide vertical unit heaters with heating and air delivery capacities as shown in schedule on drawings. The cabinet shall be made of 18 gauge die formed, furniture grade steel. Individual adjustable louvers with 30 degree downward stops shall be furnished to provide desired control of discharge air. All metal surfaces of the casing shall be phosphate coated to resist corrosion and finished in baked enamel. Heat to be of the draw-through air flow design.

B. The electric heating bank shall consist of metal sheath heating elements. The elements shall have a copper clad steel sheath and corrosion resistance, and aluminum fins. Automatic reset thermal over-heat protection, shall be of the linear capillary type wired for instantaneous de-energizing in case of thermal overload. Heating bank to have protective air inlet louvers.

C. Motors shall be of the totally enclosed, continuous heavy-duty all-angle operation equipped with built-in thermal overload protection.

D. Fans shall be aluminum directly connected to fan motor, designed specifically for unit heat application.

E. Controls: Provide unit mounted thermostat to maintain space temperature unless otherwise noted.

F. All heaters shall be U.L. listed and meet the requirements of the National Electrical Code.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install all units and accessories in accordance with manufacturer's recommendations.

B. Install all units in a manner to provide clearances for proper operation accessibility and maintenance.

C. Coordinate electrical connections required.

3.2 DEMONSTRATION

A. Provide Owner's maintenance personal training as required to adjust, operate and maintain heaters.

PART 4 - SUBMITTALS

A. In accordance with the requirements of the General Conditions and Supplementary General Conditions, the following information is required to be submitted for this Section. The Contractor shall submit the required information to Architect for approval within 30 days after notice to proceed.

ITEM DESCRIPTION	SHOP DRAWINGS	CATALOG DATA	PARTS LISTS	OPERATING MANUAL	WIRING DIAGRAM	CERTIFICATION	SAMPLES	OTHER
Unit Heaters	X	X	X	X	X			

END OF SECTION 238239

SECTION 239500 – MECHANICAL SYSTEM TESTING AND START-UP

PART 1 - GENERAL

1.1 WORK INCLUDED

A. The testing of, adjustments to, and initial operation of mechanical systems included in this contract, including but not limited to items described in the Scope of Work – Section 230110, as well as any reports or certifications required.

B. Training and Instructions for owner personnel

1.2 RELATED WORK

A. Section 230100 – General Mechanical Provisions

B. Section 230900 – Instrumentation and Controls

C. Section 230593 – Testing, Adjusting and Balancing for HVAC

1.3 TESTING, ADJUSTING AND BALANCING

A. The Contractor shall provide the services of an independent thermal balancing agency which shall perform balancing work in accordance with Section 230593 – Testing, Adjusting and Balancing.

B. Section 230593 – work shall not be construed to include the initial start-up and adjustment of major items of equipment or distribution systems. Only final adjustments, air and water balancing, and reporting of information are required under Section 230593.

C. The Contractor shall furnish as-built drawings and equipment submittals as required to the testing, adjusting and balancing subcontractor as specified in 230593.

1.4 TEMPORARY USE OF EQUIPMENT

A. No mechanical equipment which is part of the work of this contract shall be used in any way or form to provide temporary heating, cooling, hot water or other services during construction without the specific written permission of the Architect/Engineer (A/E) and/or Owner. Temporary heat or ventilation for construction purposes shall be furnished by portable heaters and fans or other means.

B. Should the Owner and A/E require that any portion of the systems or equipment be operated for the Owner's benefit or occupancy prior to the contractual date of substantial completion and acceptance of the work, the Contractor shall furnish such operation. All the direct expenses to the Contractor such as maintenance or fuel for this operation will be paid for by the Owner, separate and distinct from any money paid on account of the Contract. For such preliminary operation or testing, payment shall be construed as final acceptance of any of the work of this Contract.

C. Permission to use the permanent equipment does not relieve the Contractors from the responsibility for any damages to the building construction and/or equipment which might result because of its use.

D. All warranties shall begin at substantial completion regardless of temporary use of equipment or not.

E. For Air Handling Units and/or Rooftop Units during all phases of construction:

1. At a minimum, four complete sets of filter media are required for each unit. In each unit, install two sets of filter media during construction (more shall be required if construction activities dictate more frequent changes). In each unit, install one set of filter media at substantial completion. Leave one set of filter media in boxes in appropriate mechanical room as a spare set for the Owner. All other filters shall be used by the Contractor during construction. Dispose of all construction filter media.
2. On the outside of all return air openings install a minimum of two sets of fiberglass filter media to be utilized as pre-filters for the "construction" filters. Install the first set upon start-up and then install the second set when the first set is dirty. Dispose of all dirty construction filters. Change filters as often as necessary to keep units from becoming dirty at no additional cost.
3. At substantial completion of the project the entire unit shall be cleaned to present a like "new" unit for the Owner and all filters shall be replaced with new.

1.5 FINAL INSPECTIONS, REVIEW AND ACCEPTANCE

A. Final Acceptance Tests (Including all equipment start-up testing, air and water balancing, hood Tests, demonstration of control systems operation, or other testing, the results of which must be accepted or approved): The date for the final acceptance tests shall be sufficiently in advance of the Contract completion date to permit the execution before the expiration of the Contract of any adjustments and/or alteration which the final acceptance tests indicate as necessary for the proper functioning of all equipment. Any such modifications shall be completed within the number of days allotted for completion of the Contract. The need for retests, after correcting unsatisfactory operation, shall not relieve the Contractor of completion date responsibility.

B. System Operation: All HVAC systems shall be operating properly with all water and air volume balanced and all temperature controls adjusted and shall be so demonstrated to the A/E. Balance report shall be submitted to the A/E at least one week BEFORE SUBSTANTIAL COMPLETION INSPECTION. Inspection will not otherwise be made. All labels shall be removed from the plumbing fixtures, and fixtures shall be clean and in operating condition, with all accessories and services operating properly. Fire protection systems shall have been tested and inspected to the satisfaction of code-enforcement authorities.

C. Documentation: Certificates and documents required herein shall be in order and presented to the A/E at least two weeks prior to the final inspection and review.

D. Changes and Corrections: After the inspection, any changes or corrections noted by the A/E as necessary for the work to comply with these Specifications and the Drawings shall be accomplished without delay in order to secure final acceptance of the Work within the allotted time provided for by the Contract.

PART 2 - SERVICES

2.1 FACTORY START-UPS

A. Major items of equipment noted below shall be started up by factory authorized technicians. These items shall include as a minimum:

1. Control Systems
2. Packaged Rooftop Units
3. Split Systems
4. Special fire suppression systems.

B. The A/E shall be notified one week in advance of the date and time of the start-ups in A above.

C. Submit a complete start-up report to A/E within 2 weeks of start-up and at least two weeks prior to final review.

D. When specified in individual specification Sections, require manufacturer to provide authorized representative to be present at site to inspect, check and approve equipment or system installation prior to start-up, and to supervise placing equipment or system in operation.

2.2 CONTRACTOR START-UPS

A. The Contractor may perform start-up work not specified otherwise in paragraph 2.1. The A/E shall be notified at least 3 working days in advance of the start-up of each system.

B. Before starting or operating equipment or systems, certify to the A/E that all systems have been properly flushed, cleaned, and tested. Verify that each piece of equipment or system has been checked for proper lubrication, drive rotation, belt tension, control sequence, or other conditions which may cause damage. Verify that tests, meter reading, and specified electrical characteristics agree with those required by the equipment or system manufacturer and that all manufacturer's check lists and instructions have been followed. Verify wiring and support components for equipment are complete and tested.

C. Execute start-up under supervision of responsible Contractor's personnel in accordance with manufacturer's instructions. Satisfy requirement of this section and other individual specification sections for procedures.

2.3 INSTRUCTION AND TRAINING

A. Schedule with the Owner periods of training and instruction to coincide with the factory start-ups required in this Section. In addition, schedule one 8-hour instruction period with the approval of the A/E for Owner personnel after all systems are operational and at least two weeks before contract completion date. All parties shall have at least one-week advance notice of such meeting, and it shall be conducted by a collection of Contractor personnel and subcontractors having a thorough knowledge of all systems operations and the ability to communicate this to the Owner's designated maintenance people.

B. Schedule an additional 8-hour instruction period during the warranty period and within six months for the demonstration of seasonally operating equipment.

C. Utilize maintenance and operation manuals as basis for instruction. Review contents of manual with Owner's personnel in detail to explain all aspects of operation and maintenance.

D. Demonstrate start-up, operation, control, adjustment, troubleshooting, servicing, maintenance, and shutdown of each item of equipment.

E. Prepare and insert additional data in maintenance and operation manuals when the need for additional data becomes apparent during instruction.

F. Instructional periods shall be videotaped to allow the owner to review the commentary at a later date. The video file of this taping shall be transmitted to the owner within 5 days of the instructional session.

PART 3 - PROCEDURES

3.1 HYDROSTATIC TESTING

A. When all pressure-parts have been assembled and connections have been completed, but before any refractory, insulation or casing work is begun, or before piping is concealed, the pressure vessels and piping shall be tested at the pressure specified by the applicable code. For fossil-fuel boiler and heaters, tanks and piping systems this pressure shall be 1.5 times the design working pressure.

B. Hydrostatic means that these tests are to be done with water. DO NOT PRESSURIZE ANY VESSEL OR PIPING SYSTEM ASSOCIATED WITH THIS PROJECT WITH COMPRESSED AIR EXCEPT AS NOTED BELOW OR EXCEPT FOR BLADDER TYPE EXPANSION TANKS ANDE ASME-RATED COMPRESSED AIR RECEIVERS.

C. Before the test, a final inspection shall be made of all welding and all external connections, including all fittings within code requirements. Screwed safety valves shall be removed and the ports plugged with capped nipples. Connections for flanged safety valves shall be blanked with a blind flange or a rated valve. Welded safety valves shall be closed with an internal plug furnished by the valve manufacturer. The Engineer shall be notified of the intent to perform the test at least three days in advance and shall have the opportunity to observe the initial pressurization as well as the inspection at the end of the holding period.

D. Water for most hydrostatic testing shall be clean, clear, filtered water. Nondrainable items such as some coils, shall be filled with demineralized water [or in the case of steam systems, clean condensate, if available, and treated with 10 ppm ammonia for pH control and 500 ppm of hydrazine for oxygen control]. Both the metal and the water temperatures shall be above the dew point of the surrounding room, since condensation on metal surfaces makes inspection difficult. Fill water shall be at a temperature of not less than 70F but shall not be hot enough that metal parts cannot be held for long periods or that water escaping from small leaks immediately evaporates or flashes to steam. No air shall be trapped inside the unit while making the tests. As a boiler or vessel is being filled, it shall be vented at every available connection, to allow water to fill every circuit or void within the unit.

E. After the equipment is filled with water, hydrostatic pressure shall be applied by a pump made for testing purposes and read from a minimum of two independent calibrated pressure gauges. If a boiler-feed or other high-capacity pump is used, precautions shall be taken to keep the pressure under control at all times and specific approval must be obtained from the Engineer. While water is being pumped into the system, continuous inspection shall be made to observe any leakage conditions that might need repair or become dangerous. For small systems operating at low pressures, the vessel or piping may be pressurized with air from a pneumatic hand or foot pump, applied through an air valve to a column of water in a large pipe nipple mounted above the highest point in the system. Pressure shall not be allowed to exceed 1.60 times the design working pressure while pumping the air. Once fully pressurized the pump-up valve shall be closed and the pressure recorded by the Engineer's designated inspector. DO NOT RUN CIRCULATING PUMPS DURING TEST.

F. During the hydrostatic testing of any vessel, safety precautions must be observed and nonessential personnel kept from the test area. The Contractor should assume that the vessel will burst when pressure is applied and protect personnel and the public accordingly. Systems which have been observed for several hours without detecting leaks may be left pressurized overnight to complete the required holding period.

G. Test pressure must be held minimum of 8 hours to allow minute leaks to be observed. No amount of leakage is allowed. Following this holding period, pressure is retained for an inspection period. The A/E shall witness the last half hour of the test [On Universal-Pressure boilers and large Radiant boilers, high-capacity pumps are used to cycle boiler pressure several times. The cycling uncovers leaks that might otherwise not show up until the first few operating cycles of the boiler]. During final inspection, every area of the pressure system is viewed for leakage and repaired, if necessary, to make the unit completely watertight. Repairs shall be made by replacing the defective party or joint. Retest of the defective section is required.

3.2 HVAC PIPING SYSTEM FLUSHING AND CLEANING

A. Follow procedures described in Section 235460 – HVAC Piping System Cleanup.

B. Simultaneously, coordinate system chemical water treatment with Section 235450, so that this may be started immediately after the cleaning and flushing.

PART 4 - SUBMITTALS

4.1 SUBMITTAL SCHEDULE

A. In accordance with the requirements of the General Provisions for Mechanical in Section 230100, the following information is required to be submitted for this Section. The Contractor shall submit the specified copies of the required information to the designated party for approval within 30 days after Notice to Proceed.

Item Description	Shop Drawings	Product Data	Scheduled	Installation Data	Parts Lists	Wiring Diagram	Samples	O & M Manual	Certificates	Warranty	Report	Other
Testing, Start-Up, & Commissioning		*	**						***			Training & Instructions for Owner Personnel

* Provide instrumentation data.
** Provide test matrix as specified.
*** Provide certification of firm and personnel.

END OF SECTION 239500

Contract Documents and Specifications

Lexington Fayette Urban County Government

Department of General Services

For

DWQ Headquarters and Operations Facility

134 West New Circle Road
Lexington, KY

Bid No. RFB 70-2025
GRW Project No. 5247-01

Prepared By:

GRW Inc.

August 15, 2025

Construction Document

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1.1 PROJECT MANUAL

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1. LFUCG Division of Water Quality Facility Renovation
2. Lexington Fayette Urban County Government.
3. Lexington, KY.
4. Owner Project No. RFB 70-2025.
5. Architect Project No. 5247-01.

6. GRW Engineering Architecture Geospatial. Inc.
7. 801 Corporate Drive.
8. Lexington, KY 40503
9. Phone: 859-223-3999.
10. Website: GRW | engineering | architecture | geospatial.
11. Issued: August 15, 2025.
12. Copyright 2025 GRW Engineering Architecture Geospatial. Inc.

END OF DOCUMENT 000104

DIVISION 26

ELECTRICAL

SECTION 260000 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 CONTRACTOR'S UNDERSTANDING

A. Contractors bidding work under this Contract shall read and understand Division 00 and Division 01 - General Requirements. If any discrepancies are discovered between the Basic Electrical Materials and Methods and General Requirements, the above-mentioned documents shall overrule this section. The Basic Electrical Materials and Methods are intended as a supplement to the above-mentioned documents.

B. The Contractor shall bid as outlined in the above-mentioned Specifications and shall be governed by any alternates or unit prices called for in the form of proposal.

C. Each Contractor bidding on the work included in these Specifications shall view the building site and carefully examine the contract Drawings and Specifications, so that he/she may fully understand what is to be done, and to document existing conditions.

D. The electrical design depicted in the Contract Drawings, is a concept. As the Contractor and Subcontractors layout the job in the field and submit Shop Drawings, it is likely that minor changes will need to be made to the layout, field control wiring, or branch circuits/feeders, from what is shown on the Contract Drawings. These changes will be indicated by Engineer review comments on Shop Drawings or issuance of field orders. It is the Contractors job to coordinate these changes among Subcontractors and equipment vendors, to assure a complete and fully operational electrical system at completion of construction. The Contractor shall not layout the job from the Contract Drawings, but rather from accepted Shop Drawings. Electrical rough-in shall be done based on templates provided from the electrical switchgear and MCC manufacturers showing allowable conduit entry locations. Do not submit electrical panelboard Shop Drawings, Motor Control Center Shop Drawings, Switchboard or Switchgear Shop Drawings until all utilization equipment submittals have been made and accepted. Short Circuit, Coordination and Arc Flash studies must be accepted prior to submittal of Shop Drawings for panelboards, MCC's, switchboards or switchgear.

E. The Contractor shall perform the work of this contract in a "neat and workmanlike manner" as required by NEC Article 110.12, and further delineated in ANSI/NECA 1, latest edition, "Standard for Good Workmanship in Electrical Construction".

1.2 SCOPE OF WORK

A. Work included in this section of the Specifications shall include the furnishing of all labor, material, tools, approvals, utility connection fees, excavation, backfill, and other equipment necessary to install the electrical system as shown on the Contract Drawings and as specified herein.

B. It also includes installation and connection of all electrical utilization equipment included in this Contract but furnished by other contractors or suppliers.

C. It is the general intent that all motors shall be furnished with the particular object of equipment it drives, except where a new motor is to be provided for an item of existing equipment (a replacement motor), then it shall be provided under this Division of the Specifications.

D. The Contractor shall furnish and install all conduit, wire, disconnect switches and miscellaneous material to make all electrical connections to all items of utilization equipment or wiring devices except as otherwise specified.

E. Equipment connections shall be made with flexible or rigid conduit as required. Controllers for motors, disconnect switches, and all control, protective and signal devices for motor circuits, except where such apparatus is furnished mounted and connected integrally with the motor driven equipment, shall be installed, connected and left in operating condition. The number and size of conductors between motors and control or protective apparatus shall be as required to obtain the operation described in these Specifications, and/or by the Contract Documents, and/or as shown in manufacturer furnished, Engineer reviewed Shop Drawings.

F. All devices and items of electrical equipment, including those shown on the Contract Drawings but not specifically mentioned in the Specifications or those mentioned in the Specifications but not shown on the Contract Drawings, are to be furnished under this section of the specifications. Any such device or item of equipment, if not defined in quality, shall be equal to similar Equipment and/or devices specified herein.

G. All devices and items of equipment mentioned in this section of the Specifications whether electrical or not or whether furnished under this or other Division of the Specifications, shall be installed under this Division of the Specifications, unless specifically indicated otherwise.

H. Where wiring diagrams are not shown on the Contract Drawings, they are to be provided by the supplier of the equipment served and such diagrams shall be adhered to except as herein modified.

I. The following is a list of items that may not be defined clearly on the Contract Drawings or in other parts of these Specifications. The list is meant to be an aid to the Contractor and is not necessarily a complete list of all work to be performed under this Contract:

1. Connect all motors and accessories furnished by equipment suppliers.
2. Furnish, install, and connect all motor controls.
3. Furnish, install, and connect lighting, indoor and outdoor.
4. Furnish, install, and connect all electrical conduit, duct and cables.
5. Furnish, install, and connect all communication boxes, outlets, etc.
6. Furnish, install, and connect all power distribution equipment.
7. Abandon and remove all existing wiring and materials not to be reused in the renovated plant, as shown on the Contract Drawings.
8. Furnish and install fire alarm control panel, devices, and wiring.
9. All HVAC control wiring is by the Temperature Controls Contractor for Division 23.
10. Furnish and install communications system equipment.
11. Furnish and install all fiber optic system cables, conduits and accessories.
12. Furnish and install all security system boxes, conduit, cabling etc.

J. All raceways and wiring shall be fire stopped where required by code and/or indicated in the Contract Drawings.

1.3 SHOP DRAWINGS, DESCRIPTIVE LITERATURE, INSTALLATION, OPERATION AND MAINTENANCE INFORMATION

A. Shop Drawings including descriptive literature and/or installation, operation and maintenance instructions shall be submitted for this Division.

B. Shop Drawings shall be submitted on the following materials specified in this Division:

1. Conduit - all types and sizes, including liquid-tight flexible.
2. Boxes - all types and sizes.
3. Coal tar epoxy paint.
4. Wiring devices.
5. Device plates.
6. Metal framing system (Strut type channel).
7. Conduit fittings, expansion joints, support hardware.
8. Motor control equipment - including individually mounted items and pole top items.
9. Power distribution equipment - including individually mounted items.
10. Miscellaneous spare parts and hardware.
11. Wire - all types and sizes.
12. Luminaires - all types.
13. Wire markers, signs and labels.
14. Lightning/transient suppressors.
15. Motors
16. Transformers.
17. Fire alarm system.
18. Lighting controls.
19. Communications equipment.

C. The Engineer reserves the right to make modifications to motor control and power distribution equipment ratings after Shop Drawing review, if the Shop Drawings are submitted prematurely (prematurely meaning submitted before all utilization equipment has been reviewed and accepted). Cost of modifications shall be the Contractor’s responsibility.

1.4 SYMBOLS AND ABBREVIATIONS

A. The symbols and abbreviations generally follow standard electrical and architectural practice; however, exceptions to this shall be as shown on the Contract Drawings.

1.5 COORDINATION WITH OTHER TRADES

A. The Contractor shall coordinate the electrical work with that of other trades to ensure proper final location of all electrical equipment and/or connections. The Contractor shall verify door swings to see that light switches are located properly.

1.6 CODES

A. The minimum standard for all work shall be the latest revision of the Kentucky Building Code (KBC), and the National Electrical Code (NEC). Whenever and wherever state and/or local

laws or ordinances and/or regulations and/or the Engineer's design require a higher standard that the current NEC or KBC, then these laws and/or regulations and/or the design shall be followed.

B. Following is a list of other applicable Standards and Codes:

1.	Kentucky Building Code	KBC
2.	National Electrical Code	NEC
3.	National Electrical Safety Code	NESC
4.	Underwriters Laboratories, Inc.	UL
5.	Factory Mutual System	FM
6.	National Fire Protection Association	NFPA
7.	National Electrical Manufacturers Association	NEMA
8.	Occupational Safety and Health Administration	OSHA
9.	Insulated Cable Engineers Association, Inc.	ICEA
10.	Illuminating Engineering Society of North America	IES
11.	Instrument Society of America	ISA
12.	Institute of Electrical and Electronic Engineers, Inc.	IEEE
13.	Certified Ballast Manufacturers Association	CBM
14.	American National Standards Institute, Inc.	ANSI
15.	Anti-Friction Bearing Manufacturers Association, Inc.	AFBMA
16.	Joint Industry Council	JIC
17.	American Society of Heating, Refrigerating and Air Conditioning Engineers, Inc.	ASHRAE
18.	Federal Communications Commission	FCC
19.	American Society for Testing and Materials	ASTM
20.	American Wood Preservers Association	AWPA
21.	Rural Electrification Association	REA

1.7 INSPECTIONS AND PERMITS

A. Inspection of the electrical system on all construction projects is required. If the local government has appointed a state licensed inspector, the Contractor shall be required to use that person to perform the inspections. If a locally mandated inspector does not exist, the Contractor shall select and hire a state licensed inspector, who has jurisdiction before any work is concealed. The Contractor shall notify the electrical inspector in writing, immediately upon notice to proceed, and a copy of the notice shall be submitted to the Engineer.

B. At the time of completion of the project, there shall be furnished to the Owner a certificate of compliance, from the agency having jurisdiction pursuant to all electrical work performed. The Engineer shall also receive a copy.

C. All costs incurred by the Contractor to execute the above-mentioned requirements shall be paid by the Contractor at no extra cost to the Owner.

D. All permits necessary for the complete electrical system shall be obtained by the Contractor from the authorities governing such work. For further information, see Division 01.

1.8 STORAGE

A. All work, equipment, and materials shall be protected against dirt, water, or other injury during the period of construction.

B. Sensitive electrical equipment such as light fixtures, motor starters, controls, and panel boards, delivered to the job site, shall be protected against injury or corrosion due to atmospheric conditions or physical damage by other means. Protection is interpreted to mean that equipment shall be stored under roof, in a structure properly heated in cold weather and ventilated in hot weather. Provision shall be made to control the humidity in the storage area to 50 percent relative. The stored equipment shall be inspected periodically, and if it is found that the protection is inadequate, further protective measures shall be employed. Electrical equipment other than boxes and conduit shall not be installed until the structure is under roof with doors and windows installed.

C. No light fixtures or device plates shall be hung or installed until after painting is completed; however, temporary lighting shall be provided by the Contractor.

1.9 MATERIALS

A. All materials used shall be new and at least meet the minimum standards as established by the NEC and/or National Electrical Manufacturers Association (NEMA). All materials shall be UL listed for the application, where a listing exists. Additional requirements are found in Division 01. All equipment shall meet applicable FCC requirements and restrictions.

B. The material and equipment described herein has been specified according to a particular trade name or make to set quality standards. However, each Contractor has the right to substitute other material and equipment in lieu of that specified, other than those specifically mentioned at matching or for standardization, providing such material and equipment meets all of the requirements of those specified and is accepted, in writing by the Engineer.

C. The reuse of salvaged electrical equipment and/or wiring will not be permitted unless specified herein or indicated on the Contract Drawings.

D. All salvaged or abandoned electrical materials shall become the property of the Contractor and shall be removed from the job site upon completion of the project, unless otherwise noted on the Contract Drawings or specified herein.

1.10 ERRORS, CORRECTIONS, AND/OR OMISSIONS

A. Should a piece of utilization equipment be supplied of a different size or horsepower than shown on the Contract Drawings, the Contractor shall be responsible for installing the proper size wiring, conduit, starters, circuit breakers, etc., for proper operation of that unit and the complete electrical system at no extra cost to the Owner.

B. It is the intent of these Specifications to provide for an electrical system installation complete in every respect, to operate in the manner and under conditions as shown in these Specifications and on the Contract Drawings. The Contractor shall notify the Engineer, in writing, of any omission or error at least 10 days prior to opening of bids. In the event of the Contractor's

failure to give such notice, he/she may be required to correct work and/or furnish items omitted without additional cost. Further requirements on this subject may be found in the General Requirements, Division 01.

C. Necessary changes or revisions in electrical work to meet any code or power company requirement shall be made by the Contractor without additional charge.

1.11 GUARANTEES AND WARRANTIES

A. The Contractor shall guarantee all work including equipment, materials, and workmanship. This guarantee shall be against all defects of any of the above and shall run for a period of 1 year from the date of acceptance of the work, concurrent with the one-year guarantee period designated for the general construction contract under which electrical work is performed. Date of acceptance shall be the date on which all "punch list" items are completed ("punch list" is defined to be the written listing of work that is incomplete or deficient that must be finished or replaced/repaired before the Contractor receives final payment).

B. Repair and maintenance for the guarantee period is the responsibility of the Contractor and shall include all repairs and maintenance other than that which is considered as routine. (That is oiling, greasing, etc.) The Engineer shall be the judge of what shall be considered as routine maintenance.

1.12 TESTING

A. After the wiring system is complete, and at such time as the Engineer may direct, the Contractor shall conduct an operating test for acceptance. The equipment shall be demonstrated to operate in accordance with the requirements of these Specifications and the Contract Drawings. The test shall be performed in the presence of the Engineer or his authorized representative. The Contractor shall furnish all instruments and personnel required for the tests, as well as the necessary electrical power.

B. Before energizing the system, the Contractor shall check all connections and set all relays and instruments for proper operation. He shall obtain all necessary clearances, approvals, and instructions from the serving utility company and/or equipment manufacturers prior to placing power on the equipment.

C. Tests may be performed by the Engineer to determine integrity of insulation on wiring circuits selected by the Engineer at random.

D. Cost of utilities for testing done prior to beneficial occupancy by the Owner shall be borne by the Contractor.

1.13 CLEANUP

A. Cleanup shall be completed as soon as possible after the electrical installation is complete. All light fixtures, outlets, switches, starters, motor control centers, disconnect switches and other electrical equipment shall be free of shipping tags, stickers, etc. All painted equipment shall be left free of scratches or other blemishes, such as splattered or blistered paint, etc. All light

fixture diffusers shall be clean and the interior of all motor controls, etc., shall be free of dust, dirt, wire strippings, etc. Surplus material, rubbish and equipment resulting from the work shall be removed from the job site by the Contractor upon completion of the work.

B. During construction, cover all Owner equipment and furnishings subject to mechanical damage or contamination in any way.

1.14 CUTTING AND PATCHING

A. Cutting and patching shall be held to an absolute minimum and such work shall be done only under the direction of the Engineer or Owner. The Contractor shall be responsible for and shall pay for all openings that may be required in the floors or walls, and he shall be responsible for putting said surfaces back in their original condition. Every attempt shall be made to avoid cutting reinforcing steel bars when an opening is required in a reinforced concrete wall or floor slab.

1.15 EXCAVATION AND BACKFILL

A. Excavation

1. Excavation for conduits shall be of sufficient width to allow for proper jointing and alignment of the type conduit used. Conduit shall be bedded on original ground. Where conduit is in solid rock, a 6-inch earth cushion must be provided. Conduit shall be laid in straight lines between pull boxes and/or structures unless otherwise noted on the Contract Drawings. The cost of solid rock excavation shall be included in the lump sum bid with no extra pay allowed (unclassified).

B. Backfill

1. Backfill shall be hand placed, loose granular earth for a height of 6 inches above the top of the largest conduit. This material shall be free of rocks over 2 inches in diameter. Above this, large rocks may be included but must be mixed with sufficient earth to fill all voids.

1.16 SLEEVES, CHASES AND OPENINGS

A. Sleeves shall be required at all points where exposed conduits pass through new concrete walls, slabs, or masonry walls. Sleeves that must be installed below grade or where subject to high water conditions must be installed watertight.

B. Wiring chases shall be provided where shown on the Contract Drawings. The Contractor shall have the option of installing chases below surface mounted panel boards provided all structural requirements are met.

C. It is the Contractor’s responsibility to leave openings to allow installation of the complete, operational electrical system. Openings required but not left shall be cut as outlined under cutting and patching. The Contractor shall coordinate all holes and other openings with necessary diameters for proper fire stopping.

1.17 POWER COMPANY COORDINATION

A. The Contractor is responsible for coordinating all activities onsite by the power company.

B. All power company metering equipment shall be electrically located “upstream” of any manual/automatic transfer equipment on projects requiring onsite emergency power generation equipment.

C. Any special provisions required by the serving electrical utility shall be as outlined on the Contract Drawings or as advised by the utility at the time of construction, and work required by these special provisions shall be executed with no extra cost to the Owner.

1.18 TEMPORARY ELECTRICAL POWER

A. The Contractor shall be responsible for providing temporary electrical power as required during construction and shall remove the temporary service equipment when no longer required. Temporary power is also addressed in Division 01.

1.19 OVERCURRENT PROTECTION

A. Circuit breakers or fused switches shall be the size and type as written herein and shown on the Contract Drawings. Any additional overcurrent protection required to maintain an equipment listing by an authority having jurisdiction shall be installed by the Contractor at no extra cost to the Owner.

B. The Contractor shall submit to the Engineer actual nameplate data from motors shipped to the site, stating motor identification as well as characteristics. Overload relay thermal unit selection tables shall accompany the motor data. The Engineer will select thermal unit sizes from this data for use by the Contractor in ordering proper thermal units.

1.20 TRAINING

A. All manufacturers supplying equipment for this division shall provide the Owner’s operations staff with training in the operation and maintenance on the equipment being furnished. The training shall be conducted at the project site by a qualified representative of the manufacturer.

B. The cost of this training shall be included in the bid price.

C. The required training shall consist of both classroom and hands-on situation. Classroom training shall include instruction on how the equipment works its relationship to all accessories and other related units, detailed review of shop drawings, detailed presentation of written O & M instructions, troubleshooting and record-keeping recommendations. Hands-on-training shall include a review of the manufacturer’s O & M instructions, check out of each operator to identifying key elements of the equipment, tear down as appropriate, calibration, adjustment, greasing and oiling points, and operating manipulations of all electrical and mechanical controls.

D. The training shall be scheduled through the Contractor with the Owner. The timing of the training shall closely coincide with startup of the equipment, but no training shall be conducted until the equipment is operational.

E. The minimum number of hours to be provided by manufacturers supplying equipment on this project shall be in accordance with the following table:

Item	Training Hours	
	Classroom	Hands-on
Fire Alarm System	1	1
Lighting Control System	2	1

F. At least 60 days prior to the training the manufacturer shall submit through the Contractor to the Engineer an outline of the training proposed for the Engineer's review and concurrence.

G. The Owner reserves the right to record all training sessions.

1.21 AS BUILT DRAWINGS

A. The Contractor shall maintain 1 set of the Contract Drawings on the job in good condition for examination at all times. The Contractor's qualified representative shall enter upon these drawings, from day to day, the actual "as-built" record of construction and/or alteration progress. Entries and notes shall be made in a neat and legible manner and these drawings delivered to the Engineer after completion of the construction, for use in preparation of Record Drawings.

1.22 GROUNDING AND BONDING

A. All metallic conduit, cabinets, equipment, and service shall be grounded in accordance with the latest issue of the National Electrical Code. All supporting framework and other metal or metal clad equipment or materials which are in contact with electrical conduit, cable and/or enclosures shall be properly grounded to meet the code requirements.

1.23 RELATED SPECIFICATION DIVISIONS

A. The following divisions contain Specifications on utilization equipment, equipment accessories, and procedures related to execution of the electrical work, and are included here for the Contractor's information. Bids shall still be based on complete Contract Documents.

Division 00 – Procurement and Contracting Requirements
Division 01 – General Requirements
Division 02 – Existing Conditions
Division 03 – Concrete
Division 05 – Metals
Division 08 – Openings
Division 09 – Finishes
Division 10 – Specialties

Division 11 – Equipment
Division 13 – Special Construction
Division 23 – Heating, Ventilating, and Air Conditioning
Division 27 – Communications
Division 28 – Electronic Safety and Security
Division 31 – Earthwork
Division 33 – Utilities

1.24 SERVICE ENTRANCE – (Existing-To-Remain)

1.25 CONTRACTOR LICENSING

A. The Contractor performing the electrical work on this project shall be locally licensed, if required by local law or ordinance. If the Contractor has passed the State test, it may not be necessary to meet local testing requirements. It shall be the Contractor's responsibility to investigate these requirements and comply with same.

1.26 ANCHORING/MOUNTING

A. Electrical conduits and/or equipment shall be rigidly supported. Anchors used shall be metallic expansion type, or if appropriate to prevent spalling concrete, epoxy set type. Plastic or explosive type anchors are prohibited.

B. Seismic Anchorage & Qualification of Electrical Components

1. Refer to the structural drawings for seismic design criteria, including seismic design accelerations, Seismic Design Category and structure Risk Category.
2. All electrical components shall be anchored to resist seismic forces in buildings with seismic design category D, E, or F except when ALL the conditions exist:

    a. The component is not required for life safety.
    b. The component is not needed for continuing operation of a Risk Category IV structure.
    c. The component is positively attached to the structure.
    d. The component is flexibly connected to associated conduit and is one of the following:

        1) The component weighs less than 400 lb and has a center of mass less than 48 in above the adjacent floor level OR
        2) The component weighs less than 20 lb or less than 5 lb/s.f. if distributed.

3. All electrical components required for life safety shall be anchored to resist seismic forces in buildings with Seismic Design Category C, D, E or F.
4. All electrical components required for continued operation of a Risk Category IV structure shall be anchored to resist seismic forces in buildings regardless of the Seismic Design Category.
5. Where anchorage to resist seismic forces is required, the following shall be submitted:

a. Designs of all connections of electrical components to the structure, either supplied and certified by the manufacturer; or by a licensed professional engineer qualified and experienced in such design – FOR APPROVAL prior to installation.
b. Certifications by manufacturers of electrical equipment in accordance with 13.2.2.1 of ASCE 7 – FOR APPROVAL prior to purchase.
c. Special Inspection Reports verifying that the electrical components were installed in accordance with the seismic anchorage designs – FOR RECORD after installation.

1.27 ELECTRICAL COMPONENT MOUNTING HEIGHTS

A. Unless otherwise indicated, mounting height for components shall be as defined herein. In cases of conflicts with architectural or structural aspects, the components may be relocated. If an indicated height conflicts with a code requirement, the code shall govern.

B. Mounting heights are given from finished floor elevation to the centerline of the component, unless otherwise noted.

	Component	Height	Comments
1.	Wall type light switch	4'-0"	To top of box
2.	Low wall outlet (power, TV, Comm)	16"	To bottom
3.	Medium height wall outlet	44"	To bottom
4.	Medium height telephone outlet	44"	To bottom
5.	High wall outlet or fixture	7'-0"	
6.	Wall type buzzers, horns, etc.	8'-0" Max.	Top 2" below ceiling
7.	Wall type exit signs	8'-0" Max.	Top of sign 2" below ceiling
8.	Fire alarm manual pull station	42"	To the handle
9.	Wall mount speaker	8'-0" Max.	Top of speaker 1" below ceiling
10.	Push-button or control stations	4'-0"	
11.	Top of panelboards or control panels	6'-6"	Maximum (except for handicapped areas)
12.	Top of local motor controller	6'-0"	Maximum
13.	Top of local disconnect switch	6'-0"	Maximum
14.	Wall mounted outlets above a counter	4'-2"	
15.	Wall telephone	4'-6"	Maximum to top of phone
16.	Wall outlets over workbench	3'-6"	Coordinate with workbench
17.	Wall mount exterior light fixtures	8'-0"	Except as noted on Drawings

	Component	Height	Comments
18.	Wall mount emergency light fixtures	6'-6"	Maximum to test button
19.	Wall thermostats	4'-0"	Per Division 23
20.	Receptacles & cable outlet for wall hung TV	72"	
21.	Fire alarm horn/strobe units	80"	Max. 6" below ceiling whichever is lower

In situations where there appears to be a conflict with Americans with Disabilities Act (ADA) legislation, utilize the ADA requirements.

1.28 RECEIPTS

A. Some sections of the Specifications call for equipment, materials, accessories, etc. to be provided and "turned over to the Owner" or like requirements. The Contractor shall obtain a receipt for each item turned over, signed by the Owner or his representative. A copy of this receipt shall be transmitted to the Engineer.

B. When a question arises concerning whether items have been turned over to the Owner, and there is no signed receipt, it may be assumed that the items were not provided.

1.29 BUY AMERICAN

A. The Contractor is responsible for compliance with any "Buy American" legislation that may apply to this project due to State, Federal, and local laws or funding agency requirements. Necessary certifications of the sourcing of materials shall be part of the submittals.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 260000

SECTION 260100 - ELECTRICAL DEMOLITION

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, equipment, materials, and supplies necessary for and reasonably incidental to demolition of work hereinafter specified, indicated on drawings, required or intended for completion of the work.

B. Major items included under demolition work include, but are not limited to:

1. Interior electrical systems in the existing facility as shown.
2. Feeders/branch circuits to indicated HVAC and plumbing equipment.
3. Site lighting.

C. Repair those areas damaged under demolition work once new services and systems have been installed.

1.2 SUBMITTALS

A. No submittals are anticipated under this Section.

1.3 JOB CONDITIONS

A. Provide adequate protection to persons and property. Execute work in such a manner as to avoid interference with required operations and use of or passage to and from adjoining buildings and facilities.

B. Demolition work of equipment necessary for the operation of the power and communication systems to be coordinated with the installation of new equipment. The demolition and installation work is to be done as quickly as possible to minimize any burdens on the Owner.

1.4 CONDITION OF EXISTING FACILITIES

A. Contractor shall verify the areas, conditions and features necessary to tie new work into existing construction. This verification shall be done prior to submittal of shop drawings, fabrication or erection, construction or installation. The Contractor shall be responsible for the accurate tie-in of the new work to existing facilities.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 SCHEDULES

A. Schedule all demolition work as to cause minimal interference with existing facility operations. Refer to Specification Divisions 0 and Division 01 for additional requirements.

B. Obtain prior approval of the Owner at least seven days in advance before starting demolition of any equipment. Under no circumstances will demolition work be approved until new equipment is ready for installation.

3.2 PREPARATION

A. Disconnect or arrange for disconnection of utility service connections to equipment and areas to be demolished before starting demolition.

B. Preserve in operating condition all active utilities transversing the project site. Protect all equipment that remains (electrical and mechanical) during demolition, and repair all damage caused by this work to satisfaction of Engineer.

3.3 APPLICATION

A. Maintain the continuity of the existing branch circuits serving all existing light fixtures that are to remain, whether indicated or not on the drawings.

B. All existing walls, ceilings, floor slabs, etc., being cut or damaged under this Contract shall be patched back to match existing by General Contractor.

C. All existing luminaires, receptacles, control equipment and switches being removed shall be disposed of by the Contractor. Refer to 260000 for more details.

D. Remove exposed ground conductor back to source or point of contact with slab. Cut conductor off below slab and abandon with hole being patched back to match existing surface (floor, wall or ceiling). If reusable, simply disconnect ground conductor.

E. Conduits, wire and wood products that are not salvageable shall be disposed of legally.

3.4 STORAGE AND HANDLING

A. The Owner reserves the right to save materials that are a part of the demolition work, and the Contractor shall turn over and store any such materials at the Owner’s direction.

B. All materials not turned over to Owner shall become property of Contractor and removed promptly from project site at no additional cost to the Owner. Any permits or fees for disposal shall be the responsibility of the Contractor.

3.5 CLEANUP

A. Burn no materials or debris on premises.

B. Remove from site rubbish and debris found thereon and, except as otherwise specified, materials and debris resulting from work of demolition. Leave site in safe and clean condition.

END OF SECTION 260100

SECTION 260519 - CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. All wire and cable shall conform to the latest requirements of the NEC and shall meet all ASTM/UL specifications. Wire and cable shall be new; shall have size, grade of insulation, voltage rating and manufacturer's name permanently marked on the outer covering at regular intervals. Complete descriptive literature shall be submitted to the Engineer for review and acceptance prior to installation.

B. Building wire #12 - #1 shall be applied based on a 60 degrees C temperature rise. Building wire larger than #1 may be applied at its 75 degrees C temperature rise.

1.2 DELIVERY, STORAGE AND HANDLING

A. Wire and cable shall be suitably protected from weather and damage during storage and handling and shall be in first class condition when installed.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Building Wire (types THWN and THW-cu.) – American, Carol, or Collyer, Rome, equal.

B. Flexible Cords and Cables (Types SO (600V) SJO - 300V) – American, Carol, Collyer, or equal.

C. Control Cables (Shielded or unshielded) 600V max. – Belden, Eaton-Dekoron, Okonite, Anixter, or equal.

D. Instrumentation Cables (Shielded) 600V mx. – American, Belden, Eaton-Dekoron, Manhatton, Okonite, or equal.

E. Multi-Conductor Instrumentation Cables (Shielded) 600V mx. – American, Belden, Houston Wire & Cable, Eaton-Dekoron, or equal.

F. Fire Alarm Cables – American, Anixter, Collyer, or equal.

2.2 MATERIALS

A. General

1. In general, all conductors shall be 98 percent conductive, annealed copper unless otherwise noted on the Contract Drawings.

2. Conductors shall be type THW or THWN insulation. Conductor size shall be AWG (American Wire Gauge) Standard. Minimum conductor size shall be AWG number 12 except branch circuits in excess of 75 feet from panel to first outlet not smaller than no. 10 AWG. Minimum voltage rating shall be 600 volts. Conductors for small power may be solid (i.e. lighting, receptacles), but conductors for control work shall be stranded.
3. All conductors shall be stranded, #8 and larger. Number 12 and number 10 AWG shall be solid.
4. Conductors with high temperature rated insulations and special construction shall be used where required in connecting to light fixtures or appliances that have special requirements.
5. Aerial power cables shall be as specified in this division, Section: Overhead Power Distribution.
6. Telephone cables shall be as specified in this division, Section: Communications.

B. Fire Alarm Conductors

1. Conductors for use in conduit for fire alarm systems shall comply with NEC Article 760, and cables specified in B1 above may be used in conduit if so desired. Conductors and insulation types as specified for non-power limited fire protective signaling circuits in Article 760 may be used on power limited systems for this project in conduit. Conductors shall be rated 600 volts, UL listed, copper, minimum #16 AWG, but in no case smaller than recommended by the fire alarm manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION/APPLICATION/ERECTION

A. General

1. Conductors shall be continuous from outlet to outlet and no splices shall be made except accessible in junction or outlet boxes. Wire connectors of insulating material or solderless pressure connectors, properly taped, shall be used for all splices in wiring, wherever possible.
2. Conductors shall be color coded in accordance with the following schedule:

	480/277V 3 Phase	208/120V 3 Phase	120/240, Single Phase
Phase A	Brown	Black	Black
Phase B	Orange	Red	Red
Phase C	Yellow	Blue	
Neutral (Grounded)	White or Light Gray	White or Light Gray	White or Light Gray
3-Way Tracers			Blue
Grounding	Green	Green	Green

	480/277V 3 Phase	208/120V 3 Phase	120/240, Single Phase
Remote Energized Conductors (Control)			Yellow
Control	Per NFPA 79	Per NFPA 79	

3. Conductors shall be pulled into raceways in strict accordance with manufacturer's recommendations.
4. Ample slack conductors shall be allowed at each terminal point, and pull or junction box, to permit installation with ease and without crowding.
5. All conductors terminating at terminal blocks shall be identified with numbers and/or letters identical to circuit or control identification.
6. No conductors shall be drawn into conduits until all work which may cause wire or cable damage is completed. Wire pulling shall be accomplished utilizing machinery and accessories intended for the purpose.
7. All connections and splices shall be made in accordance with conductor manufacturer's recommendations, and as written herein.
8. If the size and number of conductors in a conduit on the Drawings is not shown, then it shall be assumed to be 3 #12, 3/4 inch.
9. In general, feeder sizes shown are based on no more than three current carrying conductors in a conduit. Multiple small branch circuit feeders may be combined in a common conduit, provided conductors are derated in accordance with NEC article 310-15.
10. Unless otherwise specifically indicated, neutrals may not be shared.

B. Low Voltage Feeders

1. All low voltage feeders shall be 480-volt, 240-volt, or 208-volt as noted in the Contract Drawings. Three phase, 4 wire for power and 208/120 volt, 3 phase, 4 wire for general lighting, unless otherwise noted. The Contractor shall furnish and install all feeders from the distribution center(s) to each of the other structures/subpanels as shown on the Contract Drawings.
2. Wire shall be factory color coded for each phase and neutral, with green used for the ground conductor. As far as practical, all feeders shall be continuous from origin to panel termination without running splices in intermediate pull boxes.

C. Control Cable

1. Control cable shall be the size and have the number of conductors shown on the control system drawings. Control cable shall be used for motor controls and monitoring only. Color coding shall be ICEA, Method 1. Control cables between buildings shall be underground in conduit of the size shown in the control system schematic. Cabling shall provide a minimum of 25 percent spare conductors. Voltage rating shall be 600 volts.

2. Control cable shall be terminated at valve actuators via cable glands listed for the environment (IP68 and/or Class I, Division 1, Class, I, Division 2).

D. Instrument Cable

1. General

    a. All signal lines should be constructed of individually twisted pairs (6 to 10 twists per foot), including thermocouple extension leads. Cables should be made of twisted pairs, with all lays and pairs twisted in the same direction for maximum flexibility.
    b. Wire size is #16 AWG minimum for single pair runs under 5,000 feet in length. Wire size shall be #16 - #20 AWG for multi-pair cable runs under 5,000 feet in length.
    c. Stranded tinned copper conductor shall be used for all wiring other than thermocouple extension leads.
    d. Insulation resistance at 68 degrees Fahrenheit between conductors and between conductors and ground should be at least 500 megohms per 1,000 feet.
    e. Multi-pair cable should be jacketed with poly-vinyl-chloride, polyethylene or Teflon at least 0.045 inch thick. Voltage rating shall be 600 volts.

2. Signal Wiring

    a. Low level analog (less than 500 millivolt d-c). Use twisted pairs which may be cabled with other pairs carrying similar voltage levels. Foil wraps or equivalent shielding is required for each cable with the shield insulated from ground.
    b. High level analog (greater than 500 millivolts d-c). Use twisted pairs which may be cabled with other pairs carrying similar voltage levels and current levels less than 100 ma. Shielding is required.
    c. Analog outputs (normally 0-4 d-c or 4-20 ma). Same as b.
    d. Contact inputs - use twisted pairs and run in separate conduit.
    e. Contact outputs - same as d.
    f. Pulse inputs - same as d.

3. Signal and Shield Grounding

    a. All shields must be grounded at one point only as close as possible to the signal source.
    b. Thermocouples may be grounded or ungrounded.
    c. Analog signals, if grounded, should be grounded as near the signal source as possible.
    d. Resistance bulbs should not be grounded.

4. Signal and Wiring Separation

    a. High level analog signals may share the same conduit or run with contact or pulse signals.
    b. Thermocouple and low-level signals should be run in a separate conduit.
    c. A minimum separation of 12 inches between analog signal leads and a-c power leads should be maintained. For a-c power leads carrying 100 amps or greater, a 24-inch separation should be maintained. Parallel runs should be limited to less than 500 feet. Perpendicular runs may be as close as 6 inches.

E. Multi-Pair Instrument Cables

1. Multi-Conductor instrument cable shall meet the requirements of ‘Instrument Cable’ above, plus the following:

    a. Provide number of shielded twisted pairs indicated on drawings.
    b. Conductor shall be terminated at valve actuators via cable glands listed for the environment (IP68 and/or Class I, Division 1, Class, I, Division 2).

END OF SECTION 260519

SECTION 260529 – SUPPORTING DEVICES AND HANGERS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide a system of supporting devices and hangers to ensure secure support or bracing for conduit, electrical equipment, including safety switches, luminaires, panelboards, outlet boxes, junction boxes, cabinets, etc.

B. All electrical equipment shall be rigidly mounted, and installed using supporting devices as indicated, required by the work, or as described herein.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Provide appropriate supporting devices and hangers as manufactured by Erico Products, Inc., Steel City, Rayco, or equal:

1. Vertical flange clamps (beam clamps).
2. “Z” purlin clips.
3. Conduit clips.
4. Universal clamps (Beam clamps).
5. Beam clamps (set screw type).
6. Combination push-in conduit clips.
7. Combination conduit hanger clamps.
8. Flexible conduit clips.
9. Special combination conduit clips.
10. One hole steel straps.
11. Minerallac conduit hangers.

B. Strut type channel shall be Unistrut, Kindorf, or equal.

2.2 MATERIALS

A. All mounting brackets and strut used outside shall be aluminum. Fasteners used to mount equipment outside shall be stainless steel. The only exception to the above shall be anchor bolts for area light poles which shall be allowed to have galvanized threads and galvanized nuts.

B. All mounting brackets and strut used inside shall be galvanized or aluminum. If galvanized is used, then the cut ends shall be cold galvanized. Fasteners used inside to mount equipment into concrete shall be stainless steel. Ungalvanized strut is prohibited.

C. Stainless steel (non-magnetic) or fiberglass resin strut shall be used in chemical areas and areas exposed to chlorine gas.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Secure conduits to within 3’ of each outlet box, junction box, cabinet, fitting, etc., and at intervals not to exceed ten feet (10’) for EMT conduit and in accordance with Table 344.30 (B) (2) for Rigid Steel conduit.

B. Install clamps secured to structure for feeder and other conduits routed against the structure. Use drop rods and hangers or racks to support conduits run apart from the structure.

C. Furnish and install suitable angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards, outlet boxes, etc.

D. Fasteners used to mount equipment into concrete shall be stainless steel.

E. All freestanding equipment shall be anchored to its foundation using stainless steel expansion bolts of the type, size, and number recommended by the equipment manufacturer.

F. Paint all supporting metal not otherwise protected, with rust inhibiting primer and then with a finish coat if appropriate to match the surrounding metal surfaces. (Prepainted or galvanized support material is not required to be painted or repainted.)

G. Support all luminaires including lay-in troffers from the structure to comply with seismic requirements for the specified area.

H. Use of chains, perforated iron, bailing wire, cable ties, duct tape, Velcro, or tie wire for supporting conduit runs will not be permitted.

I. All ends of strut (cut or not) shall have safety cap installed.

END OF SECTION 260529

SECTION 260530 – DUCTBANK FLOWABLE FILL

PART 1 - GENERAL

1.1 INTRODUCTION

A. Flowable fill refers to a cementitious slurry consisting of a mixture of fine aggregate or filler, water, and cementitious material(s), which is used as a fill or backfill in lieu of compacted earth. This mixture is capable of filling all voids in irregular excavations and hard-to-reach places (such as under undercuts of existing slabs), is self-leveling and hardens in a matter of a few hours without the need for compaction in layers. Flowable fill is sometimes referred to as controlled density fill (CDF), controlled low strength material (CLSM), lean concrete slurry, and unshrinkable fill.

B. The materials and mix design for the flowable fill should be designed to produce a comparable compressive strength to the surrounding soil after hardening, making excavation at a later time possible.

C. All duct bank concrete shall be dyed red.

1.2 DESCRIPTION

A. Furnish and place flowable fill in a fluid condition that sets within the required time and, after curing, obtains the desired strength properties as evidenced by the laboratory testing of the specific mix design. This section specifies flowable fill for use as backfill to remain excavatable using hand tools or easily excavatable using a backhoe as would be utilized for adjoining earth.

1.3 SUBMITTALS

A. Flowable fill Mix Design: Provide flowable fill mix design containing cement and water. At the contractor’s option, it may also contain fly ash, aggregate, or chemical admixtures in any proportions such that the final product meets the strength and flow consistency, and shrinkage requirements included in these specifications.

1. Test and Performance - Submit the following data:

a. Flowable fill shall have a minimum strength of 300 psi according to ASTM C 39 at 28 days after placement.
b. Flowable fill shall have minimal subsidence and bleed water shrinkage. Evaporation of bleed water shall not result in shrinkage of more than 1/8 inch per ft. of flowable fill depth (for mixes containing high fly ash content). Measurement of a Final Bleeding shall be as measured in Section 10 of ASTM C 940 “Standard Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory.

B. Provide documentation that the admixture supplier has experience of at least one year, with the products being provided and any equipment required to obtain desired performance of the product.

1.4 APPLICABLE PUBLICATIONS

A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.

B. American Society for Testing and Materials (ASTM):

D4832-02	Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.
C618-03	Standard Specifications for Coal Fly Ash and Raw or Calcined Natural Pozzolan for use as Mineral Admixture in Concrete. (Use Fly Ash conforming to the chemical and physical requirements for mineral admixture, Class F listed, including Table 2 (except for Footnote A). Waive the loss on ignition requirement.)
C403/C403M-05	Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance.
C150-99 Rev.A-04	Standard Specification for Portland Cement
C33-03	Standard Specification for Concrete Aggregates
C494/C494M-04	Standard Specification for Chemical Admixtures for Concrete
C940 RevA-98	Standard Specification for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced – Aggregate Concrete in the Laboratory

C. American Concrete Institute (ACI):

SP-150-94	Controlled Low-Strength Materials

1.5 QUALITY ASSURANCE

A. Manufacturer: Flowable fill shall be manufactured by a ready-mix concrete producer with a minimum of 1-year experience in the production of similar products.

B. Materials: For each type of material required for the work of this Section, provide primary materials that are the products of one manufacturer. If not otherwise specified here, materials shall comply with recommendations of ACI 229, “Controlled Low Strength Materials.”

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver and handle all products and equipment required, in strict compliance with manufacturer’s recommendations. Protect from damage due to weather, excessive temperatures, and construction operations.

1.7 PROJECT CONDITIONS

A. Perform installation of flowable fill only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials and products used.

PART 2 - PRODUCTS

2.1 MATERIALS

Provide flowable fill containing, at a minimum, cementitious materials, and water. Cementitious materials shall be portland cement, pozzolanic materials. The flowable fill mix design may also contain, fine aggregate or filler, and/or chemical admixtures in any proportions such that the final product meets the strength, flow consistency, and shrinkage requirements included in this specification.

A. Portland Cement: ASTM C150, Type 1 or Type 2. Meeting Indiana State DOT standards.

B. Mixing Water: Fresh, clean, and potable.

C. Air-Entraining Admixture: ASTM C260.

D. Chemical Admixtures: ASTM C494.

E. Aggregate: ASTM C33.

F. Red Pigment: ASTM C979.

2.2 FLOWABLE FILL MIXTURE

A. Mix design shall produce a consistency that will result in a flowable product at the time of placement which does not require manual means to move it into place.

B. Flowable fill shall have a minimum strength of 300 psi according to ASTM C39 at 28 days after placement.

C. Flowable fill shall have minimal subsidence and bleed water shrinkage. Evaporation of bleed water shall not result in shrinkage of more than 1/8 inch per foot of flowable fill depth (for mixes containing high fly ash content). Measurement of a Final Bleeding shall be as measured in Section 10 of ASTM C 940 “Standard Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory.

D. Provide equipment as recommended by the manufacturer and comply with manufacturer’s recommendations for the addition of additives, whether at the production plant or prior to placement at the site.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions of substrates and other conditions under which work is to be performed. Do not proceed until unsatisfactory conditions are corrected.

3.2 APPLICATION OF FLOWABLE FILL

A. Secure pipes and other members to be encased in flowable fill. Ensure that there are no exposed metallic pipes, conduits, or other items that will be in contact with the flowable fill after placement. If so, replace with non-metallic materials or apply manufacturer's recommended coating to protect metallic objects before placing the flowable fill.

3.3 PROTECTION AND CURING

A. Protect exposed surfaces of flowable fill from premature drying, wash by rain or running water, wind, mechanical injury, and excessively hot or cold temperature. Curing method shall be subject to approval by Engineer.

END OF SECTION 260530

SECTION 260533 - RACEWAYS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. This section of the Technical Specifications includes all raceways for accommodation of electrical conductors, communications conductors, and sleeves for underground electrical installations, conduit stubs for future installations, fittings and accessories.

B. All raceways shall be marked with the manufacturer's name or trademark as well as type of raceway and size. This marking shall appear at least once every 10 feet and shall be of sufficient durability to withstand the environment involved. All raceways shall be furnished and installed as outlined under Part 3 of this Specification.

C. All raceways and fittings shall be painted to match existing or surrounding surfaces except in mechanical spaces.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Tubular Raceways

1. Steel, Galvanized, Rigid, Heavy-Wall, Threaded – Allied Tube & Conduit Corp., Triangle, Wheatland Tube Co., or equal.
2. Steel, Galvanized, Thin-Wall, Electric-Metallic-Tubing (EMT) – Allied Tube & Conduit Corp., Triangle, VAW, or equal.
3. Aluminum, Rigid, Heavy-Wall, Threaded – Alcoa, Reynolds, VAW, or equal.
4. Plastic (PVC); Type A (Thin Wall); Type 40 (or Schedule 40); Type 80 (or Schedule 80) (Heavy -Wall) – Carlon, Robin-Tech, or equal.
5. Flexible Metal Conduit – AFC, Alflex, or equal.
6. Liquidtight Flexible Metal Conduit – Carol Cable Co., Inc., OZ Gedney, Superflex, or equal.
7. PVC Coated Rigid Steel – Korkap, Robroy, or equal.
8. Factory Coated Aluminum Conduit - Alumax ALX-1, or equal.

B. Wireways

1. Hoffman, Square-D, or equal.

C. Raceway Fittings

1. Conduit fittings – Appleton, Crouse-Hinds, OZ Gedney, or equal.
2. Non-metallic conduit fittings – Carlon, Robin-Tech, Scepter, or equal.
3. PVC coated rigid steel fittings shall be provided by the conduit manufacturer.
4. Flexible conduit fittings – OZ Gedney, Raco, T & B, or equal.

2.2 MATERIALS

A. Aluminum Conduit

1. Aluminum conduit shall be extruded from alloy 6063 and shall be the rigid type, non-toxic, corrosion resistant, and non-staining. It shall be manufactured per UL standards as well as listed/labeled by same.
2. Fittings, boxes, and accessories used in conjunction with aluminum conduit shall be die cast, copper free type. They shall be resistant to both chemical and galvanic corrosion. All covers shall have neoprene gaskets.
3. Aluminum conduit shall not be used in underground applications.

B. Rigid Steel Conduit

1. Rigid steel conduit and fittings shall be of mild steel piping, galvanized inside and out, and shall conform to UL standards. The conduit and fittings hall be listed and labeled by UL as well. The galvanized coating of zinc shall be of uniform thickness applied by the hot-dipped process and shall be applied also to the threads. It shall be further dipped in a chromic acid bath so as to chemically form a corrosion resistant protective coating of zinc chromate which has a characteristic yellow-green color. Each piece of conduit shall be straight, free from blisters and other defects, cut square and taper reamed. It shall be delivered with plastic protectors on the threads.

C. Polyvinylchloride (PVC) Conduit

1. PVC conduit and fittings shall be Schedule 40, 80 heavy wall, or thinwall, as indicated in these Specifications manufactured to conform to UL standards. It shall be listed and labeled by UL. It shall have at least the same temperature rating as the conductor insulation. Expansion joints shall be used as recommended by the manufacturer in published literature. PVC systems shall be 90 degrees C minimum UL rated, have a tensile strength of 7,000 psi @ 73.4 degrees F, flexural strength of 11,000 psi and compressive strength of 8,000 psi.

D. Electrical Metallic Tubing (EMT)

1. EMT shall be high grade steel with an exterior galvanized coating of zinc applied uniformly by the electro-galvanized process. The interior surface shall be uniformly coated with aluminum lacquer or enamel. After galvanizing, it shall be dipped in a chromic acid bath to chemically form a protective coating of zinc chromate. The conduit shall conform to UL standards and be listed as well as labeled by UL.

E. Flexible Conduit

1. Flexible metallic conduit shall be constructed from flexibly or spirally wound elecro-galvanized steel. Connections shall be by means of galvanized malleable iron squeeze type fittings, or tomic twist-in type in sizes not exceeding 3/4 inch. Liquidtight conduit shall be light gray in color and have sealtight fittings, type UA.

F. PVC coated rigid conduit shall be hot dip galvanized prior to PVC coating. All threads shall be galvanized. The exterior galvanized surface shall be coated with a primer prior to PVC coating to insure adhesion. The bond on conduit and fittings shall be greater than the tensile strength of

the plastic coating. The PVC coating on the exterior of the conduits shall be applied by a plastisol dip method to a nominal thickness of 40 mils, minimum. The interior of the conduit and fittings, and threads shall be painted with a urethane coating. The coating shall allow flexibility for field bending without cracking. PVC sleeves shall be formed at each female opening, with the inside diameter of the sleeve matching the outside of the conduit.

G. Conduit Fittings

1. Rigid Steel Conduit Fittings

a. Standard threaded couplings, locknuts, bushings, and elbows made only of steel or malleable iron are acceptable.
b. Locknuts: Bonding type with sharp edges for digging into the metal wall of an enclosure.
c. Bushings: Metallic insulating type, consisting of an insulating insert molded or locked into the metallic body of the fitting. Bushings made entirely of metal or nonmetallic material are not permitted.
d. Erickson (union-type) and set screw type couplings: Approved for use in concrete are permitted or use to complete a conduit run where conduit is installed in concrete. Use set screws of case hardened steel with hex head and cup point to firmly seat in conduit wall for positive ground. Tightening of set screws with pliers is prohibited.
e. Sealing fittings: Threaded cast iron type. Use continuous drain type sealing fittings to prevent passage of water vapor. In concealed work, installed fittings in flush steel boxes with blank coverplates having the same finishes as that of other electrical plates in the room.
f. Fittings for PVC coated rigid conduit shall be manufactured by the maker of the conduit.

2. Rigid Aluminum Conduit Fittings

a. Standard threaded couplings, locknuts, bushings, and elbows: Malleable iron, steel or aluminum alloy materials. Zinc or cadmium plate iron or steel fittings. Aluminum fittings containing more than 0.4 percent copper are prohibited.
b. Locknuts and bushings: As specified for rigid steel and IMC conduit.
c. Set screw fittings: Not permitted for use with aluminum conduit.

3. Electrical Metallic Tubing Fittings

a. Only material of steel or malleable iron is acceptable.
b. Couplings and connectors: Concrete tight and rain tight, with connectors having insulated throats. Use gland and ring compression type couplings and connectors for conduit sizes 2-inches and smaller. Use set screw type couplings with four set screws each for conduit sizes over 2-inches. Use set screws of case-hardened steel with hex head and cup point to firmly seat in wall of conduit for positive grounding.
c. Indent type connectors or couplings are prohibited.
d. Die-cast or pressure-cast zinc-alloy fittings or fittings made of pot metal are prohibited.

4. Expansion and Deflection Couplings

a. Accommodate 1.9 cm (0.75 inch) deflection, expansion, or contraction in any direction, and allow 30 degree angular deflections.
b. Include internal flexible metal braid sized to guarantee conduit ground continuity and fault currents in accordance with UL, and the NEC code tables for ground conductors.
c. Watertight, seismically qualified, corrosion-resistant, threaded for and compatible with rigid or intermediate metal conduit.
d. Jacket: Flexible, corrosion-resistant, watertight, moisture and heat-resistant molded rubber material and stainless steel jacket clamps.

PART 3 - EXECUTION

3.1 PREPARATION

A. Exterior underground metallic conduits shall be degreased, pretreated, and coated with 2 coats of Carboline 888 epoxy, or equal. Other finishes may be acceptable upon the Engineer's review.

3.2 INSTALLATION

A. Conduit

1. All conduit shall be installed in a first class workmanship manner. It shall be installed in horizontal and vertical runs in such a manner as to ensure against trouble from the collection of trapped condensation and shall be arranged so as to be devoid of traps wherever possible. Special care shall be used in assuring that exposed conduit runs are parallel or perpendicular to walls, structural members, or intersections of vertical planes and ceilings. No open wiring is allowed.
2. Fittings or symmetrical bends shall be required wherever right-angle turns are made in exposed work. Bends and offsets shall be avoided wherever possible, but where necessary, they shall be made with an approved conduit bending machine. All conduit joints shall be cut square, reamed smooth and drawn up tight, using couplings intended for the purpose.
3. Conduits shall be securely fastened to all sheet metal outlets, junction and pull boxes with double galvanized locknuts and insulating-grounding bushings as required by the NEC. Conduit crossings in insulating roof fill will require both conduits to be secured to the roof deck, and these crossings can only be made where the insulating fill is a minimum of 3 inches deep. Runs of exposed conduit shall be supported in accordance with the NEC using cast aluminum or malleable iron one hole pipe straps with spacers to provide an air space behind the conduit. Stainless steel minerallac, one piece conduit clamps shall be acceptable where located such that building occupants are not in danger of inadvertent contact, since this type fitting has several sharp edges. In general terms, they may be considered in areas such as on or above ceilings, or high on walls. All conduit in walls and slabs shall be securely braced, capped (wooden plugs are prohibited), and fastened to the forms to prevent dislodgement during vibration and pouring of concrete.
4. During construction, all conduit work shall be protected to prevent lodgement of dirt, plaster or trash in conduits, fittings or boxes. Conduits which have been plugged shall be entirely freed of accumulations or be replaced. All conduits in floors or below grade shall

be swabbed free of debris and moisture before wires are pulled. Crushed or deformed conduit shall not be permitted.

5. All open conduit work through new walls or slabs shall be run through sleeves that shall be made watertight. These sleeves shall be PVC of suitable diameter to permit the passage of the conduit used.
6. Where GRS conduit penetrates a floor slab the conduit shall be painted with 2 coats of Koppers Bitumastic 300-M or equal to a point 6 inches above the penetration.
7. The final section of conduit connecting each motor or piece of utilization equipment subject to vibration shall be of the flexible type. Type UA shall be used in all process areas and in outdoor or wet locations. Flexible conduit to space heaters shall be long enough to allow swivel action.
8. All underground conduits entering a building shall be sealed against water/condensate entering around the conductors. Sealant may be silicone rubber-based caulk.
9. In certain situations, conduit expansion joints shall be required to ensure against conduit and/or cable damage due to settling or thermal expansion and contraction. These expansion joints shall be required where required by the manufacturer or the Contract Drawings and shall be installed per manufacturer's instructions.
10. All conduit to be added to an existing structure shall be exposed in unfinished and process areas. Where new devices are shown in existing walls in finished spaces, every attempt shall be made to conceal the conduit, by fishing flexible conduit through walls from ceiling cavities.
11. All conduit work in the finished space of each new structure shall be concealed except for conduits to lighting fixtures in buildings with precast roof slabs, open joist ceilings, or excepted as noted on the Contract Drawings. All conduit work below ground floor level in each structure shall be exposed. Conduits entering from underground into buildings shall be watertight through the wall, both inside and outside.
12. PVC conduit installed underground for low voltage application shall be schedule 80 without encasement, except service entrance conduits shall be schedule 40 PVC, thin wall PVC, or Fibre Duct, and shall be concrete encased. Where PVC conduit is installed, transition shall be made to GRS conduit at bends where wire pulling could cut conduit. For medium voltage underground conduit requirements see Section 260513.
13. Aluminum conduit shall not be used underground, in chlorine storage/feed areas, or placed in concrete slabs, unless it is UL listed for the purpose and factory pre-coated.
14. Conduit stubs, for future use, extended through outside walls shall be capped with threaded pipe caps and coated to prevent corrosion. Stubs shall extend 5 feet beyond the walls from which they are stubbed unless otherwise indicated on the Contract Drawings.
15. All metal raceway systems shall be grounding conductive solidly bonded throughout and grounded in accordance with NEC requirements and/or as noted on the Contract Drawings. In addition, all raceway systems shall be provided with separate grounding conductors.
16. Minimum conduit size shall be 3/4 inch. The following table shows the minimum burial depth required for all exterior conduit or cable:

Rigid Metal Conduit	18
Schedule 80 PVC	30
Schedule 40 PVC, thinwall, or fiberduct, Concrete Encased (for low voltage service entrance)	18

17. Wire pulling shall be facilitated by the use of a UL approved pulling compound in pulls over 30 feet in length or where there are 2 or more 90-degree bends. Only polypropylene,

nylon, or manila pulling ropes will be permitted. Standard industry recognized wire pulling equipment shall be used.

18. All conduits entering and leaving instrument enclosures shall be sealed around the wires with silicone caulk.
19. All conduits for emergency lighting systems shall be separate from other building power conduits.
20. Areas of use for each type of conduit:

Area of Use	Schedule 40 PVC	Schedule 80 PVC	EMT	GRS	Aluminum
Buildings – Interior					
Building Interior (Concealed)	X	X	X	X	X
Building Interior (Exposed)			X	X	X
Exterior Underground					
Low Voltage	X	X		X	
Low Voltage Service Entrance (Concrete Encased)	X	X		X*	
Exterior Exposed					
Low Voltage					X

21. Underground raceways (conduit) shall be provided with steel sleeves where they pass over or under obstructions, such as: sidewalks; roadways; piping; etc.
22. All conduit shall have an insulated ground wire pulled to all equipment and receptacles.
23. EMT conduit fittings shall be compression type.
24. All raceway runs are shown diagrammatically to outline the general routing of the raceway. The installation shall be made to avoid interference with pipes, ducts, structural members or other equipment. Should structural or other interference prevent the installation of the raceways, or setting of boxes, cabinets, or the electrical equipment, as indicated in the Drawings, deviations must be approved by the Owner and after approval, shall be made without additional charges and shown on the Record Drawings.
25. Fire Stop: Where conduits, wireways, and other electrical raceways pass through fire partitions, fire walls, smoke partitions, or floors, install a fire stop that provides an effective barrier against the spread of fire, smoke and gases, with rock wool fiber or silicone foam sealant only. Completely fill and seal clearances between raceways and openings with the fire stop material. See Section 078400 for complete fire stop requirements.
26. Assure conduit installation does not encroach into the ceiling height head room, walkways, or doorways.

27. No conduit shall be run exposed across roofs without first obtaining permission from the Engineer.
28. Conduit may be run inside concrete slabs as long as the slab is at least 6-inches thick and conduit will have at least 1-1/2-inches of cover on both sides.
29. Flexible conduit used in mechanical rooms shall be liquid tight.
30. Runs of flexible conduit above accessible ceilings shall be limited to 10 ft. Runs of exposed flexible conduit shall be limited to 5 feet. All runs of flexible conduit shall be supported in accordance with NEC requirements.

END OF SECTION 260533

SECTION 260534 - BOXES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Outlet and junction boxes shall be furnished and installed where indicated on the Contract Drawings, and\or as required by the work in accordance with the NEC.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Boxes – Appleton, Bauers, Carlon, Cloud Concrete Products, Crouse-Hinds, Hoffman, Queen, Raco, Robroy Industries, Sedco, Spring City, Wiegmann, or equal.

2.2 GENERAL

A. All junction and/or pull boxes for dry (non-corrosive) areas shall be of code gauge sheet metal construction, of the inside dimensions as required by code, with covers.

B. Junction and/or pull boxes for wet or damp locations shall be cast metal, rust and corrosion resistant (NEMA 4X), with at least 5 1/2 full threads for each (bossed) conduit opening and shall be suitable for flush or surface mounting as required with drilled external, cast mounting extensions (bossed to provide at least 1/8 inch between back of box and mounting surface for drainage). Box covers shall be hinged, or cap screw retained as required, of the same material as the box and provided with stainless steel (rustproof) hardware.

C. Junction boxes for out-of-doors use, not mounted in concrete may be sheet metal (NEMA 4X), waterproof, rustproof, rain and sleetproof, with hinged covers and latches and provided means of locking by means of keyed locks, tamper-resistant screws or padlocking as required and with clamping cap-screws top and bottom door edges to provide firm contact with gasketing. All gaskets shall be molded (unbroken) neoprene or butyl rubber.

D. Junction boxes for out-of-doors use, not mounted in concrete may be sheet metal, NEMA 3R, rain and sleetproof, with hinged covers and latches, provided with a means of locking.

E. NEMA 4X junction and/or pull boxes may be stainless steel, if called for on the Contract Drawings; or non-metallic or cast aluminum.

F. Underground junction or pull boxes shall be constructed of reinforced concrete cast-in-place or prefabricated as detailed on the Contract Drawings and shall be AASHTO H20 rated.

PART 3 - EXECUTION

3.1 INSTALLATION, APPLICATION, AND ERECTION

A. General

1. Outlets shall be installed in the locations shown on the Contract Drawings. The Contractor shall study the general building plans in relation to the space surrounding each outlet, in order that his work may fit the other work required by these Specifications. When necessary, the Contractor shall relocate outlets so that when fixtures or other fittings are installed, they will be symmetrically located according to room layout and will not interfere with other work or equipment.
2. All supports for outlet boxes shall be furnished and installed by the electrical trades.

B. Concealed Work

1. All outlet boxes shall be standard galvanized steel type at least 1 1/2 inches deep, single or gang type of size to accommodate devices shown. Exceptions shall be noted on the Contract Drawings.
2. Standard deep type outlet boxes (concrete rings with appropriate covers) shall be used in floor slab construction so concealed conduits entering sides of boxes can clear reinforcing rods.
3. Outlet boxes for concealed telephone and signaling systems shall be the 4-inch square type, unless otherwise noted or required by the telephone company.
4. Boxes for use in masonry construction shall be 2 1/2 inches deep for 4-inch block and 3 1/2 inches deep for 6- and 8-inch block. Through wall boxes are prohibited for outlets opposite each other.

C. Exposed Work

1. Outlet or junction boxes for use with exposed steel conduit shall be cast steel. In dry areas sheet steel with rounded corners, made for the purpose.
2. Outlet or junction boxes for use with exposed aluminum conduit shall be copper free, cast aluminum type.
3. Outlet or junction boxes for use with exposed PVC conduit shall be PVC.

D. Pull Boxes

1. Pull boxes for exterior underground work is shown on the Contract Drawings and are the minimum number required. Others may be added at the Contractor's option, but no extra pay shall be allowed. Interior pull boxes are not shown but shall be used as needed. Pull box types are as follows:

Exterior	Per detail on the Contract Drawings.
Interior	Interior pull boxes in dry areas shall be of code gauge steel of not less than the minimum required by the NEC and shall be provided with hinged covers. In wet areas or pipe galleries, they shall be rated watertight, of stainless steel, cast aluminum, PVC, fiberglass, or equal. Hardware shall be stainless steel.

E. Openings in Electrical Boxes

1. All openings in electrical equipment, enclosures, cabinets, outlet and junction boxes shall be by means of welded bosses, standard knockouts, or shall be sawed, drilled, or punched with tools specially made for the purpose. The use of a cutting torch is prohibited. Unused openings shall be plugged per the NEC.

END OF SECTION 260534

SECTION 260542 – HORIZONTAL DIRECTIONAL DRILLING

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide all labor, materials, equipment and services required to utilize the trenchless technology of horizontal directional drilling (HDD) for the installation of below grade piping and appurtenances as specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this Section.

1.3 EXISTING CONDITIONS

A. The existing piping & other utilities shown on the Contract Drawings is based on the best available information. The Engineer makes no guarantee as to the accuracy of the locations or type of piping or utility depicted. All new piping which ties into existing lines must be made compatible with that piping.

B. So that piping conflicts may be avoided, Contractor shall locate the utility (vertically & horizontally) well ahead of the pipe laying operation to confirm exact locations of existing piping before installing any new piping.

1.4 SUBMITTALS

A. Descriptive literature, catalog cuts, and dimensional prints clearly indicating all dimensions and materials of construction, shall be submitted on all items specified herein to the Engineer for review before ordering. Comply with provisions of Section 013323.

B. At the time of submission, the Contractor shall, in writing, call Engineer's attention to any deviations that the submittals may have from the requirements of the Engineer's Contract Drawings and Specifications.

C. Work Plan - Prior to beginning work, the Contractor must submit to the Engineer a general work plan outlining the procedure and schedule to be used to execute the project. Work Plan should be realistic and document the thoughtful planning required to successfully complete the project.

D. Bore Plan – Prior to beginning the work, the Contractor shall submit a drawing indicating the pilot bore plan.

E. Equipment - Contractor shall submit specifications on directional drilling equipment to be used to ensure that the equipment will be adequate to complete the project. Specifications for any

drilling fluid additives that the Contractor intends to use shall be submitted for review by the Engineer.

F. The Contractor shall submit calculations to verify that the specified pipe wall thickness (DR) is sufficient to withstand the installation (i.e. pull back force).

1.5 QUALITY ASSURANCE

A. The requirements set forth in this document specify a wide range of procedural precautions necessary to ensure that the very basic, essential aspects of a proper directional bore installation are adequately controlled. Strict adherence shall be required under specifically covered conditions outlined in this specification. Adherence to the specifications contained herein, or the Engineer's approval of any aspect of any directional bore operation covered by this specification, shall in no way relieve the Contractor of their ultimate responsibility for the satisfactory completion of the work authorized under the Contract.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. The directional drilling equipment shall consist of a directional drilling rig of sufficient capacity to perform the bore and pullback the pipe, a mixing and delivery system for drilling fluid of sufficient capacity to successfully complete the installation, a guidance system to accurately guide boring operations, control and containment of drilling fluid, along with trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of the project.

2.2 DRILLING SYSTEM

A. Drilling Rig - The directional drilling machine shall consist of a hydraulically powered system to rotate, push and pull hollow drill pipe into the ground at a variable angle while delivering a pressurized fluid mixture to a guidable drill (bore) head. The machine shall be anchored to the ground to withstand the pulling, pushing and rotating pressure required to complete the installation. The hydraulic power system shall be self-contained with sufficient pressure and volume to power drilling operations. Hydraulic system shall be free of leaks. Rig shall have a system to monitor and record maximum pull-back pressure during pull-back operations.

B. Drill Head - The drill head shall be steerable by changing its rotation and shall provide the necessary cutting surfaces and drilling fluid jets.

C. Mud Motors (if required) - Mud motors shall be of adequate power to turn the required drilling tools.

D. Drill Pipe - Shall be constructed of high quality 4130 seamless tubing, grade D or better, with threaded box and pins. Tool joints should be hardened to 32-36 RC.

2.3 GUIDANCE SYSTEM

A. The Guidance System shall be of a proven type and shall be used to provide a continuous and accurate determination of the location of the drill head during the drilling operation. The guidance system shall be capable of tracking all required depths in any soil condition and rock encountered along the proposed installation route.

B. The guidance system shall be setup and operated by personnel trained and experienced with this system. The Operator shall be aware of any magnetic anomalies and shall consider such influences in the operation of the guidance system if using a magnetic system.

2.4 DRILLING FLUID (MUD) SYSTEM

A. Mixing System - A self-contained, closed, drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid composed of bentonite clay, potable water and appropriate additives. Mixing system shall be able to molecularly shear individual bentonite particles from the dry powder to avoid clumping and ensure thorough mixing. The drilling fluid reservoir tank shall be sized for adequate storage of the mud mixture. Mixing system shall continually agitate the drilling fluid during drilling operations.

B. Drilling Fluids - Drilling fluid shall be composed of clean water and an appropriate additive. Water shall be from a clean source with a pH of 8.5 – 10 and/or as per mixing requirements of the Manufacturer. Water of a lower pH or with excessive calcium shall be treated with the appropriate amount of sodium carbonate or equal. The water and additives shall be mixed thoroughly and be absent of any clumps or clods. No hazardous additives may be used. Drilling fluid shall be maintained at a viscosity sufficient to suspend cuttings and maintain the integrity of bore wall.

C. Delivery System - The mud pumping system shall have a minimum capacity to supply mud in accordance with the drilling equipment pull-back rating at a constant required pressure. The delivery system shall have filters in-line to prevent solids from being pumped into the drill pipe. Connections between the pump and drill pipe shall be relatively leak-free. Used drilling fluid and drilling fluid spilled during drilling operations shall be contained and properly disposed of. A berm, minimum of 12" high, shall be maintained around drill rigs, drilling fluid mixing system, entry and exit pits and drilling fluid recycling system (if used) to prevent spills into the surrounding environment. Pumps and or vacuum truck(s) of sufficient size shall be in place to convey excess drilling fluid from containment areas to storage facilities.

2.5 OTHER EQUIPMENT

A. Pipe Rollers - Pipe rollers, if required, shall be of sufficient size to fully support the weight of the pipe while being hydro-tested and during pull-back operations. Sufficient number of rollers shall used to prevent excess sagging of pipe.

B. Pipe Rammers - Hydraulic or pneumatic pipe rammers may only be used if necessary and with the authorization of Engineer.

C. Restrictions - Other devices or utility placement systems for providing horizontal thrust other than those previously defined in the preceding sections shall not be used unless approved by the Engineer prior to commencement of the work. Consideration for approval will be made on an

individual basis for each specified location. The proposed device or system will be evaluated prior to approval or rejection on its potential ability to complete the utility placement satisfactorily without undue stoppage and to maintain line and grade within the tolerances prescribed by the particular conditions of the project.

2.6 HIGH DENSITY POLYETHYLENE (HDPE) ELECTRICAL CONDUIT

A. HDPE electrical duct pipe shall be manufactured in accordance with ASTM F2160, non-pressure-rated conduit. The PE 334420E/C resin used in HDPE non-pressure conduit shall meet ASTM D3350.

B. HDPE pipe shall have a high stress crack resistance and a coefficient of friction 30 percent less than PVC. The pipe shall come on a continuous reel, at least 500 feet of pipe on a single reel.

C. Schedule 80, UL 651 listed.

D. The Contractor shall adhere to the pipe manufacturer's most current calculation for safe pulling force and bend radius for trenchless application. This calculation shall be part of the required submittal prior to work.

E. Pipe shall be black in color.

F. HDPE pipe size as noted on project drawings.

G. HDPE pipe used on this project shall be manufactured by Carlon or equal.

PART 3 - EXECUTION-

3.1 GENERAL

A. The Engineer must be notified 48 hours in advance of starting work. The Engineer's approval for beginning the installation shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as authorized under the Contract. It shall be the responsibility of Engineer to provide inspection personnel at such times as appropriate.

B. The Contractor shall be fully responsible for all damages resulting from his failure to comply with all applicable state, federal and local regulations, and requirements of these specifications.

3.2 DRILLING PROCEDURE

A. Site Preparation - Prior to any alterations to work-site, contractor shall photograph or video tape entire work area, including entry and exit points. One copy shall be given to the Engineer and one copy to remain with contractor for a period of one year following the completion of the project. Work site as indicated on drawings, within right-of-way, shall be graded or filled to provide a level working area. No alterations beyond what is required for operations are to be made. Contractor shall confine all activities to designated work areas.

B. Drill Path Survey - Entire drill path shall be accurately surveyed with entry and exit stakes placed in the appropriate locations within the areas indicated on drawings. If contractor is using a magnetic guidance system, drill path will be surveyed for any surface geomagnetic variations or anomalies.

C. Environmental Protection – Contractor shall have in place silt fence between all drilling operations and any drainage, wetland, waterway or other area designated for such protection by contract documents, state, federal and local regulations. Additional environmental protection necessary to contain any hydraulic or drilling fluid spills shall be put in place, including berms, liners, turbidity curtains and other measures. Contractor shall adhere to all applicable environmental regulations.

D. Safety - Contractor shall adhere to all applicable state, federal and local safety regulations and all operations shall be conducted in a safe manner. Safety meetings shall be conducted at least weekly with a written record of attendance and topic submitted to Engineer.

E. Pipe will be placed on pipe rollers before pulling into bore hole with rollers spaced close enough to prevent excessive sagging of pipe.

F. Pilot Hole - Pilot hole shall be drilled on bore path with no deviations greater than 5% of depth over a length of 100'. In the event that pilot does deviate from bore path more than 5% of depth in 100', contractor will notify Engineer and Engineer may require contractor to pull-back and re-drill from the location along bore path before the deviation. In the event that a drilling fluid fracture, inadvertent returns or returns loss occurs during pilot hole drilling operations, contractor shall cease drilling, wait at least 30 minutes, inject a quantity of drilling fluid with a viscosity exceeding 120 seconds as measured by a March funnel and then wait another 30 minutes. If mud fracture or returns loss continues, contractor will cease operations and notify Engineer. Engineer and contractor will discuss additional options and work will then proceed accordingly.

G. Reaming - Upon successful completion of pilot hole, contractor will ream bore hole to a minimum of 25% greater than outside diameter of pipe using the appropriate tools. Contractor will not attempt to ream at one time more than the drilling equipment and mud system are designed to safely handle.

H. Pull-Back - After successfully reaming bore hole to the required diameter, contractor will pull the pipe through the bore hole. In front of the pipe will be a swivel. Once pullback operations have commenced, operations must continue without interruption until pipe is completely pulled into bore hole. During pull-back operations contractor will not apply more than the maximum safe pipe pull pressure at any time. In the event that pipe becomes stuck, contractor will cease pulling operations to allow any potential hydro-lock to subside and will commence pulling operations. If pipe remains stuck, contractor will notify Engineer. Engineer and contractor will

3.3 SITE RESTORATION

A. Following drilling operations, contractor will de-mobilize equipment and restore the worksite to original condition. All excavations will be backfilled and compacted to 95% of original density. Landscaping will be restored to original. All mud shall be disposed of by the CONTRACTOR.

END OF SECTION 260542

SECTION 260553 - ELECTRICAL IDENTIFICATION

PART 1 - GENERAL

1.1 EQUIPMENT LABELING

A. All starters, feeder units in panelboards, switchboards, disconnects, instruments, etc., shall be marked to indicate the motor, outlet, circuit they control, or variable monitored. Marking is to be done with engraved laminated nameplates and shall bear the designation shown on the Contract Drawings where this information is given. Nameplates shall be fastened to equipment with stainless steel screws, minimum of one each side. In no way shall the installation of mounting screws void the NEMA enclosure rating of the equipment in which they are installed. If there are more than one identical unit, they shall be given consecutive numbers or other descriptions as designated by the Engineer. Nameplate background color shall be white, with black engraved letters, unless otherwise noted.

B. Branch circuits in lighting panels shall be typed on a card suitable for the card frame furnished with the panel. The card shall bear the panel designation listed on the Contract Drawings where this information is given, as well as indicate what each circuit controls.

C. Individual wall mounted starters, panelboards, and disconnect switch shall be labeled with vinyl self-adhesive signs that warn of “High Voltage” (state the specific voltage). Main service entrance conduits to a building, where exposed, shall be labeled with the voltage of the service they carry. Other major equipment such as transformers, transfer switches, generator sets, pump control panels, etc., shall be labeled as such. The type of labels to be used shall have orange as the basic color to conform to OSHA requirements, letters shall be black. The labels shall be of proper size to fit flatly on the surface of the enclosure to make for a neat appearance and not interfere with the operating function of the device it is attached to. These labels shall be as manufactured by the Brady Identification Systems Division, Safety Sign Company, Westline Products Company, or equal.

D. Furnish and install “Authorized Personnel Only” signs by doors into all power distribution equipment rooms/buildings. Furnish and install other signs as indicated on the Contract Drawings.

E. Furnish and install a maximum available fault current sign with date calculated on each structure main service device.

1.2 LOCATING UNDERGROUND UTILITIES

A. Plastic tape bearing the general notation of “buried electric service” or “buried high voltage cable” shall be placed in trenches with backfill about 12 inches below finished grade on all medium voltage underground conduit runs, and on others as indicated on the Contract Drawings.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 260553

SECTION 260573 – ELECTRICAL STUDIES AND CALCULATIONS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Panelboard/switchgear manufacturer shall provide detailed computer-based, fault-current and overcurrent protective device coordination studies, and the setting of these devices. This shall apply to new work at existing facilities as well as new facilities.

B. As part of the short circuit study above, the manufacturer shall provide an Arc Flash Analysis.

1.2 SUBMITTALS

A. Provide Fault-Current Study as detailed in IEEE standards during design review submittals.

B. Submit an Over Current Protective Device Coordination Study and Arc Flash Analysis prepared in accordance with IEEE standards at the time of shop drawing submittals. The study shall show and include the following:

1. That each over current protective device in the project is applied within its fault current rating.
2. The coordination study shall include time current curves plotted on log-log graph paper for all over current devices. Curves for adjustable devices shall be shown adjusted to afford maximum coordination with upstream and downstream devices, including devices provided on the primary of service transformers.
3. The interrupting capacity of all over current devices shall equal or exceed the maximum fault current level where they are installed in the system. The system shall be fully rated in that the ability of the device to interrupt a fault at its terminals and shall not depend on the characteristics of an over current device upstream. Series rated devices shall not be acceptable.
4. A schedule of all adjustable devices indicating proper dial and tap settings to achieve the plotted characteristics. A schedule of Arc Flash values and corresponding boundary distances and PPE requirements.

1.3 QUALITY ASSURANCE

A. Coordination-Study Specialist Qualifications: An entity experienced in the application of computer software used for studies, having performed successful studies of similar magnitude on electrical distribution systems using similar devices.

1. Professional engineer, licensed in the state where project is located, shall be responsible for the study. All elements of the study shall be performed under the direct supervision and control of engineer.

PART 2 - EXECUTION

2.1 INSTALLATION/APPLICATION/ERECTION

A. Manufacturer's Field Service: Engage a factory-authorized service representative of electrical distribution equipment being set and adjusted to assist in the setting of overcurrent protective devices within equipment.

B. Overcurrent devices are to be visually inspected to verify that settings determined from the final Over Current Protection Coordination Devices Study have been programmed and/or set.

C. Labels shall be applied to all enclosures, with appropriate site-specific Arc Flash warnings, PPE requirements, and boundaries. Boundaries shall be painted on the floor in front of switchgear, switchboards, panelboards and MCC's.

D. Each building main service device shall be provided with a permanent nameplate stating the maximum fault current available and the date it was calculated.

END OF SECTION 260573

SECTION 260923 – LIGHTING CONTROLS

PART 1 - GENERAL

1.1 SYSTEM DESCRIPTION

A. The lighting control system specified in this section shall provide sensor-based (both occupancy and vacancy), and manual lighting control without the use of any centrally hardwired switching equipment (relay panels). The system's control shall be exerted by directly switching lighting loads on and off.

1.2 MANUFACTURERS

A. This specification is based on the nLight Control System from Acuity Brands. Other manufacturers like NX Lighting Controls, Wattstopper or Equal are acceptable provided they fully meet the intent of the drawings and specifications. All substitutions must clearly identify any and all exceptions to the drawings and specifications, with a detailed explanation as to the exception. If substitution is approved, the contractor shall bear the responsibility of a fully functional system to the owner's and an Engineer's satisfaction.

1.3 QUALITY ASSURANCE

A. The installing contractor shall be responsible for a complete and functional system in accordance with all applicable local and national codes.

B. All applicable products must be UL and CUL or CSA Listed.

C. Product must be manufactured in the USA and be warranted for 5 years.

PART 2 - PRODUCTS

2.1 GENERAL SYSTEM SPECIFICATIONS

A. The following sections describe the features which the lighting control system shall possess as a complete operational system. Individual device features and specifications are listed in section 2.2.

1. System Architecture

a. All switching relays shall be located within either a sensor device, single gang wall switch device, or power (relay) pack device.
b. All switching for a specific lighting zone shall take place within the devices located in the zone itself (i.e. not in a remotely located device).
c. All devices within a single lighting zone shall be capable of being daisy-chain wired with CAT-6 low voltage cabling.

d. Communication and Class 2 system power shall be delivered to each device via standard CAT-6 low voltage cabling with RJ-45 connectors.
e. Contractor shall make all lighting network cables with yellow jacketed Cat 6 cable and standard RJ-45 crimp-on connectors. Factory manufactured cables or cables with molded ends are not acceptable.
f. All system devices shall have at least two RJ-45 ports.
g. Individual lighting zones must continue to provide a user defined default level of lighting control.

2. Lighting Control Profiles

a. Changes to the operation of the system can be made in real-time or scheduled via lighting control profiles. These profiles are outlines of settings that direct how a collection of devices function for a defined time period.
b. Lighting control profiles shall be capable of being created and applied to a single device, zone of devices, or customized group of zones.
c. All relays and dimming outputs shall be capable of being scheduled to track or ignore information regarding occupancy, daylight, and local user switches via lighting control profiles.
d. Every device parameter (e.g. sensor time delay and photocell set-point) shall be configurable via a lighting control profile.

3. Commissioning Features

a. To facilitate commissioning, all devices daisy-chained together (using CAT-6) shall automatically be grouped together into a functional lighting control zone.
b. All lighting control zones shall be able to function according to default settings once adequate power is applied and before any system software is installed.
c. All system devices shall be capable of being given user defined names.

2.2 INDIVIDUAL DEVICE SPECIFICATIONS

The lighting control system outlined above shall consist of only devices of the following types; occupancy sensors, daylight (photocell) sensors, wall switches, dimming switches, power (relay) packs, power supplies, communication bridges, network control gateways. Panel based relay devices are not acceptable.

A. Occupancy & Photocell Sensors

1. General Specifications

a. Occupancy sensing technologies shall be completely passive meaning that they will not emit any radiation that is known to interfere with certain types of hearing aides, or electronic devices such as electronic white board readers. Passive Infrared (PIR) or PIR/Microphonic Dual Technology detection technologies shall be acceptable. Ultrasonic or Microwave based sensing technologies shall not be accepted.
b. Sensors shall be available with zero, one, or two integrated Class 1 switching relays.
c. Sensors shall be available with one or two occupancy “poles”, each of which provides a programmable time delay.

d. Sensors shall be available in multiple lens options which are customized for specific applications.
e. Communication and Class 2 low voltage power shall be delivered to each device via standard CAT-6 low voltage cabling with standard RJ-45 connectors.
f. All sensors shall have two RJ-45 ports.
g. Every sensor parameter shall be available and configurable remotely from the software and locally via the device push-button.
h. Sensors shall be able to function together with other sensors in order to provide expanded coverage areas by simply daisy-chain wiring together the units with CAT-6 cabling.
i. Sensors shall be equipped with an automatic override for 100 hour burn-in of lamps. This feature must be available at any time for lamp replacements.

2. Wall Switch Sensors

a. Sensor shall recess into single-gang switch box and fit a standard decora opening.
b. Sensor must meet NEC grounding requirements by providing a dedicated ground connection and grounding to mounting strap. Line and load wire connections shall be interchangeable. Sensor shall not allow current to pass to the load when sensor is in the unoccupied (Off) condition.
c. Sensor shall have optional features for photocell/daylight override, vandal resistant lens, and low temperature/high humidity operation.
d. Sensors shall be Gray.
e. Sensors shall be the following nLight model numbers, with device color and optional features as specified:

1) nWSX (PIR)
2) nWSX D (PIR, Dimming)
3) nWSX PDT (Dual Technology)
4) nWSX PDT D (Dual Technology, Dimming)
5) nWSX 2P (PIR, 2 Relays)
6) nWSX PDT 2P (Dual Technology, 2 Relays)

3. Ceiling & Corner Mount Sensors

a. Sensor shall have optional features for photocell/daylight override, dimming control, and low temperature/high humidity operation.
b. Sensors with dimming control can control 0 to 10 VDC dimmable ballasts by sinking up to 20 mA of Class 2 current (typically 40 or more ballasts).
c. All sensors have at least one or two occupancy poles, each of which provides a programmable time delay.
d. Sensors shall be the following nLight model numbers, with device options as specified:

Model # Series	Occupancy Poles	# of Relays	Lens Type	Detection Technology
nCM-9	1	-	Standard	PIR
nCM-9-2P	2	-	Standard	PIR
nCMR-9	1	1	Standard	PIR
nCMR-9-2P	2	2	Standard	PIR
nCM-PDT	1	-	Standard	Dual

Model # Series	Occupancy Poles	# of Relays	Lens Type	Detection Technology
nCM-PDT-2P	2	-	Standard	Dual
nCMR-PDT	1	1	Standard	Dual
nCMR-PDT-2P	2	2	Standard	Dual
nCM-10	1	-	Extended	PIR
nCM-10-2P	2	-	Extended	PIR
nCMR-10	1	1	Extended	PIR
nCMR-10-2P	2	2	Extended	PIR
nCM-PDT-10	1	-	Extended	Dual
nCM-PDT-10-2P	2	-	Extended	Dual
nCMR-PDT-10	1	1	Extended	Dual
nCMR-PDT-10-2P	2	2	Extended	Dual
nWV-16	1	-	Wide View	PIR
nWV-PDT	1	-	Wide View	Dual
nHW-13	1	-	Hallway	PIR
nCM-6	1	-	High Bay	PIR
nCMR-6	1	1	High Bay	PIR
nCMR-6-2P	2	2	High Bay	PIR
nCMR-6-480	1	2	High Bay	PIR

4. Daylight (Photocell) Sensors

   a. Sensor shall provide for an On/Off set-point, and a deadband to prevent the artificial light from cycling. Delay shall be incorporated into the photocell to prevent rapid response to passing clouds.
   b. Sensors' set-point and deadband shall be automatically calibrated through the sensor's micro-controller by initiating the "Automatic Set-point Programming" subroutine. Further adjustment may be made manually if needed. Deadband setting shall be verified and modified by the sensor automatically every time the lights cycle to accommodate physical changes in the space (i.e., furniture layouts, lamp depreciation, or lamp outages).
   c. Sensors with dimming control can control 0 to 10 VDC dimmable ballasts by sinking up to 20 mA of Class 2 current (typically 40 or more ballasts).
   d. Photocell sensor's set point shall be automatically calibrated through the sensor's micro-controller by initiating the "Automatic Set-point Programming" subroutine. Min and Max dim settings as well as set-point may be manually entered.
   e. Dual zone option shall be available for On/Off Photocell, Automatic Dimming Control Photocell, or Combination units. The second zone shall be controlled as an "offset" from the primary zone and shall be the zone farthest from the natural light source.
   f. Sensor shall be the following nLight model numbers, with device options as specified:

      1) nCM-PC (On/Off, No Relay)
      2) nCM-ADC (Dimming, No Relay)
      3) nCM-PC-ADC (On/Off, Dimming, No Relay)
      4) nCMR-PC (On/Off, 1 Relay)
      5) nCMR-PC-ADC (On/Off, Dimming, Relay)

B. Power (Relay) Packs and Supplies

1. Power Packs shall accept 120 or 277 VAC (or optionally 347 VAC), be plenum rated, and provide Class 2 power to the system.
2. All devices shall have two RJ-45 ports.
3. Every Power Pack parameter shall be available and configurable remotely from the software and locally via the device push-button.
4. Power Pack shall securely mount to junction location through a threaded ½ inch chase nipple. Plastic clips into junction box shall not be accepted. All Class 1 wiring shall pass through chase nipple into adjacent junction box without any exposure of wire leads. Note: UL Listing under Energy Management or Industrial Control Equipment automatically meets this requirement, whereas Appliance Control Listing does not meet this safety requirement.
5. When required by local code, Power Pack must install inside standard electrical enclosure and provide UL recognized support to junction box. All Class 1 wiring is to pass through chase nipple into adjacent junction box without any exposure of wire leads.
6. Power Pack shall incorporate a Class 1 relay and contribute low voltage power to the rest of the system. Slave Packs shall incorporate the relay, but shall not be required to contribute system power. Power Supplies shall provide system power only, but are not required to switch line voltage circuit. Auxiliary Relay Packs shall switch low voltage circuits only.
7. Class 1 Relays used in Power (Slave) Packs shall provide 16 Amp switching of all load types, and be rated for 400,000 cycles.
8. Power (Relay) Packs and Supplies shall be the following nLight model numbers:

    a. nPP-16 (Power/Relay Pack)
    b. nPP-16 D (Power/Relay Pack with 0-10VDC dimming)
    c. nPP-20 PL (Power/Relay Pack for plug load control)

    *** Provide 0-10VDC Dimming output where stated on Project Drawings.

C. Wall Switches & Dimmers

1. Devices shall recess into single-gang switch box and fit a standard decora opening.
2. Devices shall provide user control via touch sensitive buttons that utilize no mechanical parts.
3. Devices shall be available with zero or one integrated Class 1 switching relay.
4. Communication and Class 2 low voltage power shall be delivered to each device via standard CAT-6 low voltage cabling with RJ-45 connectors.
5. All sensors shall have two RJ-45 ports.
6. All devices shall provide toggle switch control. Dimming control and low temperature/high humidity operation are available options.
7. Devices shall be Gray.
8. Devices with dimming control outputs can control 0 to 10 VDC dimmable ballasts by sinking up to 20 mA of Class 2 current (typically 40 or more ballasts).
9. Wall Switches & Dimmers shall be the following nLight model numbers, with device options as specified:

    a. nPODM
    b. nPODMA

D. Scene Controller

1. Device shall recess into single-gang switch box and fit a standard decora opening.
2. Device shall provide user control via touch sensitive buttons which have no mechanical parts.
3. Communication and Class 2 low voltage power shall be delivered to each device via standard CAT-6 low voltage cabling with standard RJ-45 connectors.
4. All sensors shall have two RJ-45 ports.
5. Device shall have four touch sensitive buttons for selecting programmable lighting control profiles.
6. Device shall have four LEDs indicating current selection.
7. Scene Selector device shall be the following nLight model number:

    a. nPODMA

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install all equipment in accordance with manufacturer's installation instructions.

B. The lighting controls shall be installed in accordance with specific guidelines and submittal documents provided by the lighting control manufacturer.

C. Where variations from the general specifications or drawings exist, the contractor shall request a clarification prior to rough in or installation.

D. The contractor shall verify all wire type and routing requirements with the lighting controls manufacturer prior to installation. Not part of this section are requirements for work including, but not limited to, raceways, electrical boxes, junction boxes, circuit protection, wiring, and fittings required for installation of the lighting control equipment.

3.2 STARTUP AND PROGRAMMING

A. The system manufacturer shall provide a factory authorized field engineer to the project site after installation has been completed and prior to system energization for the purpose of testing and adjustment of the system. Factory field engineer shall test and verify all system functions and ensure proper operation of the system components in accordance with the specifications and on-site conditions, including follow up visits, repair and reprogramming that may be necessary. The installing contractor shall notify the system manufacturer in writing that the system is completely wired and ready to be energized and tested 2 weeks prior to scheduling a field engineer for start-up of the system. Should the field engineer arrive on the job site and find the installation incomplete, the installing contractor shall pay the cost of any extra visits by the field engineer required to complete the system start-up (beyond those that would normally be required).

B. The Contractor shall also advise the CxA when the lighting controls commissioning will occur so that it can be witnessed by the CxA as it occurs. The manufacturer shall cooperate with the CxA as much as practicable, to ensure a successfully commissioned system. If any major verification fails, the CxA will most likely look for compensation from someone for participating in any retesting.

C. During the start-up procedure, the factory field engineer shall provide programming assistance and guidance to the building operating personnel in order to program the systems for initial operation.

D. Allow for up to 4 hours of on-site training on the use and maintenance of the lighting control system to be scheduled at the completion of startup and programming of the system.

E. Include costs for 1 return trip during the warranty to reprogram or set new Owner preferences after they have had time to familiarize themselves with the system.

3.3 TECHNICAL SUPPORT

A. The lighting controls manufacturer shall provide reasonable access to factory direct telephone technical support during normal business hours.

END OF SECTION 260923

SECTION 261200 - TRANSFORMERS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Transformer locations, sizes, connections and voltage/phase shall be as shown on the Contract Drawings, furnished and installed as herein specified.

B. All transformers shall be non-PCB type.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Cooper, Eaton, General Electric, Square D, or equal.

2.2 FABRICATION

A. Dry-Type Transformers

1. Transformers shall be 115° C temperature rise above a 40° C ambient. The transformer shall be capable of carrying a 15 percent continuous overload without exceeding a 150° C rise in a 40° C ambient. All insulating materials are to be in accordance with the latest NEMA Standards for a 220° Celsius UL recognized insulation system.
2. Transformer coils shall be copper, of continuous wire wound construction and shall be impregnated with non-hygroscopic, thermo-setting varnish. The coils shall also have a final wrap of electrical insulating material to prevent mechanical injury to the wire as well as increasing the electrical breakdown strength.
3. All cores shall be constructed of high grade, non-aging silicon steel with high magnetic permeability, and low hysteresis and eddy current losses. Magnetic flux densities are to be kept well below the saturation point. The core laminations shall be clamped together with steel angles. The completed core and coil shall then be bolted to the base of the enclosure but isolated from the base by means of rubber, vibration absorbing mounts. There shall be no metal-to-metal contact between the core and coil and the enclosure. On transformers 500 KVA and smaller, the vibration isolation system shall be designed to provide a permanent fastening of the core and coil to the enclosure. To further facilitate vibration and noise isolation, the final section of conduit to the transformer shall be flexible.
4. Transformers shall be in heavy gauge, sheet steel, ventilated enclosures. The ventilating openings shall be designed to prevent accidental access to live parts in accordance with UL, NEMA, and National Electrical Code Standards for ventilated enclosures. Transformers 25 KVA through 75 KVA shall be designed so they can either be floor or wall mounted. Above 75 KVA they shall be of the floor mounted design.

5. The entire transformer enclosure shall be degreased, cleaned, phosphatized, primed, and finished in the same color as the motor control equipment. For more details see Division 09 of these Specifications.
6. The maximum temperature of the top of the enclosure shall not exceed 35 degrees Celsius rise above a 40° Celsius ambient.
7. The core of the transformer shall be visibly grounded to the enclosure by means of a flexible grounding conductor sized in accordance with NEMA and NEC Standards.
8. The transformer shall be marked "< fill in > KVA TRANSFORMER" and "DANGER HIGH VOLTAGE" with labels specified in the section on marking, this division.
9. Primary taps shall be full capacity, with a minimum of two 2-1/2 percent above and below rated voltage.
10. The temperature rise shall be designated on the nameplate.
11. All high voltage leads and connections shall have insulation equal to the voltage class of the winding and shall be properly supported.
12. The basic impulse level (BIL) shall be a minimum of 30 KV for the 5 KV and 2.4 KV voltage classes.
13. Large enclosures are to be provided with lifting devices secured to the base structure and shall have jacking pads. The base is to be constructed of structural steel members to permit skidding or rolling in any direction.
14. Noise levels shall be in accordance with applicable industry standards.
15. Transformers 25 KVA and larger shall have a minimum of four 2-1/2 percent full capacity primary taps.

PART 3 - EXECUTION

3.1 INSTALLATION/APPLICATION/ERECTION

A. Transformers shall be furnished and installed in accordance with manufacturer instructions, NEC, and NESC requirements, as well as local utility company requirements.

B. Touch up paint on exterior of enclosure.

C. Anchor to foundation.

END OF SECTION 261200

SECTION 262416 - PANELBOARDS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. This section of the Technical Specifications includes furnishing all labor, materials, equipment, and incidentals required for the installation of all lighting and distribution panelboards as hereinafter specified and as shown on the Contract Drawings.

B. The panelboards for installation under this Contract shall be selected from the following types with the panel voltage and main sizes the determining factors. All panelboards shall be by the same manufacturer.

C. Circuit breakers of size and type shown on Contract Drawings and described herein shall be provided with the panelboards.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Eaton, General Electric, Square D, or equal.

2.2 EQUIPMENT

A. Rating

1. Panelboard ratings shall be as shown on the Contract Drawings. All panelboards shall be rated for the intended voltage.

B. Standards

1. Panelboards shall be in accordance with the Underwriter Laboratories, Inc. “Standard for Panelboards” and “Standard for Cabinets and Boxes” and shall be so labeled where procedures exist. Panelboards shall also comply with NEMA Standard for Panelboards and the National Electrical Code.

C. Panelboard Construction (NEMA 1)

1. Interiors

a. All interiors shall be completely factory assembled with circuit breakers, wire connectors, etc. All wire connectors, except screw terminals, shall be of the anti-turn solderless type and all shall be suitable for copper or aluminum wire of the sizes indicated.

b. Interiors shall be so designed that circuit breakers can be replaced without disturbing adjacent units and without removing the main bus connectors and shall be so designed that circuits may be changed without machining, drilling or tapping.
c. Branch circuits shall be arranged using double row construction except when narrow column panels are indicated. Branch circuits shall be numbered by the manufacturer.
d. A nameplate shall be provided listing panel type, number of circuit breakers and ratings.

2. Bussing

a. Bus-bars for the mains shall be of copper. Full size neutral bars shall be included. Bus bar taps for panels with single pole branches shall be arranged for sequence phasing of the branch circuit devices. Bussing shall be braced throughout to conform to industry standard practice governing short circuit stresses in panelboards. Phase bussing shall be full height without reduction. Cross connectors shall be copper.
b. Neutral bussing shall have a suitable lug for each outgoing feeder requiring a neutral connection. Neutrals shall be rated 200 percent for panelboards supplying non-linear loads (fed from K rated transformers).
c. Spaces for future circuit breakers shall be bussed for the maximum device that can be fitted into them.
d. Separate neutral and ground bus shall be provided, insulated and isolated from each other. For isolated ground application, provide another insulated and isolated ground bus.

3. Boxes

a. Recessed boxes shall be made from galvanized code gauge steel having multiple knockouts, unless otherwise noted. Surface mounted boxes shall be painted to match the trim. Boxes shall be of sufficient size to provide a minimum gutter space of 4 inches on all sides.
b. Surface mounted boxes shall have an internal and external finish as hereinafter specified. Surface mounted boxes shall be field punched for conduit entrances.
c. At least 4 interior mounting studs shall be provided.

4. Trims

a. Hinged doors covering all circuit-breaker handles shall be included in all panel trims.
b. Doors shall have semi flush type cylinder lock and catch, except that doors over 43 inches in height shall have a vault handle and 3-point catch complete with lock, arranged to fasten door at top, bottom and center. Door hinges shall be concealed. Two keys shall be supplied for each lock. All locks shall be keyed alike; directory frame and card having a transparent cover shall be furnished on each door.
c. The trims shall be fabricated from code gauge sheet steel.
d. All exterior and interior steel surfaces of the panelboard shall be properly cleaned and finished with manufacturer’s standard gray paint over a rust-inhibiting phosphatized coating. The finish paint shall be of a type to which field applied paint will adhere without cracking or peeling.

e. Trims for flush panels shall overlap the box by at least 3/4 inch all around. Surface trims shall have the same width and height as the box. Trims shall be fastened with quarter turn clamps.

D. Overcurrent Protective Devices (Circuit Breakers)

1. Panelboards shall be equipped with circuit breakers with frame size and trip settings as shown on the Contract Drawings.
2. Circuit-breakers shall be molded case, bolt-in, thermal-magnetic trip.
3. Circuit-breakers used in 120/240-volt panelboards shall have an interrupting capacity of not less than 10,000 amperes, RMS symmetrical, unless otherwise shown in the panelboard schedule or Contract Drawings.
4. Circuit-breakers used in 480-volt panelboards shall have an interrupting capacity of not less than 14,000 amperes, RMS symmetrical, unless otherwise shown in the panelboard schedule or Contract Drawings.
5. GFCI (ground fault circuit interrupter) shall be provided for circuits where indicated on the Contract Drawings. GFCI units shall be 1-pole, 120 volt, molded case, bolt-on circuit breakers, incorporating a solid-state ground fault interrupter circuit insulated and isolated from the circuit-breaker mechanism. The unit shall be UL listed Class A Group I device (5 milliamp sensitivity, 25 millisecond trip time), and an interrupting capacity of 10,000 amperes RMS.
6. Trip elements of multi-pole breakers shall be effectively insulated from one another. Multi-pole breakers shall be designed so that an overload on any pole shall open all poles simultaneously.
7. The breaker operating mechanism shall be the quick-make, quick-break type and shall be entirely trip free to prevent the contacts being held in a closed position against a short circuit.
8. Breakers shall have a thermal bimetallic element for time delayed overload protection and a magnetic element for short circuit protection.
9. The breaker shall be trip indicating with the trip position midway between the “On” and “Off” positions.
10. Breakers for power distribution panels shall be F frame or larger. All breakers rated above 225 amps shall have interchangeable magnetic trip elements.
11. All breakers shall be UL listed and conform to requirements of NEMA Standards.
12. Breakers for HVAC equipment shall be HACR rated.
13. Breakers as called out in panel schedules shall be arc fault circuit interrupting type.

PART 3 - EXECUTION

3.1 INSTALLATION/APPLICATION/ERECTION

A. Boxes for surface mounted panelboards shall be mounted so there is at least 1/2-inch air space between the box and the mounting surface.

B. Circuit directories shall be typed giving location and nature of load served.

C. Provide a minimum of three 1-inch spare conduits stubbed out into the ceiling grid cavity from each flush mounted panelboard.

D. Each panelboard shall be nameplated with plastic engraved nameplates stating the panel's name, voltage, and the name of panel serving the panel. Nameplates shall be secured by use of stainless-steel screws. All panels that are a part of an emergency system shall have an additional red nameplate titled "EMERGENCY."

END OF SECTION 262416

SECTION 262700 - WIRE CONNECTIONS AND CONNECTING DEVICES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Wire connection and connecting devices shall be as herein specified.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Connectors, Lugs, etc. - Anderson, Burndy, T & B, or equal.

B. Ties and Servings - Panduit, T & B, or equal.

C. Termination and splice connectors - 3M Scotchlok, Anderson, Burndy, T & B, or equal.

2.2 MATERIALS

A. Wire Splicing and Terminations (600 Volts and Below)

1. Electrical Terminal and Splice Connectors (#22 - #4 AWG)

a. Terminals and splice connectors from #22 - #4 AWG shall be compression types with barrels to provide maximum conductor contact and tensile strength. Performance, construction, and materials shall be in conformance with UL standards for wire connectors and rated for 600 volts and 105 degrees Celsius.

b. Connectors shall be manufactured from high conductivity copper and entirely tin plated. Terminal barrels shall be serrated on the inside surface and have a chamfered conductor entry. Terminals shall have funnel entry construction to prevent strand fold-back. All barrels shall be brazed seam or seamless construction.

c. Spade type terminals shall be sized for the appropriate stud and shall be locking type that snap firmly onto studs with a close fit for maximum retention. Spade type terminals shall be insulated with an insulation suitable for maintaining a high dielectric strength when crimped and be made form nylon, PVC, or equal.

2. Electrical Lugs and Connectors (#6 AWG - 1000 Kcmil)

a. Lugs and splice connectors from #6 AWG - 1000 Kcmil shall be compression types with barrels to provide maximum conductor contact and tensile strength. They shall be manufactured from high conductivity copper and entirely tin plated. They shall be crimped with standard industry tooling. The lugs and connectors must have a current carrying capacity equal to the conductors for which they are rated and must also meet all UL requirements. All lugs above 4/0 AWG shall be 2-hole lugs with NEMA spacing. The lugs shall be rated for operation through 35

KV. The lugs shall be of closed end construction to exclude moisture migration into the cable conductor.

3. Twist-on Wire Connectors (#22 AWG - #10 AWG)

   a. All twist-on wire connectors must have a corrosion resistant spring that is free to expand within a steel jacket. The steel jacket must be insulated with a flexible vinyl jacket capable of withstanding 105 degrees Celsius ambient temperatures and of sufficient length to cover wires that are inadvertently overstripped.
   b. Each connector size must be listed by UL for the intended purpose and color coded to assure that the proper size is used on the wire combinations to be spliced. The connectors must be compatible with all common rubber and thermoplastic wire insulations.

4. Solderless/re-usable lugs shall be used only when furnished with equipment such as control panels, furnished by others, where specification of compression type lugs is beyond the Contractor's control. In the event their use is necessary, the Contractor shall be responsible for assuring that they are manufactured to NEMA standards, with proper number and spacing of holes and set screws.

PART 3 - EXECUTION

3.1 INSTALLATION, APPLICATION, & ERECTION

A. Insulation of Splices and Connections

1. Connections/splices with a smooth even contour shall be insulated with a conformable 7 mil thick vinyl plastic insulating tape which can be applied under all weather conditions and is designed to perform in a continuous temperature environment up to 105 degrees Celsius. The tape shall have excellent resistance to abrasion, moisture, alkalies, acids, corrosion, and varying weather conditions (including sunlight). The tape shall be equal to Scotch 33+ and shall be applied in conformance with manufacturer's recommendations. In addition, it shall be applied in successive half-lapped layers with sufficient tension to reduce its width to 5/8 of its original width. The last inch of the wrap shall not be stretched.
2. Connections/splices with irregular shapes or sharp edges protruding shall be first wrapped with 30 mil rubber tape to smooth the contour of the joint before being insulated with 33+ insulating tape specified in the previous paragraph. The rubber tape shall be high voltage (69 KV) corona-resistant based on self-fusing ethylene propylene rubber and be capable of operation at 130 degrees Celsius under emergency conditions. The tape must be capable of being applied in either the stretched or unstretched condition without any loss in either physical or electrical properties. The tape must not split, crack, slip, or flag when exposed to various environments. The tape must be compatible with all synthetic cable insulations. The tape must have a dissipation factor of less than 5 percent at 130 degrees Celsius, be non-vulcanizing, and have a shelf life of at least 5 years. The rubber tape shall be applied in successive, half-lapped wound layers and shall be highly elongated to eliminate voids. Other manufacturer's recommendations on installation shall be adhered to. The rubber tape shall be equal to Scotch 23 or 130C electrical splicing tape.

3. Splices made in wet or damp locations shall be made submersible and watertight with special kits made for the application and compatible with type of cables employed.

B. Connection Make-up

1. Connections of lugs to bus bars, etc., shall be made up with corrosion resistant steel bolts having non-magnetic properties with matching nuts, and shall utilize a Belleville spring washer (stainless steel) to maintain connection integrity. Connections shall be torqued to the proper limits. Prior to bolting up the connection, electrical joint compound shall be brushed on the contact faces of the electrical joint.
2. All motor lead connections shall be made up to match the type of lead furnished on the motor. If the lead is not lugged, then twist-on wire connectors may be used. To prevent possible vibration problems, twist-on connectors shall be taped after installation.
3. All lugged motor lead connections (excluding motors over 200 horsepower) shall be made up using ring tongue compression lugs with proper size stainless steel nuts and bolts. Belleville type spring shall be used to maintain tension on the connections. The connections shall then be insulated using the procedure described for irregular shapes, utilizing rubber tape in conjunction with vinyl electrical tape.
4. At the time of final inspection, the Engineer may request the Contractor to disassemble 3 randomly selected motor lead connections in the Engineer's presence, to assure conformance with these Specifications.
5. The Contractor shall include all necessary tools, materials, and labor in his bid for disassembly of the connections and for remaking them with new insulating materials after inspection.

END OF SECTION 262700

SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Wiring devices shall be installed where indicated on the Contract Drawings.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Flush floor box devices are specified in Section 260534.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Bryant, Cooper, Hubbell, Intermatic, Leviton, P&S, Taymac, Wiremold, or equal.

2.2 RECEPTACLES AND SWITCHES

A. Receptacles

1. Twin-convenience - outlet (interior) – “Hubbell” cat. no. 5362, or equal. Hospital grade equivalent cat. no. 8300.
2. Twin-convenience - outlet (exterior) – “Hubbell” cat. no. 5362 with Taymac Corporation or Intermatic, Inc. safety outlet enclosure.
3. Single-convenience - outlet (pole mounted) – “Hubbell” cat. no. 53CM61 or equal.
4. Special purpose outlet - Per equipment requirements.
5. Isolated ground twin - convenience - outlet – “Hubbell” catalog number IG5362, or equal. Hospital grade equivalent cat. no. IG 8300.
6. Range outlet - 50 amp. 4-wire grounded, 125/250 VAC – “Hubbell” cat. no. 9450, or equal.
7. Single receptacle for sump pump - 20A/125 VAC – “Hubbell” cat. no. 2310, or equal.
8. Ground fault interrupting receptacles shall be required where shown on the Contract Drawings and shall be indicated by the abbreviation “GFI” beside the circuit symbol on the Contract Drawings. They shall be rated 20 amps (125 volts) and shall be of the duplex, feed through type, capable of protecting all downstream receptacles on the same circuit. They shall be UL listed and interrupt the current between 4-6 milliamps of ground fault leakage. Appropriate plates shall be furnished and installed. The 20-ampere rating shall apply not only to device internals but to the faceplate as well. Receptacle shall be “Hubbell”, Cat. GF20LA or equal. The hospital grade equivalent cat. no. is GF 8300.
9. Weather-resistant type receptacles shall be required in all outdoor, damp, and wet locations or where shown on Contract Drawings. Receptacle type shall be indicated by the abbreviation “WR” beside the circuit symbol on the Contract Drawings. Receptacle shall be UL Listed. Weather-resistant receptacles shall be “Hubbell” Cat 5362WR or

equal. Weather-resistant ground fault interrupting type receptacles shall be "Hubbell" Cat. GFTR20 or equal.

B. Plates and Covers

1. Furnish and install plates of the appropriate type and size for all wiring and control devices, signal and telephone outlets.
2. All plates on surface mounted boxes shall be of 304 stainless steel (nonmagnetic) with rounded or beveled edges. All plates on flush mounted boxes shall be white nylon or non-breakable thermoplastic. All device plate screws shall be nylon or stainless steel with countersunk heads. Plates shall be installed vertically and with an alignment tolerance of 1/16 inch. Device plates shall be of the one-piece type, of suitable shape for the devices to be covered. Plates shall have a smooth finish with no crevices to collect dirt. Oversize plates are not acceptable.
3. Covers for boxes serving equipment where flexible conduit is to be tapped into cover plates shall be sheet metal drilled for conduit. Gaskets shall be required as well as all special adapters for mounting.
4. Weatherproof plates shall be Hubbell 5205/5206/CWP26H/CWP8H/WP26 as appropriate for the box utilized, vertical or horizontal mounting. Use the appropriate plate for the mounting, affixed with security fasteners if in inmate accessible areas.

C. Wall Switches (Tumbler Type)

1. Single pole (interior) – "Hubbell" cat. no. 1221, or equal.
2. Single pole (exterior) – "Hubbell" cat. no. 1222, or equal, and Bryant 7420 or equal plate.
3. Switch and pilot light (interior) – "Hubbell" cat. no. 1221-IL (with lighted switch handle), or equal.
4. Switch and pilot light (exterior) – "Hubbell" cat. no. 1221- PL or equal.
5. 3-way switches (interior) – "Hubbell" cat. no. 1223, or equal.
6. Double-pole (interior) – "Hubbell" cat. no. 1222, or equal.
7. Single pole with "Hypalon" plate and pressure switch – "Hubbell" cat. no. 178 (w/cat. no. 1750 plate), or equal.
8. 4-way switches (interior) – "Hubbell" cat. no. 1224, or equal.
9. Key switches or lock type shall be "Hubbell" cat. no. 1221-L, 1222-L, 1223-L, 1224-L. Provide 20 extra matching keys in addition to one for each switch.

PART 3 - EXECUTION

3.1 INSTALLATION/APPLICATION/ERECTION

A. Wall Switches

1. Wall switches shall be mounted at a height as indicated in Section 260000, unless otherwise noted on the Contract Drawings.

2. Switches within finish spaces shall be white, while switches within unfinished spaces shall be gray.

B. Receptacles

1. Outlets shall be located as shown on the Contract Drawings. Where located in special interior finishes, they shall be properly centered. Boxes shall be of the type noted and accepted for the specific installation.
2. Furnish and install receptacle circuits where called for on the Contract Drawings and/or by these Specifications. Circuits shall be installed in conduit from panel to receptacle, with flush mounted boxes except as noted on the Contract Drawings.
3. Receptacles and lighting circuits shall not be combined on the same overcurrent device. For runs over 75 feet or for 30-amp receptacles, minimum wire size shall be AWG No. 10.
4. Receptacles for specific devices (i.e., clothes dryer), shall be rated at the correct voltage and amperage for that unit.
5. The minimum free length of conductor at each box for the connection of a fixture, switch or receptacle shall be 8 inches. All connections shall be made mechanically and electrically secure.
6. Receptacles shall be duplex type, rated at 20 amps, 125 volts, unless otherwise noted. Mounting height shall be as specified for low outlets in Section 260000. All receptacles shall be of the grounding type. Receptacles within finished spaces shall be white, while receptacles within unfinished spaces shall be gray.
7. Receptacles over workbenches or countertops or at medium or high mountings shall be mounted so that the grounding slot is below the neutral and hot. All other receptacles shall be mounted with the grounding slot above the neutral and hot.
8. Duplex receptacles that are located in wet locations and normally have something plugged in (i.e. kitchen), shall be weatherproof while in use. This requirement shall apply as indicated on the Drawings. To meet this requirement, appropriate safety outlet covers as manufactured by Taymac Corporation, Intermatic Guardian Series, or equal shall be utilized in these areas.

END OF SECTION 262726

SECTION 262816 – SAFETY SWITCHES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Provide horsepower-rated, quick-make, quick-break, safety switches provided with the number of poles and fuses as required.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS/EQUIPMENT

A. Safety switches shall be as manufactured by Eaton, General Electric, Square D Company, or equal.

B. For 208- and 240-volt circuits, use general-duty type switches with Class R fuse clips. For 480-volt circuits, use heavy-duty type switches with Class R fuse clips.

C. Switches shall have arc shields, shall be of enclosed construction and fusible or non-fusible as indicated. Switches shall be rated for either 250-volt AC or 600-volt AC service as required.

D. Safety switches for all part-winding or two-speed motors requiring remote disconnect to be similar to Square D Series HLL-660, six-pole.

E. All switches shall be capable of interrupting locked rotor current of motor which it serves.

F. Enclosures shall be NEMA-1 for interior use and NEMA-3R for exterior use unless noted otherwise.

G. Provide dual-element Bussman type FRN (250 volt) or type FRS (600 volt) fuses for any fusible safety switch serving a motor circuit.

H. For non-motor loads, provide dual element Bussman type LPN (250 volt) or type LPS (600 volt).

I. All switches shall be capable of being padlocked in either the “On” or “Off” position.

J. Safety switches shall be provided with auxiliary contacts where indicated on Contract Drawings.

K. Safety switches shall be UL listed and shall conform to NEMA Standards. NEMA 4X enclosed safety switches where called for shall be stainless steel, or fiberglass.

L. NEMA 1 enclosed switches shall be phosphate coated as equivalent, code gauge steel with baked enamel finish.

M. Double throw fused/non fused safety switches where required, shall be as specified on the Contract Drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Provide non-fusible switches at remote motor locations (raintight where required) as indicated on drawings.

B. Provide fusible disconnects at package A/C units, fused as specified on unit nameplate.

C. Mount switches to walls or to equipment enclosures with a minimum of 4 bolts using toggle anchors for masonry construction, Phillips “Red Head” anchors for poured concrete construction and bolts, jumbo washers, lock washers and nuts for equipment enclosure mounting.

D. All safety switches to be identified with nameplates per Section 260553.

END OF SECTION 262816

SECTION 264313 – SURGE PROTECTIVE DEVICES

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The specified unit(s) shall provide effective high energy surge suppression, surge current diversion, and high frequency noise attenuation in all electrical modes for equipment connected downstream from the SPD unit. The unit(s) shall be connected in parallel with the facility's wiring system.

B. All products that are submitted according to these specifications will be required to meet this specification in its entirety. Any product that is submitted and does not comply with all parts of this specification will be subject to rejection.

C. Instrumentation Transient Suppressors

1. Transient suppressors are intended for use on all instrument control loops for power and signal protection on transmitters/receivers, etc., and shall be furnished and installed as specified in Division 40.

D. Type 1 SPD (Secondary Power Arrestors) (480, 240, or 240/120 Volts)

1. Type 1 Surge Protective Devices shall be furnished and installed on all control equipment supplied as outlined on the Contract Drawings.

E. Type 2 SPD (Surge Protective Device) (480, 240, or 240/120 Volts)

1. Type 2 Surge Protective Devices shall be furnished and installed in all Power Distribution Panels and on all equipment supplied having solid state components as the central control/monitoring device. These shall include, but not be limited to, computer systems, level control systems, and/or variable speed equipment. They shall be shown on the Drawings where required.

F. Service entrance SPD's shall be listed to be used as part of a UL master labeled lightning protection system.

1.2 SUBMITTALS

A. Provide UL1449 Fourth Edition listing documentation including Voltage Protection Ratings for all modes of protection, Short Circuit Current Rating (SCCR), Maximum Continuous Operating Voltage Rating (MCOV), and Nominal Discharge Current (I-n) Rating.

B. Indicate the type of internal or external fusing that is incorporated in the SPD system and what impact the fusing has on the performance of the device with respect to surge capacity and clamping levels.

C. Provide independent third party testing documentation demonstrating that the SPD is capable of surviving the specified maximum 8x20 μs surge current pulse without suffering performance degradation or more than 10 percent.

D. Submittals shall include shop drawings including manufacturer installation instruction manual and line drawings detailing dimensions and weight of enclosure, internal wiring diagram illustrating all modes of protection in each type of SPD required, wiring diagram showing all field connections and manufacturer's recommended wire and breaker sizes.

1.3 STANDARDS

A. Underwriters laboratories 1449 - (UL 1449 4th edition or current safety standard for surge protection devices)

1. Underwriters laboratories 1283 - (UL 1283 listed as an electromagnetic interference filter that provides noise attenuation)
2. Underwriters laboratories 67 - (UL 67 internal integration of SPD in panelboard)

B. National electrical code latest edition - (NEC article 285 SPD installation practice/NEC article 250 grounding)

1. NFPA-780 and CSA - (National Fire Protection Association)
2. ISO 9001:2000 - quality standard / military standards (mil-std 220a)

C. IEEE (Institute of Electrical and Electronic Engineering Inc.) C62.41.1 and C62.41.2 – 2002 rev. - (system shall be designed to meet C62.41)

1. IEEE C62.41.2-2002 section 7.2 long duration 10 x 1,000 μsec test to be compliant if the device exhibits less than 10 percent deviation from initial readings. Units must be tested to withstand and pass the 10 x 1,000 μsec test
2. IEEE C62.45 – 2002 rev. - (system shall be tested to meet the C62.45)
3. Category A & B - (0.5 μs x 100 kHz ring wave)
4. Category B3 bi-wave - (8 x 20 μs at 3,000 amperes and 1.2 x 50 μs at 6,000 volts)
5. Category C3 bi-wave - (8 x 20 μs at 10,000 amperes and 1.2 x 50 μs at 20,000 volts)

D. CBEMA (ITIC) and IEC - (Computer Business Equipment Manufacturers Association or Information Technology Industry Council and International Electrotechnical Commission define clamping voltage tolerance guidelines for sensitive equipment)

E. All manufacturers must comply with above listed standards and any current revisions of industry standards. All products that do not comply with current industry standards will not be accepted.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Type 1 SPD (Secondary Power Arrestors)

1. Dale, General Electric, or equal.

B. Type 2 SPD (Surge Protection Devices)

1. Advanced Protection Technologies, Atlantic Scientific Corporation, Current Technology, LEA International, or equal.

2.2 EQUIPMENT

A. Type 1 SPD (Secondary Power Arrestors)

1. The arrestor shall be hermetically sealed with pre-ionized spark gap. The unit shall be capable of repeated overvoltages without significant change in breakdown level or insulation resistance. The arrestor shall be capable of mounting in any position and shall be capable of mounting through a box knockout with standard locknuts and shall be weatherproof.
2. Capacitance shall be less than 50 picofarads, and insulation resistance shall be at least 100 megohms. Maximum arc-over with 10 KV/micro second rise time pulse applied shall be 1,500 volts. The arrestor shall be capable of withstanding repeated application of 10 kiloampere current surges and extinguish power-follow current in 2 cycle or less. Maximum voltage between terminals shall be 2,500 volts when conducting 10 kiloampere current surges.
3. Operating temperature range shall be -40 degrees Celsius to +75 degrees Celsius.

B. Type 2 SPD (Surge Protection Devices)

1. The nominal operating voltage and configuration shall be as indicated on the contract drawings.
2. Declared Maximum Continuous Operating Voltage (MCOV) shall be greater than 115 percent of the nominal system operating voltage and in compliance with test and evaluation procedures outlined in the nominal discharge surge current test of UL1449 4th Edition.
3. SPD shall be UL labeled with 20kA Inominal (I-n) for compliance to UL 96A Lightning Protection Master Label and NFPA 780.
4. The system shall provide a noise filtering system capable of attenuating noise levels produced by electromagnetic interference and radio frequency interference. The system's filtering characteristics shall be expressed in decibels (dB) of attenuation per NEMA LS1 publication. The noise filtering system shall also be UL 1283 listed as an Electromagnetic Interference Filter.
5. SPD shall be UL labeled with 200kA Short Circuit Current Rating (SCCR). Fuse ratings shall not be considered in lieu of demonstrated withstand testing of SPD, per NEC 285.6.
6. Unit shall have not more than 10 percent deterioration or degradation of the UL1449 3rd Edition Voltage Protective Rating (VPR) due to repeated surges.
7. The unit shall be UL 1449 4th Edition Listed. The UL 1449 4th Edition voltage protection ratings (VPR) for the unit including integral disconnect shall be equal to or below the following values:

UL 1449 4th Edition Voltage Protection Ratings (VPR)				
System Voltage	Mode of Protection			
	L-N	L-G	N-G	L-L

UL 1449 4th Edition Voltage Protection Ratings (VPR)				
System Voltage	Mode of Protection			
	L-N	L-G	N-G	L-L
120/240	700	700	700	1200
120/208	700	700	700	1200
277/480	1200	1200	1000	2000

8. The maximum single-pulse surge current capacity per mode shall be verified through testing at an independent third party testing facility and shall be conducted per NEMA LS-1-1992 (R2000), paragraphs 2.2.9 and 3.9. The unit shall be tested in all modes at rated surge currents and all tested modes shall be from the same test sample. This test shall include all components of the system, including disconnects (if applicable), fusing, and monitoring as a completed assembly. Individual component testing, module testing only, or subsystem testing of the unit for compliance with this section will not be acceptable. Testing that causes damage to the device, fuse operation, or voltage clamping performance degradation by more than 10 percent is not acceptable.
9. The fusing elements must be capable of allowing the suppressor's rated single impulse current to pass through the suppressor at least one time without failure. The system shall be tested to 1,000 sequential per C62.45-2002 section B.38 referencing C62.41.1 and C62.41.2 category C3 combination wave transients. The category C3 combination wave is defined as a 1.2 x 50 microsecond wave at 20,000-volt open circuit voltage waveform and 8 x 20 microsecond wave at 10,000 ampere short circuit current waveform. In addition, the system components shall be tested repetitively 1,000 times testing based on an IEEE C62.33 (MOV test) and C62.35 (SAD test) without failure or degradation exceeding ±10 percent.
10. Service Entrance Suppressors

    a. Equipment shall Equipment shall be a multi-stage parallel protector rated for 480Y/277. See one line diagram and panelboard schedule to confirm voltages. The equipment's minimum surge current capacity shall be 200kA per mode (L-N, L-G, L-L and N-G).
    b. The system protection modules shall contain a technology that utilizes a symmetrical array of balanced metal oxide varistors (MOV). Each MOV will be individually coordinated to pass UL 1449.
    c. All primary transient paths shall utilize copper wire, aluminum bus bar and lugs of equivalent capacity to provide equal impedance interconnection between phases. No plug-in module or components shall be used in surge carrying paths.
    d. Each protection module shall have a visual indicator that signifies that the protection circuitry is online. The unit shall not be taken offline to verify integrity of system. Redundant status indicators shall be mounted on the front of the door that monitors the system protection circuitry (or be visible through the enclosure front).
    e. The system shall be modular with field replaceable modules. Modular units shall contain a minimum of one module per phase.
    f. Equipment shall utilize a NEMA 1 enclosure.

11. Panelboard Suppressors & Auxiliary Panel Suppressors

    a. Device shall meet all specification requirements for service entrance suppressors except as follows:

1) Equipment shall be a multi-stage parallel protector rated for 480Y/277 or 208Y/120. See one line diagram and panelboard schedule to confirm voltages. The equipment's minimum surge current capacity shall be 100kA per mode (L-N, L-G, L-L and N-G).
2) The system protection shall contain a technology that utilizes a symmetrical array of balanced metal oxide varistors (MOV). Each MOV will be individually coordinated to pass UL 1449. The unit shall be non-modular type.
3) Equipment shall utilize a NEMA 1 enclosure.

12. Accessories

a. Device Monitoring

1) As a minimum, device monitoring shall include: Audible alarm with alarm disable switch, surge counter, and two sets of Form C contacts for remote monitoring.

b. Integral Disconnect Switch

1) The unit shall include an integral safety interlocked disconnect located in the unit enclosure with an externally mounted manual operator. If fuses are included with this switch, the fusing shall not effectively lower the rating of the SPD unit.

PART 3 - EXECUTION

3.1 INSTALLATION/APPLICATION/ERECTION

A. Where the SPD unit is not specified with an integral safety/disconnect switch an appropriately sized disconnect switch or thermal magnetic breaker shall be installed before and in-line with the SPD. It shall be capable of electrically isolating the SPD from the electrical service for repair without interrupting service to the building. If a safety/disconnect switch is utilized the switch shall be rated for 600VAC. If fuses are included with this switch, the fusing shall not effectively lower the rating of the SPD unit and shall have a minimum interrupt rating of 200kAIC. Connection means utilizing breakers shall be sized at 60A/3P and 30A/3P respectively for service entrance/switchboard/switchgear and branch panelboard units unless otherwise recommended by manufacturer.

B. The specified SPD system shall be installed with #6 AWG minimum copper conductors tapped from the electrical power distribution system. The conductors are to be as short and straight as practically possible and shall not exceed 5 electrical feet from the power conductor(s) it is protecting for service entrance/switchboard/switchgear units and 1.5 electrical feet for branch panelboard units, and shall avoid any unnecessary or sharp bends. The input conductors are to be twisted together to reduce the SPD system inductance.

C. The SPD shall be installed following the SPD manufacturer's recommended practices and in compliance with these specifications and all applicable codes.

3.2 WARRANTY

A. Manufacturer shall provide a full 5-year limited warranty against failure or workmanship defects when installed in compliance to the manufacturer's written installation instructions, UL listing requirements and the National Electrical Code.

END OF SECTION 264313

SECTION 265100 - LED LIGHTING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. LED lamps

B. LED Dimming Drivers

C. Integral lighting controls.

1.2 REFERENCE STANDARDS

A. National Energy Policy Act of 2005, Public Law No. 109-58.

B. IESNA LM-63 - ANSI Approved Standard File Format for Electronic Transfer of Photometric Data and Related Information; 2002.

C. NFPA 70 - National Electrical Code; National Fire Protection Association; 2008.

D. IESNA LM-79-08 IESNA - Approved Method for Electrical and Photometric Measurements of Solid-State Lighting Products; 2008

E. IESNA LM-80-08 IESNA - Approved Method for Measuring Lumen Maintenance of LED Light Sources

F. IESNA TM-21-2011 – Projecting Long Term Lumen Maintenance of LED Light Sources

G. UL 1310 and 8750 – Light Emitting Diode (LED) Equipment for Use in Lighting Products

H. OSHA 29CFR1910.7 – luminaires shall be listed by national recognized testing laboratory approved by United Stated Department of Labor, Occupational Safety and Health Administration (OSHA)

I. ANSI C82.11 – Performance requirement for high frequency ballasts

J. ANSI/IES RP-16-10 – Nomenclature and definitions for illuminating engineering

K. ANSI E1.20 - Remote Device Management Over DMX512 Networks

L. ANSI C62.41 – Recommended practice in low power circuits

M. IEC 61347-1 – General and safety requirements for lamp control gear

N. IEC 61347-2-13 – Particular requirements for electronic control gear for LED modules

O. IEC 62384 - DC or AC supplied electronic control gear for LED modules – performance requirements

P. IEC 61000-3-2 - Harmonic current emissions

Q. IEC 61547 - EMC immunity requirements

R. IEC 62386-101/102/207 – Digital addressable lighting interface (DALI)

S. Federal Communications Commission (FCC) rules – Part 15 Class B: Radio Frequency Devices.

1. Commercial rated

T. Entertainment Services and Technology Association

1. ESTA E1.3 - Entertainment Technology - Lighting Control System - 0 to 10V Analog Control Protocol

1.3 DEFINITIONS

CALiPER	DOE Commercially Available LED Product Evaluation and Reporting program for the testing and monitoring of commercially available LED Luminaires and lights. http://www1.eere.energy.gov/buildings/ssl/m/caliper.html
CCT	Correlated Color Temperature: The temperature in units of kelvin of a blackbody whose chromaticity most nearly resembles that of the light source in question.
cd	Candela: SI Unit of luminous intensity, equal to 1 lumen per steradian (lm/sr)
Chromaticity	The property of color of light defined by the dominant or complementary wavelength and purity aspects of the color taken together
CRI	Color Rendering Index – measure of the degree of color shift of reference objects when illuminated by the light source as compared to a reference source of comparable color temperature.
fc	Footcandle: Unit of illuminance, equal to 1 lm/ft^2
L70	The extrapolated life in hours of the luminaire when the luminous output depreciates 30 percent from initial values.
LED	Light Emitting Diode
METS	Material Engineering and Testing Services of the Translab
MacAdam	Shape on the CIE chromaticity diagram that illustrates how much one can “stray” from the target before perceiving a difference from the target color
NEMA	National Electrical Manufacturers Association
NRTL	Nationally Recognized Testing Laboratory
NVLAP	National Voluntary Laboratory Accreditation Program - A program under the US DOE to accredit independent testing laboratories to qualify
PF	Power Factor - The ratio of the real power component to the total (complex) power component.
Rated power	Power consumption that the luminaire was designed and tested for at ambient temperature (70°F or 21°C)

RoHS	Compliance aims to restrict certain dangerous substances commonly used in electronic equipment, including Lead, Cadmium, Mercury and others.
SPD	Surge Protection Device - A subsystem or component(s) that can protect the unit against short duration voltage and current surges
SSL	Solid State Lighting
THD	Total Harmonic Distortion - The amount of higher frequency power on the power line.

1.4 SUBMITTALS

A. See Division 01 specifications for submittal procedures

B. Shop drawings: Clearly indicate luminaire type, name of the job, and Engineer. Contractor shall endeavor to submit all luminaire, driver and integral controls shop drawings at one time, in one package. Any re-submittals shall include all luminaire, driver and integral controls previously rejected or requiring further information. Specialty SSL, custom, or modified fixtures may be submitted as a separate package.

C. Shop Drawings: Reproductions of the contract drawings are not acceptable as shop drawing.

D. Product Data: Provide dimensions, ratings and specific catalog number and identification of items and accessories and performance data.

E. Shop Drawings: Indicate any dimensions and components for each luminaire that are not a standard product of the manufacturer.

F. Wiring Diagrams: As needed for special operation or interaction with other system(s)

G. Photometric Data: For substitutions, supply complete photometric data for the fixture, including optical performance, rendered by NVLAP approved laboratory developed according to the methods of the Illuminating Engineering Society of North America. Submit electronically, in IESNA LM-63 standard format.

H. Submit photometric data for all substitute luminaires. Photometric reports are not required from specified manufacturer.

I. Specification Sheets: If lacking sufficient detail to indicate compliance with contract documents, standard specification sheets will not be accepted. This includes, but is not limited to, luminaire type designation, manufacturer's complete catalog number, voltage, LED type, CCT, CRI, specific driver information, system efficacy, L70 life rating, and any modifications necessary to meet the requirements of the contract documents.

J. Substitutions shall include complete photometric data as outlined in paragraph G above, and point by point calculations for the specific conditions on the project. Samples shall be required for consideration of any substitutions and must be submitted in accordance with the terms outlined in paragraph K below.

K. Working Samples of all substitutions: Samples shall be 120 volt with cord and plug attached, and shall include specified LEDs and all modifications necessary to meet the requirements specified in the Contract Documents.

PART 2 - PRODUCT REQUIREMENTS

2.1 MANUFACTURERS

A. Approved Manufacturers: Provide products of firms regularly engaged in the manufacture of lighting fixtures and components of types and ratings required, whose products have been in satisfactory use in similar service for not less than 5 years. The manufacturer of the lighting fixtures and components shall comply with the provisions of the appropriate code and standards. All fixtures shall be pretested before shipping.

B. Conformance: Fixtures shall be manufactured in strict accordance with the Contract Drawings and Specifications.

C. Codes: Materials and installation shall be in accordance with the latest revision of the National Electrical Code and any applicable Federal, State, and local codes and regulations.

D. UL or CSA US Listing: All fixtures shall be manufactured in strict accordance with the appropriate and current requirements of the “Standards for Safety" to UL 8750 or others as they may be applicable. A listing shall be provided for each fixture type, and the appropriate label or labels shall be affixed to each fixture in a position concealing it from normal vie

E. Where applicable, luminaires shall be Designlight Consortium (DLC) listed unless approved otherwise by the Owner.

F. Specifications and scale drawings are intended to convey the salient features, function and character of the fixtures only, and do not undertake to illustrate or set forth every item or detail necessary for the work.

G. Basis of Design Manufacturers: Are listed on fixture schedule and specification.

H. Luminaire shall carry the Lighting Facts label, verified based on LM-79 test reports. www.lightingfacts.com

2.2 LUMINAIRES

A. Each luminaire shall consist of an assembly that utilizes LEDs as the light source. In addition, a complete luminaire shall consist of a housing, LED array, and electronic driver (power supply) and integral controls as per this specification.

B. Each luminaire shall be designed to operate at an average operating temperature of 25°C.

C. The operating temperature range shall be 0°C to +25°C for interior luminaires in conditioned buildings. All other locations shall be rated for -20°C for cold weather operation.

D. Each luminaire shall meet all parameters of this specification throughout the minimum operational life of 50,000 hours when operated at the average operating temperature (see 2.2.2).

E. Nominal luminaire dimensions:

1. As specified in lighting fixture schedule

F. Luminaire Construction:

1. As specified in lighting fixture schedule.
2. The luminaire shall be a single, self-contained device, not requiring on-site assembly for installation. The power supply and circuit board for the luminaire shall be integral to the unit.

G. Led Sources

1. LED's shall be manufactured by a manufacturer who has produced commercial LEDs for a minimum of five (5) years.
2. Lumen Output – minimum initial delivered lumen output of the luminaire shall be as follows for the lumens exiting the luminaire in the 0-360 degree zone - as measured by IESNA Standard LM-79-08 in an accredited lab. Exact tested lumen output shall be clearly noted on the shop drawings.
3. Lumen output shall not decrease by more than 20% over the minimum operational life of 50,000 hours at the rated ambient operating temperature.
4. Individual LEDs shall be connected such that a catastrophic loss or the failure of one LED will not result in the loss of the entire luminaire.
5. LED Boards shall be suitable for field maintenance and have plug-in connectors. LED boards shall be upgradable.
6. Light Color/Quality-

    a. Correlated Color temperature (CCT) range as per specification, between 3000K, 3500K and 4000K shall be correlated to chromaticity as defined by the absolute (X,Y) coordinates on the 2-D CIE chromaticity chart.
    b. Color shift over 6,000 hours shall be <0.007 change in u' v' as demonstrated in IES LM80 report.
    c. The color rendition index (CRI) shall be 80 or greater.
    d. LED boards to be tested for color consistency and shall be within a space of 2.5 MacAdam ellipses on the CIE chromaticity chart.

H. Power Supply and Drive

1. Driver: Acceptable manufacturer: eldoLED, Sylvania, or Philips that meet or exceed the criteria herein:
2. Ten-year expected life while operating at maximum case temperature and 90 percent non-condensing relative humidity.
3. Driver should be UL Recognized under the component program and shall be modular for simple field replacement.
4. Electrical characteristics: 120 – 277 volt, UL Listed, CSA Certified, Sound Rated A+. Driver shall be > 80% efficient at full load across all input voltages. Input wires shall be 18AWG solid copper minimum.
5. Dimming: Driver shall be suitable for step dimming.

6. Dimming shall be controlled by a dual wall switches.
7. Driver shall include ability to provide no light output when the control signal drops below 0.5 V, and shall consume 0.5 watts or less in this standby.
8. Driver shall be capable of configuring a linear or logarithmic dimming curve.
9. Drivers shall track evenly across multiple fixtures at all light levels and shall have an input signal to output light level that allows smooth adjustment over the entire dimming range regardless of the controller type.
10. Flicker: Driver and luminaire electronics shall deliver illumination that is free from objectionable flicker as measured by flicker index (ANSI/IES RP-16-10). At all points within the dimming range from 100-0.1 percent luminaire shall have:
11. Less than 1 percent flicker index at frequencies below 120 Hz.
12. Less than 12 percent flicker index at 120 Hz and shall not increase at greater than 0.1 percent per Hz to a maximum of 80 percent flicker index at 800Hz.
13. Driver disconnects shall be provided where required to comply with codes.
14. The electronics/power supply enclosure shall be internal to the luminaire and be accessible per UL requirements
15. The surge protection which resides within the driver shall protect the luminaire from damage and failure for transient voltages and currents as defined in ANSI/IEEE C64.41 2002 for Location Category A, where failure does not mean a momentary loss of light during the transient event.

I. Electrical

1. Efficiency shall be:

   a. A minimum of 110 lumens per watt.

2. Operation Voltage - The luminaire shall operate from at 60 HZ ±3 HZ AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage of plus or minus 10% shall have no visible effect on the luminous output.
3. Power Factor: The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
4. THD: Total harmonic distortion (current and voltage) induced into an AC power line by a luminaire shall not exceed 20 percent at any standard input voltage and meet ANSI C82.11 maximum allowable THD requirements.
5. Surge Suppression: The luminaire shall include surge protection to withstand high repetition noise and other interference. Withstand up to a 1,000-volt surge without impairment of performance as defined by ANSI C62.41 Category A. To reduce false circuit breaker tripping due to turn on inrush, the following statement ensures that electronic dimming driver will meet NEMA inrush recommendations.
6. RF Interference: The luminaire and associated on-board circuitry must meet Class A emission limits referred in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 Non-Consumer requirements for EMI/RFI emissions.
7. Driver must support automatic adaptation, allowing for future luminaire upgrades and enhancements and deliver improved performance:
8. Adjustment of forward LED voltage, supporting 3V through 60V.
9. Adjustment of LED current from 200mA to 1.05A at the 100 percent control input point in increments of 1mA
10. Adjustment for operating hours to maintain constant lumens (within 5 percent) over the 50,000-hour design life of the system, and deliver up to 20 percent energy savings early in the life cycle.

11. Electrical connections between normal power and driver must be modular utilizing a snap fit connector. All electrical components must be easily accessible after installation and be replaceable without removing the fixture from the ceiling.
12. All electrical components shall be RoHS compliant.

J. Emergency Battery Pack

1. Shall be factory installed and provide 1400 lumens of light output for 90 minutes.

K. Photometric Requirements

1. Luminaire performance shall be tested as described herein.

    a. Luminaire performance shall be judged against the specified minimum illuminance in the specified pattern for a particular application.
    b. Luminaire lighting performance shall be adjusted (depreciated) for the minimum life expectancy.
    c. The performance shall be adjusted (depreciated) by using the LED manufacturer's data or the data from the IESNA Standard TM-21 test report, which ever one results in a higher level of lumen depreciation.
    d. The ratio of the peak-to-zenith maximum candela ratios shall be – 1.94:1 @ 127.5 degrees.

2. The luminaire may be determined to be compliant photometrically, if:

    a. The initial minimum illuminance level is achieved in 100% of the area of the specified lighting pattern
    b. The measurements shall be calibrated to standard photopic calibrations.

L. Thermal Management

1. The thermal management (of the heat generated by the LEDs) shall be of sufficient capacity to assure proper operation of the luminaire over the expected useful life.
2. The LED manufacturer's maximum junction temperature for the expected life shall not be exceeded at the average operating ambient.
3. The LED manufacturer's maximum junction temperature for the catastrophic failure shall not be exceeded at the maximum operating ambient.
4. The luminaire shall have an UL rating.
5. The Driver manufacturer's maximum case temperature shall not be exceeded at the maximum operating ambient. Thermal management shall be passive by design. The use of fans or other mechanical devices shall not be allowed.

M. Optics

1. Optics shall consist of a high-performance lens, diffusers and metal reflector.
2. Optics shall eliminate source image.

N. Luminaire Identification

1. Each luminaire shall have the manufacturer's name, trademark, model number, serial number, date of manufacture (month-year), and lot number as identification permanently marked inside the each unit and the outside of each packaging box.
2. The following operating characteristics shall be permanently marked inside each unit: rated voltage and rated power in Watts and Volt-Amperes.

O. Quality Assurance

1. The luminaires shall be manufactured in accordance with a manufacturer quality assurance (QA) program. The QA program shall include two types of quality assurance: (1) design quality assurance and (2) production quality assurance. The production quality assurance shall include statistically controlled routine tests to ensure minimum performance levels of the modules built to meet this specification. These tests shall include: CCT, CRI, Lumen output and wattage. Tests shall be recorded, analyzed and maintained for future reference.
2. LED luminaire designs not satisfying design qualification testing and the production quality assurance testing performance requirements described below shall not be labeled, advertised, or sold as conforming to this specification.

P. Design Qualification Testing

1. Design Qualification Testing shall be performed by a National Voluntary Laboratory Accreditation Program (NVLAP) testing facility. Such testing may be performed by the manufacturer or an independent testing lab hired by the manufacturer on new luminaire designs, and when a major design change has been implemented on an existing design. A major design change is defined as a design change (electrical or physical) which changes any of the performance characteristics of the luminaire, results in a different circuit configuration for the power supply or changes the layout of the individual LED's in the module.
2. A quantity of two units for each design shall be submitted for Design Qualification Testing.
3. Product submittals shall be accompanied by product specification sheets or other documentation that includes the designed parameters as detailed in this specification. These parameters include (but not limited to):

    a. Maximum power in Watts
    b. L80 in hours, when extrapolated for the worse case operating temperature (section 2.2.3). TM21 report shall be submitted to demonstrate this.
    c. Product submittals shall be accompanied by performance data that is derived in accordance with appropriate IESNA testing standards and tested in a laboratory that is NVLAP accredited for Energy Efficient Lighting Products.

4. Luminaire shall be tested per IESNA LM 79-08.

2.3 WARRANTY

A. The manufacturer shall provide a single source, 5-year limited warranty against loss of performance and defects in materials and workmanship for all components of the luminaire. Warranty is from the time of acceptance of the Luminaires. All warranty documentation shall be provided to customer prior to the first shipment.

B. Provide manufacturer's warranty covering 5 years on drivers from date of purchase. Refer to http://www.eldoled.com/termsandconditionsus for detailed information.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install fixtures securely, in a neat and workmanlike manner, as specified in NECA 500 and 501.

B. Install all required hardware and mounting brackets to secure luminaires to structure per local code requirements and the requirements of these documents.

C. Fixtures shall be rigidly mounted against the surface of the ceiling unless otherwise noted on the Contract Drawings. Conduit runs to and between fixtures shall be rigid metallic type. Use of flexible conduit for connection to fixtures is prohibited, except where concealed above a suspended ceiling.

D. Similar fixtures in each room or area shall be installed with bottom of fixtures at same elevation, unless otherwise noted.

E. Outlets shall be as specified herein and shall be suitable for the installation conditions encountered.

F. Flexible fixture hangers shall be used for all pendant-mounted fixtures.

G. Conduit run in areas with hung ceilings shall be installed in the space above the hung ceiling as close to the structure as possible. Conduits and junction boxes shall be supported from the structure.

H. All ceiling grid mounted luminaires shall be installed to fit the actual field layout of the grid system.

I. No luminaires shall be hung or installed until after painting is completed, however, temporary lighting shall be provided by the Contractor. Fixtures in suspended ceilings shall be fastened to the main tees of the ceiling grid for seismic considerations. Also, luminaires shall be supported from the building structure via ceiling wires (independent of the ceiling support wires) from opposite corners of the fixtures.

3.2 FIELD QUALITY CONTROL

A. Perform field inspection, testing, and adjusting in accordance with the specifications.

B. Operate each luminaire after installation and connection. Inspect for improper connections and operation.

C. Test and calibrate all controls associated with luminaires, i.e. integral photocells and occupancy sensors.

3.3 CLEANING

A. Clean electrical parts to remove conductive and deleterious materials.

B. Remove dirt and debris from lens and enclosures

1. For cleaning acrylic lenses or diffusers, use a feather duster or dry cotton cheesecloth to rid the lens/diffuser of any minor dust. For fingerprints, smudges, or other dirt present, use an ammonia-based cleaner (such as Windex) and wipe carefully with cotton cheesecloth (so as to avoid injury from any prismatic texture of the lens).
2. Job site contamination may not necessarily be removed using the above recommendations. In that case the lens would need to be replaced.

C. Clean photometric control surfaces as recommended by manufacturer.

3.4 CLOSEOUT ACTIVITIES

A. Replace any luminaire components or associated controls which does not function per specifications.

END OF SECTION 265100

SECTION 265110 - LED EXTERIOR LIGHTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Exterior luminaires with LED lamp and drivers.
2. Poles and accessories.

1.3 DEFINITIONS

A. CCT: Correlated color temperature.

B. CRI: Color-rendering index.

C. LER: Luminaire efficacy rating.

D. Luminaire: Complete lighting fixture, including ballast housing if provided.

E. Pole: Luminaire support structure, including tower used for large area illumination.

F. Standard: Same definition as "Pole" above.

1.4 STRUCTURAL ANALYSIS CRITERIA FOR POLE SELECTION

A. Dead Load: Weight of luminaire and its horizontal and vertical supports, lowering devices, and supporting structure, applied as stated in AASHTO LTS-4-M.

B. Live Load: Single load of 500 lb/f, distributed as stated in AASHTO LTS-4-M.

C. Ice Load: Load of 3 lbf/sq. ft. applied as stated in AASHTO LTS-4-M Ice Load Map.

D. Wind Load: Pressure of wind on pole and luminaire and banners and banner arms, calculated and applied as stated in AASHTO LTS-4-M.

1. Basic wind speed for calculating wind load for poles 50 feet high or less is 115 mph.

a. Wind Importance Factor: 1.0
b. Minimum Design Life: 25 years
c. Velocity Conversion Factors: 1.0

1.5 ACTION SUBMITTALS

A. Product Data: For each luminaire, pole, and support component, arranged in order of lighting unit designation. Include data on features, accessories, finishes, and the following:

1. Physical description of luminaire, including materials, dimensions, effective projected area, and verification of indicated parameters.
2. Details of attaching luminaires and accessories.
3. Details of installation and construction.
4. Luminaire materials.
5. Photometric data based on laboratory tests of each luminaire type, complete with indicated LED lamps, drivers, and accessories.

    a. Testing Agency Certified Data: For indicated luminaires, photometric data shall be certified by a qualified independent testing agency. Photometric data for remaining luminaires shall be certified by manufacturer.
    b. Manufacturer Certified Data: Photometric data shall be certified by manufacturer's laboratory with a current accreditation under the National Voluntary Laboratory Accreditation Program for Energy Efficient Lighting Products.

6. Drivers, including energy-efficiency data.
7. LED lamps, including life, output, CCT, CRI, lumens, and energy-efficiency data.
8. Materials, dimensions, and finishes of poles.
9. Means of attaching luminaires to supports, and indication that attachment is suitable for components involved.
10. Anchor bolts for poles.
11. Manufactured pole foundations.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Anchor-bolt templates keyed to specific poles and certified by manufacturer.

1.6 INFORMATIONAL SUBMITTALS

A. Pole and Support Component Certificates: Signed by manufacturers of poles, certifying that products are designed for indicated load requirements in AASHTO LTS-4-M and that load imposed by luminaire and attachments has been included in design.

B. Qualification Data: For qualified agencies providing photometric data for lighting fixtures.

C. Field quality-control reports.

1.7 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For luminaires and poles to include in emergency, operation, and maintenance manuals.

1.8 QUALITY ASSURANCE

A. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by manufacturers' laboratories that are accredited under the National Volunteer Laboratory Accreditation Program for Energy Efficient Lighting Products.

B. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by an independent agency, with the experience and capability to conduct the testing indicated, that is an NRTL as defined by OSHA in 29 CFR 1910.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

D. Comply with IEEE C2, "National Electrical Safety Code."

E. Comply with NFPA 70.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Package aluminum poles for shipping according to ASTM B 660.

B. Store poles on decay-resistant-treated skids at least 12 inches above grade and vegetation. Support poles to prevent distortion and arrange to provide free air circulation.

C. Retain factory-applied pole wrappings on metal poles until right before pole installation. For poles with nonmetallic finishes, handle with web fabric straps.

1.10 WARRANTY

A. The manufacturer shall provide a warranty against loss of performance and defects in materials and workmanship for the Luminaires for a period of 5 years after acceptance of the Luminaires. Warranty shall cover all components comprising the luminaire. All warranty documentation shall be provided to customer prior to the first shipment.

B. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship; that corrode; or that fade, stain, perforate, erode, or chalk due to effects of weather or solar radiation within specified warranty period. Manufacturer may exclude lightning damage, hail damage, vandalism, abuse, or unauthorized repairs or alterations from special warranty coverage.

1. Warranty Period for Poles: Repair or replace lighting poles and standards that fail in finish, materials, and workmanship within manufacturer's standard warranty period, but not less than three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Base Bid Manufacturers: Are listed on fixture schedule. Manufacturers listed without accompanying catalog numbers are responsible for meeting the quality standards and photometric distribution set by the specified product.

2.2 GENERAL REQUIREMENTS FOR LUMINAIRES

A. Luminaires shall comply with UL 1598 and be listed and labeled for installation in findwet locations by an NRTL acceptable to authorities having jurisdiction.

1. LER Tests Incandescent Fixtures: Where LER is specified, test according to NEMA LE 5A.
2. LER Tests Fluorescent Fixtures: Where LER is specified, test according to NEMA LE 5 and NEMA LE 5A as applicable.
3. LER Tests HID Fixtures: Where LER is specified, test according to NEMA LE 5B.

B. Luminaires shall have the International Dark-Skys Association seal of approval.

C. Lateral Light Distribution Patterns: Comply with IESNA RP-8 for parameters of lateral light distribution patterns indicated for luminaires.

D. Metal Parts: Free of burrs and sharp corners and edges.

E. Sheet Metal Components: Corrosion-resistant aluminum unless otherwise indicated. Form and support to prevent warping and sagging.

F. Housings: Rigidly formed, weather- and light-tight enclosures that will not warp, sag, or deform in use. Provide filter/breather for enclosed luminaires.

G. Doors, Frames, and Other Internal Access: Smooth operating, free of light leakage under operating conditions, and designed to permit relamping without use of tools. Designed to prevent doors, frames, lenses, diffusers, and other components from falling accidentally during relamping and when secured in operating position. Doors shall be removable for cleaning or replacing lenses.

H. Exposed Hardware Material: Stainless steel.

I. Plastic Parts: High resistance to yellowing and other changes due to aging, exposure to heat, and UV radiation.

J. Light Shields: Metal baffles, factory installed and field adjustable, arranged to block light distribution to indicated portion of normally illuminated area or field.

K. Reflecting surfaces shall have minimum reflectance as follows unless otherwise indicated:

1. White Surfaces: 85 percent.
2. Specular Surfaces: 83 percent.

3. Diffusing Specular Surfaces: 75 percent.

L. Lenses and Refractors Gaskets: Use heat- and aging-resistant resilient gaskets to seal and cushion lenses and refractors in luminaire doors.

M. Luminaire Finish: Manufacturer's standard paint applied to factory-assembled and -tested luminaire before shipping. Where indicated, match finish process and color of pole or support materials.

N. Factory-Applied Finish for Steel Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Surface Preparation: Clean surfaces to comply with SSPC-SP 1, "Solvent Cleaning," to remove dirt, oil, grease, and other contaminants that could impair paint bond. Grind welds and polish surfaces to a smooth, even finish. Remove mill scale and rust, if present, from uncoated steel, complying with SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning," or SSPC-SP 8, "Pickling."
2. Exterior Surfaces: Manufacturer's standard finish consisting of one or more coats of primer and two finish coats of high-gloss, high-build polyurethane enamel.
3. Color: As selected by Architect from manufacturer's full range.

O. Factory-Applied Finish for Aluminum Luminaires: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

1. Class I, Color Anodic Finish: AA-M32C22A42/A44 (Mechanical Finish: medium satin; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.

    a. Color: As selected by Architect from manufacturer's full range.

P. Factory-Applied Labels: Comply with UL 1598. Include recommended LED lamps and drivers. Labels shall be located where they will be readily visible to service personnel, but not seen from normal viewing angles when lamps are in place.

2.3 LED LUMINAIRES

A. LED Lamps

1. LED’s shall be manufactured by Nichia, Samsung, Osram or equal.

    a. Lumen Output – minimum initial lumen output of each luminaire shall be as specified in light fixture schedule.

2. High-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life 100,000 hrs at 40°C, L70.
3. Individual LEDs shall be connected such that a catastrophic loss or the failure of one LED will not result in the loss of the entire luminaire.

4. LED Boards shall be suitable for field maintenance or service with plug-in connectors. LED boards shall be upgradable.
5. Light Color/Quality

    a. Correlated Color temperature (CCT) shall be 4000K, unless otherwise indicated.
    b. The color rendition index (CRI) shall be 67 or greater.

B. Drivers

1. Class 1 electronic driver designed to provide a power factor >90%, THD <20%, with an expected life of 100,000 hours with <1% failure rate.
2. Easily-serviceable surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
3. Driver shall be > 80% efficient at full load across all input voltages. Input wires shall be 18AWG solid copper minimum.
4. Driver shall be UL listed.
5. Maximum stand-by power shall be 1 Watt.
6. Driver disconnect shall be provided where required to comply with codes. The electronics/power supply enclosure shall be internal to the luminaire and be accessible per UL requirements.
7. IP66 rated.

C. Electrical

1. Operation Voltage - The luminaire shall operate from a 50 or 60 HZ ±3 HZ AC line over a voltage ranging from 120 VAC to 277 VAC. The fluctuations of line voltage shall have no visible effect on the luminous output.
2. Power Factor: The luminaire shall have a power factor of 90% or greater at all standard operating voltages and full luminaire output.
3. THD: Total harmonic distortion (current and voltage) induced into an AC power line by a luminaire shall not exceed 20 percent at any standard input voltage.
4. Surge Suppression: The luminaire shall include surge protection to withstand high repetition noise and other interference.
5. RF Interference: The luminaire and associated on-board circuitry must meet Class A emission limits referred in Federal Communications Commission (FCC) Title 47, Subpart B, Section 15 Non-Consumer requirements for EMI/RFI emissions.
6. Electrical connections between normal power and driver must be modular utilizing a snap fit connector. All electrical components must be easily accessible after installation and be replaceable without removing the fixture from the ceiling.
7. All electrical components shall be RoHS compliant.

D. Photometric Requirements

1. Luminaire performance shall be tested as described herein.

    a. Luminaire performance shall be judged against the specified minimum illuminance in the specified pattern for a particular application.
    b. Luminaire lighting performance shall be adjusted (depreciated) for the minimum life expectancy.

c. The performance shall be adjusted (depreciated) by using the LED manufacturer's data or the data from the IESNA Standard TM-21 test report, which ever one results in a higher level of lumen depreciation.

2. The luminaire may be determined to be compliant photometrically, if the initial minimum illuminance level is achieved in 100% of the area of the specified lighting pattern.
3. The measurements shall be calibrated to standard photopic calibrations.

E. Thermal Management

1. The thermal management (of the heat generated by the LEDs) shall be of sufficient capacity to assure proper operation of the luminaire over the expected useful life.
2. The LED manufacturer's maximum junction temperature for the expected life shall not be exceeded at the average operating ambient.
3. The LED manufacturer's maximum junction temperature for the catastrophic failure shall not be exceeded at the maximum operating ambient.
4. The luminaire shall have an UL IC rating.
5. The Driver manufacturer's maximum case temperature shall not be exceeded at the maximum operating ambient. Thermal management shall be passive by design. The use of fans or other mechanical devices shall not be allowed.

2.4 GENERAL REQUIREMENTS FOR POLES AND SUPPORT COMPONENTS

A. Structural Characteristics: Comply with AASHTO LTS-4-M.

1. Wind-Load Strength of Poles: Adequate at indicated heights above grade without failure, permanent deflection, or whipping in steady winds of speed indicated in "Structural Analysis Criteria for Pole Selection" Article.
2. Strength Analysis: For each pole, multiply the actual equivalent projected area of luminaires and brackets by a factor of 1.1 to obtain the equivalent projected area to be used in pole selection strength analysis.

B. Luminaire Attachment Provisions: Comply with luminaire manufacturers' mounting requirements. Use stainless-steel fasteners and mounting bolts unless otherwise indicated.

C. Mountings, Fasteners, and Appurtenances: Corrosion-resistant items compatible with support components.

1. Materials: Shall not cause galvanic action at contact points.
2. Anchor Bolts, Leveling Nuts, Bolt Caps, and Washers: Hot-dip galvanized after fabrication unless otherwise indicated.
3. Anchor-Bolt Template: Plywood or steel.

D. Handhole: Oval-shaped, with minimum clear opening of 2-1/2 by 5 inches, with cover secured by stainless-steel captive screws.

E. Concrete Pole Foundations: Cast in place, with anchor bolts to match pole-base flange. Concrete, reinforcement, and formwork are specified in Division 02 – Concrete.

PART 3 - EXECUTION

3.1 LUMINAIRE INSTALLATION

A. Install lamps in each luminaire.

B. Fasten luminaire to indicated structural supports.

1. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.

C. Adjust luminaires that require field adjustment or aiming.

3.2 POLE INSTALLATION

A. Alignment: Align pole foundations and poles for optimum directional alignment of luminaires and their mounting provisions on the pole.

B. Clearances: Maintain the following minimum horizontal distances of poles from surface and underground features unless otherwise indicated on Drawings:

1. Fire Hydrants and Storm Drainage Piping: 60 inches.
2. Water, Gas, Electric, Communication, and Sewer Lines: 10 feet.
3. Trees: 15 feet from tree trunk.

C. Concrete Pole Foundations: Set anchor bolts according to anchor-bolt templates furnished by pole manufacturer. Concrete materials, installation, and finishing requirements are specified in Division02 – Concrete.

D. Foundation-Mounted Poles: Mount pole with leveling nuts, and tighten top nuts to torque level recommended by pole manufacturer.

1. Use anchor bolts and nuts selected to resist seismic forces defined for the application and approved by manufacturer.
2. Grout void between pole base and foundation. Use nonshrink or expanding concrete grout firmly packed to fill space.
3. Install base covers unless otherwise indicated.
4. Use a short piece of 1/2-inch-diameter pipe to make a drain hole through grout. Arrange to drain condensation from interior of pole.

E. Poles and Pole Foundations Set in Concrete Paved Areas: Install poles with minimum of 6-inch-wide, unpaved gap between the pole or pole foundation and the edge of adjacent concrete slab. Fill unpaved ring with pea gravel to a level 1 inch below top of concrete slab.

F. Raise and set poles using web fabric slings (not chain or cable).

3.3 CORROSION PREVENTION

A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.

B. Steel Conduits: Comply with Section 260533 "Raceways." In concrete foundations, wrap conduit with 0.010-inch-thick, pipe-wrapping plastic tape applied with a 50 percent overlap.

3.4 GROUNDING

A. Ground metal poles and support structures according to Section 260526 "Secondary Grounding."

1. Install grounding electrode for each pole unless otherwise indicated.
2. Install grounding conductor pigtail in the base for connecting luminaire to grounding system.

3.5 FIELD QUALITY CONTROL

A. Inspect each installed fixture for damage. Replace damaged fixtures and components.

B. Illumination Observations: Verify normal operation of lighting units after installing luminaires and energizing circuits with normal power source.

C. Verify operation of photoelectric controls.

D. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

END OF SECTION 265110

DIVISION 27

COMMUNICATIONS

SECTION 270526 - GROUNDING AND BONDING FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Grounding conductors.
2. Grounding connectors.
3. Grounding busbars.
4. Grounding rods.
5. Grounding labeling.

1.3 DEFINITIONS

A. BCT: Bonding conductor for telecommunications.

B. TGB: Telecommunications grounding busbar.

C. TMGB: Telecommunications main grounding busbar.

D. Service Provider: The operator of a service that provides telecommunications transmission delivered over access provider facilities.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

1. Product Data: For each conductor and cable indicating lead content.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For grounding to include in emergency, operation, and maintenance manuals.

1. In addition to items specified in Section 017823 "Operation and Maintenance Data," include the following:

a. Result of the ground-resistance test, measured at the point of BCT connection.
b. Result of the bonding-resistance test at each TGB and its nearest grounding electrode.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. Comply with UL 467 for grounding and bonding materials and equipment.

C. Comply with TIA-607-B.

2.2 CONDUCTORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Harger Lightning & Grounding.
2. Panduit Corp.
3. TE Connectivity Ltd.

B. Comply with UL 486A-486B.

C. Insulated Conductors: Stranded copper wire, green or green with yellow stripe insulation, insulated for 600 V, and complying with UL 83.

1. Ground wire for custom-length equipment ground jumpers shall be No. 6 AWG, 19-strand, UL-listed, Type THHN wire.
2. Lead Content: Less than 300 parts per million.

D. Cable Tray Grounding Jumper:

1. Not smaller than No. 6 AWG and not longer than 12 inches. If jumper is a wire, it shall have a crimped grounding lug with two holes and long barrel for two crimps. If jumper is a flexible braid, it shall have a one-hole ferrule. Attach with grounding screw or connector provided by cable tray manufacturer.

E. Bare Copper Conductors:

1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.
3. Tinned Conductors: ASTM B 33.
4. Bonding Cable: 28 kcmils, 14 strands of No. 17 AWG conductor, and 1/4 inch in diameter.
5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.

6. Bonding Jumper: Tinned-copper tape, braided conductors terminated with two-hole copper ferrules; 1-5/8 inches wide and 1/16 inch thick.

2.3 CONNECTORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Burndy; Part of Hubbell Electrical Systems.
2. Chatsworth Products, Inc.
3. Harger Lightning & Grounding.
4. Panduit Corp.
5. TE Connectivity Ltd.

B. Irreversible connectors listed for the purpose. Listed by an NRTL as complying with NFPA 70 for specific types, sizes, and combinations of conductors and other items connected. Comply with UL 486A-486B.

C. Compression Wire Connectors: Crimp-and-compress connectors that bond to the conductor when the connector is compressed around the conductor. Comply with UL 467.

1. Electroplated tinned copper, C and H shaped.

D. Busbar Connectors: Cast silicon bronze, solderless compression-type, mechanical connector; with a long barrel and two holes spaced on 5/8- or 1-inch centers for a two-bolt connection to the busbar.

E. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

2.4 GROUNDING BUSBARS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Chatsworth Products, Inc.
2. Harger Lightning & Grounding.
3. Panduit Corp.

B. TMGB: Predrilled, wall-mounted, rectangular bars of hard-drawn solid copper, 1/4 by 4 inches in cross section, length as indicated on Drawings. The busbar shall be NRTL listed for use as TMGB and shall comply with TIA-607-B.

1. Predrilling shall be with holes for use with lugs specified in this Section.
2. Mounting Hardware: Stand-off brackets that provide a 4-inch clearance to access the rear of the busbar. Brackets and bolts shall be stainless steel.
3. Stand-off insulators for mounting shall be Lexan or PVC. Comply with UL 891 for use in 600-V switchboards, impulse tested at 5000 V.

C. TGB: Predrilled rectangular bars of hard-drawn solid copper, 1/4 by 2 inches in cross section, length as indicated on Drawings. The busbar shall be for wall mounting, shall be NRTL listed as complying with UL 467, and shall comply with TIA-607-B.

1. Predrilling shall be with holes for use with lugs specified in this Section.
2. Mounting Hardware: Stand-off brackets that provide at least a 2-inch clearance to access the rear of the busbar. Brackets and bolts shall be stainless steel.
3. Stand-off insulators for mounting shall be Lexan or PVC. Comply with UL 891 for use in 600-V switchboards, impulse tested at 5000 V.

D. Rack and Cabinet Grounding Busbars: Rectangular bars of hard-drawn solid copper, accepting conductors ranging from No. 14 to No. 2/0 AWG, NRTL listed as complying with UL 467, and complying with TIA-607-B. Predrilling shall be with holes for use with lugs specified in this Section.

1. Cabinet-Mounted Busbar: Terminal block, with stainless-steel or copper-plated hardware for attachment to the cabinet.
2. Rack-Mounted Horizontal Busbar: Designed for mounting in 19- or 23-inch equipment racks. Include a copper splice bar for transitioning to an adjoining rack, and stainless-steel or copper-plated hardware for attachment to the rack.
3. Rack-Mounted Vertical Busbar: 72 or 36 inches long, with stainless-steel or copper-plated hardware for attachment to the rack.

2.5 IDENTIFICATION

A. Comply with requirements for identification products in Section 270553 "Identification for Communications Systems."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine the ac grounding electrode system and equipment grounding for compliance with requirements for maximum ground-resistance level and other conditions affecting performance of grounding and bonding of the electrical system.

B. Inspect the test results of the ac grounding system measured at the point of BCT connection.

C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

D. Proceed with connection of the BCT only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Bonding shall include the ac utility power service entrance, the communications cable entrance, and the grounding electrode system. The bonding of these elements shall form a loop so that each element is connected to at least two others.

B. Comply with NECA 1.

C. Comply with TIA-607-B.

3.3 APPLICATION

A. Conductors: Install solid conductor for No. 8 AWG and smaller and stranded conductors for No. 6 AWG and larger unless otherwise indicated.

1. The bonding conductors between the TGB and structural steel of steel-frame buildings shall not be smaller than No. 6 AWG.
2. The bonding conductors between the TMGB and structural steel of steel-frame buildings shall not be smaller than No. 6 AWG.

B. Underground Grounding Conductors: Install bare tinned-copper conductor, No. 2 AWG minimum.

C. Conductor Terminations and Connections:

1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
2. Underground Connections: Welded connectors except at test wells and as otherwise indicated.
3. Connections to Ground Rods at Test Wells: Bolted connectors.
4. Connections to Structural Steel: Welded connectors.

D. Conductor Support:

1. Secure grounding and bonding conductors at intervals of not less than 36 inches (900 mm).

E. Grounding and Bonding Conductors:

1. Install in the straightest and shortest route between the origination and termination point, and no longer than required. The bend radius shall not be smaller than eight times the diameter of the conductor. No one bend may exceed 90 degrees.
2. Install without splices.
3. Support at not more than 36-inch intervals.
4. Install grounding and bonding conductors in 3/4-inch PVC conduit until conduit enters a telecommunications room. The grounding and bonding conductor pathway through a plenum shall be in EMT. Conductors shall not be installed in EMT unless otherwise indicated.

    a. If a grounding and bonding conductor is installed in ferrous metallic conduit, bond the conductor to the conduit using a grounding bushing that complies with requirements in Section 270528 "Pathways for Communications Systems," and bond both ends of the conduit to a TGB.

3.4 GROUNDING ELECTRODE SYSTEM - Existing

3.5 GROUNDING BUSBARS

A. Indicate locations of grounding busbars on Drawings. Install busbars horizontally, on insulated spacers 2 inches minimum from wall, 12 inches above finished floor unless otherwise indicated.

3.6 CONNECTIONS

A. Bond metallic equipment in a telecommunications equipment room to the grounding busbar in that room, using equipment grounding conductors not smaller than No. 6 AWG.

B. Stacking of conductors under a single bolt is not permitted when connecting to busbars.

C. Assemble the wire connector to the conductor, complying with manufacturer's written instructions and as follows:

1. Use crimping tool and the die specific to the connector.
2. Pretwist the conductor.
3. Apply an antioxidant compound to all bolted and compression connections.

D. Primary Protector: Bond to the TMGB with insulated bonding conductor.

E. Interconnections: Interconnect all TGBs with the TMGB with the telecommunications backbone conductor. If more than one TMGB is installed, interconnect TMGBs using the grounding equalizer conductor. The telecommunications backbone conductor and grounding equalizer conductor size shall not be less than 2 kcmils/linear foot of conductor length, up to a maximum size of No. 3/0 AWG unless otherwise indicated.

F. Telecommunications Enclosures and Equipment Racks: Bond metallic components of enclosures to the telecommunications bonding and grounding system. Install top-mounted rack grounding busbar unless the enclosure and rack are manufactured with the busbar. Bond the equipment grounding busbar to the TGB No. 2 AWG bonding conductors.

G. Structural Steel: Where the structural steel of a steel frame building is readily accessible within the room or space, bond each TGB and TMGB to the vertical steel of the building frame.

H. Shielded Cable: Bond the shield of shielded cable to the TGB in communications rooms and spaces. Comply with TIA-568-C.1 and TIA-568-C.2 when grounding shielded balanced twisted-pair cables.

I. Rack- and Cabinet-Mounted Equipment: Bond powered equipment chassis to the cabinet or rack grounding bar. Power connection shall comply with NFPA 70; the equipment grounding conductor in the power cord of cord- and plug-connected equipment shall be considered as a supplement to bonding requirements in this Section.

J. Access Floors: Bond all metal parts of access floors to the TGB.

K. Equipment Room Signal Reference Grid: Provide a low-impedance path between telecommunications cabinets, equipment racks, and the reference grid, using No. 6 AWG bonding conductors.

1. Install the conductors in grid pattern on 4-foot centers, allowing bonding of one pedestal from each access floor tile.
2. Bond the TGB of the equipment room to the reference grid at two or more locations.
3. Bond all conduits and piping entering the equipment room to the TGB at the perimeter of the room.

3.7 IDENTIFICATION

A. Labels shall be preprinted or computer-printed type.

1. Label TMGB(s) with "fs-TMGB," where "fs" is the telecommunications space identifier for the space containing the TMGB.
2. Label TGB(s) with "fs-TGB," where "fs" is the telecommunications space identifier for the space containing the TGB.
3. Label the BCT and each telecommunications backbone conductor at its attachment point: "WARNING! TELECOMMUNICATIONS BONDING CONDUCTOR. DO NOT REMOVE OR DISCONNECT!"

3.8 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.
2. Test the bonding connections of the system using an ac earth ground-resistance tester, taking two-point bonding measurements in each telecommunications equipment room containing a TMGB and a TGB and using the process recommended by BICSI TDMM. Conduct tests with the facility in operation.

    a. Measure the resistance between the busbar and the nearest available grounding electrode. The maximum acceptable value of this bonding resistance is 100 milliohms.

3. Test for ground loop currents using a digital clamp-on ammeter, with a full-scale of not more than 10 A, displaying current in increments of 0.01 A at an accuracy of plus/minus 2.0 percent.

    a. With the grounding infrastructure completed and the communications system electronics operating, measure the current in every conductor connected to the TMGB and in each TGB. Maximum acceptable ac current level is 1 A.

C. Excessive Ground Resistance: If resistance to ground at the BCT exceeds 5 ohms, notify Architect promptly and include recommendations to reduce ground resistance.

D. Grounding system will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

END OF SECTION 270526

SECTION 270528 - PATHWAYS FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Metal conduits and fittings.
2. Nonmetallic conduits and fittings.
3. Optical-fiber-cable pathways and fittings.
4. Metal wireways and auxiliary gutters.
5. Hooks.
6. Boxes, enclosures, and cabinets.

1.3 DEFINITIONS

A. ARC: Aluminum rigid conduit.

B. GRC: Galvanized rigid conduit.

C. IMC: Intermediate metal conduit.

D. RTRC: Reinforced thermosetting resin conduit.

1.4 ACTION SUBMITTALS

A. Product data for the following:

1. Surface pathways
2. Wireways and fittings.
3. Boxes, enclosures, and cabinets.

B. Sustainable Design Submittals:

1. Product Data: For adhesives and sealants, indicating VOC content.
2. Laboratory Test Reports: For adhesives and sealants, indicating compliance with requirements for low-emitting materials.

PART 2 - PRODUCTS

2.1 METAL CONDUITS AND FITTINGS

A. Description: Metal raceway of circular cross section with manufacturer-fabricated fittings.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. AFC Cable Systems; a part of Atkore International.
2. Allied Tube & Conduit; a part of Atkore International.
3. Alpha Wire.
4. Anamet Electrical, Inc.
5. Electri-Flex Company.
6. O-Z/Gedney; a brand of Emerson Industrial Automation.
7. Picoma Industries, Inc.
8. Plasti-Bond.
9. Republic Conduit.
10. Southwire Company.
11. Thomas & Betts Corporation; A Member of the ABB Group.
12. Western Tube and Conduit Corporation.
13. Wheatland Tube Company.

C. General Requirements for Metal Conduits and Fittings:

1. Listed and labeled as defined in NFPA 70, by a nationally recognized testing laboratory, and marked for intended location and application.
2. Comply with TIA-569-D.

D. GRC: Comply with ANSI C80.1 and UL 6.

E. ARC: Comply with ANSI C80.5 and UL 6A.

F. EMT: Comply with ANSI C80.3 and UL 797.

G. Fittings for Metal Conduit: Comply with NEMA FB 1 and UL 514B.

1. Fittings for EMT:

a. Material: Steel.
b. Type: Compression.

2. Expansion Fittings: PVC or steel to match conduit type, complying with UL-467, rated for environmental conditions where installed, and including flexible external bonding jumper.

2.2 NONMETALLIC CONDUITS AND FITTINGS

A. Description: Nonmetallic raceway of circular section with manufacturer-fabricated fittings.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. AFC Cable Systems; a part of Atkore International.
2. Allied Tube & Conduit; a part of Atkore International.
3. Anamet Electrical, Inc.
4. Arnco Corporation.
5. CANTEX INC.
6. Carlon; a brand of Thomas & Betts Corporation.
7. CertainTeed Corporation.
8. Condux International, Inc.
9. Dura-Line.
10. Electri-Flex Company.
11. Kraloy.
12. Lamson & Sessions.
13. Niedax Inc.
14. RACO; Hubbell.
15. Thomas & Betts Corporation; A Member of the ABB Group.

C. General Requirements for Nonmetallic Conduits and Fittings:

1. Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.
2. Comply with TIA-569-D.

D. RNC: Type EPC-40-PVC or Type EPC-80-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.

E. Fittings: Comply with NEMA TC 3; match to conduit or tubing type and material.

F. Solvents and Adhesives: As recommended by conduit manufacturer.

1. VOC Content: 510 g/L or less for PVC conduit and fittings.

2.3 OPTICAL-FIBER-CABLE PATHWAYS AND FITTINGS

A. Description: Comply with UL 2024; flexible-type pathway with a circular cross section, approved for general-use installation unless otherwise indicated.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Alpha Wire.
2. Carlon; a brand of Thomas & Betts Corporation.
3. Dura-Line.
4. Endot Industries Inc.
5. IPEX USA LLC.

C. Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

D. Comply with TIA-569-D.

2.4 METAL WIREWAYS AND AUXILIARY GUTTERS

A. Description: Sheet metal trough of rectangular cross section fabricated to required size and shape, without holes or knockouts, and with hinged or removable covers.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. B-line, an Eaton business.
2. Hoffman; a brand of Pentair Equipment Protection.
3. MonoSystems, Inc.
4. Square D; by Schneider Electric.

C. General Requirements for Metal Wireways and Auxiliary Gutters:

1. Comply with UL 870 and NEMA 250, Type 1 unless otherwise indicated, and sized according to NFPA 70.
2. Metal wireways installed outdoors shall be listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.
3. Comply with TIA-569-D.

D. Fittings and Accessories: Include covers, couplings, offsets, elbows, expansion joints, adapters, hold-down straps, end caps, and other fittings to match and mate with wireways as required for complete system.

E. Wireway Covers: Screw-cover type unless otherwise indicated.

F. Finish: Manufacturer's standard enamel finish.

2.5 HOOKS

A. Description: Prefabricated sheet metal cable supports for telecommunications cable.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. MonoSystems, Inc.
2. Panduit Corp.
3. Wiremold / Legrand.

C. Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.

D. Comply with TIA-569-D.

E. Galvanized steel.

F. J shape.

2.6 BOXES, ENCLOSURES, AND CABINETS

A. Description: Enclosures for communications.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Adalet.
2. Carlon; a brand of Thomas & Betts Corporation.
3. Crouse-Hinds, an Eaton business.
4. EGS/Appleton Electric.
5. Erickson Electrical Equipment Company.
6. FSR Inc.
7. Hoffman; a brand of Pentair Equipment Protection.
8. Milbank Manufacturing Co.
9. Molex Industrial Products Group; Woodhead Brand.
10. MonoSystems, Inc.
11. Oldcastle Enclosure Solutions.
12. O-Z/Gedney; a brand of Emerson Industrial Automation.
13. Plasti-Bond.
14. Quazite: Hubbell Power Systems, Inc.
15. RACO; Hubbell.
16. Spring City Electrical Manufacturing Company.
17. Stahlin Non-Metallic Enclosures.
18. Thomas & Betts Corporation; A Member of the ABB Group.
19. Wiremold / Legrand.

C. General Requirements for Boxes, Enclosures, and Cabinets:

1. Comply with TIA-569-D.
2. Boxes, enclosures, and cabinets installed in wet locations shall be listed and labeled as defined in NFPA 70, by an NRTL, and marked for use in wet locations.
3. Box extensions used to accommodate new building finishes shall be of same material as recessed box.
4. Device Box Dimensions: 4 inches square by 2-1/8 inches deep, 4 inches by 2-1/8 inches by 2-1/8 inches deep as required by the work.
5. Gangable boxes are allowed.

D. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

E. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy or aluminum, Type FD, with gasketed cover.

F. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

G. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum or galvanized, cast iron with gasketed cover.

H. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 1, with continuous-hinge cover with flush latch unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.

I. Cabinets:

1. NEMA 250, Type 1 galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
2. Hinged door in front cover with flush latch and concealed hinge.
3. Key latch to match panelboards.
4. Metal barriers to separate wiring of different systems and voltage.
5. Accessory feet where required for freestanding equipment.

PART 3 - EXECUTION

3.1 PATHWAY APPLICATION

A. Outdoors: Apply pathway products as specified below unless otherwise indicated:

1. Exposed Conduit: GRC, RNC, Type EPC-80-PVC.
2. Concealed Conduit, Aboveground: GRC, RNC, Type EPC-40-PVC.
3. Underground Conduit: RNC, Type EPC-40-PVC concrete encased.
4. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Indoors: Apply pathway products as specified below unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed, Not Subject to Severe Physical Damage: EMT.
3. Exposed and Subject to Severe Physical Damage: GRC. Pathway locations include the following:

    a. Loading dock.
    b. Corridors used for traffic of mechanized carts, forklifts, and pallet-handling units.
    c. Mechanical rooms.

4. Concealed in Ceilings and Interior Walls and Partitions: EMT or innerduct.
5. Damp or Wet Locations: GRC.
6. Pathways for Optical-Fiber or Communications-Cable Risers in Vertical Shafts: Riser-type, optical-fiber-cable pathway, EMT.
7. Pathways for Concealed General-Purpose Distribution of Optical-Fiber or Communications Cable: General-use, optical-fiber-cable pathway, EMT.
8. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel units in institutional and commercial kitchens and damp or wet locations.

C. Minimum Pathway Size: 1-inch trade size for copper and aluminum cables, and 1 inch for optical-fiber cables.

D. Pathway Fittings: Compatible with pathways and suitable for use and location.

1. Rigid Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.

2. EMT: Use set-screw or compression, steel or cast-metal fittings. Comply with NEMA FB 2.10.

E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.

F. Install surface pathways only where indicated on Drawings.

G. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F.

3.2 INSTALLATION

A. Comply with the following standards for installation requirements except where requirements on Drawings or in this Section are stricter:

1. NECA 1.
2. NECA/BICSI 568.
3. TIA-569-D.
4. NECA 101
5. NECA 102.
6. NECA 105.

B. Comply with NFPA 70 limitations for types of pathways allowed in specific occupancies and number of floors.

C. Comply with requirements in Section 078413 "Penetration Firestopping" for firestopping materials and installation for penetrations through fire-rated walls, ceilings, and assemblies.

D. Comply with requirements in Section 270529 "Hangers and Supports for Communications Systems" for hangers and supports.

E. Keep pathways at least 6 inches away from parallel runs of flues and steam or hot-water pipes. Install horizontal pathway runs above water and steam piping.

F. Complete pathway installation before starting conductor installation.

G. Arrange stub-ups so curved portions of bends are not visible above finished slab.

H. Install no more than the equivalent of two 90-degree bends in any pathway run. Support within 12 inches of changes in direction. Utilize long radius ells for all optical-fiber cables.

I. Conceal rigid conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.

J. Support conduit within 12 inches of enclosures to which attached.

K. Pathways Embedded in Slabs:

1. Run conduit larger than 1-inch trade size, parallel or at right angles to main reinforcement. Where at right angles to reinforcement, place conduit close to slab support. Secure pathways to reinforcement at maximum 10-foot intervals.

2. Arrange pathways to cross building expansion joints at right angles with expansion fittings. Comply with requirements for expansion joints specified in this article.
3. Arrange pathways to keep a minimum of 2 inches of concrete cover in all directions.
4. Do not embed threadless fittings in concrete unless specifically approved by Architect for each specific location.
5. Change from nonmetallic conduit and fittings to GRC and fittings before rising above floor.

L. Stub-ups to Above Recessed Ceilings:

1. Use EMT or RMC for pathways.
2. Use a conduit bushing or insulated fitting to terminate stub-ups not terminated in hubs or in an enclosure.

M. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install insulated bushings on conduits terminated with locknuts.

N. Install pathways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus one additional quarter-turn.

O. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure, to assure a continuous ground path.

P. Cut conduit perpendicular to the length. For conduits of 2-inch trade size and larger, use roll cutter or a guide to ensure cut is straight and perpendicular to the length.

Q. Install pull wires in empty pathways. Use polypropylene or monofilament plastic line with not less than 200-lb tensile strength. Leave at least 12 inches of slack at each end of pull wire. Secure pull wire, so it cannot fall into conduit. Cap pathways designated as spare alongside pathways in use.

R. Surface Pathways:

1. Install surface pathway for surface telecommunications outlet boxes only where indicated on Drawings.
2. Install surface pathway with a minimum 2-inch radius control at bend points.
3. Secure surface pathway with screws or other anchor-type devices at intervals not exceeding 48 inches and with no less than two supports per straight pathway section. Support surface pathway according to manufacturer's written instructions. Tape and glue are not acceptable support methods.

S. Pathways for Optical-Fiber and Communications Cable: Install pathways, metal and nonmetallic, rigid and flexible, as follows:

1. 3/4-Inch Trade Size and Smaller: Install pathways in maximum lengths of 50 feet.
2. 1-Inch Trade Size and Larger: Install pathways in maximum lengths of 75 feet.
3. Install with a maximum of two 90-degree bends or equivalent for each length of pathway unless Drawings show stricter requirements. Separate lengths with pull or junction boxes or terminations at distribution frames or cabinets where necessary to comply with these requirements.

T. Install devices to seal pathway interiors at accessible locations. Locate seals, so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all pathways at the following points:

1. Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces.
2. Where an underground service pathway enters a building or structure.
3. Where otherwise required by NFPA 70.

U. Comply with manufacturer's written instructions for solvent welding PVC conduit and fittings.

V. Expansion-Joint Fittings:

1. Install in each run of aboveground RNC that is located where environmental temperature change may exceed 30 deg F, and that has straight-run length that exceeds 25 feet. Install in each run of aboveground RMC and EMT that is located where environmental temperature change may exceed 100 deg F, and that has straight-run length that exceeds 100 feet.
2. Install type and quantity of fittings that accommodate temperature change listed for each of the following locations:

    a. Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F temperature change.
    b. Outdoor Locations Exposed to Direct Sunlight: 155 deg F temperature change.
    c. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F temperature change.

3. Install fitting(s) that provide expansion and contraction for at least 0.00041 inch per foot of length of straight run per deg F of temperature change for PVC conduits. Install fitting(s) that provide expansion and contraction for at least 0.000078 inch per foot of length of straight run per deg F of temperature change for metal conduits.
4. Install expansion fittings at all locations where conduits cross building or structure expansion joints.
5. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement.

W. Hooks:

1. Size to allow a minimum of 25 percent future capacity without exceeding design capacity limits.
2. Shall be supported by dedicated support wires. Do not use ceiling grid support wire or support rods.
3. Hook spacing shall allow no more than 6 inches of slack. The lowest point of the cables shall be no less than 6 inches adjacent to ceilings, mechanical ductwork and fittings, luminaires, power conduits, power, and telecommunications outlets, and other electrical and communications equipment.
4. Space hooks no more than 5 feet o.c.
5. Provide a hook at each change in direction.

X. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.

Y. Recessed Boxes in Masonry Walls: Saw-cut opening for box in center of cell of masonry block and install box flush with surface of wall. Prepare block surface to provide a flat surface for a raintight connection between box and cover plate or supported equipment and box.

Z. Horizontally separate boxes mounted on opposite sides of walls, so they are not in the same vertical channel.

AA. Support boxes of three gangs or more from more than one side by spanning two framing members or mounting on brackets specifically designed for the purpose.

BB. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.

CC. Set metal floor boxes level and flush with finished floor surface.

3.3 FIRESTOPPING

A. Install firestopping at penetrations of fire-rated floor and wall assemblies. Comply with requirements in Section 078413 "Penetration Firestopping."

3.4 PROTECTION

A. Protect coatings, finishes, and cabinets from damage or deterioration.

1. Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer.
2. Repair damage to paint finishes with matching touchup coating recommended by manufacturer.

END OF SECTION 270528

SECTION 270529 - HANGERS AND SUPPORTS FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Steel slotted support systems for communication raceways.
2. Conduit and cable support devices.
3. Support for conductors in vertical conduit.
4. Structural steel for fabricated supports and restraints.
5. Mounting, anchoring, and attachment components, including powder-actuated fasteners, mechanical expansion anchors, concrete inserts, clamps, through bolts, toggle bolts, and hanger rods.
6. Fabricated metal equipment support assemblies.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for the following:

a. Slotted support systems, hardware, and accessories.
b. Clamps.
c. Hangers.
d. Sockets.
e. Eye nuts.
f. Fasteners.
g. Anchors.
h. Saddles.
i. Brackets.

2. Include rated capacities and furnished specialties and accessories.

B. Shop Drawings: For fabrication and installation details for communications hangers and support systems.

1. Trapeze hangers. Include product data for components.
2. Steel slotted-channel systems.
3. Equipment supports.

C. Delegated-Design Submittal: For hangers and supports for communications systems.

1. Include design calculations and details of trapeze hangers.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design hanger and support system.

2.2 SUPPORT, ANCHORAGE, AND ATTACHMENT COMPONENTS

A. Steel Slotted Support Systems: Preformed steel channels and angles with minimum 13/32-inch-diameter holes at a maximum of 8 inches o.c. in at least one surface.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Allied Tube & Conduit; a part of Atkore International.
b. B-line, an Eaton business.
c. ERICO International Corporation.
d. Flex-Strut Inc.
e. Gripple Inc.
f. GS Metals Corp.
g. G-Strut.
h. Haydon Corporation.
i. Metal Ties Innovation.
j. MIRO Industries.
k. Thomas & Betts Corporation; A Member of the ABB Group.
l. Unistrut; Part of Atkore International.
m. Wesanco, Inc.

2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
3. Material for Channel, Fittings, and Accessories: Galvanized steel.
4. Channel Width: Selected for applicable load criteria.
5. Metallic Coatings: Hot-dip galvanized after fabrication and applied according to MFMA-4.
6. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
7. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
8. Channel Dimensions: Selected for applicable load criteria.

B. Aluminum Slotted Support Systems: Extruded aluminum channels and angles with minimum 13/32-inch- diameter holes at a maximum of 8 inches o.c. in at least one surface.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Cooper Industries, Inc.
    b. Flex-Strut Inc.
    c. Haydon Corporation.
    d. MKT Metal Manufacturing.
    e. Thomas & Betts Corporation; A Member of the ABB Group.
    f. Unistrut; Part of Atkore International.

2. Standard: Comply with MFMA-4 factory-fabricated components for field assembly.
3. Channel Material: 6063-T6 aluminum alloy.
4. Fittings and Accessories Material: 5052-H32 aluminum alloy.
5. Channel Width: Selected for applicable load criteria.
6. Painted Coatings: Manufacturer's standard painted coating applied according to MFMA-4.
7. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
8. Channel Dimensions: Selected for applicable load criteria.

C. Conduit and Cable Support Devices: Steel and malleable-iron clamps, hangers, and associated fittings, designed for types and sizes of raceway or cable to be supported.

D. Support for Conductors in Vertical Conduit: Factory-fabricated assembly consisting of threaded body and insulating wedging plug or plugs for nonarmored communications conductors or cables in riser conduits. Plugs shall have number, size, and shape of conductor gripping pieces as required to suit individual conductors or cables supported. Body shall be made of malleable iron.

E. Structural Steel for Fabricated Supports and Restraints: ASTM A 36/A 36M steel plates, shapes, and bars; black and galvanized.

F. Mounting, Anchoring, and Attachment Components: Items for fastening electrical items or their supports to building surfaces include the following:

1. Powder-Actuated Fasteners: Threaded-steel stud for use in hardened portland cement concrete, steel, or wood, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

    a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

        1) Hilti, Inc.
        2) ITW Ramset/Red Head; Illinois Tool Works, Inc.
        3) MKT Fastening, LLC.
        4) Simpson Strong-Tie Co., Inc.

2. Mechanical-Expansion Anchors: Insert-wedge-type stainless steel for use in hardened portland cement concrete, with tension, shear, and pullout capacities appropriate for supported loads and building materials where used.

    a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

        1) B-line, an Eaton business.
        2) Empire Tool and Manufacturing Co., Inc.
        3) Hilti, Inc.
        4) ITW Ramset/Red Head; Illinois Tool Works, Inc.
        5) MKT Fastening, LLC.

3. Concrete Inserts: Steel or malleable-iron, slotted support system units are similar to MSS Type 18 units and comply with MFMA-4 or MSS SP-58.
4. Clamps for Attachment to Steel Structural Elements: MSS SP-58 units are suitable for attached structural element.
5. Through Bolts: Structural type, hex head, and high strength. Comply with ASTM A 325.
6. Toggle Bolts: Stainless-steel springhead type.
7. Hanger Rods: Threaded steel.

2.3 FABRICATED METAL EQUIPMENT SUPPORT ASSEMBLIES

A. Description: Welded or bolted structural-steel shapes, shop or field fabricated to fit dimensions of supported equipment.

B. Materials: Comply with requirements in Section 055000 "Metal Fabrications" for steel shapes and plates.

PART 3 - EXECUTION

3.1 APPLICATION

A. Comply with the following standards for application and installation requirements of hangers and supports, except where requirements on Drawings or in this Section are stricter:

1. NECA 1.
2. NECA/BICSI 568.
3. TIA-569-D.
4. NECA 101
5. NECA 102.
6. NECA 105.

B. Comply with requirements in Section 078413 "Penetration Firestopping" for firestopping materials and installation for penetrations through fire-rated walls, ceilings, and assemblies.

C. Comply with requirements for pathways specified in Section 270528 "Pathways for Communications Systems."

D. Maximum Support Spacing and Minimum Hanger Rod Size for Raceway: Space supports for EMTs, IMCs, and RMCs as required by NFPA 70. Minimum rod size shall be 1/4 inch in diameter.

E. Multiple Raceways or Cables: Install trapeze-type supports fabricated with steel slotted or other support system, sized so capacity can be increased by at least 25 percent in future without exceeding specified design load limits.

1. Secure raceways and cables to these supports with single-bolt conduit clamps, using spring friction action for retention in support channel.

F. Spring-steel clamps designed for supporting single conduits without bolts may be used for 1-1/2-inch and smaller raceways serving branch circuits and communication systems above suspended ceilings and for fastening raceways to trapeze supports.

3.2 SUPPORT INSTALLATION

A. Raceway Support Methods: In addition to methods described in NECA 1, EMT and RMC may be supported by openings through structure members, according to NFPA 70.

B. Strength of Support Assemblies: Where not indicated, select sizes of components, so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.

C. Mounting and Anchorage of Surface-Mounted Equipment and Components: Anchor and fasten communications items and their supports to building structural elements by the following methods unless otherwise indicated by code:

1. To Wood: Fasten with lag screws or through bolts.
2. To New Concrete: Bolt to concrete inserts.
3. To Masonry: Use approved toggle-type bolts on hollow masonry units and expansion anchor fasteners on solid masonry units.
4. To Existing Concrete: Use expansion anchor fasteners.
5. Instead of expansion anchors, powder-actuated-driven threaded studs, provided with lock washers and nuts, may be used in existing standard-weight concrete 4 inches thick or greater. Do not use for anchorage to lightweight-aggregate concrete or for slabs less than 4 inches thick.
6. To Steel: Beam clamps (MSS SP-58, Type 19, 21, 23, 25, or 27), complying with MSS SP-69.
7. To Light Steel: Sheet metal screws.
8. Items Mounted on Hollow Walls and Nonstructural Building Surfaces: Mount cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices on slotted-channel racks attached to substrate by means that comply with anchorage requirements.

D. Drill holes for expansion anchors in concrete at locations and to depths that avoid the need for reinforcing bars.

3.3 INSTALLATION OF FABRICATED METAL SUPPORTS

A. Comply with installation requirements in Section 055000 "Metal Fabrications" for site-fabricated metal supports.

B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor communications materials and equipment.

C. Field Welding: Comply with AWS D1.1/D1.1M.

3.4 PAINTING

A. Touchup: Clean field welds and abraded areas of shop paint. Paint exposed areas immediately after erecting hangers and supports. Use same materials as used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.

1. Apply paint by brush or spray to provide minimum dry film thickness of 2.0 mils.

B. Touchup: Comply with requirements in Section 099113 "Exterior Painting" and Section 099123 "Interior Painting" for cleaning and touchup painting of field welds, bolted connections, and abraded areas of shop paint on miscellaneous metal.

C. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas, and apply galvanizing-repair paint to comply with ASTM A 780.

END OF SECTION 270529

SECTION 270536 - CABLE TRAY FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. Furnish and install cable tray systems complete, of straight sections, fittings, and accessories as defined in the latest NEMA standards publication VE-1.

B. The general rating of trays shall be as shown on the Contract Drawings.

C. Cable tray provided shall be UL listed as suitable as an equipment grounding conductor.

1.2 RELATED WORK

A. Special requirements for materials and equipment are given in Division 0 and 01.

B. Special sequence or schedule requirements are found in the Summary of Work.

1.3 QUALIFICATIONS

A. These materials shall be furnished by a single manufacturer who is experienced, reputable, and qualified in the manufacture of cable trays. It shall be manufactured by Cablofil, Chalfant, GS Metals Flextray, Mono-Systems Mono-Mesh, or equal.

1.4 SUBMITTALS

A. Shop drawings and other items needed to establish compliance with the Contract Drawings and these Specifications shall be submitted to the Engineer in accordance with Project General and/or special Conditions. As a minimum, submittals shall include descriptive literature, dimensions, weights, layout drawings, materials of construction, NEMA load class, depth, and shall include accessories/fittings.

1.5 WARRANTY

A. These materials shall be warranted for one year concurrent with the Contractor provided warranty.

PART 2 - PRODUCTS

2.1 MATERIALS AND FINISHES

A. Electro Zinc.

1. All tray sections, fittings and accessories shall be electro zinc.

2.2 TRAY TYPES

A. Wire Tray

1. Wire type trays shall consist of 2 inch x 4 inch wire grids to support wires evenly. Wires shall be welded at tray and allow a minimum load of 864 Cat. 6 cables at 100% fill.

2.3 TRAY SIZE

A. Trays shall have a minimum usable loading depth of 4 inches.

B. All straight sections shall be supplied in standard lengths of 10 feet.

C. Width shall be 12 inches, unless otherwise noted.

D. Fittings shall be field fabricated. 90-degree bends shall be provided utilizing Cablofil, Model EZ T90, or equal, splice kits. Straight section splicing shall be provided utilizing Cablofil, Model EDT, or equal splice assemblies. Splice assemblies shall be electro zinc plated.

2.4 LOADING CAPACITIES

A. Cable tray shall be installed to meet NEMA class descriptions for a safety factor of 1.5.

B. Cable tray shall be made to manufacturing tolerances as specified by NEMA.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Cable tray and accessories shall be treated as specified in General and Special Conditions.

3.2 INSTALLATION/APPLICATION/ERECTION

A. Installation shall comply with applicable codes and manufacturer recommendations and instructions.

B. All trapezes, hangers, and supports shall be provided as required, by the Contractor, and materials shall be compatible and similar to the tray furnished.

3.3 FIELD PAINTING

A. Field painting shall be limited to cold galvanizing field cut tray or accessories, where steel is used.

B. Tray shall not be painted generally. Natural finish is acceptable.

END OF SECTION 270536

SECTION 270544 - SLEEVES AND SLEEVE SEALS FOR COMMUNICATIONS PATHWAYS AND CABLING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Round sleeves.
2. Rectangular sleeves.
3. Sleeve seal systems.
4. Grout.
5. Foam sealants.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 ROUND SLEEVES

A. Wall Sleeves, Steel:

1. Description: ASTM A53/A53M, Type E, Grade B, Schedule 40, zinc coated, plain ends and integral waterstop.

B. Pipe Sleeves, PVC:

1. Description: ASTM D1785, Schedule 40.

2.2 SLEEVE SEAL SYSTEMS

A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and pathway or cable or between pathway and cable.

1. Sealing Elements: EPDM rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
2. Pressure Plates: Carbon steel.
3. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, of length required to secure pressure plates to sealing elements.

2.3 GROUT

A. Description: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.

1. Standard: ASTM C1107/C1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
2. Design Mix: 5000-psi, 28-day compressive strength.
3. Packaging: Premixed and factory packaged.

2.4 FOAM SEALANTS

A. Description: Multicomponent, liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam. Foam expansion must not damage cables or crack penetrated structure.

PART 3 - EXECUTION

3.1 INSTALLATION OF SLEEVES FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

A. Comply with NECA 1.

B. Sleeves for Conduits Penetrating Above-Grade, Non-Fire-Rated, Concrete and Masonry-Unit Floors and Walls:

1. Interior Penetrations of Non-Fire-Rated Walls and Floors:

a. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall or floor so no voids remain. Tool exposed surfaces smooth; protect material while curing.
b. Seal annular space between sleeve and pathway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Section 079200 "Joint Sealants."

2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
3. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and pathway or cable, unless sleeve seal system is to be installed.
4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.

5. Install sleeves for floor penetrations. Extend sleeves installed in floors 2 inches above finished floor level. Install sleeves during erection of floors.

C. Sleeves for Conduits Penetrating Non-Fire-Rated Wall Assemblies:

1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
2. Seal space outside of sleeves with approved joint compound for wall assemblies.

D. Roof-Penetration Sleeves: Seal penetration of individual pathways and cables with flexible boot-type flashing units applied in coordination with roofing work.

E. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seal systems. Size sleeves to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

F. Underground, Exterior-Wall and Floor Penetrations:

1. Install steel pipe sleeves. Size sleeves to allow for 1-inch annular clear space between pathway or cable and sleeve for installing sleeve seal system. Grout sleeve into wall or floor opening.

3.2 INSTALLATION OF RECTANGULAR SLEEVES AND SLEEVE SEALS

A. Install sleeves in existing walls without compromising structural integrity of walls. Do not cut structural elements without reinforcing the wall to maintain the designed weight bearing and wall stiffness.

B. Install conduits and cable with no crossings within the sleeve.

C. Fill opening around conduits and cables with expanding foam without leaving voids.

D. Provide metal sheet covering at both wall surfaces and finish to match surrounding surfaces. Metal sheet must be same material as sleeve.

3.3 INSTALLATION OF SLEEVE SEAL SYSTEMS

A. Install sleeve seal systems in sleeves in exterior concrete walls and slabs-on-grade at pathway entries into building.

B. Install type and number of sealing elements recommended by manufacturer for pathway or cable material and size. Position pathway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pathway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

END OF SECTION 270544

SECTION 270553 - IDENTIFICATION FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Color and legend requirements for labels and signs.
2. Labels.
3. Bands and tubes.
4. Tapes.
5. Signs.
6. Cable ties.
7. Fasteners for labels and signs.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for communications identification products.

B. Identification Schedule:

1. Outlets: Scaled drawings indicating location and proposed designation.
2. Backbone Cabling: Riser diagram showing each communications room, backbone cable, and proposed backbone cable designation.
3. Racks: Scaled drawings indicating location and proposed designation.
4. Patch Panels: Enlarged scaled drawings showing rack row, number, and proposed designations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Comply with NFPA 70 and TIA 606-B.

B. Comply with ANSI Z535.4 for safety signs and labels.

C. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 COLOR AND LEGEND REQUIREMENTS

A. Equipment Identification Labels:

1. Black letters on a white field.

2.3 LABELS

A. Vinyl Wraparound Labels: Preprinted, flexible labels laminated with a clear, weather- and chemical-resistant coating and matching wraparound clear adhesive tape for securing label ends.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Brady Corporation.
b. Champion America.
c. emedco.
d. Grafoplast Wire Markers.
e. HellermannTyton.
f. LEM Products Inc.
g. Marking Services, Inc.
h. Panduit Corp.
i. Seton Identification Products.

B. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeves, with diameters sized to suit diameters of raceway or cable they identify, that stay in place by gripping action.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Brady Corporation.
b. HellermannTyton.
c. Marking Services, Inc.
d. Panduit Corp.
e. Seton Identification Products.

C. Self-Adhesive Wraparound Labels: Preprinted, 3-mil- thick, polyester or vinyl flexible labels with acrylic pressure-sensitive adhesive.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A'n D Cable Products.
    b. Brady Corporation.
    c. Brother International Corporation.
    d. emedco.
    e. Grafoplast Wire Markers.
    f. Ideal Industries, Inc.
    g. LEM Products Inc.
    h. Marking Services, Inc.
    i. Panduit Corp.
    j. Seton Identification Products.

2. Self-Lamination: Clear; UV-, weather- and chemical-resistant; self-laminating protective shields over the legend. Labels sized such that the clear shield overlaps the entire printed legend.
3. Marker for Labels: Permanent, waterproof black ink marker recommended by tag manufacturer.
4. Marker for Labels: Machine-printed, permanent, waterproof black ink recommended by printer manufacturer.

D. Self-Adhesive Labels: Polyester or vinyl, thermal, transfer-printed, 3-mil- thick, multicolor, weather- and UV-resistant, pressure-sensitive adhesive labels, configured for intended use and location.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. A'n D Cable Products.
    b. Brady Corporation.
    c. Brother International Corporation.
    d. emedco.
    e. Grafoplast Wire Markers.
    f. HellermannTyton.
    g. Ideal Industries, Inc.
    h. LEM Products Inc.
    i. Marking Services, Inc.
    j. Panduit Corp.
    k. Seton Identification Products.

2. Minimum Nominal Size:

    a. 1-1/2 by 6 inches for raceway and conductors.
    b. 3-1/2 by 5 inches for equipment.
    c. As required by authorities having jurisdiction.

2.4 BANDS AND TUBES

A. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeves, 2 inches long, with diameters sized to suit diameters of raceway or cable they identify, that stay in place by gripping action.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Brady Corporation.
    b. HellermannTyton.
    c. Marking Services, Inc.
    d. Panduit Corp.

2.5 SIGNS

A. Laminated-Acrylic or Melamine-Plastic Signs:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Brady Corporation.
    b. Carlton Industries, LP.
    c. emedco.
    d. Marking Services, Inc.

2. Engraved legend.
3. Thickness:

    a. For signs up to 20 sq. in., minimum 1/16 inch thick.
    b. For signs larger than 20 sq. in., 1/8 inch thick.
    c. Engraved legend with black letters on white face.
    d. Punched or drilled for mechanical fasteners with 1/4-inch grommets in corners for mounting or self-adhesive.
    e. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

2.6 CABLE TIES

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. HellermannTyton.
2. Ideal Industries, Inc.
3. Marking Services, Inc.
4. Panduit Corp.

B. General-Purpose Cable Ties: Fungus inert, self-extinguishing, one piece, self-locking, and Type 6/6 nylon.

1. Minimum Width: 3/16 inch.
2. Tensile Strength at 73 deg F according to ASTM D 638: 12,000 psi.
3. Temperature Range: Minus 40 to plus 185 deg F.
4. Color: Black, except where used for color-coding.

2.7 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Paint: Comply with requirements in painting Sections for paint materials and application requirements. Retain paint system applicable for surface material and location (exterior or interior).

B. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws, or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 PREPARATION

A. Self-Adhesive Identification Products: Before applying communications identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.

3.2 INSTALLATION

A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.

B. Install identifying devices before installing acoustical ceilings and similar concealment.

C. Verify identity of each item before installing identification products.

D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.

E. Apply identification devices to surfaces that require finish after completing finish work.

F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of communications systems and connected items.

G. Elevated Components: Increase sizes of labels, signs, and letters to those appropriate for viewing from the floor.

H. Vinyl Wraparound Labels:

1. Secure tight to surface of raceway or cable at a location with high visibility and accessibility.
2. Attach labels that are not self-adhesive type with clear vinyl tape, with adhesive appropriate to the location and substrate.
3. Provide label 6 inches from cable end.

I. Snap-Around Labels:

1. Secure tight to surface at a location with high visibility and accessibility.
2. Provide label 6 inches from cable end.

J. Self-Adhesive Wraparound Labels:

1. Secure tight to surface at a location with high visibility and accessibility.
2. Provide label 6 inches from cable end.

K. Self-Adhesive Labels:

1. On each item, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual.
2. Unless otherwise indicated, provide a single line of text with 1/2-inch- high letters on 1-1/2-inch- high label; where two lines of text are required, use labels 2 inches high.

L. Snap-Around, Color-Coding Bands: Secure tight to surface at a location with high visibility and accessibility.

3.3 IDENTIFICATION SCHEDULE

A. Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment. Install access doors or panels to provide view of identifying devices.

B. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations with high visibility. Identify by system and circuit designation.

C. Accessible Fittings for Raceways and Cables within Buildings: Identify covers of each junction and pull box with self-adhesive labels containing wiring system legend.

1. System legends shall be as follows:

a. Telecommunications.

D. Faceplates: Label individual faceplates with self-adhesive labels. Place label at top of faceplate. Each faceplate shall be labeled with its individual, sequential designation, numbered clockwise when entering room from primary egress, composed of the following, in the order listed:

1. Wiring closet designation.
2. Colon.
3. Faceplate number.

E. Equipment Room Labeling:

1. Racks, Frames, and Enclosures: Identify front and rear of each with self-adhesive labels containing equipment designation.
2. Patch Panels: Label individual rows and outlets, starting at to left and working down, with self-adhesive labels.
3. Data Outlets: Label each outlet with a self-adhesive label indicating the following, in the order listed:

    a. Room number being served.
    b. Colon.
    c. Faceplate number.

F. Backbone Cables: Label each cable with a vinyl-wraparound label or self-adhesive wraparound label indicating the location of the far or other end of the backbone cable. Patch panel or punch down block where cable is terminated should be labeled identically.

G. Horizontal Cables: Label each cable with a vinyl-wraparound label or self-adhesive wraparound label indicating the following, in the order listed:

1. Room number.
2. Colon.
3. Faceplate number.

H. Instructional Signs: Self-adhesive labels.

I. Warning Labels for Indoor Cabinets, Boxes, and Enclosures: Self-adhesive labels.

1. Apply to exterior of door, cover, or other access.

J. Equipment Identification Labels:

1. Indoor Equipment: Self-adhesive label.
2. Outdoor Equipment: Laminated-acrylic or melamine-plastic sign.
3. Equipment to Be Labeled:

    a. Communications cabinets.

END OF SECTION 270553

SECTION 271100 - COMMUNICATIONS EQUIPMENT ROOM FITTINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Backboards.
2. Boxes, enclosures, and cabinets.

B. Related Requirements:

1. Section 270536 "Cable Trays for Communications Systems" for cable trays and accessories.
2. Section 271513 "Communications Copper Horizontal Cabling" for copper data cabling associated with system panels and devices.

1.3 DEFINITIONS

A. Access Provider: An operator that provides a circuit path or facility between the service provider and user. An access provider can also be a service provider.

B. BICSI: Building Industry Consulting Service International.

C. Service Provider: The operator of a telecommunications transmission service delivered through access provider facilities.

D. TGB: Telecommunications grounding bus bar.

E. TMGB: Telecommunications main grounding bus bar.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for equipment racks and cabinets.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

B. Shop Drawings: For communications equipment room fittings. Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Equipment Racks and Cabinets: Include workspace requirements and access for cable connections.
3. Grounding: Indicate location of grounding bus bar and its mounting detail showing standoff insulators and wall mounting brackets.

PART 2 - PRODUCTS

2.1 BACKBOARDS

A. Backboards: Plywood, fire-retardant treated, 3/4 by 48 by 96 inches.

B. Backboard Paint: Refer to Division 09 specifications for painting requirements and room finish schedule in the architectural drawings.

2.2 BOXES, ENCLOSURES, AND CABINETS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Adalet.
2. Crouse-Hinds, an Eaton business.
3. EGS/Appleton Electric.
4. Erickson Electrical Equipment Company.
5. FSR Inc.
6. Hoffman; a brand of Pentair Equipment Protection.
7. Hubbell Incorporated.
8. Hubbell Incorporated; Wiring Device-Kellems.
9. Kraloy.
10. Milbank Manufacturing Co.
11. MonoSystems, Inc.
12. Oldcastle Enclosure Solutions.
13. O-Z/Gedney; a brand of Emerson Industrial Automation.
14. Plasti-Bond.
15. RACO; Hubbell.
16. Spring City Electrical Manufacturing Company.
17. Stahlin Non-Metallic Enclosures.
18. Thomas & Betts Corporation; A Member of the ABB Group.
19. Topaz Electric; a division of Topaz Lighting Corp.
20. Wiremold / Legrand.

B. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets shall be listed and labeled for intended location and use.

C. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

D. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, Type FD, ferrous alloy or aluminum, with gasketed cover.

E. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

F. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum or galvanized cast iron with gasketed cover.

G. Box extensions used to accommodate new building finishes shall be of same material as recessed box.

H. Device Box Dimensions: 4 inches square by 2-1/8 inches deep or 4 inches by 2-1/8 inches by 2-1/8 inches deep as required by the work.

I. Hinged-Cover Enclosures: Comply with UL 50 and NEMA 250, Type 1 with continuous-hinge cover with flush latch unless otherwise indicated.

1. Metal Enclosures: Steel, finished inside and out with manufacturer's standard enamel.
2. Interior Panels: Steel; all sides finished with manufacturer's standard enamel.

J. Cabinets:

1. NEMA 250, Type 1 galvanized-steel box with removable interior panel and removable front, finished inside and out with manufacturer's standard enamel.
2. Hinged door in front cover with flush latch and concealed hinge.
3. Key latch to match panelboards.
4. Metal barriers to separate wiring of different systems and voltage.
5. Accessory feet where required for freestanding equipment.

PART 3 - EXECUTION

3.1 ENTRANCE FACILITIES

A. Contact telecommunications service provider and arrange for installation of demarcation point, protected entrance terminals, and a housing when so directed by service provider.

B. Comply with requirements in Section 270528 "Pathways for Communications Systems" for materials and installation requirements for underground pathways.

3.2 INSTALLATION

A. Comply with NECA 1.

B. Comply with BICSI's "Telecommunications Distribution Methods Manual" for layout of communications equipment spaces.

C. Comply with BICSI's "Information Technology Systems Installation Methods Manual" for installation of equipment in communications equipment spaces.

D. Bundle, lace, and train conductors and cables to terminal points without exceeding manufacturer's limitations on bending radii. Install lacing bars and distribution spools.

E. Coordinate layout and installation of communications equipment in tracks and in room. Coordinate service entrance configuration with service provider.

1. Meet jointly with systems providers, equipment suppliers, and Owner to exchange information and agree on details of equipment configurations and installation interfaces.
2. Record agreements reached in meetings and distribute them to other participants.
3. Adjust configurations and locations of distribution frames, cross-connects, and patch panels in equipment rooms to accommodate and optimize configurations and space requirements of communications equipment.
4. Adjust configurations and locations of equipment with distribution frames, cross-connects, and patch panels of cabling systems of other communications, electronic safety and security, and related systems that share space in equipment room.

F. Coordinate location of power raceways and receptacles with locations of communications equipment requiring electrical power to operate.

G. Backboards:

1. Install from 6 inches to 8 feet, 6 inches above finished floor. If plywood is fire rated, ensure that fire-rating stamp is visible after installation.
2. Paint all sides of backboard with two coats of paint, leaving fire rating stamp visible.
3. Comply with requirements for backboard installation in BICSI's "Information Technology Systems Installation Methods Manual" and TIA-569-D.

3.3 FIRESTOPPING

A. Comply with requirements in Section 078413 "Penetration Firestopping."

B. Comply with TIA-569-D, Annex A, "Firestopping."

C. Comply with BICSI's "Information Technology Systems Installation Methods Manual," "Firestopping Practices" Ch.

END OF SECTION 271100

SECTION 271116 - COMMUNICATIONS RACKS, FRAMES, AND ENCLOSURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. 19-inch equipment racks with cable management.
2. Grounding.
3. Labeling.

B. Related Requirements:

1. Section 271110 "Communications Equipment Room Fittings" for backboards and accessories.
2. Section 270526 "Grounding and Bonding for Telecommunications Equipment" for TMGBs and TGBs.
3. Section 270536 "Cable Trays for Communications Systems" for cable trays and cable tray accessories.
4. Section 271513 "Communications Copper Horizontal Cabling" for copper data cabling associated with system panels and devices.

1.3 DEFINITIONS

A. Access Provider: An operator that provides a circuit path or facility between the service provider and user. An access provider can also be a service provider.

B. BICSI: Building Industry Consulting Service International.

C. LAN: Local area network.

D. Service Provider: The operator of a telecommunications transmission service delivered through access provider facilities.

E. TGB: Telecommunications grounding bus bar.

F. TMGB: Telecommunications main grounding bus bar.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for equipment racks and cabinets.
2. Include rated capacities, operating characteristics, electrical characteristics, certifications, standards compliance, and furnished specialties and accessories.

B. Shop Drawings: For communications racks, frames, and enclosures. Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
2. Equipment Racks and Cabinets: Include workspace requirements and access for cable connections.
3. Grounding: Indicate location of TGB and its mounting detail showing standoff insulators and wall-mounting brackets.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Cabling installer must have personnel certified by BICSI on staff.

1. Layout Responsibility: Preparation of Shop Drawings shall be under direct supervision of a Technician.
2. Installation Supervision: Installation shall be under direct supervision of a Technician, who shall be present at all times when Work of this Section is performed at Project site
3. Field Inspector: Currently registered by BICSI as Technician to perform on-site inspection.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. UL listed.

B. RoHS compliant.

C. Compliant with requirements of the Payment Card Industry Data Security Standard.

2.2 BACKBOARDS

A. Backboards: Plywood, fire-retardant treated, 3/4 by 48 by 96 inches. Comply with requirements for plywood backing panels specified in Section 061000 "Rough Carpentry."

2.3 19-INCH EQUIPMENT RACKS

A. Description: Four-post racks with threaded rails designed for mounting telecommunications equipment. Width is compatible with EIA/ECIA 310-E, 19-inch equipment mounting with an opening of 17.72-inches between rails. Provide number of racks as required per drawings.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Commscope, Inc.
2. Chatsworth Products
3. Belden Inc.
4. Black Box Corporation.
5. B-line, an Eaton business.
6. Emerson Network Power Connectivity Solutions.
7. Hammond Mfg. Co. Inc.
8. Hubbell Premise Wiring.
9. Kendall Howard.
10. Leviton Manufacturing Co., Inc.
11. Middle Atlantic Products, Inc.
12. Ortronics, Inc.
13. Panduit Corp.
14. Siemon Co. (The).
15. Tripp-Lite.

**Contractor shall utilize Graybar, Anixter, CDW-G, or approved equivalent.

C. General Requirements:

1. Frames: Modular units designed for telecommunications terminal support and coordinated with dimensions of units to be supported.
2. Material: Extruded steel, extruded aluminum, sheet steel, or sheet aluminum.
3. Finish: Manufacturer's standard, baked-polyester powder coat.
4. Color: Black.

D. Floor-Mounted Racks:

1. Overall Height: 84 inches.
2. Overall Depth: 23 inches.
3. Upright Depth: 6 inches.
4. Four-Post Load Rating: 1000 lb.
5. Number of Rack Units per Rack: 44.
    a. Numbering: Every rack unit, on interior of rack.
6. Threads: 12-24.
7. Vertical and horizontal cable management channels, top and bottom cable troughs, grounding lug.
8. Base shall have a minimum of four mounting holes for permanent attachment to floor.
9. Top shall have provisions for attaching to cable tray or ceiling.
10. Self-leveling.

11. Provide blanking panel immediately below each Ethernet switch in rack.

    a. Commscope 760162065 CPP-FPANEL-19-1U

12. Provide 26” deep UPS shelf at bottom of each rack.

    a. Chatsworth CPI-11054-719

13. Racks shall be configured with fiber patch panel and patch cord manager at top of rack, then in repeating sequence 48-port copper patch panel, 1U horizontal cable manager, Ethernet switch, 1U blanking panel. See rack detail on drawings for example.

E. Wall-Mounted Racks

1. Overall Height: 36 inches.
2. Overall Depth: 30 inches
3. Load Rating: 300 lbs
4. Number of rack Units per Rack: 19
5. Threads: 12-24.
6. Wall Attachment: Four mounting holes.
7. Equipment Access: Integral swing.
8. Horizontal cable management channels, top and bottom cable troughs, grounding lug.
9. Top shall have provisions for attaching to cable tray or ceiling.
10. Provide blanking panel immediately below each Ethernet switch in rack.

    a. Commscope 760162065 CPP-FPANEL-19-1U

11. Racks shall be configured with fiber patch panel and patch cord manager at top of rack, then in repeating sequence 48-port copper patch panel, 1U horizontal cable manager, Ethernet switch, 1U blanking panel. See rack detail on drawings for example.

F. Harsh Environment Enclosure

1. Overall Height: 24 inches.
2. Overall Depth: 30 inches
3. Load Rating: 100 lbs
4. Number of rack Units per Rack: 12
5. Threads: 12-24.
6. Wall mounting.
7. Rating: NEMA 4/4X (IP66).
8. Door: Gasketed and Lockable (3-point locking)
9. Horizontal cable management channels, top and bottom cable troughs, grounding lug.
10. Provide blanking panel immediately below each Ethernet switch in rack.

    a. Commscope 760162065 CPP-FPANEL-19-1U

11. Cabinets shall be configured with fiber patch panel and patch cord manager at top of rack, then in repeating sequence 48-port copper patch panel, 1U horizontal cable manager, Ethernet switch, 1U blanking panel. See rack detail on drawings for example.

G. Cable Management:

1. Metal, with integral wire retaining fingers.
2. Baked-polyester powder coat finish.
3. Vertical cable management panels shall have front and rear channels, with covers.
4. Provide horizontal cable manager immediately below each 48-port patch panel in rack.

a. Commscope NETCONNECT 1933530-1

2.4 GROUNDING

A. Comply with requirements in Section 270526 "Grounding and Bonding for Communications Systems" for grounding conductors and connectors.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Chatsworth Products, Inc.
2. Harger Lightning & Grounding.
3. Panduit Corp.

C. Rack and Cabinet TGBs: Rectangular bars of hard-drawn solid copper, accepting conductors ranging from No. 14 to No. 2/0 AWG, NRTL listed as complying with UL 467, and complying with TIA-606-B. Predrilling shall be with holes for use with lugs specified in this Section.

1. Rack-Mounted Horizontal TGB: Designed for mounting in 19- or 23-inch equipment racks. Include a copper splice bar for transitioning to an adjoining rack, and stainless-steel or copper-plated hardware for attachment to the rack.

2.5 LABELING

A. Comply with TIA-606-B and UL 969 for a system of labeling materials, including label stocks, laminating adhesives, and inks used by label printers.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with NECA 1.

B. Comply with BICSI TDMM for layout of communications equipment spaces.

C. Comply with BICSI ITSIMM for installation of communications equipment spaces.

D. Bundle, lace, and train conductors and cables to terminal points without exceeding manufacturer's limitations on bending radii. Install lacing bars and distribution spools.

E. Coordinate layout and installation of communications equipment in racks and room. Coordinate service entrance configuration with service provider.

1. Meet jointly with system providers, equipment suppliers, and Owner to exchange information and agree on details of equipment configurations and installation interfaces.
2. Record agreements reached in meetings and distribute them to other participants.
3. Adjust configurations and locations of distribution frames, cross-connects, and patch panels in equipment spaces to accommodate and optimize configuration and space requirements of telecommunications equipment.
4. Adjust configurations and locations of equipment with distribution frames, cross-connects, and patch panels of cabling systems of other communications, electronic safety and security, and related systems that share space in equipment room.

F. Coordinate location of power raceways and receptacles with locations of communications equipment requiring electrical power to operate.

3.2 GROUNDING

A. Install grounding according to BICSI ITSIMM, "Bonding, Grounding (Earthing) and Electrical Protection" Ch.

B. Locate TGB to minimize length of bonding conductors. Fasten to wall, allowing at least 2 inches of clearance behind TGB. Connect TGB with a minimum No. 4 AWG grounding electrode conductor from TGB to suitable electrical building ground. Connect rack TGB to near TGB or the TMGB.

1. Bond the shield of shielded cable to patch panel, and bond patch panel to TGB or TMGB.

3.3 IDENTIFICATION

A. Coordinate system components, wiring, and cabling complying with TIA-606-B. Comply with requirements in Section 270553 "Identification for Electrical Systems."

B. Comply with requirements in Section 099123 "Interior Painting" for painting backboards. For fire-resistant plywood, do not paint over manufacturer's label.

C. Paint and label colors for equipment identification shall comply with TIA-606-B for Class 2 level of administration.

D. Labels shall be machine printed. Type shall be 1/8 inch in height.

END OF SECTION 271116

SECTION 271323 - COMMUNICATIONS OPTICAL FIBER BACKBONE CABLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. 9/125 micrometer single-mode, indoor-outdoor optical fiber cable (OS2).
2. Optical fiber cable connecting hardware, patch panels, and cross-connects.
3. Cabling identification products.

1.2 OPTICAL FIBER BACKBONE CABLING DESCRIPTION

A. Optical fiber backbone cabling system shall provide interconnections between communications equipment rooms, main terminal space, and entrance facilities in the telecommunications cabling system structure. Cabling system consists of backbone cables, intermediate and main cross-connects, mechanical terminations, and patch cords or jumpers used for backbone-to-backbone cross-connection.

B. Backbone cabling cross-connects may be located in communications equipment rooms or at entrance facilities. Bridged taps and splitters shall not be used as part of backbone cabling.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Reviewed and stamped by RCDD.

1. System Labeling Schedules: Electronic copy of labeling schedules that are part of the cabling and asset identification system of the software.
2. Cabling administration drawings and printouts.
3. Wiring diagrams to show typical wiring schematics including the following:

a. Telecommunications rooms plans and elevations.
b. Telecommunications pathways.
c. Telecommunications system access points.
d. Telecommunications grounding system
e. Cross-connects.
f. Patch panels.
g. Patch cords.

4. Cross-connects and patch panels.

C. Optical fiber cable testing plan.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Cabling Installer must have personnel certified by BICSI on staff.

1. Layout Responsibility: Preparation of Shop Drawings by an RCDD.
2. Installation Supervision: Installation shall be under the direct supervision of Technician, who shall be present at all times when Work of this Section is performed at Project site.

B. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.

1.6 COORDINATION

A. Coordinate layout and installation of telecommunications pathways and cabling with Owner's telecommunications and LAN equipment and service suppliers.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Backbone cabling system shall comply with transmission standards in TIA-568-C.1, when tested according to test procedures of this standard.

B. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.

C. Telecommunications Pathways and Spaces: Comply with TIA-569-D.

D. Grounding: Comply with TIA-607-B.

2.2 9/125 MICROMETER SINGLE-MODE, INDOOR-OUTDOOR OPTICAL FIBER CABLE (OS2)

A. Manufacturers: Subject to compliance with requirements, provide product listed below:

1. Belden CDT Networking Division/NORDX.
2. Berk-Tek Leviton; a Nexans/Leviton alliance.
3. Corning Cable Systems.
4. Dynacom Corporation.

**Contractor shall utilize Graybar, Anixter, CDW-G, or approved equivalent.

B. Description: Single mode, 9/125-micrometer, 12 fibers, single loose tube, optical fiber cable.

C. Standards:

1. Comply with TIA-492CAAA for detailed specifications.
2. Comply with TIA-568-C.3 for performance specifications.
3. Comply with ICEA S-104-696 for mechanical properties.

D. Maximum Attenuation: 0.4 dB/km at 1310 nm; 0.3 dB/km at 1550 nm.

E. Jacket:

1. Jacket Color: Blue.
2. Cable cordage jacket, fiber, unit, and group color shall be according to TIA-598-D.
3. Imprinted with fiber count, fiber type, and aggregate length at regular intervals not to exceed 40 inches.

F. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 444, UL 1651, and NFPA 70 for the following types:

1. Plenum Rated, Nonconductive: Type OFNP, complying with NFPA 262.
2. Plenum Rated, Nonconductive: Type OFNP, or Type OFNR in metallic conduit.
3. Plenum Rated, Nonconductive: Type OFNP, complying with NFPA 262; Type OFNP in listed plenum communications raceway; or Type OFN, Type OFNG, Type OFNP, or Type OFNR in metallic conduit.
4. Riser Rated, Nonconductive: Type OFNR or Type OFNP, complying with UL 1666.

2.3 OPTICAL FIBER CABLE HARDWARE

A. Standards:

1. Comply with Optical Fiber Connector Intermateability Standard specifications of the TIA-604 series.
2. Comply with TIA-568-C.3.

B. Cross-Connects and Patch Panels: Modular panels housing multiple-numbered, duplex cable connectors.

1. Number of Connectors per Field: One for each fiber of cable or cables assigned to field, plus spares and blank positions adequate to suit specified expansion criteria.

C. Patch Cords: Factory-made, dual-fiber cables in 36-inch (900-mm) lengths.

D. Connector Type: Type LC complying with TIA-604-10-B connectors.

E. Plugs and Plug Assemblies:

1. Male; color-coded modular telecommunications connector designed for termination of a single optical fiber cable.
2. Insertion loss not more than 0.25 > dB.

F. Jacks and Jack Assemblies:

1. Female; quick-connect, simplex and duplex; fixed telecommunications connector designed for termination of a single optical fiber cable.
2. Insertion loss not more than 0.25> dB.

2.4 GROUNDING

A. Comply with requirements in Section 270526 "Grounding and Bonding for Communications Systems" for grounding conductors and connectors.

B. Comply with TIA-607-B.

2.5 IDENTIFICATION PRODUCTS

A. Comply with TIA-606-B and UL 969 for a system of labeling materials, including label stocks, laminating adhesives, and inks used by label printers.

2.6 SOURCE QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to evaluate cables.

B. Factory test multimode optical fiber cables according to TIA-526-14-B and TIA-568-C.3.

C. Cable will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 ENTRANCE FACILITIES

A. Coordinate backbone cabling with the protectors and demarcation point provided by communications service provider.

3.2 WIRING METHODS

A. Wiring Method: Install cables in raceways and cable trays except within consoles, cabinets, desks, and counters. Conceal raceway and cables except in unfinished spaces.

1. Install plenum cable in environmental air spaces, including plenum ceilings.
2. Comply with requirements for pathways specified in Section 260533 "Raceways and Boxes for Electrical Systems."

B. Wiring Method: Conceal conductors and cables in accessible ceilings, walls, and floors where possible.

C. Wiring within Enclosures: Bundle, lace, and train cables within enclosures. Connect to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.

3.3 INSTALLATION OF OPTICAL FIBER BACKBONE CABLES

A. Comply with NECA 1, NECA 301, and NECA/BICSI 568.

B. General Requirements for Optical Fiber Cabling Installation:

1. Comply with TIA-568-C.1 and TIA-568-C.3.
2. Comply with BICSI ITSIMM, Ch. 6, "Cable Termination Practices."
3. Terminate all cables; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, cross-connects, and patch panels.
4. Cables may not be spliced. Secure and support cables at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
5. Install lacing bars to restrain cables, to prevent straining connections, and to prevent bending cables to smaller radii than minimums recommended by manufacturer.
6. Bundle, lace, and train cable to terminal points without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIMM, "Cabling Termination Practices" Chapter. Use lacing bars and distribution spools.
7. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.
8. Cold-Weather Installation: Bring cable to room temperature before dereeling. Heat lamps shall not be used for heating.
9. In the equipment rooms (IT Rooms), provide a 20-foot long service loop on each end of cable.
10. Pulling Cable: Comply with BICSI ITSIMM, Ch. 4, "Pulling Cable." Monitor cable pull tensions.
11. Cable may be terminated on connecting hardware that is rack or cabinet mounted.

C. Open-Cable Installation:

1. Install cabling with horizontal and vertical cable guides in telecommunications spaces with terminating hardware and interconnection equipment.
2. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items.

D. Group connecting hardware for cables into separate logical fields.

3.4 FIRESTOPPING

A. Comply with requirements in Section 078413 "Penetration Firestopping."

B. Comply with TIA-569-D, Annex A, "Firestopping."

C. Comply with BICSI ITSIMM, "Firestopping" Chapter.

3.5 IDENTIFICATION

A. Identify system components, wiring, and cabling complying with TIA-606-B. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

1. Administration Class: Class 1.
2. Color-code cross-connect fields and apply colors to voice and data service backboards, connections, covers, and labels.

B. Cable and Wire Identification:

1. Label each cable within 4 inches of each termination and tap, where it is accessible in a cabinet or junction or outlet box, and elsewhere as indicated.
2. Each wire connected to building-mounted devices is not required to be numbered at device if color of wire is consistent with associated wire connected and numbered within panel or cabinet.
3. Exposed Cables and Cables in Cable Trays and Wire Troughs: Label each cable at intervals not exceeding 15 feet.
4. Label each unit and field within distribution racks and frames.
5. Identification within Connector Fields in Equipment Rooms and Wiring Closets: Label each connector and each discrete unit of cable-terminating and connecting hardware. Where similar jacks and plugs are used for both voice and data communication cabling, use a different color for jacks and plugs of each service.

C. Labels shall be preprinted or computer-printed type with printing area and font color that contrasts with cable jacket color but still complies with requirements in TIA 606-B, for the following:

1. Flexible vinyl or polyester that flexes as cables are bent.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Tests and Inspections:

1. Visually inspect optical fiber jacket materials for NRTL certification markings. Inspect cabling terminations in communications equipment rooms for compliance with color-coding for pin assignments and inspect cabling connections for compliance with TIA-568-C.1.

2. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
3. Optical Fiber Cable Tests:

    a. Test instruments shall meet or exceed applicable requirements in TIA-568-C.1. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.
    b. Link End-to-End Attenuation Tests:
        1) Attenuation test results for backbone links shall be less than 0.4 dB/km. Attenuation test results shall be less than those calculated according to equation in TIA-568-C.1.

C. Data for each measurement shall be documented. Data for submittals shall be printed in a summary report that is formatted similar to Table 10.1 in BICSI TDMM, or transferred from the instrument to the computer, saved as text files, and printed and submitted.

D. Remove and replace cabling where test results indicate that it does not comply with specified requirements.

E. End-to-end cabling will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

END OF SECTION 271323

SECTION 271513 - COMMUNICATIONS COPPER HORIZONTAL CABLING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

A. The communication system installation is to be based on the requirements described in this specification and related drawings.

1.2 SUMMARY

A. Section Includes:

1. Pathways.
2. UTP cabling.
3. Cable connecting hardware, patch panels, and cross-connects.
4. Telecommunications outlet/connectors.
5. Cabling system identification products.

1.3 DEFINITIONS

A. BICSI: Building Industry Consulting Service International.

B. Cross-Connect: A facility enabling the termination of cable elements and their interconnection or cross-connection.

C. EMI: Electromagnetic interference.

D. IDC: Insulation displacement connector.

E. LAN: Local area network.

F. Outlet/Connectors: A connecting device in the work area on which horizontal cable or outlet cable terminates.

G. UTP: Unshielded twisted pair.

1.4 HORIZONTAL CABLING DESCRIPTION

A. Horizontal cable and its connecting hardware provide the means of transporting signals between the telecommunications outlet/connector and the horizontal patch panel located in the communications equipment room. This cabling and its connecting hardware are called "permanent link," a term that is used in the testing protocols.

B. The maximum allowable horizontal cable length is 295 feet. This maximum allowable length does not include an allowance for the length of 16 feet to the workstation equipment. The maximum allowable length does not include an allowance for the length of 16 feet in the horizontal cross-connect.

1.5 PERFORMANCE REQUIREMENTS

A. General Performance: Horizontal cabling system shall comply with transmission standards in TIA/EIA-568-B.1, when tested according to test procedures of this standard.

1.6 SUBMITTALS

A. Product Data: For each type of product indicated.

1. For all cable types, include the following installation data for each type used:

a. Nominal OD.
b. Minimum bending radius.
c. Maximum pulling tension.

B. Shop Drawings:

1. System Labeling Schedules
2. Cabling administration drawings and printouts.
3. Wiring diagrams to show typical wiring schematics, including the following:

a. Cross-connects.
b. Patch panels.
c. Patch cords.

4. Cross-connects and patch panels. Detail mounting assemblies and show elevations and physical relationship between the installed components.

C. Qualification Data: Submit data of installer's experience and qualifications.

D. Source quality-control reports.

E. Field quality-control reports.

F. Operation and Maintenance Data: For system components specified herein to include in operation and maintenance manuals.

G. Network Documentation: Contractor shall provide complete set of the following network documentation upon completion of the job and prior to final acceptance.

1. Final As-Built Drawings – must show the location of each network device and general cable routing.
2. Materials and Components Listing – complete listing of all materials used in the system including manufacturer, part no., and distributor (name, address, and phone number).

3. Patching Map – located near each patch panel showing device or cable that is connected to each patch panel position.
4. Network Layout Diagram – notebook size drawing of facility showing active/passive system layout from faceplate to distribution frame.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: Prior to installation, submit data of installer's experience and qualifications which shall include 3 years on projects of similar complexity. Include names and locations of two projects successfully completed using copper communications cabling systems. Include written certification from users that systems have performed satisfactorily for not less than 18 months. Include specific experience in installing and testing structured telecommunications distribution systems using Category 6 (10 GBPS) unshielded twisted pair. Additionally, experience shall include various interface fabrications for listed cable types.

B. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Test cables upon receipt at Project site.

1. Test each pair of UTP cable for open and short circuits.

1.9 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install cables and connecting materials until wet work in spaces is complete and dry, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.10 COORDINATION

A. Coordinate layout and installation of telecommunications pathways and cabling with Owner's telecommunications and LAN equipment and service suppliers.

B. Coordinate telecommunications outlet/connector locations with location of power receptacles at each work area.

PART 2 - PRODUCTS

2.1 PATHWAYS

A. General Requirements: Comply with TIA/EIA-569-A.

B. Cable Support: NRTL labeled for support of Category 6 cabling, designed to prevent degradation of cable performance and pinch points that could damage cable.

1. Support brackets with cable tie slots for fastening cable ties to brackets.
2. Lacing bars, spools, J-hooks, bridle rings, and D-rings.
3. Straps and other devices.

C. Cable Trays: Comply with requirements in Section 270536 "Cable Trays for Communications Systems".

D. Conduit and Boxes: Comply with requirements in Section 270582 "Pathways for Communication Systems.

2.2 UTP CABLE

A. Manufacturers: Subject to compliance with requirements, provide product listed below:

1. Commscope Systimax GigaSPEED XL or approved equal. Contractor shall utilize Graybar, Anixter, CDW-G, or approved equal.

B. Description: Four-pair, balanced twisted pair cable, certified to meet transmission characteristics of Category 6 cable at frequencies up to 500 MHz.

C. Standard: Comply with TIA-568-C.2 for Category 6 cables.

D. Conductors: 100-ohm, 23 AWG solid copper.

E. Shielding/Screening: Unshielded twisted pairs (UTP).

F. Cable Rating: CMP, plenum.

G. Jacket: Thermoplastic, jacket color as indicated on drawings for respective system use.

2.3 TWISTED PAIR CABLE HARDWARE

A. Manufacturers: Subject to compliance with requirements, provide product by manufacturer listed below:

1. Panduit. Conduit shall utilize Graybar, Anixter, CDW-G, or approved equal.

B. General Requirements for Cable Connecting Hardware: Comply with TIA/EIA-568-B.2, IDC type, with modules designed for punch-down caps or tools. Cables shall be terminated with connecting hardware of same category or higher.

C. Connecting Blocks:

1. 110-style IDC for Category 6.
2. Provide blocks for the number of cables terminated on the block, plus 20 percent spare, integral with connector bodies, including plugs and jacks where indicated.

D. Cross-Connect: Modular array of connecting blocks arranged to terminate building cables and permit interconnection between cables.

E. Patch Panel: Modular panels housing multiple-numbered jack units with Category 6 RJ-45 ports on front of panel and 110-style IDC punchdowns on back for permanent termination of pair groups of installed cables.

1. Universal T568A and T568B wiring labels.
2. Labeling areas adjacent to conductors.
3. Patch panels shall be 48-port type for terminating UTP. Provide number of patch panels for each outlet cabled, plus an additional 20% spare.

F. Patch Cords: Factory-made, 4-pair cables in 12-inch lengths; terminated with 8-position modular plug at each end.

1. Patch cords shall have bend-relief-compliant boots and color-coded icons to ensure Category 6 performance. Patch cords shall have latch guards to protect against snagging.
2. Patch cords shall have color-coded boots for circuit identification.
3. Provide one patch cord for every communications port cabled, plus an additional 20% spare.
4. Patch cords shall meet Category 6 UTP cabling specifications.
5. Patch cords shall have jacket colors to match systems cabling as specified herein and on drawings.
6. Commscope Systimax GigaSPEED XL or approved equal. Contractor shall utilize Graybar, Anixter, CDW-G, or approved equal.

G. Plugs and Plug Assemblies:

1. Male; eight position; color-coded modular telecommunications connector designed for termination of a single four-pair, 100-ohm, unshielded or shielded twisted pair cable.
2. Standard: Comply with TIA-568-C.2.

2.4 TELECOMMUNICATIONS OUTLET/CONNECTORS

A. Jacks: 100-ohm, balanced, twisted-pair connector; four-pair, RJ-45, Category, 6 eight-position modular, color to match respective cabling. Comply with TIA/EIA-568-B.1. Designed to snap-in to a patch panel or cover plate.

1. Panduit. Contractor shall utilize Graybar, Anixter, CDW-G, or approved equal.

B. Workstation Outlets: Four-port-connector assemblies mounted in single faceplate. Provide number of jacks in each workstation outlet to match number shown on contract drawings. Unused ports shall be provided with blank inserts.

1. Metal Cover Plate: Stainless steel, complying with requirements in Section 260533.16 "Boxes and Covers for Electrical Systems."
2. Legend: Snap-in, clear-label covers and machine-printed paper inserts.

C. Wireless Access Point Outlets: Single-port keystone surface block (biscuit box) assembly.

1. Legend: Snap-in, clear-label covers and machine-printed paper inserts.

2.5 GROUNDING

A. Comply with requirements in Section 270526 "Grounding and Bonding for Communication Systems" for grounding conductors and connectors.

B. Comply with ANSI-J-STD-607-A.

2.6 IDENTIFICATION PRODUCTS

A. Comply with TIA/EIA-606-A and UL 969 for labeling materials, including label stocks, laminating adhesives, and inks used by label printers.

2.7 SOURCE QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to evaluate cables.

B. Factory test cables on reels according to TIA-568-C.1.

C. Factory test twisted pair cables according to TIA-568-C.2.

D. Cable will be considered defective if it does not pass tests and inspections.

E. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 WIRING METHODS

A. Wiring Method: Install cables in raceways, bridle rings, and cable trays except within consoles, cabinets, desks, and counters. Conceal raceway and cables except in unfinished spaces.

1. Install plenum cable in environmental air spaces, including plenum ceilings.
2. Comply with requirements for raceways and boxes specified in Division 26 Section "Raceway and Boxes for Electrical Systems."

B. Wiring within Enclosures: Bundle, lace, and train cables within enclosures. Connect to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Provide and use lacing bars and distribution spools.

3.2 INSTALLATION OF PATHWAYS

A. Comply with requirements for demarcation point, cabinets, and racks specified in Section 271100 "Communications Equipment Room Fittings."

B. Comply with Section 270528 "Pathways for Communications Systems."

C. Comply with Section 270529 "Hangers and Supports for Communications Systems."

D. Comply with Section 270536 "Cable Trays for Communications Systems."

E. Drawings indicate general arrangement of pathways and fittings.

F. Comply with TIA/EIA-569-A for pull-box sizing and length of conduit and number of bends between pull points.

G. Install manufactured conduit sweeps and long-radius elbows whenever possible.

H. Pathway Installation in Communications Equipment Rooms:

1. Position conduit ends adjacent to a corner on backboard where a single piece of plywood is installed, or in the corner of room where multiple sheets of plywood are installed around perimeter walls of room.
2. Install cable trays to route cables if conduits cannot be located in these positions.
3. Secure conduits to backboard when entering room from overhead.
4. Extend conduits 3 inches above finished floor.
5. Install metal conduits with grounding bushings and connect with grounding conductor to grounding system.

I. Backboards: Install backboards with 96-inch dimension vertical. Butt adjacent sheets tightly and form smooth gap-free corners and joints.

3.3 INSTALLATION OF CABLES

A. Comply with NECA 1.

B. General Requirements for Cabling:

1. Comply with TIA/EIA-568-B.1.
2. Comply with BICSI ITSIM, Ch. 6, "Cable Termination Practices."
3. Install 110-style IDC termination hardware unless otherwise indicated.
4. Terminate all conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, and patch panels.
5. Cables may not be spliced. Secure and support cables at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
6. Install lacing bars to restrain cables, to prevent straining connections, and to prevent bending cables to smaller radii than minimums recommended by manufacturer.

7. Bundle, lace, and train conductors to terminal points without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIM, "Cabling Termination Practices" Chapter. Use lacing bars and distribution spools.
8. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.
9. Cold-Weather Installation: Bring cable to room temperature before de-reeling. Heat lamps shall not be used for heating.
10. In the communications equipment room and headend locations, install 15-foot-long service loops on each end of cable.
11. At telecommunications and user interface outlets leave 5-foot length of slack cable coiled above ceiling.
12. Pulling Cable: Comply with BICSI ITSIM, Ch. 4, "Pulling Cable." Monitor cable pull tensions.
13. Cable shall be installed in 4" conduit sleeves where required to pass through walls.

C. UTP Cable Installation:

1. Comply with TIA/EIA-568-B.2. Cabling shall be terminated per T568B pin/pair assignment.
2. Do not untwist UTP cables more than 1/4 inch from the point of termination to maintain cable geometry.
3. Whenever possible, avoid running UTP in locations where temperature will be below 40 degrees Fahrenheit or above 115 degrees Fahrenheit. Humidity should normally be in the range of 8-80%.
4. From each telecommunications outlet, route cabling (number as required per drawings) in 1 inch conduit to above ceiling. Install nylon bushing on end of conduit for cable protection. Provide and install j-hooks for cable routing between end of conduit stub-ups and cable tray. Route cabling to nearest telecommunications room and terminate on designated patch panel. For locations with exposed ceilings or in locations with inaccessible ceilings, route cabling in conduit for entire length to cable tray.

D. Open-Cable Installation:

1. Install cabling with horizontal and vertical cable guides in telecommunications spaces with terminating hardware and interconnection equipment.
2. Suspend UTP cable not in a wireway or pathway, a minimum of 8 inches above ceilings by cable supports not more than 60 inches apart.
3. Cable shall not be run through structural members or in contact with pipes, ducts, or other potentially damaging items.

E. Group connecting hardware for cables into separate logical fields.

F. Separation from EMI Sources:

1. Comply with recommendations from BICSI's "Telecommunications Distribution Methods Manual" and TIA-569-D for separating unshielded copper communication cable from potential EMI sources, including electrical power lines and equipment.
2. Separation between open communications cables or cables in nonmetallic raceways and unshielded power conductors and electrical equipment shall be as follows:

a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 5 inches.
b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 12 inches.
c. Electrical Equipment Rating More Than 5 kVA: A minimum of 24 inches.

3. Separation between communications cables in grounded metallic raceways and unshielded power lines or electrical equipment shall be as follows:

a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 2-1/2 inches.
b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 6 inches.
c. Electrical Equipment Rating More Than 5 kVA: A minimum of 12 inches.

4. Separation between communications cables in grounded metallic raceways, power lines, and electrical equipment located in grounded metallic conduits or enclosures shall be as follows:

a. Electrical Equipment Rating Less Than 2 kVA: No requirement.
b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 3 inches.
c. Electrical Equipment Rating More Than 5 kVA: A minimum of 6 inches.

5. Separation between Communications Cables and Electrical Motors and Transformers, 5 kVA or HP and Larger: A minimum of 48 inches.
6. Separation between Communications Cables and Fluorescent Fixtures: A minimum of 5 inches.

3.4 FIRESTOPPING

A. Comply with requirements in Section 078413 "Penetration Firestopping."

B. Comply with TIA-569-D, Annex A, "Firestopping."

C. Comply with "Firestopping Systems" Article in BISCI's "Telecommunications Distribution Methods Manual."

3.5 GROUNDING

A. Comply with requirements in Section 27056 "Grounding and Bonding for Communication Systems" for grounding conductors and connectors.

B. Install grounding according to BICSI TDMM, "Grounding, Bonding, and Electrical Protection" Chapter.

C. Comply with ANSI-J-STD-607-A.

D. Locate grounding bus bar to minimize the length of bonding conductors. Fasten to wall allowing at least 2-inch clearance behind the grounding bus bar. Connect grounding bus bar with a minimum No. 4 AWG grounding electrode conductor from grounding bus bar to suitable electrical building ground.

E. Bond metallic equipment to the grounding bus bar, using not smaller than No. 6 AWG equipment grounding conductor.

3.6 IDENTIFICATION

A. Identify all system components, wiring, and cabling. All labels must be easily viewable. All cables, components and device identities must be unique.

B. Comply with Section 270533 "Identification for Communications Systems."

C. Cable and Wire Identification:

1. Label each cable within 6 inches of workstation faceplate and within 12 inches of termination at distribution frame equipment.
2. Exposed Cables and Cables in Cable Trays and Wire Troughs: Label each cable at intervals not exceeding 25 feet.
3. UTP cable labels shall indicate workstation faceplate room of termination, connection type, and connection number. See drawings for requirements.

D. Labels shall be preprinted or computer-printed type with printing area and font color that contrasts with cable jacket color but still complies with requirements in TIA/EIA 606-A, for the following:

1. Cables use flexible vinyl or polyester that flexes as cables are bent.

E. Wireless Access Point Identification:

1. Install black engraved phenolic nameplate with white lettering at each above ceiling (concealed) mounted wireless access point outlet. Nameplate shall read “WAP”.

3.7 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Visually inspect UTP NRTL certification markings. Inspect cabling terminations in communications equipment rooms for compliance with color-coding for pin assignments and inspect cabling connections for compliance with TIA/EIA-568-B.1.
2. Visually confirm Category 6 marking of outlets, cover plates, outlet/connectors, and patch panels.
3. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
4. UTP Performance Tests:

a. Test for each outlet. Perform the following tests according to TIA/EIA-568-B.1 and TIA/EIA-568-B.2:

1) Wire map.
2) Length (physical vs. electrical, and length requirements).
3) Insertion loss.
4) Near-end crosstalk (NEXT) loss.
5) Power sum near-end crosstalk (PSNEXT) loss.

6) Equal-level far-end crosstalk (ELFEXT).
7) Power sum equal-level far-end crosstalk (PSELFEXT).
8) Return loss.
9) Propagation delay.
10) Delay skew.

C. Test UTP cable, passive network components, and miscellaneous supporting equipment for operational performance. End-to-end continuity, performance, and diagnostic tests should be final tests performed in all cases.

D. Data for each measurement shall be documented and supplied to the Owner and engineer for review. Data for submittals shall be printed in a summary report that is formatted similar to Table 10.1 in BICSI TDMM, or transferred from the instrument to the computer, saved as text files, and printed and submitted.

E. End-to-end cabling will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

END OF SECTION 271513

DIVISION 28

ELECTRONIC SAFETY AND SECURITY

SECTION 280513 - CONDUCTORS AND CABLES FOR ELECTRONIC SAFETY AND SECURITY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. UTP cabling.
2. Single-mode optical-fiber cabling.
3. Control-voltage cabling.
4. Control-circuit conductors.
5. Fire alarm wire and cable.
6. Identification products.

1.3 DEFINITIONS

A. EMI: Electromagnetic interference.

B. IDC: Insulation displacement connector.

C. Low Voltage: As defined in NFPA 70 for circuits and equipment operating at less than 50 V or for remote-control and signaling power-limited circuits.

D. Open Cabling: Passing telecommunications cabling through open space (e.g., between the studs of a wall cavity).

E. RCDD: Registered Communications Distribution Designer.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordinate layout and installation of electronic safety and security cabling with Owner's telecommunications and LAN equipment and service suppliers.

B. Coordinate telecommunications outlet/connector locations with location of power receptacles at each work area.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Installation data for UTP and optical-fiber cables as specified in TIA 569-C-1.

B. Shop Drawings:

1. System Labeling Schedules: Electronic copy of labeling schedules, in software and format selected by Owner.
2. System Labeling Schedules: Electronic copy of labeling schedules that are part of the cabling and asset identification system of the software.
3. Cabling administration drawings and printouts.
4. Wiring diagrams to show typical wiring schematics, including the following:

    a. Cross-connects.
    b. Patch panels.
    c. Patch cords.

5. Cross-connects and patch panels. Detail mounting assemblies and show elevations and physical relationship between the installed components.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified layout technician, installation supervisor, and field inspector.

B. Source quality-control reports.

C. Field quality-control reports.

1.7 QUALITY ASSURANCE

A. Testing Agency Qualifications: An NRTL.

1. Testing Agency's Field Supervisor: Currently certified by BICSI as an RCDD to supervise on-site testing.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Test cables upon receipt at Project site.

1. Test optical-fiber cable to determine the continuity of the strand, end to end. Use optical loss test set.
2. Test optical-fiber cable on reels. Use an optical time domain reflectometer to verify the cable length, and locate cable defects, splices, and connector; include the loss value of each. Retain test data and include the record in maintenance data.
3. Test each pair of UTP cable for open and short circuits.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 50 or less.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 UTP CABLE

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Belden CDT Inc.; Electronics Division.
2. Systimax Solutions
3. General Cable
4. Siemon Co.

B. Description: 100-ohm, 4-pair Category 6 UTP, with thermoplastic jacket. Jacket color as indicated on drawings for respective system use.

1. Comply with ICEA S-90-661 for mechanical properties.
2. Comply with TIA/EIA-568-B.1 for performance specifications.
3. Comply with TIA/EIA-568-B.2, Category 6.
4. Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 444 and NFPA 70 for the following types:

a. Communications, Plenum Rated: Type CMP, complying with NFPA 262.

2.3 UTP CABLE HARDWARE

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Panduit Corp.
2. Systimax Solutions
3. Ortronics
4. Siemon Co.

B. General Requirements for Cable Connecting Hardware: Comply with TIA/EIA-568-B.2, IDC type, with modules designed for punch-down caps or tools. Cables shall be terminated with connecting hardware of same category or higher.

C. Patch Panel: Modular panels housing multiple-numbered jack units with Category 6 RJ-45 ports on front of panel and 110-style IDC punchdowns on back for permanent termination of pair groups of installed cables.

1. Patch panels shall be 24 or 48-port type for terminating UTP. Provide number of patch panels for each outlet cabled, plus an additional 20% spare.

D. Jacks and Jack Assemblies: Modular, color-coded, Category 6 RJ-45 eight-position modular receptacle units with integral IDC-type terminals.

E. Patch Cords: Factory-made, 4-pair cables in 36-inch, 84-inch, and 144-inch lengths; terminated with 8-position modular plug at each end.

1. Patch cords shall have bend-relief-compliant boots and color-coded icons to ensure Category 6 performance. Patch cords shall have latch guards to protect against snagging.
2. Patch cords shall have color-coded boots for circuit identification.
3. Provide one patch cord for every communications port cabled, plus an additional 20% spare. Of the total number of patch cords, 33% shall be provided of each different length specified above.
4. Patch cords shall meet Category 6 UTP cabling specifications.
5. Patch cords shall have jacket colors to match systems cabling as specified herein and on drawings.

2.4 CONTROL-VOLTAGE CABLE

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Allied Wire & Cable Inc.
2. Belden Inc.
3. General Cable Technologies Corporation.
4. Southwire Company.

B. Paired Cable: NFPA 70, Type CMG.

1. One pair, twisted, No. 16 AWG, stranded (19x29) and No. 18 AWG, stranded (19x30) tinned copper conductors.
2. PVC insulation.
3. Unshielded.
4. PVC jacket.
5. Flame Resistance: Comply with UL 1581.

2.5 CONTROL-CIRCUIT CONDUCTORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Allied Wire & Cable Inc.
2. Belden Inc.
3. General Cable Technologies Corporation.

4. Southwire Company.

B. Class 1 Control Circuits: Stranded copper, Type THHN-THWN, complying with UL 83, in pathway.

C. Class 2 Control Circuits: Stranded copper, Type THHN-THWN, complying with UL 83, in pathway power-limited cable, complying with UL 83, concealed in building finishes.

D. Class 3 Remote-Control and Signal Circuits: Stranded copper, Type TW or TF in pathway, complying with UL 83.

2.6 FIRE ALARM WIRE AND CABLE

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Allied Wire & Cable Inc.
2. CommScope, Inc.
3. Genesis Cable Products; Honeywell International, Inc.
4. Superior Essex Inc.
5. West Penn Wire.

B. General Wire and Cable Requirements: NRTL listed and labeled as complying with NFPA 70, Article 760.

C. Signaling Line Circuits: Twisted, shielded pair, not less than No. 18 AWG size as recommended by system manufacturer.

1. Circuit Integrity Cable: Twisted shielded pair, NFPA 70, Article 760, Classification CI, for power-limited fire alarm signal service Type FPL. NRTL listed and labeled as complying with UL 1424 and UL 2196 for a two-hour rating.

D. Non-Power-Limited Circuits: Solid-copper conductors with 600-V rated, 75 deg C, color-coded insulation, and complying with requirements in UL 2196 for a two-hour rating.

1. Low-Voltage Circuits: No. 16 AWG, minimum, in pathway.
2. Line-Voltage Circuits: No. 12 AWG, minimum, in pathway.

2.7 IDENTIFICATION PRODUCTS

A. Comply with TIA-606-B and UL 969 for a system of labeling materials, including label stocks, laminating adhesives, and inks used by label printers.

B. Comply with requirements in Section 260553 "Identification for Electrical Systems."

2.8 SOURCE QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to evaluate cables.

B. Factory test UTP and optical-fiber cables on reels according to TIA-568-C.1.

C. Factory test UTP cables according to TIA-568-C.2.

D. Factory test singlemode optical fiber cables according to TIA-526.14-B and TIA-568-C.3.

E. Factory sweep test coaxial cables at frequencies from 5 MHz to 1 GHz. Sweep test shall test the frequency response, or attenuation over frequency, of a cable by generating a voltage whose frequency is varied through the specified frequency range and graphing the results. Structural Return Loss shall be less than 20 db.

F. Cable will be considered defective if it does not pass tests and inspections.

G. Prepare test and inspection reports.

PART 3 - EXECUTION

3.1 INSTALLATION OF HANGERS AND SUPPORTS

A. Comply with requirements in Section 260529 "Hangers and Supports for Electrical Systems" for installation of supports for cables.

3.2 WIRING METHOD

A. Install wiring in metal pathways and wireways.

1. Minimum conduit size shall be 3/4 inch. Control and data-transmission wiring shall not share conduits with other building wiring systems.

B. Install cable, concealed in accessible ceilings, walls, and floors when possible.

C. Wiring on Racks and within Enclosures:

1. Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii, but not less than radii specified in BICSI ITSIM's "Cabling Termination Practices" chapter. Cable ties shall not be excessively tightened such that the transmission characteristics of the cable are altered.
2. Install lacing bars and distribution spools.
3. Separate power-limited and non-power-limited conductors as recommended in writing by manufacturer.
4. Install conductors parallel with or at right angles to sides and back of enclosure.
5. Mark each terminal according to system's wiring diagrams.
6. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.

3.3 INSTALLATION OF CONDUCTORS AND CABLES

A. Comply with NECA 1 and NFPA 70.

B. Conductors: Size according to system manufacturer's written instructions unless otherwise indicated.

C. Do not install conductors and cables that are wet, moisture damaged, or mold damaged.

D. Install UTP, optical-fiber, and coaxial cables and connecting materials after spaces are complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

E. General Requirements for Cabling:

1. Comply with TIA-568-C.1.
2. Comply with BICSI ITSIM, Ch. 6, "Cable Termination Practices."
3. Terminate all conductors; no cable shall contain unterminated elements. Make terminations only at indicated outlets, terminals, and cross-connect and patch panels. Leave a minimum of 6 inches of slack at outlet terminations and coil loosely into box after termination on outlet fitting.
4. Cables may not be spliced. Secure and support cables at intervals not exceeding 30 inches and not more than 6 inches from cabinets, boxes, fittings, outlets, racks, frames, and terminals.
5. Maintain minimum cable bending radius during installation and termination of cables.
6. Do not install bruised, kinked, scored, deformed, or abraded cable. Do not splice cable between termination, tap, or junction points. Remove and discard cable if damaged during installation and replace it with new cable.
7. Cold-Weather Installation: Bring cable to room temperature before dereeling. Heat lamps shall not be used for heating.
8. Pulling Cable: Comply with BICSI ITSIM, Ch. 4, "Pulling Cable." Monitor cable pull tensions. Do not exceed manufacturer's rated cable-pulling tension.
9. Riser Cable: Riser cable support intervals shall be in accordance with manufacturer's recommendations.
10. Comply with Section 280544 "Sleeves and Sleeve Seals for Electronic Safety and Security Pathways and Cabling."

F. UTP Cable Installation: Install using techniques, practices, and methods that are consistent with Category 6 rating of components and that ensure Category 6 performance of completed and linked signal paths, end to end.

1. Comply with TIA-568-C.2.
2. Install 110-style IDC termination hardware unless otherwise indicated.
3. Do not untwist UTP cables more than 1/2 inch from point of termination to maintain cable geometry.

G. Open-Cable Installation:

1. Install cabling with horizontal and vertical cable guides in telecommunication spaces with terminating hardware and interconnection equipment.
2. Suspend copper cable not in a wireway or pathway a minimum of 8 inches above ceilings by cable supports not more than 60 inches apart. Cable supports shall be fastened to structural members or floor slabs in accordance with Section 260529 "Hangers and Supports for Electrical Systems."
3. Cable shall not be run in contact with pipes, ducts, or other potentially damaging items. Cables shall not be run through structural members or use structural members, pipes, ducts, or equipment as a support.

H. Separation from EMI Sources:

1. Comply with BICSI TDMM and TIA-569-C recommendations for separating unshielded copper voice and data communication cable from potential EMI sources, including electrical power lines and equipment.
2. Separation between open communication cables or cables in nonmetallic pathways and unshielded power conductors and electrical equipment shall be as follows:

    a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 5 inches.
    b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 12 inches.
    c. Electrical Equipment Rating More Than 5 kVA: A minimum of 24 inches.

3. Separation between communication cables in grounded metallic pathways and unshielded power lines or electrical equipment shall be as follows:

    a. Electrical Equipment Rating Less Than 2 kVA: A minimum of 2-1/2 inches.
    b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 6 inches.
    c. Electrical Equipment Rating More Than 5 kVA: A minimum of 12 inches.

4. Separation between cables in grounded metallic pathways and power lines and electrical equipment located in grounded metallic conduits or enclosures shall be as follows:

    a. Electrical Equipment Rating Less Than 2 kVA: No requirement.
    b. Electrical Equipment Rating between 2 and 5 kVA: A minimum of 3 inches.
    c. Electrical Equipment Rating More Than 5 kVA: A minimum of 6 inches.

5. Separation between Cables and Electrical Motors and Transformers, 5 kVA or hp and Larger: A minimum of 48 inches.
6. Separation between Cables and Fluorescent Fixtures: A minimum of 5 inches.

3.4 FIRE ALARM WIRING INSTALLATION

A. Comply with NECA 1 and NFPA 72.

B. Wiring Method: Install wiring in metal pathway according to Section 260533 "Raceways and Boxes for Electrical Systems."

1. Fire alarm circuits and equipment control wiring associated with the fire alarm system shall be installed in a dedicated pathway system. This system shall not be used for any other wire or cable.

C. Wiring Method:

1. Cables and pathways used for fire alarm circuits, and equipment control wiring associated with the fire alarm system, may not contain any other wire or cable.
2. Fire-Rated Cables: Use of two-hour, fire-rated fire alarm cables, NFPA 70, Types MI and CI, is not permitted.
3. Signaling Line Circuits: Power-limited fire alarm cables may be installed in the same cable or pathway as signaling line circuits.

D. Wiring within Enclosures: Separate power-limited and non-power-limited conductors as recommended by manufacturer. Install conductors parallel with or at right angles to sides and back of the enclosure. Bundle, lace, and train conductors to terminal points with no excess.

Connect conductors that are terminated, spliced, or interrupted in any enclosure associated with the fire alarm system to terminal blocks. Mark each terminal according to the system's wiring diagrams. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.

E. Cable Taps: Use numbered terminal strips in junction, pull, and outlet boxes, cabinets, or equipment enclosures where circuit connections are made.

F. Color Coding: Color code fire alarm conductors differently from the normal building power wiring. Use one color code for alarm circuit wiring and another for supervisory circuits. Color code audible alarm-indicating circuits differently from alarm-initiating circuits. Use different colors for visible alarm-indicating devices. Paint fire alarm system junction boxes and covers red.

G. Risers: Install at least two vertical cable risers to serve the fire alarm system. Separate risers in close proximity to each other with a minimum one-hour-rated wall, so the loss of one riser does not prevent the receipt or transmission of signals from other floors or zones.

H. Wiring to Remote Alarm Transmitting Device: 1-inch conduit between the fire alarm control panel and the transmitter. Install number of conductors and electrical supervision for connecting wiring as needed to suit monitoring function.

3.5 POWER AND CONTROL-CIRCUIT CONDUCTORS

A. 120-V Power Wiring: Install according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables" unless otherwise indicated.

B. Minimum Conductor Sizes:

1. Class 1 remote-control and signal circuits, No. 14 AWG.
2. Class 2 low-energy, remote-control and signal circuits, No. 16 AWG.
3. Class 3 low-energy, remote-control, alarm and signal circuits, No. 12 AWG.

3.6 CONNECTIONS

A. Comply with requirements in Section 283103 "Fire Alarm System Modifications" for connecting, terminating, and identifying wires and cables.

3.7 FIRESTOPPING

A. Comply with requirements in Section 078413 "Penetration Firestopping."

B. Comply with TIA-569-C, "Firestopping" Annex A.

C. Comply with BICSI TDMM, "Firestopping Systems" Article.

3.8 GROUNDING

A. For communication wiring, comply with J-STD-607-A and with BICSI TDMM's "Grounding, Bonding, and Electrical Protection" chapter.

3.9 IDENTIFICATION

A. Identify system components, wiring, and cabling complying with TIA-606-B. Comply with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.10 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

C. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Visually inspect UTP and optical-fiber cable jacket materials for NRTL certification markings. Inspect cabling terminations to confirm color coding for pin assignments and inspect cabling connections to confirm compliance with TIA-568-C.1.
2. Visually inspect cable placement, cable termination, grounding and bonding, equipment and patch cords, and labeling of all components.
3. Test UTP cabling for DC loop resistance, shorts, opens, intermittent faults, and polarity between conductors. Test operation of shorting bars in connection blocks. Test cables after termination but not cross connection.

    a. Test instruments shall comply with or exceed applicable requirements in TIA-568-C.2. Perform tests with a tester that complies with performance requirements in "Test Instruments (Normative)" Annex, complying with measurement accuracy specified in "Measurement Accuracy (Informative)" Annex. Use only test cords and adapters that are qualified by test equipment manufacturer for channel or link test configuration.

D. Document data for each measurement. Print data for submittals in a summary report that is formatted using Table 10.1 in BICSI TDMM as a guide or transfer the data from the instrument to the computer, save as text files, print, and submit.

E. End-to-end cabling will be considered defective if it does not pass tests and inspections.

F. Prepare test and inspection reports.

END OF SECTION 280513

SECTION 280526 - GROUNDING AND BONDING FOR ELECTRONIC SAFETY AND SECURITY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Grounding conductors.
2. Grounding connectors.
3. Grounding busbars.

1.3 DEFINITIONS

A. Signal Ground: The ground reference point designated by manufacturer of the system that is considered to have zero voltage.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 CONDUCTORS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Allied Tube & Conduit; a part of Atkore International.
2. Harger Lightning & Grounding.
3. Panduit Corp.
4. Tyco Electronics Corp.

B. Comply with UL 486A-486B.

C. Insulated Conductors: Stranded copper wire, green or green with yellow stripe insulation, insulated for 600 V, and complying with UL 83.

1. Ground wire for custom-length equipment ground jumpers shall be No. 6 AWG, 19-strand, UL-listed, Type THHN wire.

D. Bare Copper Conductors:

1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.
3. Tinned Conductors: ASTM B 33.
4. Bonding Cable: 28 kcmils, 14 strands of No. 17 AWG conductor, and 1/4 inch in diameter.
5. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.
6. Bonding Jumper: Tinned-copper tape, braided conductors terminated with two-hole copper ferrules; 1-5/8 inches wide and 1/16 inch thick.

2.2 CONNECTORS

A. Irreversible connectors listed for the purpose. Listed by an NRTL as complying with NFPA 70 for specific types, sizes, and combinations of conductors and other items connected. Comply with UL 486A-486B.

B. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. Burndy; Part of Hubbell Electrical Systems.
2. Chatsworth Products, Inc.
3. Harger Lightning & Grounding.
4. Panduit Corp.
5. Tyco Electronics Corp.

C. Compression Wire Connectors: Crimp-and-compress connectors that bond to the conductor when the connector is compressed around the conductor. Comply with UL 467.

1. Electroplated tinned copper, C and H shaped.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with IEEE 1100, "Recommended Practice for Power and Grounding Electronic Equipment."

1. Ground cable shields, drain conductors, and equipment to eliminate shock hazard and to minimize ground loops, common-mode returns, noise pickup, cross talk, and other impairments.
2. Bond shields and drain conductors to ground at only one point in each circuit.

B. Signal Ground:

1. For each system, establish the signal ground and label that location as such.

2. Bond the signal ground to the alternating-current (ac) power system service by connecting to one of the following listed locations, using insulated No. 6 AWG, stranded, Type THHN wire:

    a. Grounding bar in an electrical power panelboard if located in the same room or space as the signal ground.
    b. Telecommunications grounding busbar.

C. Comply with NECA 1.

3.2 APPLICATION

A. Conductors: Install solid conductor for No. 8 AWG and smaller and stranded conductors for No. 6 AWG and larger unless otherwise indicated.

B. Grounding and Bonding Conductors:

1. Install in the straightest and shortest route between the origination and termination point, and no longer than required. The bend radius shall not be smaller than eight times the diameter of the conductor. No one bend may exceed 90 degrees.
2. Install without splices.
3. Support at not more than 36-inch intervals.

3.3 CONNECTIONS

A. Stacking of conductors under a single bolt is not permitted when connecting to busbars.

B. Assemble the wire connector to the conductor, complying with manufacturer's written instructions and as follows:

1. Use crimping tool and the die specific to the connector.
2. Pretwist the conductor.
3. Apply an antioxidant compound to all bolted and compression connections.

C. Shielded Cable: Bond the shield of shielded cable to the signal ground. Comply with TIA/EIA-568-B.1 and TIA/EIA-568-B.2 when grounding screened, balanced, twisted-pair cables.

D. Cabinet-Mounted Equipment: Bond powered equipment chassis to the cabinet grounding bar. Power connection shall comply with NFPA 70; the equipment grounding conductor in the power cord of cord- and plug-connected equipment shall be considered as a supplement to bonding requirements in this Section.

3.4 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Tests and Inspections:

1. Inspect physical and mechanical condition. Verify tightness of accessible, bolted, electrical connections with a calibrated torque wrench according to manufacturer's written instructions.

C. Grounding system will be considered defective if it does not pass tests and inspections.

D. Prepare test and inspection reports.

END OF SECTION 280526

SECTION 280544 - SLEEVES AND SLEEVE SEALS FOR ELECTRONIC SAFETY AND SECURITY PATHWAYS AND CABLING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Sleeves for pathway and cable penetration of non-fire-rated construction walls and floors.
2. Sleeve-seal systems.
3. Sleeve-seal fittings.
4. Grout.
5. Silicone sealants.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 SLEEVES

A. Wall Sleeves:

1. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, zinc coated, plain ends.
2. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop unless otherwise indicated.

B. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies: Galvanized-steel sheet; 0.0239-inch minimum thickness; round tube closed with welded longitudinal joint, with tabs for screw-fastening the sleeve to the board.

C. PVC-Pipe Sleeves: ASTM D 1785, Schedule 40.

D. Molded-PVC Sleeves: With nailing flange for attaching to wooden forms.

E. Molded-PE or -PP Sleeves: Removable, tapered-cup shaped, and smooth outer surface with nailing flange for attaching to wooden forms.

2.2 SLEEVE-SEAL SYSTEMS

A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and pathway or cable.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Advance Products & Systems, Inc.
    b. CALPICO, Inc.
    c. HOLDRITE.
    d. Metraflex Company (The).
    e. Pipeline Seal and Insulator, Inc.
    f. Proco Products, Inc.

2. Sealing Elements: EPDM rubber interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.
3. Pressure Plates: Carbon steel.
4. Connecting Bolts and Nuts: Carbon steel, with corrosion-resistant coating, of length required to secure pressure plates to sealing elements.

2.3 SLEEVE-SEAL FITTINGS

A. Description: Manufactured plastic, sleeve-type, waterstop assembly made for embedding in concrete slab or wall. Unit shall have plastic or rubber waterstop collar with center opening to match piping OD.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. HOLDRITE.

2.4 GROUT

A. Description: Nonshrink; recommended for interior and exterior sealing openings in non-fire-rated walls or floors.

B. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.1 SLEEVE INSTALLATION FOR NON-FIRE-RATED ELECTRICAL PENETRATIONS

A. Comply with NECA 1.

B. Sleeves for Conduits Penetrating Above-Grade Non-Fire-Rated Concrete and Masonry-Unit Floors and Walls:

1. Interior Penetrations of Non-Fire-Rated Walls and Floors:

a. Seal annular space between sleeve and pathway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Section 079200 "Joint Sealants."
b. Seal space outside of sleeves with mortar or grout. Pack sealing material solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect material while curing.

2. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
3. Size pipe sleeves to provide 1/4-inch annular clear space between sleeve and pathway or cable unless sleeve seal is to be installed or unless seismic criteria require different clearance.
4. Install sleeves for wall penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of walls. Cut sleeves to length for mounting flush with both surfaces of walls. Deburr after cutting.
5. Install sleeves for floor penetrations. Extend sleeves installed in floors 2 inches above finished floor level. Install sleeves during erection of floors.

C. Sleeves for Conduits Penetrating Non-Fire-Rated Gypsum Board Assemblies:

1. Use circular metal sleeves unless penetration arrangement requires rectangular sleeved opening.
2. Seal space outside of sleeves with approved joint compound for gypsum board assemblies.

D. Roof-Penetration Sleeves: Seal penetration of individual pathways and cables with flexible boot-type flashing units applied in coordination with roofing work.

E. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.

F. Underground, Exterior-Wall and Floor Penetrations: Install cast-iron pipe sleeves. Size sleeves to allow for 1-inch annular clear space between pathway or cable and sleeve for installing sleeve-seal system.

3.2 SLEEVE-SEAL-SYSTEM INSTALLATION

A. Install sleeve-seal systems in sleeves in exterior concrete walls and slabs-on-grade at pathway entries into building.

B. Install type and number of sealing elements recommended by manufacturer for pathway or cable material and size. Position pathway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pathway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

3.3 SLEEVE-SEAL-FITTING INSTALLATION

A. Install sleeve-seal fittings in new walls and slabs as they are constructed.

B. Assemble fitting components of length to be flush with both surfaces of concrete slabs and walls. Position waterstop flange to be centered in concrete slab or wall.

C. Secure nailing flanges to concrete forms.

D. Using grout, seal the space around outside of sleeve-seal fittings.

END OF SECTION 280544

SECTION 283103- FIRE ALARM SYSTEM MODIFICATIONS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The Contractor shall furnish and install all wiring, conduit, initiating devices, and annunciators for the fire alarm system as detailed on the Contract Drawings, and as amended by State Fire Marshal Accepted Drawings and Shop Drawings. Details not shown on Contract Drawings shall be as advised by the Fire Alarm System supplier.

B. The system supplier shall be responsible for preparing/submitting and obtaining approval of the fire alarm system plans by the State Fire Marshal, as well as paying any fees required in the course of executing same. Copies of all correspondence shall be furnished to the Engineer. Shop drawings shall be submitted for review by the Engineer prior to submittal to the State.

C. Upon completion of the building construction, and prior to occupancy, the system supplier shall demonstrate full system operation and certify the installation in accordance with State requirements as well as those of the local authorities.

D. The system shall comply with KBC and NFPA requirements.

E. All cables shall be as recommended by the supplier and shall be UL listed for the application.

F. The existing system shall be modified to accept the new devices added as part of this Contract. Devices added shall be identified in the panel by a description of the assigned area. All modifications shall be performed by the factory authorized distributor of the existing system.

PART 2 - PRODUCTS

2.1 FIRE ALARM CONTROL PANEL (Existing)

A. The existing addressable fire alarm control panel is Edwards EST with Honeywell Commercial Fire Communicator.

2.2 FIELD MOUNTED SYSTEM COMPONENTS

A. Smoke Detectors and Accessories

1. Analog Addressable Smoke – General

a. Each analog addressable smoke detector's sensitivity shall be capable of being programmed individually as: most sensitive, more sensitive, normal, less sensitive or least sensitive. In addition to the five sensitivity levels the detector shall provide a prealarm sensitivity setting, which shall be settable in 5% increments of the detector's alarm sensitivity value.

b. An alternate alarm sensitivity level shall be provided for each detector, which can be set to any of the five (5) sensitivity settings manually or automatically using a time-of-day event. In addition to the five alternate sensitivity levels the detector shall provide an alternate prealarm sensitivity setting, which shall be settable in 5% increments of the detector's alternate alarm sensitivity value.

c. The detector shall be able to differentiate between a long drift above the prealarm threshold and fast rise above the threshold.

d. The detector's sensing element reference point shall automatically adjust, compensating for background environmental conditions such as dust, temperature, and pressure. Periodically, the sensing element real-time analog value shall be compared against its reference value. The detector shall provide a maintenance alert signal that 75% to 99% compensation has been used. The detector shall provide a dirty fault signal that 100% or greater compensation has been used.

e. The system shall allow for changing of detector types for service replacement purposes without the need to reprogram the system. The replacement detector type shall automatically continue to operate with the same programmed sensitivity levels and functions as the detector it replaced. System shall display an off-normal condition until the proper detector type has been installed or change in the application program profile has been made.

2. Duct Detector Housing

a. Provide smoke detector duct housing assemblies to mount an analog/addressable detector along with a standard, relay or isolator detector-mounting base. The housing shall also protect the measuring chamber from damage and insects. The housing shall utilize an air exhaust tube and an air sampling inlet tube that extends into the duct air stream up to ten feet. Drilling templates and gaskets to facilitate locating and mounting the housing shall also be provided. The housing shall be finished in baked red enamel. Remote alarm LED indicators and remote test stations shall be provided.

3. Smoke Detector – Photoelectric

a. Provide analog/addressable photoelectric smoke detectors at the locations shown on the drawings. The detector shall have the ability to set the sensitivity and alarm verification of each of the individual detectors on the circuit. It shall be possible to automatically change the sensitivity of individual analog/addressable detectors for the day and night periods. Each smoke detector shall be capable of transmitting pre-alarm and alarm signals in addition to the normal, trouble and need cleaning information. It shall be possible to program control panel activity to each level. Each smoke detector may be individually programmed to operate at any one of five (5) sensitivity settings. Each detector microprocessor shall contain an environmental compensation algorithm that identifies and sets ambient environmental thresholds approximately six times an hour. The microprocessor shall monitor the environmental compensation value and alert the system operator when the detector approaches 75% and 100% of the allowable environmental compensation value.

B. Detector Bases

1. Provide standard detector mounting bases suitable for mounting on either North American 1-gang, 3½ or 4-inch octagon box and 4-inch square box, or European BESA or 1-gang box. The base shall, contain no electronics and support all series detector types.

C. Double Action Manual Station

1. Furnish and install a manual station as indicated on the drawings. Each station shall be of the non-coded double action type, requiring an outer door to be lifted to expose the actuator door. Upon pulling forward of the door, the unit shall lock into a readily observable "alarm" position.
2. The station shall be constructed of aluminum (6063/T5), equipped with a break glass rod feature and require a key to reset. This key shall be keyed alike with the control cabinet. The stations shall employ a highly reliable action to activate an alarm. This feature shall provide an exceptionally high resistance to accidental operation.
3. Where indicated, manual stations shall be equipped with an auxiliary false alarm preventer device cover equal to Safety Technology Industrial Stopper II, Cat. #1100 flush or Cat. #1130 surface mount. Provide covers for stations noted on Drawings.

D. Heat Detectors

1. Provide analog/addressable combination fixed temperature / rate-of-rise detectors at the location shown on the Drawings. The heat detector shall have a nominal fixed temperature alarm point rating of 135°F (57°C) and a rate of rise alarm point of 15° F (9°C) per minute. The heat detector shall be rated for ceiling installation at a minimum of 70' (21.3m) centers and be suitable for wall mount applications.

E. Notification Appliances

1. Low Profile Horn-Strobes

a. Provide low profile wall mount horn/strobes at the locations shown on the drawings. The horn/strobe shall provide an audible output of 84 dBA at 10 ft. when measured in reverberation room per UL-464. Strobes shall provide synchronized flash outputs. The strobe output shall be determined as required by its specific location and application from a family of 15cd, 30cd, 60cd, 75cd & 110cd devices. The horn shall have a selectable steady or synchronized temporal output. In and out screw terminals shall be provided for wiring. Low profile horn/strobes shall mount in a North American 1-gang box.

2. Low Profile Strobes

a. Provide low profile wall mounted strobes at the locations shown on the drawings. In and out screw terminals shall be provided for wiring. Strobes shall provide synchronized flash outputs. Strobe output shall be determined as required by its specific location and application from a family of 15cd, 30cd, 60cd, 75cd, or 110cd devices. Low profile strobes shall mount in a North American 1-gang box.

F. Initiation & Control Modules

1. Relay Module

a. Provide addressable control relay circuit modules at the locations shown on the drawings. The module shall provide one (1) form C dry relay contacts rated at 24Vdc @ 2 amps (pilot duty) to control external appliances or equipment. The position of the relay contact shall be confirmed by the system firmware.

2. Notification Appliance Circuits

a. Provide addressable notification appliance circuit modules at the locations shown on the drawings. The module shall provide one (1) supervised Class B notification circuit. The module shall provide polarized audible / visual selection for 24Vdc @ 2amps, audio outputs at 25Vrms @ 50 watts or 70 Vrms @ 35 watts.

3. Isolation Module

a. Provide addressable fault isolator circuit modules at the locations shown on the drawings. The module shall be capable of isolating and removing a fault from a Class A data circuit while allowing the remaining data loop to continue operating.

4. Addressable Monitor Module

a. An addressable monitor module with an initiating circuit wired Class A, Style D shall be furnished to provide an address for individual, normally open (N.O.) contact devices.

5. Addressable Dual Monitor Module

a. An addressable monitor module with two (2) initiating circuits wired Class A, Style D shall be furnished to provide two addresses for individual, normally open (N.O.) contact devices.

6. Addressable Monitor Module

a. An addressable monitor module with an initiating circuit capable of being configured either Class A, Style D or Class B, Style B shall be furnished to provide an address for an individual, normally open (N.O.) contact device, or a collective address for a group of such devices. The module shall contain a yellow status LED that shall flash when in a quiescent mode and light continuously when in alarm. The LED shall be field programmable not to provide quiescent status indication, if so desired.

7. Addressable Sub loop Monitor Module

a. An addressable monitor module with an initiating circuit capable of being configured Class B; Style B shall be furnished to provide a collective address for up to ten conventional two-wire smoke detectors or 301T thermistor heat detectors. The module shall contain a yellow status LED that shall flash when in a quiescent mode and light continuously when in alarm. The LED shall be field programmable not to provide quiescent status indication, if so desired.

G. Supplementary Notification Appliance Panel

1. Furnish and install supplementary panels for providing extended power and signal circuitry to notification appliance circuits as indicated on the drawings or as required to accommodate the number of devices shown.
2. Each panel shall provide four (4) 24VDC, Class A, Style Z notification appliance circuits, which may be activated in groups of two or four by connection to normally open dry contacts or existing notification appliance circuits. The panel shall be suitable for non-coded operation, coded operation, temporal pattern or a combination.
3. The panel shall operate at 120V and include its own batteries and battery charger. The panel shall be supervised for ground fault, over current, open circuits and low battery conditions. Ground fault, battery and circuit trouble conditions in the panel shall automatically open the notification appliance circuit, transmitting a trouble signal to the main fire alarm control panel.

H. Electromagnetic Door Holders

1. Electromagnetic door holders shall be provided to hold fire and smoke barrier doors open until released by an alarm. The holders shall have approximately 35 lb. (15.9 kg) holding power and offer fail safe operation. The door holders shall be capable of operation on 12 VDC, 24 VAC, 24 VDC or 120 VAC interchangeably without need of any configuration. All holders shall release through the contacts of the control panel after an alarm has been initiated from any zone on the drawings. All circuits shall be separately fused.

I. Water Flow Switches

1. Water flow switches shall consist of a cast aluminum pipe saddle which houses an electromechanical device to which is attached a corrosion-free, flexible, low-density polyethylene paddle. The paddle shall conform to the inside diameter of the sprinkler pipe and sense all water movements. To prevent false alarms, the flow switch shall incorporate an adjustable time delay mechanism between the paddle-operated stem and the alarm initiating contacts. A tapped ½" conduit connection shall be provided. Flow switch shall be UL listed for its intended purpose. Coordinate who shall provide these switches with the fire suppression contractor.

J. Sprinkler Valve Tamper Switch

1. Sprinkler valve tamper switches shall consist of an acid treated cast aluminum housing with nickel-plated parts to resist corrosion. Cover removal shall be supervised. Switch shall be provided with either one or two sets of S.P.D.T. micro switches as required. Tamper switch shall be UL listed for its intended purposes. Tamper switch shall be adaptable to existing valves, of various design. Coordinate who shall provide these switches with the fire suppression contractor.

PART 3 - EXECUTION

3.1 INSTALLATION/APPLICATION/ERECTION

A. Provide and install the system in accordance with the Drawings and Specifications, all applicable codes and the manufacturer's recommendations. All wiring shall be installed in strict compliance with all the provisions of NEC Article 760 A and C, Power-Limited Fire Protective

Signaling Circuits or if required may be reclassified as non-power limited and wired in accordance with NEC Article 760 A and B. Upon completion, the Contractor shall so certify in writing to the Owner and general Contractor.

B. All junction boxes shall be sprayed red and labeled “Fire Alarm.” Wiring color code shall be maintained throughout the installation.

C. Installation of equipment and devices that pertain to other work in the Contract shall be closely coordinated with the appropriate subcontractors.

D. The Contractor shall clean all dirt and debris from the inside and the outside of the fire alarm equipment after completion of the installation.

E. The manufacturer’s authorized representative shall provide on-site supervision of installation.

F. Grounding shall be provided to building ground.

G. The circuit breaker feeding the fire alarm panel shall be provided with a lock on device.

3.2 TESTING

A. The completed fire alarm system shall be fully tested in accordance with NFPA-72 by the Contractor in the presence of the Owner’s representative and the state DHBC inspector. Upon completion of a successful test, the Contractor shall so certify in writing to the Owner.

3.3 OWNER TRAINING

A. The system manufacturer shall train the Owner’s representative (operator) on the system operation: History Log review and use; switch operation and use; alarm review, reset and evacuation operations; systems drills; trouble review and reset operations. See Section 16050 for additional requirements.

3.4 WARRANTY

A. The Contractor shall warrant the completed fire alarm system wiring and equipment to be free from inherent mechanical and electrical defects for a period of 1 year from the date of the completed and certified test.

B. The equipment manufacturer shall make available to the Owner a maintenance contract proposal to provide a minimum of 2 inspections and tests per year in compliance with NFPA-72 guidelines.

END OF SECTION 283103

DIVISION 31

EARTHWORK

SECTION 31 1000 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General, Supplementary and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Protecting existing trees, shrubs, plants and grass to remain.
2. Removing existing trees, shrubs, plants and grass.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Disconnecting, capping or sealing, and removing site utilities.
7. Temporary erosion and sedimentation control measures.

B. Related Sections include the following:

1. Division 01 Section "Temporary Facilities and Controls" for temporary utilities, temporary construction and support facilities, temporary security and protection facilities.
2. Division 01 Section "Execution" for verifying utility locations and for recording field measurements.
3. Division 31 Section "Earth Moving" for soil materials, excavating, backfilling, and site grading.
4. Division 23 Section "Turf and Grasses and Plants" for finish grading including preparing and placing planting soil mixes and testing of topsoil material.

1.3 DEFINITIONS

A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.

B. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.4 MATERIAL OWNERSHIP

A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 SUBMITTALS

A. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.

B. Record drawings, according to Division 01 Section "Project Record Documents," identifying and accurately locating capped utilities and other subsurface structural, electrical, and mechanical conditions.

C. Storm Water Pollution Prevention Plan: Submit prior to beginning construction and maintain on-site, and available for regular review by the Architect the following:

1. Copy of the Notice of Intent (NOI).
2. Copy of the LFUCG Grading Permit.
3. Copy of the SWPP Plan along with related written documents.
4. Maintenance Log Book in conformance with the requirements indicated.

1.6 QUALITY ASSURANCE

A. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.7 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.

B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.

C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

D. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place and permits have been received.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 31 Section "Earth Moving."

1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Locate and clearly flag trees and vegetation to remain or to be relocated.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to the Storm Water Pollution Prevention Plan (SWPP) in the Drawings.

B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.

1. Should it appear that adjustments to the erosion control measures may be necessary due to non-performance, promptly notify the Architect who will review the situation to determine if changes will be required. Make minor adjustments as requested. If significant adjustments are necessary, the Contractor may submit a request for a Change Order for the additional work.
2. Failure of the Contractor to properly install or maintain erosion control measures shall not be considered grounds for a Change Order.

C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE PROTECTION

A. Erect and maintain temporary fencing around tree protection zones before starting site clearing. Remove fence when construction is complete.

1. Do not store construction materials, debris, or excavated material within fenced area.
2. Do not permit vehicles, equipment, or foot traffic within fenced area.
3. Maintain fenced area free of weeds and trash.
4. Unless otherwise indicated, fencing to consist of flexible plastic safety fence supported by steel “T” fence posts spaced at 6 foot centers maximum.

B. Do not excavate within tree protection zones, unless otherwise indicated.

C. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

1. Cover exposed roots with burlap and water regularly.
2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
3. Coat cut faces of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other approved coating formulated for use on damaged plant tissues.
4. Backfill with soil as soon as possible.

D. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Architect.

1. Employ an arborist, licensed in jurisdiction where Project is located, to submit details of proposed repairs and to repair damage to trees and shrubs.
2. Replace trees that cannot be repaired and restored to full-growth status, as determined by Architect.

3.4 UTILITIES

A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.

1. Verify that utilities have been disconnected and capped before proceeding with site clearing.

B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Architect not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.

C. Excavate for and remove underground utilities indicated to be removed.

D. Removal of underground utilities other than storm drainage and sanitary sewerage is included in Division 21, Division 23, Division 26, Division 27, and Division 28 Sections covering other site utilities.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
2. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction.
3. Grind stumps and remove roots, obstructions, and debris extending to a depth of 18 inches below exposed subgrade. Completely remove stumps where they are located below or within 5 feet of buildings, structures, walks or pavements.
4. Use only hand methods for grubbing within tree protection zone.
5. Chip removed tree branches and dispose of off-site.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and nonsoil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.

C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. See plans for topsoil stock pile area. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Limit height of topsoil stockpiles to 72 inches.
2. Do not stockpile topsoil within tree protection zones.
3. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

1. Where items are indicated to be salvaged, protect and deliver to the Owner as directed.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

3.8 DISPOSAL

A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

1. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2

1.3 SUMMARY

A. This Section includes the following:

1. Preparing subgrades for slabs-on-grade, walks, pavements, lawns and grasses and exterior plants.
2. Excavating and backfilling for buildings and structures.
3. Drainage course for slabs-on-grade.
4. Subbase course for concrete walks and pavements.
5. Subbase course for asphalt paving.
6. Subsurface drainage backfill for walls and trenches.
7. Excavating and backfilling for utility trenches.
8. Excavating and backfilling trenches for buried mechanical and electrical utilities and pits for buried utility structures.

B. Related Sections include the following:

1. Geotechnical Report - Contractor shall review Geotechnical Report. The Geotechnical Report is provided for informational purposes only and is not part of the Contract Documents.
2. Division 01 Section "Structural Special Inspections" for testing and inspections associated with earthwork specified in this section below and within 5 feet of the building footprint.
3. Division 01 Section "Unit Prices" for unit-price rock excavation and authorized additional excavation provisions.
4. Division 01 Section "Construction Progress Documentation " for recording preexcavation and earthwork progress.
5. Division 01 Section "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities.
6. Division 03 Section "Cast-in-Place Concrete" for granular course if placed over vapor retarder and beneath the slab-on-grade.
7. Divisions 21, 22, 23, 26, 27, and 28 Sections for installing underground facility and building plumbing, mechanical and electrical utilities and buried mechanical and electrical structures.

8. Division 31 Section "Site Clearing" for temporary erosion and sedimentation control measures, site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
9. Division 31 Section "Dewatering" for construction dewatering system.
10. Division 32 Section "Turf and Grasses" for finish grading, including preparing and placing topsoil and planting soil for lawns.
11. Division 32 Section "Plants" for planting bed establishment and tree and shrub pit excavation and planting.
12. Division 33 Section "Subdrainage" for drainage of foundations and walls.
13. Division 33 Section "Storm Utility Drainage Piping" for installing storm drainage piping and structures.

1.4 UNIT PRICES

A. Unit prices for earthwork are included in Division 01 Section "Unit Prices."

B. Rules of Measurement: Volume of rock or soil actually removed, measured in original position, but not to exceed the following. Unit prices for rock and unsuitable soil excavation include replacement with approved materials.

1. 24 inches outside of concrete forms other than at footings.

2. 12 inches outside of concrete forms at footings.

3. 6 inches outside of minimum required dimensions of concrete cast against grade.

4. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
5. 6 inches beneath bottom of concrete slabs-on-grade.

6. 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.

1.5 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Course placed between the subbase course and hot-mix asphalt paving.

C. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

G. Fill: Soil materials used to raise existing grades.

H. Lime Stabilization: Stabilization of soils in place by incorporating additives to increase the shear strength of the soil and / or control the shrink-swell properties of the soil to improve bearing capacity.

I. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material 3/4 cu. yd. or more in volume that exceed a standard penetration resistance of 100 blows/2 inches when tested by an independent geotechnical testing agency, according to ASTM D 1586.

J. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

K. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.

L. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

M. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.6 SUBMITTALS

A. Product Data: For the following:

1. Each type of plastic warning tape.
2. Geotextile.
3. Controlled low-strength material, including design mixture.

B. Samples: 12-by-12-inch Sample of subdrainage and separation geotextile.

C. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:

1. Classification according to ASTM D 2487 of each on-site and borrow soil material proposed for fill and backfill.
2. Laboratory compaction curve according to ASTM D 698 for each on-site and borrow soil material proposed for fill and backfill.

D. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by earthwork operations. Submit before earthwork begins.

1.7 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548. The Testing Agency shall also be acceptable to the Architect and Owner.

1. Refer to Division 1 Section, Structural Special Inspections for additional requirements.

B. Preexcavation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

C. Suitable Weather: To minimize the difficulties of drying, placing and compacting soils, it is suggested that earthwork be conducted during the period late April to early November.

1.8 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated.

1. Notify Architect not less than two days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.
3. Contact utility-locator service for area where Project is located before excavating.

B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

C. Project-Site Information: A Geotechnical Report has been prepared and is included in this Project Manual elsewhere for informational purposes only; the Geotechnical Report is not part of the Contract Documents. The opinions expressed in this report are those of the geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer. The Owner and Architect will not be responsible for interpretations or conclusions drawn from this data.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: ASTM D 2487 Soil Classification Groups CL, GW, GP, GM, SW, SP, and SM, or a combination of these groups; free of rock or gravel larger than 4 inches in any dimension, except as indicated, a Plasticity Index (PI) not exceeding 30, debris, waste, frozen materials, vegetation, and other deleterious matter.

1. Except as indicated and subject to meeting Project requirements and acceptance by the Geotechnical Testing Agency, existing on-site CL and CH soils may be utilized as fill material provided they are properly dried, placed and compacted.
2. On-site soils with a PI of 30 percent or greater may be utilized provided the moisture content does not exceed plus 3 percent of optimum moisture content nor have an organic content exceeding 5 percent of the total soil mass.
3. On-site rubblized concrete may also be utilized provided it does not exceed 4 inches in any dimension; the void or open spaces between the pieces are effectively choked or filled with concrete fines; the pieces are placed to eliminate overlap and the percentage of soil in the rubblized concrete fill does not exceed 5 percent.
4. Rubblized concrete shall not be used as fill below or within 10 feet of the building footprint, nor in lawn areas within 4 feet of finish grade.
5. Structural soil fill used / imported to the site and used in pavement areas shall have a CBR test performed, and the CBR value shall be 1.6 or greater.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
2. On-site CH soils shall not be utilized as fill below or within 10 feet of the building footprint or within 12 inches of any pavement subgrade.
3. Off-site borrow materials with a PI of 30 percent or greater or with an organic content of the soil greater than 5 percent of the total soil mass.

D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

E. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

F. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

G. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.

H. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch sieve and 0 to 5 percent passing a No. 4 sieve.

I. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.

J. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

K. Lime stabilization Materials:
1. Lime Kiln Dust used for stabilization shall meet the following requirements: 60% minimum total calcium & magnesium oxides, 30% minimum available calcium hydroxide (ASTM C25), maximum 4% water. 40% maximum loss on ignition. Sieve analysis per ASTM C110, maximum of 25% passing a No. 100 sieve, maximum of 10% passing a No. 30 sieve, maximum of 5% passing a no. 4 sieve.
2. Portland cement shall comply with the latest specifications for Portland cement or blended hydraulic cements.
3. Self-cementing fly ash shall meet the requirements for “very self cementing” per ASTM D 5329.
4. Quicklime or Hydrated lime shall meet the requirements of ASTM C-977 or AASHTO M 216
5. Slurry shall contain a minimum of 30% dry solids content.

2.2 GEOTEXTILES

A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 2; AASHTO M 288.
2. Grab Tensile Strength: 157 lbf; ASTM D 4632.
3. Sewn Seam Strength: 142 lbf; ASTM D 4632.
4. Tear Strength: 56 lbf; ASTM D 4533.
5. Puncture Strength: 56 lbf; ASTM D 4833.
6. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
7. Permittivity: 0.5 per second, minimum; ASTM D 4491.
8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

B. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 2; AASHTO M 288.
2. Grab Tensile Strength: 247 lbf; ASTM D 4632.
3. Sewn Seam Strength: 222 lbf; ASTM D 4632.
4. Tear Strength: 90 lbf; ASTM D 4533.

5. Puncture Strength: 90 lbf; ASTM D 4833.
6. Apparent Opening Size: No. 60 sieve, maximum; ASTM D 4751.
7. Permittivity: 0.02 per second, minimum; ASTM D 4491.
8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

2.3 CONTROLLED LOW-STRENGTH MATERIAL

A. Produce conventional-weight, controlled low-strength material with 500 psi compressive strength when tested according to ASTM C 495.

2.4 ACCESSORIES

A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:

1. Red: Electric.
2. Yellow: Gas, oil, steam, and dangerous materials.
3. Orange: Telephone and other communications.
4. Blue: Water systems.
5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 31 Section "Site Clearing."

C. Protect and maintain erosion and sedimentation controls, which are specified in Division 31 Section "Site Clearing," during earthwork operations.

D. Provide protective insulating materials to protect subgrades and foundation soils against freezing temperatures or frost.

3.2 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

3.3 EXPLOSIVES

A. Explosives: Do NOT use explosives.

3.4 EXCAVATION, GENERAL

A. Unclassified Excavation: Unless otherwise indicated, excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for excavation of rock, old building fill, highly plastic clays with a PI of 30 or greater, unsatisfactory soil or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
2. Remove rock and/or unsatisfactory soils to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions, unless specifically indicated otherwise on the Drawings:

    a. 24 inches outside of concrete forms other than at footings.

    b. 12 inches outside of concrete forms at footings.

    c. 6 inches outside of minimum required dimensions of concrete cast against grade.

    d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
    e. 6 inches beneath bottom of concrete slabs on grade.

    f. 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.

3.5 EXCAVATION FOR STRUCTURES

A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings, Foundations, Retaining Walls or Within 10 Feet of Building Elements: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work. Refer to Drawings for additional requirements.

a. The entire building pad shall be lime stabilized starting from 2 foot below the foundation bearing elevations and extending up to subgrade. No utility trenching or other penetration of lime treated soils after treatment is allowed. Refer to the Grading Plan for final elevations to determine areas of excavation and fill under the building pad. See 3.11 LIME STABILIZATION for requirements.

2. Excavation for Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch. Do not disturb bottom of excavations intended as bearing surfaces.

3.6 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.
   1. All heavy duty vehicular pavements (asphalt and concrete) shall be lime stabilized starting from 2 foot below the foundation bearing elevations and extending up to subgrade. No utility trenching or other penetration of lime treated soils after treatment is allowed. Refer to the Grading Plan for final elevations to determine areas of excavation and fill under the building pad. See 3.11 LIME STABILIZATION for requirements.

B. Where pavement subgrades are bearing on rock, overexcavate to a depth of 4 inches and backfill to subgrade elevations with compacted #57 Drainage Fill.

3.7 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

   1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.

B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.

   1. Clearance: 12 inches each side of pipe or conduit unless otherwise indicated.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.

   1. For pipes and conduit less than 6 inches in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
   2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.

3. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.8 SUBGRADE INSPECTION

A. Notify Architect and Geotechnical Testing Agency when excavations have reached required subgrade.

B. If Architect in consultation with Geotechnical Testing Agency determines that unsatisfactory soil or rock is present, continue excavation and replace with approved compacted backfill or fill material as directed.

C. Proof-roll subgrade below the building slabs, structures, retaining walls, fill areas and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons or other piece of equipment acceptable to the Geotechnical Testing Agency.
3. Proof-rolling operations shall be conducted in the presence of the Geotechnical Testing Agency.
4. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

D. Verify by probing or other means, that no stone, old building fill and debris or rock floaters in any dimension 4 inches or greater are within 10 feet of the building footprint subgrade elevation or of any pavement, structure, footing or slab-on-grade. If unsuitable soil, building fill, debris and floaters are encountered, excavate to remove the rock and unsuitable material and backfill with Satisfactory Soil compacted as specified

E. Removal of unsuitable soils, fill, rock or additional undercutting and replacement with Satisfactory Soil are included in the Work and no additional changes or charges for this work will be allowed.

F. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.9 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.

1. Fill unauthorized excavations under other construction or utility pipe as directed by Architect.

3.10 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.

1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.11 LIME STABILIZATION

A. Use cyclone or screw type spreaders or distributors to apply chemical with a consistent and accurate application rate. Control dust during application.

B. Use self-propelled, high powered rotary mixers capable of mixing to a minimum depth of 16", fitted with cutting teeth capable of trimming earth, aggregate and bituminous mixtures and designed to be accurately adjusted vertically and held in place. Machine shall weigh a minimum of 25,000 lbs with a maximum center deflection of 1/8".

C. Soils to be stabilized shall be free of frost with a minimum air temperature of 35 degrees. Stabilization shall be performed in the same construction season as anticipated building footings, slabs, pavements, etc. will be constructed so that stabilized soils are covered and not left open to degrade.

D. Final selection of chemicals and application rates will be determined by the geotechnical inspecting agency.

E. Prepare are to be treated by cutting to subgrade per requirements of this Specification, such that, when stabilized, mixed and recompacted, final subgrade will be per plans. If slurry is used, scarify subgrade prior to application of slurry to prevent run-off.

F. Following spreading of the chemical and prior to the addition of water and mixing, the area should be scarified to loosen hard, dense soil and allow for water to easily penetrate the subgrade soil prior to mixing.

G. Lime stabilization in dry, bulk powder form shall be properly hydrated prior to scarifying / mixing. Final recommendation of the amount of water to be applied shall be by the Geotechnical Testing Agency. Water may be spread by water truck directly on the subrage or it may be injected directly into the mixing drum of the rotary mixer during the mixing operation.

H. Lime should be incorporated into the existing on-site soil at a typical rate of approximately 5% by dry weight of soil to a depth of 14" – 16" per lift, distributed evenly over the soil surface. The soil / lime mixture should be properly moistened in order to initiate the hydration of the lime, thoroughly mixed and re-compacted. Laboratory test performed by the Geotechnical Testing Agency shall determine the final admixture and rate.

I. Compaction shall begin when mixing, gradation and moisture requirements are all satisfactorily completed. Prior to the beginning of compaction, the mixture shall be in a loose condition for its full depth and width. The mixture shall be uniformly compacted until a dry density of not less than 98% is achieved.

J. The treated area shall be shaped to the required lines and grades with a smooth drum roller, and be uniform and compacted. The surface shall be maintained in a moist condition during all finishing operations by means of sprinkling water. Finished portions of stabilized subgrade that are traveled on by equipment working to stabilize other sections shall be protected to keep equipment from penetrating and damaging the finished layer.

K. The curing period shall be a minimum of 7 days. During this period, no traffic shall be permitted on any completed surface that is still curing. During this period (and for a minimum of 7 days), the completed surface shall be protected from freezing.

L. Lime stabilization shall be performed by a contractor specializing in lime stabilization, with specific experience in the application of lime or cement stabilization methods.

3.12 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
2. Surveying locations of underground utilities for Record Documents.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

C. Structural soil backfill at pavement shall have a CBR value of 1.6 or greater.

3.13 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Backfill trenches excavated within and to a point 10 feet beyond the building footprint with compacted satisfactory silty clay soil; pulverized shale or controlled low-strength concrete flowable fill. Beyond building line influence areas, utility trench backfill may consist of any Satisfactory approved soil material.

D. Provide 4-inch- thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase.

E. Beyond building area influence lines, place and compact initial backfill of subbase material or satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

F. Backfill voids with satisfactory soil while installing and removing shoring and bracing.

G. Place and compact final backfill of approved satisfactory soil to final subgrade elevation.

H. Unless otherwise indicated, install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

3.14 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

1. As indicated, develop horizontal benches near the toe of the slopes and bench continuously as the fill is placed. Develop benches every 3 to 4 feet of elevation gain.
2. Excavate benches deep enough so that all building fill and soft to medium stiff surface soils are removed and the stiff native soil is exposed.
3. As benching progresses, place uniform layers of approved satisfactory soil fill properly moisture conditioned and compacted.
4. Provided it is properly moisture conditioned, the benched material may be utilized as fill in the compacted fills below.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil and subbase material as indicated.
3. Under steps and ramps, use satisfactory soil and engineered fill as indicated.
4. Under building slabs, use satisfactory soil and engineered fill as indicated.
5. Under footings and foundations, use controlled low-strength material.

C. Place soil fill on subgrades free of mud, frost, snow, or ice.

D. The entire building pad shall be lime stabilized starting from 2 foot below the foundation bearing elevations and extending up to subgrade. No utility trenching or other penetration of lime treated soils after treatment is allowed. Refer to the Grading Plan for final elevations to determine areas of excavation and fill under the building pad. See 3.11 LIME STABILIZATION for requirements. Proof rolling shall not be required at the building pad where lime stabilized.

E. All heavy duty vehicular pavements (asphalt and concrete) shall be lime stabilized starting from 2 foot below the foundation bearing elevations and extending up to subgrade. No utility trenching or other penetration of lime treated soils after treatment is allowed. Refer to the Grading Plan for final elevations to determine areas of excavation and fill under the building

pad. See 3.11 LIME STABILIZATION for requirements. Proof rolling shall not be required at the building pad where lime stabilized.

F. Place rubbilized concrete fill to effectively choke the larger concrete pieces, filling all voids or openspaces. Compact the fill with heavy construction equipment in multiple passes and in two directions of the fill surface until acceptable to the Geotechnical Testing Agency.

3.15 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent below and above of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 3 percent and is too wet to compact to specified dry unit weight.

3.16 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:

1. Under structures, footings and building slabs, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 98 percent.
2. Under walkways, steps, pavements and lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
3. For utility trenches, compact each layer of initial and final backfill soil material within 10 feet of building lines at 98 percent and beyond building lines at 95 percent.
4. Under lawn or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90 percent.

D. Settlement Monitoring shall be performed at the building pad with five settlement plates, in accordance with the following:
1. Level the ground surface to an elevation of 2” below the desired elevation of the base plate of the settlement platform. Level over a sufficient area to accommodate the bottom plate and at the location shown or directed.
2. Place, lightly tamp, and level a 2” layer of fine aggregate at the proposed location of the bottom plate. Set and level the bottom plate on the fine aggregate.

3. Place loose soil to an elevation corresponding to that of the top plate of the settlement platform. Ensure that the loosed soil does not disturb the platform and that it extends laterally from the perimeter of the top plate to a slope of 1:1 or flatter.
4. After placing and leveling the top plate, complete the embankment as specified for the project and ensure that the settlement platform is not damaged or disturbed. Fill material placed within 3 foot of the settlement monument shall be compacted by hand.
5. The settlement shall be measured and recorded, to the nearest .01 foot, as well as the elevation of the fill placement at weekly intervals. Stop work at any location where settlement platforms are disturbed or damaged and make repairs necessary or replace.
6. As the embankment is constructed, add sections of 2 ½" risers and 4" PVC casing to the assembly (tighten each new section of 2 ½" pipe with a pipe wrench before taking a reading to ensure that the next added section does not affect future readings). Keep the top of the outer pipe closed as work progresses with a 4" standard cap.
7. When work is complete, secure the cap to the final outer pipe section. The settlement plates and risers can be fabricated by the contractor; however, they are also abailable from manufacturers.
8. Settlement shall be monitored for 30 days after fill of the building pad is complete, without any additional work being performed at the building pad site.
9. After the 30 day observation period, settlement recorded outside of the allowed lines and grade set forth in this Specification shall be remedied in accordance with this Specification.

3.17 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 1 inch.
2. Walks: Plus or minus 1 inch.
3. Pavements: Plus or minus 1/2 inch.

C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.18 SUBSURFACE DRAINAGE

A. Subdrainage Pipe: Specified in Division 33 Section "Subdrainage."

B. Subsurface Drain: Place subsurface drainage geotextile around perimeter of subdrainage trench. Place a 6-inch course of filter material on subsurface drainage geotextile to support subdrainage pipe. Encase subdrainage pipe in a minimum of 12 inches of filter material, placed in

compacted layers 6 inches thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least 6 inches.

1. Compact each filter material layer to 75 percent of maximum dry unit weight according to ASTM D4253 and D4254.

C. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within 12 inches of final subgrade, in compacted layers 6 inches thick. Overlay drainage backfill with 1 layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches.

1. Compact each filter material layer to 75 percent of maximum dry unit weight according to ASTM D D4253 and D4254.
2. Place and compact impervious fill over drainage backfill in 6-inch- thick compacted layers to final subgrade.

D. Below Grade Walls/Structures: Backfill walls with Drainage Fill or Drainage Course to a minimum width of 5 feet between the wall and the soil line, to a point 2'-6" below finish grade. Completely wrap the Drainage Fill with subsurface drainage geotextile material, overlapping sides and ends at least 6 inches and top at least 12 inches, to separate the fill zone from the adjacent soil. Complete backfilling above the Drainage Fill with 2 feet of Satisfactory Soil with a PI of less than 30 and fill to finish grade with topsoil specified in Section 329200.

3.19 SUBBASE AND BASE COURSES

A. Place subbase course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place subbase course under pavements and walks as follows:

1. Where indicated, install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
2. Place base course material over subbase course under hot-mix asphalt pavement.
3. Shape subbase and base course to required crown elevations and cross-slope grades.
4. Place subbase and base course 6 inches or less in compacted thickness in a single layer.
5. Place subbase and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
6. Compact subbase and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.

3.20 DRAINAGE COURSE

A. Place drainage course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:

1. Install subdrainage geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
2. Place drainage course 6 inches or less in compacted thickness in a single layer.
3. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
4. Compact each layer of drainage course to required cross sections and thicknesses to not less than 75 percent of maximum dry unit weight according to ASTM D D4253 and D4254.

3.21 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage and pay for a qualified Geotechnical Testing Agency to perform field testing.

B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.

C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.

D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:

1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test for every 5000 sq. ft. or less of paved area or building slab, but in no case fewer than 3 tests per lift.
2. Foundation and Retaining Wall Backfill: At each compacted backfill layer, at least 1 test for each 100 feet or less of wall length, but no fewer than 2 tests.
3. Trench Backfill: At each compacted initial and final backfill layer, at least 1 test for each 150 feet or less of trench length, but no fewer than 2 tests.

E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.22 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.23 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 312000

SECTION 312010 - BUILDING STRUCTURE EXCAVATION AND BACKFILL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Excavating and backfilling for building foundations and slabs on grade.

B. Related Sections:

1. Division 01 Section “Special Inspection.”
2. Division 02 Section “Existing Conditions”

3. Divisions 26, 27, 28, and 33 Sections for installing underground electrical utilities and electrical structures.

4. Division 31 Section "Earthwork" for all other earthwork.

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.

B. Leveling Course: Aggregate layer between the bottom of footings and bedrock where the structure is partially founded on bedrock and partially founded on soil.

C. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

D. Structures: Buildings, footings, foundations, retaining walls and building slabs, constructed above or below the ground surface.

E. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, or drainage course.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of the following manufactured products required:

1. Controlled Low-Strength Material, including design mixture.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS FOR BACKFILL

A. Satisfactory Soils: See Division 31 Section “Earthwork” for specification of satisfactory soils.

B. Leveling Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 67.

2.2 CONTROLLED LOW-STRENGTH MATERIAL FOR BACKFILL

A. Controlled Low-Strength Material: Self-compacting, flowable concrete material produced from the following:

1. Portland Cement: ASTM C 150, Type II.

2. Fly Ash: ASTM C 618, Class C or F.

3. Normal-Weight Aggregate: ASTM C 33, 3/8-inch nominal maximum aggregate size.

4. Water: ASTM C 94/C 94M.

B. Produce conventional-weight, controlled low-strength material with 140-psi compressive strength when tested according to ASTM C 495.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by excavation operations.

B. Protect and maintain erosion and sedimentation controls during earth moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use foundation excavations as temporary drainage ditches.

3.3 EXPLOSIVES

A. Explosives: Do not use explosives.

3.4 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions. If solid obstructions are encountered, they shall be excavated to leave at least 12 inches of clearance from the new foundations.

3.5 EXCAVATION FOR STRUCTURES

A. Excavate to elevations and dimensions specified below within a tolerance of plus 1 inch minus 0 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

1. Excavations for Footings and Foundations:

a. Vactor Building:

1) Where soil is encountered below 12 inches below bottom of footing elevation, excavate below footings through any uncontrolled fill until original undisturbed soil or bedrock with adequate bearing capacity is reached. Coordinate inspection of subgrade. Backfill excavation to bottom of footing elevation with Controlled Low-Strength material

2) Where bedrock is encountered above 12 inches below bottom of footing elevation, excavate into competent bedrock 12 inches below and beside the bottom of footing elevation. Coordinate inspection of subgrade. Backfill excavation to bottom of footing elevation with Leveling Course material.

2. Excavations for Building Slabs on Grade:

a. Excavate to an elevation of 24 inches below the final finished floor elevation. Backfill with satisfactory soils.

3.6 SUBGRADE INSPECTION

A. Coordinate inspection of footing subgrades by/with Special Inspector.

1. Special Inspector will report to Architect/Engineer. If Architect/Engineer determines that unsatisfactory soil is present, continue excavation and backfill as specified above.

B. Proof-roll subgrade below the building slabs with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons in presence of Special Inspector to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.

1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph.

2. Special Inspector will report to Architect/Engineer. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect/Engineer, and replace with compacted backfill or fill as directed.

C. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect/ Engineer, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by backfilling with appropriate materials specified above.

3.8 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.

2. Surveying locations of underground utilities for Record Documents.

3. Testing and inspecting underground utilities.

4. Removing concrete formwork.

5. Removing trash and debris.

6. Removing temporary shoring and bracing, and sheeting.

7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with Footing Concrete to elevation of bottom of footings.

D. Backfill voids with Controlled Low-Strength Material while removing shoring and bracing.

3.9 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.

2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.10 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than 98% of maximum dry unit weight according to the Standard Proctor Test ASTM D 698.

D. Lightly compact stone leveling course.

3.11 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Verify that materials below footings and slabs-on grade are adequate to achieve the design bearing capacity.

2. Verify Excavations are extended to the proper depth and reached proper material.

3. Perform classification and testing of controlled fill materials.

4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled backfill.

5. Prior to placement of controlled backfill, observe subgrade and verify that it has been prepared properly.

3.12 PROTECTION

A. Existing Adjacent Construction: Protect existing adjacent structure and underground utilities not included in demolition area as indicated on plans.

3.13 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Dispose of surplus and waste materials in accordance with Division 31 Section "Earthwork."

END OF SECTION

DIVISION 32

EXTERIOR IMPROVEMENTS

SECTION 32 1216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General, Special and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
   1. Cold milling of existing hot-mix asphalt pavement.
   2. Hot-mix asphalt patching.
   3. Hot-mix asphalt paving.
   4. Pavement marking paint.
   5. Recycled rubber wheelstops.

B. Related Sections include the following:
   1. Division 31 Section "Earth Moving" for aggregate subbase and base courses and for aggregate pavement shoulders.

1.3 DEFINITIONS

A. Hot-Mix Asphalt Paving Terminology: Refer to ASTM D 8 for definitions of terms.

B. DOT: Department of Transportation.

1.4 SYSTEM DESCRIPTION

A. Provide hot-mix asphalt paving according to materials, workmanship, and other applicable requirements of standard specifications of state or local DOT.
   1. Standard Specification: Kentucky Department of Highways (KYDOH), “Standard Specification for Road and Bridge Construction”, current edition.
   2. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.

B. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

C. Job-Mix Designs: For each job mix proposed for the Work.

D. Shop Drawings: Indicate pavement markings, lane separations, and defined parking spaces. Indicate, with international graphics symbol, spaces dedicated to people with disabilities.

E. Samples: For each paving fabric, 12 by 12 inches minimum.

F. Qualification Data: For manufacturer.

G. Material Test Reports: For each paving material.

H. Material Certificates: For each paving material, signed by manufacturers.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer.
   1. Manufacturer shall be a paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of the state in which Project is located.

B. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated, as documented according to ASTM E 548.

C. Regulatory Requirements: Comply with KYDOH Standard Specifications, Division 4, for asphalt paving work.

D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:
   1. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
   2. Review condition of subgrade and preparatory work.
   3. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.
   4. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.

B. Store pavement-marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp or if the following conditions are not met:
   1. Prime and Tack Coats: Minimum surface temperature of 60 deg F.
   2. Slurry Coat: Comply with weather limitations of ASTM D 3910.
   3. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
   4. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials, 50 deg F for water-based materials, and not exceeding 95 deg F.

PART 2 - PRODUCTS

2.1 AGGREGATES

A. General: Use materials and gradations that have performed satisfactorily in previous installations.

B. Coarse Aggregate: KYDOH Section 805, sound; angular crushed stone, crushed gravel, or properly cured, crushed blast-furnace slag.

C. Fine Aggregate: KYDOH Section 804, sharp-edged natural sand or sand prepared from stone, gravel, properly cured blast-furnace slag, or combinations thereof.

D. Mineral Filler: KYDOH Section 804, rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

A. Asphalt Binder: KYDOH Section 806.

B. Asphalt Cement: KYDOH Section 806.

C. Prime Coat: KYDOH Section 806.

D. Tack Coat: KYDOH Section 806, emulsified asphalt of suitable grade and consistency for application.

E. Water: Potable.

2.3 AUXILIARY MATERIALS

A. Herbicide: Commercial chemical for weed control, registered by the EPA. Provide in granular, liquid, or wettable powder form.

B. Pavement-Marking Paint: Latex, waterborne emulsion, lead and chromate free, ready mixed, complying with FS TT-P-1952, with drying time of less than 45 minutes.
1. Color: White, blue or other color as indicated.

C. Thermoplastic Markings: Comply with KYDOH Section 717.

D. Wheel Stops: Solid, integrally colored, 96 percent recycled HDPE or commingled postconsumer and postindustrial recycled plastic; UV stabilized; 4 inches high by 6 inches wide by 72 inches long. Provide chamfered corners, drainage slots on underside, and holes for anchoring to substrate.
1. Dowels: Galvanized steel, 3/4-inch diameter, 10-inch minimum length.
2. Adhesive: As recommended by wheel-stop manufacturer for application to asphalt pavement.

2.4 MIXES

A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix Class III PG64-22 asphalt plant mixes approved by authorities having jurisdiction and complying with the following requirements:
1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.

B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
   1. Completely proof-roll subgrade in one direction. Limit vehicle speed to 3 mph.
   2. Proof roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
   3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, Geotechnical testing agency and Owner, and replace with compacted backfill or fill as directed.

C. Proceed with paving only after unsatisfactory conditions have been corrected.

D. Verify that utilities and other items requiring a cut and installation beneath the asphalt surface have been completed and that asphalt surface has been repaired flush with adjacent asphalt prior to beginning installation of imprinted asphalt.

3.2 COLD MILLING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.
   1. Mill to a depth of 1-1/2 inches.
   2. Mill to a uniform finished surface free of excessive gouges, grooves, and ridges.
   3. Control rate of milling to prevent tearing of existing asphalt course.
   4. Repair or replace curbs, manholes, and other construction damaged during cold milling.
   5. Excavate and trim unbound-aggregate base course, if encountered, and keep material separate from milled hot-mix asphalt.
   6. Transport milled hot-mix asphalt to asphalt recycling facility.
   7. Keep milled pavement surface free of loose material and dust.

3.3 PATCHING

A. Hot-Mix Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

B. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.05 to 0.15 gal./sq. yd..
   1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
   2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

C. Patching: Fill excavated pavements with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

3.4

A.

3.5 SURFACE PREPARATION

A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
   1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.

B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
   1. Mix herbicide with prime coat if formulated by manufacturer for that purpose.

C. Prime Coat: Apply uniformly over surface of compacted unbound-aggregate base course at a rate of 0.15 to 0.50 gal./sq. yd.. Apply enough material to penetrate and seal but not flood surface. Allow prime coat to cure for 72 hours minimum.
   1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
   2. Protect primed substrate from damage until ready to receive paving.

D. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd..
   1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
   2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.6 HOT-MIX ASPHALT PLACING

A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
   1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
   2. Place hot-mix asphalt surface course in single lift.
   3. Spread mix at minimum temperature of 250 deg F.
   4. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
   5. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
   1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.

C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.7 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.
   1. Clean contact surfaces and apply tack coat to joints.
   2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
   3. Offset transverse joints, in successive courses, a minimum of 24 inches.
   4. Construct transverse joints as described in AI MS-22, "Construction of Hot Mix Asphalt Pavements."

5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.
7. Provide edge key joint where new asphalt pavement abuts existing asphalt pavement, in accordance with KYTC Standard Drawings.

3.8 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
   1. Complete compaction before mix temperature cools to 185 deg F.

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
   1. Average Density: 96 percent of reference laboratory density according to AASHTO T 245, but not less than 94 percent nor greater than 100 percent.
   2. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.9 INSTALLATION TOLERANCES

A. Thickness: Compact each course to produce the thickness indicated within the following tolerances:
   1. Base Course: Plus or minus 1/2 inch.
   2. Surface Course: Plus 1/4 inch, no minus.

B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
   1. Base Course: 1/4 inch.
   2. Surface Course: 1/8 inch.
   3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.10 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.

B. Allow paving to age for 30 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

E. Apply thermoplastic markings in accordance with KYDOH Section 717.

3.11 WHEEL STOPS

A. Securely attach wheel stops into pavement with not less than two galvanized steel dowels embedded at one-quarter to one-third points. Securely install dowels into pavement and bond to wheel stop. Recess head of dowel beneath top of wheel stop.

3.12 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.
   1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.

B. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.

D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

E. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D 979 or AASHTO T 168.
   1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
   2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
      a. One core sample will be taken for every 1000 sq. yd. or less of installed pavement, with no fewer than 3 cores taken.
      b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.

F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.13 DISPOSAL

A. Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.
   1. Do not allow excavated materials to accumulate on-site.

END OF SECTION 32 1216

SECTION 32 1313 – CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes exterior cement concrete pavement for the following:

1. Service area pavements.
2. Curbs.
3. Walkways.

B. Related Sections include the following:

1. Division 03 Section "Cast-in-Place Concrete" for general building applications of concrete.
2. Division 31 Section "Earth Moving" for subgrade preparation, grading, and subbase course.
3. Division 32 Section "Concrete Paving Joint Sealants" for joint sealants of joints in concrete pavement and at isolation joints of concrete pavement with adjacent construction.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

1.4 SUBMITTALS

A. Product Data: For each type of manufactured material and product indicated.

B. Design Mixtures: For each concrete pavement mixture. Include alternate mixture designs when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Qualification Data: For manufacturer and testing agency.

D. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:

E. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements:

1. Cementitious materials.
2. Steel reinforcement and reinforcement accessories.
3. Admixtures.
4. Curing compounds.
5. Applied finish materials.
6. Bonding agent or epoxy adhesive.
7. Joint fillers.

F. Field quality-control test reports.

G. Minutes of preinstallation conference.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

B. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.

C. Concrete Testing Service: Engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.

D. Mockups: Cast mockups of full-size sections of concrete pavement to demonstrate typical joints, surface finish, texture, color, and standard of workmanship.

1. Build mockups in the location and of the size indicated or, if not indicated, as directed by Architect.
2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
3. Obtain Architect's approval of mockups before starting construction.
4. Maintain approved mockups during construction in an undisturbed condition as a standard for judging the completed pavement.
5. Demolish and remove approved mockups from the site when directed by Architect.
6. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1. Before submitting design mixtures, review concrete pavement mixture design and examine procedures for ensuring quality of concrete materials and concrete pavement construction practices. Require representatives, including the following, of each entity directly concerned with concrete pavement, to attend conference:

a. Contractor's superintendent.
b. Concrete pavement subcontractor.

1.6 PROJECT CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
2. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.

2.2 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.

1. Use flexible or curved forms for curves with a radius 100 feet or less.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.3 STEEL REINFORCEMENT

A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.

C. Plain Steel Wire: ASTM A 82, galvanized.

D. Joint Dowel Bars: Plain steel bars, ASTM A 615/A 615M, Grade 60. Cut bars true to length with ends square and free of burrs.

E. Tie Bars: ASTM A 615/A 615M, Grade 60, deformed.

F. Hook Bolts: ASTM A 307, Grade A, internally and externally threaded. Design hook-bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.

G. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete, and as follows:

1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.

2.4 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source throughout the Project:

1. Portland Cement: ASTM C 150, Type I, gray. Supplement with the following:

a. Fly Ash: ASTM C 618, Class F.

B. Normal-Weight Aggregates: ASTM C 33, Class 4S coarse aggregate, uniformly graded. Provide aggregates from a single source with documented service record data of at least 10 years' satisfactory service in similar pavement applications and service conditions using similar aggregates and cementitious materials.

1. Maximum Coarse-Aggregate Size: 1-1/2 inches nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M.

D. Air-Entraining Admixture: ASTM C 260.

E. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.5 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.

1. Available Products:

a. Axim Concrete Technologies; Cimfilm.
b. Burke by Edeco; BurkeFilm.
c. ChemMasters; Spray-Film.
d. Conspec Marketing & Manufacturing Co., Inc.; Aquafilm.
e. Dayton Superior Corporation; Sure Film.
f. Euclid Chemical Company (The); Eucobar.
g. Kaufman Products, Inc.; Vapor Aid.
h. Lambert Corporation; Lambco Skin.
i. L&M Construction Chemicals, Inc.; E-Con.
j. MBT Protection and Repair, ChemRex Inc.; Confilm.
k. Meadows, W. R., Inc.; Sealtight Evapre.
l. Metalcrete Industries; Waterhold.
m. Nox-Crete Products Group, Kinsman Corporation; Monofilm.
n. Sika Corporation, Inc.; SikaFilm.
o. Symons Corporation; Finishing Aid.
p. Vexcon Chemicals, Inc.; Certi-Vex EnvioAssist.

E. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.

1. Available Products:

a. Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
b. Burke by Edoko; Aqua Resin Cure.
c. ChemMasters; Safe-Cure Clear.
d. Conspec Marketing & Manufacturing Co., Inc.; W.B. Resin Cure.
e. Dayton Superior Corporation; Day Chem Rez Cure (J-11-W).
f. Euclid Chemical Company (The); Kurez DR VOX.
g. Kaufman Products, Inc.; Thinfilm 420.
h. Lambert Corporation; Aqua Kure-Clear.
i. L&M Construction Chemicals, Inc.; L&M Cure R.
j. Meadows, W. R., Inc.; 1100 Clear.
k. Nox-Crete Products Group, Kinsman Corporation; Resin Cure E.
l. Symons Corporation; Resi-Chem Clear.
m. Tamms Industries Inc.; Horncure WB 30.
n. Unitex; Hydro Cure 309.
o. Vexcon Chemicals, Inc.; Certi-Vex Enviocure 100.

2.6 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.

1. If an asphaltic fiber joint filler is utilized, provide an acceptable polyethylene bond breaker tape where joint sealant is indicated.

B. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to requirements, and as follows:

1. Types I and II, non-load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.

C. Chemical Surface Retarder: Water-soluble, liquid-set retarder with color dye, for horizontal concrete surface application, capable of temporarily delaying final hardening of concrete to a depth of 1/8 to 1/4 inch.

1. Available Products:

a. Burke by Edeco; True Etch Surface Retarder.
b. ChemMasters; Exposee.
c. Conspec Marketing & Manufacturing Co., Inc.; Delay S.
d. Euclid Chemical Company (The); Surface Retarder S.
e. Kaufman Products, Inc.; Expose.
f. Metalcrete Industries; Surftard.
g. Nox-Crete Products Group, Kinsman Corporation; Crete-Nox TA.
h. Scofield, L. M. Company; Lithotex.
i. Sika Corporation, Inc.; Rugasol-S.
j. Vexcon Chemicals, Inc.; Certi-Vex Envioset.

2.7 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.

1. Use a qualified independent testing agency for preparing and reporting proposed concrete mixture designs for the trial batch method.

B. Proportion mixtures to provide normal-weight concrete with the following properties:

1. Compressive Strength (28 Days): 4500 psi.
2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
3. Slump Limit: 4 inches, plus or minus 1 inch.

C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:

1. Air Content: 6 1/2 percent plus or minus 1.5 percent for 1-1/2-inch nominal maximum aggregate size.

D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.

E. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use high-range, high-range, water-reducing and retarding admixture in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

F. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 requirements for concrete exposed to deicing chemicals.

1. Fly Ash or Pozzolan: 15 percent.

2.8 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.

1. When air temperature is between 85 deg F and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.

B. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.

1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph.
2. Proof-roll with a loaded 10-wheel tandem-axle dump truck weighing not less than 15 tons.
3. Subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch require correction according to requirements in Division 31 Section "Earth Moving."

C. Proceed with concrete pavement operations only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch overlap of adjacent mats.

3.5 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.

1. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.

1. Continue steel reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
2. Provide tie bars at sides of pavement strips where indicated.
3. Butt Joints: Use epoxy bonding adhesive at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.

4. Keyed Joints: Provide preformed keyway-section forms or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 1-1/2 inches into concrete.
5. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.

C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.

1. Locate expansion joints at intervals of 50 feet, unless otherwise indicated.
2. Extend joint fillers full width and depth of joint.
3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated.
4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
6. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows to match jointing of existing adjacent concrete pavement:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
3. Doweled Contraction Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt coat one-half of dowel length to prevent concrete bonding to one side of joint.

E. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

A. Inspection: Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast in. Notify other trades to permit installation of their work.

B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

E. Do not add water to concrete during delivery or at Project site.

F. Do not add water to fresh concrete after testing.

G. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

H. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.

I. Place concrete in two operations; strike off initial pour for entire width of placement and to the required depth below finish surface. Lay welded wire fabric or fabricated bar mats immediately in final position. Place top layer of concrete, strike off, and screed.

1. Remove and replace concrete that has been placed for more than 15 minutes without being covered by top layer, or use bonding agent if approved by Architect.

J. Screed pavement surfaces with a straightedge and strike off.

K. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

L. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
2. Do not use frozen materials or materials containing ice or snow.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mix designs.

M. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:

1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature,

provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

1. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
2. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.

3.8 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with ACI 306.1 for cold-weather protection.

C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:

1. Moist Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

a. Water.
b. Continuous water-fog spray.
c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.9 PAVEMENT TOLERANCES

A. Comply with tolerances of ACI 117 and as follows:

1. Elevation: 1/4 inch.
2. Thickness: Plus 3/8 inch, minus 1/4 inch.
3. Surface: Gap below 10-foot- long, unleveled straightedge not to exceed 1/4 inch.
4. Lateral Alignment and Spacing of Tie Bars and Dowels: 1 inch.
5. Vertical Alignment of Tie Bars and Dowels: 1/4 inch.
6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 1/2 inch.
7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge: Length of dowel 1/4 inch per 12 inches.
8. Joint Spacing: 3 inches.
9. Contraction Joint Depth: Plus 1/4 inch, no minus.
10. Joint Width: Plus 1/8 inch, no minus.

3.10 REPAIRS AND PROTECTION

A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.

B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.

C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 321313

SECTION 321373 – CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General, Supplementary and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Expansion and contraction joints within cement concrete pavement.

B. Related Sections include the following:

1. Division 07 Section "Joint Sealants" for sealing nontraffic and traffic joints in locations not specified in this Section.
2. Division 32 Section "Concrete Paving" for constructing joints in concrete pavement.

1.3 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples for Verification: For each type and color of joint sealant required. Install joint-sealant samples in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.

C. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.

D. Qualification Data: For Installer.

E. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:

1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for sealants.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

C. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing of current sealant products within a 36-month period preceding the Notice to Proceed with the Work.

1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 for testing indicated, as documented according to ASTM E 548.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.

B. Store and handle materials to comply with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.6 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
2. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
3. When joint substrates are wet or covered with frost.
4. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
5. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.3 COLD-APPLIED JOINT SEALANTS

A. Multicomponent Jet-Fuel-Resistant Sealant for Concrete: Pourable, chemically curing elastomeric formulation complying with the following requirements for formulation and with ASTM C 920 for type, grade, class, and uses indicated:

1. Urethane Formulation: Type M; Grade P; Class 12-1/2; Uses T, M, and, as applicable to joint substrates indicated, O.

a. Available Products:

1) Pecora Corporation; Urexpan, Dynatred.
2) Sonneborn, Div. of ChemRex, Inc.; Sonolastic SL 2.

B. Single-Component Jet-Fuel-Resistant Urethane Sealant for Concrete: Single-component, pourable, coal-tar-modified, urethane formulation complying with ASTM C 920 for Type S; Grade P; Class 25; Uses T, M, and, as applicable to joint substrates indicated, O.

1. Available Products:

a. Sonneborn, Div. of ChemRex, Inc.; Sonolastic SL 1.
b. Tremco Sealant/Waterproofing Division; Vulkem 45SSL.

2.4 JOINT-SEALANT BACKER MATERIALS

A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.

B. Round Backer Rods for Cold- and Hot-Applied Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

C. Backer Strips for Cold- and Hot-Applied Sealants: ASTM D 5249; Type 2; of thickness and width required to control sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

D. Round Backer Rods for Cold-Applied Sealants: ASTM D 5249, Type 3, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

2.5 PRIMERS

A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.

B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install backer materials of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of backer materials.
2. Do not stretch, twist, puncture, or tear backer materials.
3. Remove absorbent backer materials that have become wet before sealant application and replace them with dry materials.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.

2. Completely fill recesses provided for each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealants from surfaces adjacent to joint.
2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.

F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions, unless otherwise indicated.

G. Provide recessed joint configuration for silicone sealants of recess depth and at locations indicated.

3.4 CLEANING

A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations with repaired areas are indistinguishable from the original work.

END OF SECTION 321373

SECTION 321443 - POROUS UNIT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Porous paving consisting of concrete pavers set in aggregate setting beds.

B. Related Sections include the following:

1. Division 31 Section "Earth Moving" for excavation and compacted subgrade.
2. Division 32 Section "Concrete Pavement" for cast-in-place concrete curbs that serve as edge restraints for porous paving.

1.3 SUBMITTALS

A. Product Data: For materials other than aggregates.

B. Product Data: For the following:

1. Pavers.
2. Geotextiles.

C. Sieve Analyses: For aggregate materials, according to ASTM C 136.

D. Samples for Initial Selection:

1. Each type of unit paver indicated.
2. Aggregate fill.

E. Material Certificates: For unit pavers. Include statements of material properties indicating compliance with requirements, including compliance with standards. Provide for each type and size of unit.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for unit pavers, indicating compliance with requirements.

1. For solid interlocking paving units, include test data for freezing and thawing according to ASTM C 67.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of porous paver from one source that has resources to provide materials and products of consistent quality in appearance and physical properties.

B. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

B. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

PART 2 - PRODUCTS

2.1 CONCRETE UNIT PAVERS

A. Solid Concrete Pavers for Porous Paving: Solid interlocking paving units of shapes that provide openings between units, complying with ASTM C 936, resistant to freezing and thawing when tested according to ASTM C 67, and made from normal-weight aggregates.

1. Basis-of-Design Product: Subject to compliance with requirements, provide “Hydra-bric” manufactured by Paverlock Corporation or one of the following products:
   a. Nitterhouse ‘Aquapave’
   b. Unilock ‘Eco Prioria’
2. Thickness: 3.125 inches.
3. Face Size and Shape: 3.88 inches x 8 inches.
4. Color: As selected by Architect from manufacturer's full range.
5. Unit pavers / porous unit paving system must comply with ADA / ADAAG requirements and tolerances for accessible pavements.
6. Herringbone pattern as indicated on drawings, with soldier edge course continuous around pavers.

2.2 AGGREGATE SETTING-BED MATERIALS

A. Graded Aggregate for Base Course: Requirements in Division 2 Section "Earthwork" for base material. Base material shall be roof top stone, which shall be #57’s as provided as part of roofing / Alternate No. 1 scope.

B. Graded Aggregate for Leveling Course: Sound crushed stone or gravel complying with ASTM D 448 for Size No. 10.

C. Graded Aggregate for Porous Paver Fill: Sound crushed stone or gravel complying with ASTM D 448 for Size No. 11.

D. Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 2; AASHTO M 288.
2. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
3. Permittivity: 0.5 per second, minimum; ASTM D 4491.
4. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

PART 3 - EXECUTION

3.1 PREPARATION

A. Proof-roll prepared subgrade according to requirements in Division 2 Section "Earthwork" to identify soft pockets and areas of excess yielding. Proceed with porous paver installation only after deficient subgrades have been corrected and are ready to receive base course for porous paving.

3.2 INSTALLATION, GENERAL

A. Do not use unit pavers with chips, cracks, voids, discolorations, and other defects that might be structurally unsound or visible in finished work.

B. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

C. Tolerances:

1. Variation in Plane between Adjacent Units (Lipping): Do not exceed 1/16-inch unit-to-unit offset from flush.
2. Variation from Level or Indicated Slope: Do not exceed 1/8 inch in 24 inches and 1/4 inch in 10 feet or a maximum of 1/2 inch.

D. Verify that curbs provided under Division 2 Section “Cement Concrete Paving” are in-place before placing unit pavers.

3.3 SETTING-BED INSTALLATION

A. Place drainage geotextile over compacted base course, overlapping ends and edges at least 12 inches.

B. Place leveling course and screed to a thickness of 1 to 1-1/2 inches, taking care that moisture content remains constant and density is loose and constant until pavers are set and compacted.

3.4 PAVER INSTALLATION

A. Set unit pavers on leveling course, being careful not to disturb leveling base. If pavers have lugs or spacer bars to control spacing, place pavers hand tight against lugs or spacer bars. If pavers do not have lugs or spacer bars, place pavers with a 1/16-inch- minimum and 1/8-inch-maximum joint width. Use string lines to keep straight lines. Fill gaps between units that exceed 3/8 inch with pieces cut to fit from full-size pavers.

1. When installation is performed with mechanical equipment, use only unit pavers with lugs or spacer bars on sides of each unit.

B. Compact pavers into leveling course with a low-amplitude plate vibrator capable of a 3500- to 5000-lbf compaction force at 80 to 90 Hz. Use vibrator with neoprene mat on face of plate or other means as needed to prevent cracking and chipping of pavers. Perform at least three passes across paving with vibrator.

1. Compact pavers when there is sufficient surface to accommodate operation of vibrator, leaving at least 36 inches of uncompacted pavers adjacent to temporary edges.
2. Before ending each day's work, compact installed concrete pavers except for 36-inch width of uncompacted pavers adjacent to temporary edges (laying faces).
3. As work progresses to perimeter of installation, compact installed pavers that are adjacent to permanent edges unless they are within 36 inches of laying face.
4. Before ending each day's work and when rain interrupts work, cover pavers that have not been compacted and leveling course on which pavers have not been placed with nonstaining plastic sheets to protect them from rain.

C. Place graded aggregate fill immediately after vibrating pavers into leveling course. Spread and screed aggregate fill level with tops of pavers.

1. Before ending each day's work, place aggregate fill in installed porous paving except for 42-inch width of unfilled paving adjacent to temporary edges (laying faces).
2. As work progresses to perimeter of installation, place aggregate fill in installed paving that is adjacent to permanent edges unless it is within 42 inches of laying face.
3. Before ending each day's work and when rain interrupts work, cover paving that has not been filled with nonstaining plastic sheets to protect it from rain.

D. Remove and replace pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

END OF SECTION 321443

SECTION 323113 - CHAIN LINK FENCING AND GATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Chain-Link Fences: Light Industrial.

2. Chain-Link Gates: Light Industrial

3. Gate Operators: Light Industrial, compatible with the Using Agency's security system as specified elsewhere in the Contract Documents. Refer to Site Electrical Plans and Specifications for additional requirements.

B. Related Sections include the following:

1. Division 03 Section "Cast-in-Place Concrete" for concrete post concrete fill.
2. Division 31 Section "Earth Moving" for site excavation, fill, and backfill where chain-link fences and gates are located.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at project site.
1. Review sequence of installation of fencing and gates and project coordination and requirements.

1.4 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide chain-link fences and gates capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Minimum Post Size and Maximum Spacing for Wind Velocity Pressure: Determine based on mesh size and pattern specified, and on the following minimum design wind pressures and according to CLFMI WLG 2445:

a. Wind Speed: 80 mph.
b. Fence Height: 10 feet.
c. Line Post Group: IA, ASTM F 1043, SS 40 steel pipe.
d. Wind Exposure Category: B.

2. Determine minimum post size, group, and section according to ASTM F 1043 for framework up to 12 feet high, and post spacing not to exceed 10 feet.

1.5 SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chain-link fences and gates.

1. Fence and gate posts, rails, and fittings.
2. Chain-link fabric, reinforcements, and attachments.

B. Shop Drawings: Show locations of fences, gates, posts, rails, tension wires, details of extended posts, extension arms, gate swing, or other operation, hardware, and accessories. Indicate materials, dimensions, sizes, weights, and finishes of components. Include plans, gate elevations, sections, details of post anchorage, attachment, bracing, and other required installation and operational clearances.
1. Delegated-Design Submittal: For structural performance of chain-link fence and gate frameworks, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Samples for Verification: For each type of chain-link fence and gate indicated.
1. Galvanized steel wire (for fabric) in 6-inch lengths

D. Product Certificates: For each type of chain-link fence, and gate, signed by product manufacturer.

1. Strength test results for framing according to ASTM F 1043.

E. Qualification Data: For Installer.

F. Field quality-control test reports.

G. Sample Warranty: For special warranty.

H. Close-out submittal of Operation and Maintenance Data: For the following to include in maintenance manuals:
1. Galvanized finishes
2. Gates
3. Gate operators

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An experienced installer who has completed chain-link fences and gates similar in material, design, and extent to those indicated for this Project and whose work

has resulted in construction with a record of successful in-service performance, minimum of five years of experience installing similar projects in accordance with ASTM F567.

1. Engineering Responsibility: Preparation of data for chain-link fences and gates, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

B. Single Source: To ensure system integrity obtain the chain link system, framework, fabric, fittings, gates and accessories from a single source.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

1.8 WARRANTY

A. Special Warranty: Installer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Failure to comply with performance requirements.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Chain-link fence and gate frameworks shall withstand the design wind loads and stresses for fence height(s) and under exposure conditions indicated according to Kentucky Building Code and in compliance with local requirements.

1. Design Wind Speed: 80mph.

a. Minimum Post Size: Refer to Drawings
b. Minimum Post Size and Maximum Spacing: Refer to Drawings

B. Lightning Protection System: Maximum resistance-to-ground value of 25 ohms at each grounding location along fence under normal dry conditions.

2.2 MANUFACTURERS

A. Basis of Design: Basis of design product is Master Halco Galvanized Chain Link Fabric on Galvanized Framework and galvanized fabric and framework. Subject to compliance with requirements, manufacturers offering equivalent products that may be incorporated into the Work include but are not limited to the following:

1. Chain-Link Fences and Gates:

   a. Allied Tube & Conduit
   b. AMESCO Incorporated
   c. Boundary Fence Systems
   d. FRP Systems, Inc.
   e. Merchants Metals
   f. Hoover Fence Company
   g. Rio Grande Fence Company

2.3 CHAIN-LINK FENCE FABRIC

A. General: Height indicated on Drawings. Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle. Comply with ASTM A 392, CLFMI CLF 2445, and requirements indicated below:

1. Steel Wire Fabric: Galvanized or Polymer-coated wire with a diameter of 0.148 inch. Refer to Drawings for type.

   a. Mesh Size: 2 inches.
   b. Weight of Metallic (Zinc) Coating: ASTM A 392, Type II, Class 2, 2.0 oz./sq. ft. with zinc coating applied after weaving.

   c. Coat selvage ends of fabric that is metallic coated before the weaving process with manufacturer's standard clear protective coating.

2. Selvage: knuckled top and knuckled bottom.

2.4 LIGHT INDUSTRIAL FENCE FRAMEWORK

A. Posts and Rails: Comply with ASTM F 1043 for framing, ASTM F 1083 for Group IC round pipe, and the following:

1. Group: IA, round steel pipe, SS 40.
2. Fence Height: 8 feet.
3. Strength Requirement: Light Industrial according to ASTM F 1043.
4. Post Diameter and Thickness: According to ASTM F 1043.

   a. Rail, line post, end, corner and pull posts as indicated on Drawings and per Manufacturer recommendations for conditions noted.

5. Coating for Steel Framing:

a. Galvanized zinc coating.

B. TENSION WIRE
1. General: Provide horizontal tension wire at the following locations:

2. Location: Where indicated on Drawings
3. Metallic-Coated Steel Wire: 0.177-inch- diameter, marcelled tension wire complying with ASTM A 817, ASTM A 824, and the following:

4. Metallic Coating: Type II, zinc coated (galvanized) by electrolytic process, with the following minimum coating weight:
a. Matching chain-link fabric coating weight.

C. Horizontal Framework Members: top rails according to ASTM F1043.
1. Top Rail: Refer to Drawings
2. Finish: Match Fence Framing and Fabric

3. Brace Rails: ASTM F1043.

2.5 CHAIN LINK SLIDE GATES

A. General: Slide gate dimensions and materials as indicated on plans.

B. Cantilever gate frames consist of minimum 2-1/2" O.D. horizontal rails, 2" O.D. vertical bracing, and 1-5/8" diagonal bracing; all are welded and galvanized for the longest lasting gate. Chain link is 9ga. 2" mesh (1.2 oz. zinc galvanized after weaving). Gates are fully stretched, including counterbalance as indicated on the Drawings.

C. The slide gate counterbalance should be approximately 1/2 the length of the gate opening. Minimum counter balance should be 4' long.

D. 4" O.D. steel posts up to 20' and 6-5/8" O.D. steel posts up to 32'. These specifications are for 6' high gates and shorter. For taller gates increase post sizes at each step.

E. Concrete footers shall be18" diameter x 42" deep for 3-4" posts, 24" diameter x 42" for 6-5/8" O.D. posts and 30" diameter x 48" for 8-5/8" O.D. posts. Increase bottom diameters 6"; creating a bell-shaped hole. The up and down stress with these type gates will 'work' even the largest posts out of the ground. Poor soil conditions, such as sand, will require larger footers. Always consult local building codes or practices prior to beginning any construction project. Call 811 prior to excavating post hole footers.

F. Finishes: To match specified fence finish.

G. Provide loop detection on the inside pavement / exiting side of the gate only. Use Manufacturer’s standard loop detection system for the gate type specified, to coordinate with the gate operator.

2.6 GATE OPERATORS

A. General: Provide factory-assembled automatic operating system designed for gate size, type, weight, and operation frequency. Provide operation control system with characteristics suitable for Project conditions, with remote-control stations, safety devices, and weatherproof enclosures; coordinate electrical requirements with building electrical system.
   1. Provide operator designed so motor may be removed without disturbing limit-switch adjustment and without affecting auxiliary emergency operator.
   2. Provide operator with UL -approved components.
   3. Provide electronic components with built-in troubleshooting diagnostic feature.
   4. Provide unit designed and wired for both right-hand/left-hand opening, permitting universal installation.
   5. Provide controllers, electrical devices, and wiring.
   6. Controller shall be capable of / integrated into building security and hardware system as specified in other areas of these Contact Documents.
   7. 110V AC, 1 HP operator suitable for size and specifications of sliding gate as indicated in Documents.

B. Motors: Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Section 11005 "Common Motor Requirements for Equipment."
   1. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.

C. Gate Operators: Gate mounted and as follows:
   1. Mechanical Slide Gate Operators:
      a. Duty: Heavy duty, commercial/industrial.
      b. Gate Speed: Minimum 45 feet per minute.
      c. Frequency of Use: Continuous duty.
      d. Operating Type: Crank arm, Wheel, and rail drive Roller chain, with manual release.
      e. Drive Type: Enclosed worm gear and chain-and-sprocket reducers, roller-chain drive.

D. Remote Controls: Electric controls separated from gate and motor and drive mechanism, with NEMA ICS 6, Type 1, NEMA ICS 6, Type 4 enclosure for pedestal mounting, and with space for additional optional equipment. Provide the following remote-control device(s):
   1. Control Station: Momentary-contact, single three-button-operated with open, stop, and close function; located remotely from gate. Key switch to lock out open and close buttons.
   2. Card Reader: Card reader to be supplied by KSP. Contractor to provide power and data supply or conduit as indicated in Drawings, and provide and install card reader base and keypad.
   3. Digital Keypad Entry Unit: Multiple-programmable, code capability of not less than 500 possible individual codes, consisting of 1- to 7-digit codes, and permitting 4 different access time periods.
      a. Face-lighted unit with metal-keyed or keyless-membrane keypad fully visible at night.
   4. Vehicle Loop Detector: System including automatic closing timer with adjustable time delay before closing and loop detector designed to hold gate open until traffic clears. Provide electronic detector with adjustable detection patterns, adjustable sensitivity and

frequency settings, and panel indicator light designed to detect presence or transit of a vehicle over an embedded loop of wire and to emit a signal activating the gate operator. Provide number of loops consisting of multiple strands of wire, number of turns, loop size, and method of placement at location shown on Drawings, as recommended in writing by detection system manufacturer for function indicated.

a. Loop: Wire, in size indicated for field assembly, for saw cut with epoxy-grouted installation.

E. Obstruction Detection Devices: Provide each motorized gate with automatic safety sensor(s). Activation of sensor(s) causes operator to immediately function as follows:

1. Action: Stop gate in opening cycle and reverse gate in closing cycle and hold until clear of obstruction.
2. Internal Sensor: Built-in torque or current monitor senses gate is obstructed.

F. Limit Switches: Adjustable switches, interlocked with motor controls and set to automatically stop gate at fully retracted and fully extended positions.

G. Emergency Release Mechanism: Quick-disconnect release of operator drive system of the following type of mechanism, permitting manual operation if operator fails. Design system so control-circuit power is disconnected during manual operation.

1. Type: Integral fail-safe release, allowing gate to be pushed open without mechanical devices, keys, cranks, or special knowledge.

H. Operating Features:

1. System Integration: With controlling circuit board capable of accepting any type of input from external devices.
2. Master/Slave Capability: Control stations designed and wired for gate pair operation.
3. Automatic Closing Timer: With adjustable time delay before closing and timer cutoff switch.
4. Open Override Circuit: Designed to override closing commands.
5. Reversal Time Delay: Designed to protect gate system from shock load on reversal in both directions.
6. Maximum Run Timer: Designed to prevent damage to gate system by shutting down system if normal time to open gate is exceeded.
7. Clock Timer: 24-hour programmable for regular events.

I. Accessories:

1. Battery Backup System: Battery-powered drive and access-control system, independent of primary drive system:
   a. Fail Safe: Gate opens and remains open until power is restored.
   b. Fail Secure: Gate cycles on battery power, then fail safe when battery is discharged.

2.7 FITTINGS

A. General: Comply with ASTM F 626.

B. Post caps: Provide for each post.

1. Provide line post caps with loop to receive top rail.

2.8 CAST-IN-PLACE CONCRETE

A. Materials: Portland cement complying with ASTM C 150, Type I aggregates complying with ASTM C 33, and potable water for ready-mixed concrete complying with ASTM C 94/C 94M.

1. Concrete Mixes: Normal-weight concrete air entrained with not less than 3500-psi compressive strength (28 days), 3-inch slump, and 1-inch maximum size aggregate.

2.9 GROUT AND ANCHORING CEMENT

A. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M. Provide grout, recommended in writing by manufacturer, for exterior applications.

B. Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating, and that is recommended in writing by manufacturer for exterior applications.

2.10 GROUNDING MATERIALS

A. Comply with requirements in Section 260526 "Grounding and Bonding for Electrical Systems."

B. Connectors and Grounding Rods: Listed and labeled for complying with UL 467.

1. Connectors for Below-Grade Use: Exothermic welded type.
2. Grounding Rods: Copper-clad steel, 5/8 by 96 inches (16 by 2440 mm).

2.11 PRIVACY SLATS

A. HDPE Privacy slats, 8’ to match fence height.

B. Privacy slats to be designed for 90% screening, for 2” chain link fence fabric, provided by the same manufacturer of the chain link fencing system and installed per Manufacturer specifications.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for a verified survey of property lines and legal boundaries, site clearing, earthwork, pavement work, and other conditions affecting performance.

1. Do not begin installation before final grading is completed, unless otherwise permitted by Architect.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements specified.

1. Install fencing on established boundary lines inside property line.

3.4 CHAIN-LINK FENCE INSTALLATION

A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

B. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.

1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.

    a. Exposed Concrete: Flush to adjacent surface, shape and smooth to shed water.

C. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 30 degrees or more.

D. Line Posts: Space line posts uniformly at 8 feet o.c., max.

E. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Install braces at end and gate posts and at both sides of corner and pull posts.

1. Locate horizontal braces at midheight of fabric 6 feet or higher, on fences with top rail and at 2/3 fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

F. Top Rail: Install according to ASTM F567, maintaining plumb position and alignment of fence posts. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.

G. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch- diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric.

1. Top Tension Wire where indicated: Install tension wire through post cap loops.
2. Bottom Tension Wire where indicated: Install tension wire within 6 inches of bottom of fabric and tie to each post with not less than same diameter and type of wire.

H. Chain-Link Fabric: Apply fabric to outside of enclosing framework. Leave 2 inches between finish grade or surface and bottom selvage, unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

I. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c.

J. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at 1 end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

K. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

3.5 GATE INSTALLATION

A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation.

3.6 GROUNDING AND BONDING

A. Fence and Gate Grounding:

1. Ground for fence and fence posts shall be a separate system from ground for gate and gate posts.
2. Install ground rods and connections at maximum intervals of 1500 feet
3. Fences within 100 Feet (30 m) of Buildings, Structures, Walkways, and Roadways: Ground at maximum intervals of 750 feet.
4. Ground fence on each side of gates and other fence openings.

    a. Bond metal gates to gate posts.

b. Bond across openings, with and without gates, except openings indicated as intentional fence discontinuities. Use No. 2 AWG wire and bury it at least 18 inches below finished grade.

B. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a ground rod located a maximum distance of 150 feet on each side of crossing.

C. Fences Enclosing Electrical Power Distribution Equipment: Ground according to IEEE C2 unless otherwise indicated.

D. Grounding Method: At each grounding location, drive a grounding rod vertically until the top is 6 inches below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at grounding location.

1. Make grounding connections to each barbed wire strand with wire-to-wire connectors designed for this purpose.
2. Make grounding connections to each barbed tape coil with connectors designed for this purpose.

E. Connections:

1. Make connections with clean, bare metal at points of contact.
2. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
3. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
4. Make above-grade ground connections with mechanical fasteners.
5. Make below-grade ground connections with exothermic welds.
6. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

F. Bonding to Lightning Protection System: Ground fence and bond fence grounding conductor to lightning protection down conductor or lightning protection grounding conductor according to NFPA 780.

3.7 ADJUSTING

A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Lubricate hardware and other moving parts.

3.8 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain chain-link fences and gates.

END OF SECTION 323113

SECTION 32 9200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General, Supplementary and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Hydroseeding
2. Sodding.
3. Lawn renovation.
4. Erosion-control material(s).

B. Related Sections:

1. Division 31 Section "Site Clearing" for topsoil stripping and stockpiling.
2. Division 31 Section "Earth Moving" for excavation, filling and backfilling, and rough grading.

1.3 DEFINITIONS

A. Finish Grade: Elevation of finished surface of planting soil.

B. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

C. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.

D. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

1. Certification of each seed mixture for turfgrass sod, identifying source, including name and telephone number of supplier.

C. Qualification Data: For qualified landscape Installer.

D. Product Certificates: For soil amendments and fertilizers, from manufacturer.

E. Material Test Reports: For existing surface soil.

F. Samples for Verification: For each of the following:

1. Erosion Control Blanket: 12 by 12 inches.

G. Planting Schedule: Indicating anticipated planting dates for each type of planting.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful lawn and meadow establishment.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.
2. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.

B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of topsoil.

1. Report suitability of topsoil for lawn growth. State-recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

D. Preinstallation Conference: Conduct conference at Project site.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Seed: Deliver seed in original sealed, labeled, and undamaged containers.

B. Sod: Harvest, deliver, store, and handle sod according to requirements in TPI's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding." Deliver sod in time for planting within 24 hours of harvesting. Protect sod from breakage and drying.

1.7 PROJECT CONDITIONS

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with initial maintenance periods to provide required maintenance from date of Substantial Completion.

1. Summer Planting: July 1st – September 1st

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

1.8 MAINTENANCE SERVICE

A. Initial Lawn Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:

1. Seeded Lawns: 60 days from date of Project Substantial Completion.

a. When initial maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.

2. Sodded Lawns: 60 days from date of Project Substantial Completion.

PART 2 - PRODUCTS

2.1 SEED FOR HYDROSEEDING

A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.

B. Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:

1. Sun to Partial Shade: Proportioned by weight as follows:

a. 85 percent blend three species of Turf Type Tall Fescues. Cultivars shall be specifically tolerant for summer season seeding.
b. 15 percent perennial ryegrass.
2. Seed Grade: Certified Turf Quality.
3. Application Rate: 2.5 lbs/1000 sf
4. Seed shall be weed free, fresh, re-cleaned, Grade A, new crop.

C. Hydro-Mulch:
1. Cellulose wood fiber with no growth or germination inhibiting factors, dyed green. Material shall have equilibrium air-dry moisture content of twelve (12) percent, plus or minus two (2) percent, at time of manufacture.

2. Fiber shall disperse rapidly in water forming homogeneous slurry and remaining in such state when agitated in hydro-mulching equipment.

D. Binders:
1. Tackifier to bind soil and mulch together to prevent erosion.

E. Fungicide for use with Hydroseeding application.

F. Fertilizer: 16-20-0.

2.2 MIXES FOR HYDROSEEDING

A. General:
1. Amount of hydro-mulch shall be 1800 lbs per acre.
2. Add water as necessary to provide suitable slurry mixture.
3. Add fungicide at rates recommended by Manufacturer on installations made between 1st of June and 30 September.

2.3 TURFGRASS SOD

A. Turfgrass Sod: Certified, complying with TPI's "Specifications for Turfgrass Sod Materials" in its "Guideline Specifications to Turfgrass Sodding." Furnish viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted. Do not use sod with netting.

B. Turfgrass Species: Sod of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:

1. Full Sun: Blend of three “fine blade turf type” Tall Fescue cultivars acceptable to the Architect.

2.4 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 2 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.

1. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.

a. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from bogs or marshes.

2.5 INORGANIC SOIL AMENDMENTS

A. Lime: ASTM C 602, agricultural limestone containing a minimum of 80 percent calcium carbonate equivalent and as follows:

1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.

2.6 PLANTING ACCESSORIES

A. Selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application.

2.7 FERTILIZER

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

2.8 MULCHES

A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

B. Asphalt Emulsion: ASTM D 977, Grade SS-1; nontoxic and free of plant-growth or germination inhibitors.

2.9 EROSION-CONTROL MATERIALS

A. Erosion Control Blankets: For slopes exceeding 6:1 and not indicated to be sodded. Short term, 100% biodegradable double net straw fiber erosion control blanket designed for use on moderate slopes for up to 1 year. Blanket shall be sewn together on 1.5” centers, FHWA FP-03, Type 2D erosion control blanket for slopes up to 2:1. 100% agricultural straw fiber matrix, straw applied at a rate of .5lbs/SY, top and bottom leno woven biodegradable nets with a mesh size of .5x1 inches, 100% biodegradable leno woven net, thread and matrix. Erosion Control Blanket S32BD or an equivalent product.

2.10 PLANTING SOIL MIX

A. Planting Soil Mix: Topsoil mixed with the following soil amendments and fertilizers in the following quantities:

1. Weight of Lime per 1000 Sq. Ft.: As determined by Soil Test.
2. Weight of Sulfur per 1000 Sq. Ft.: As determined by Soil Test..

3. Weight of Commercial Fertilizer per 1000 Sq. Ft.: As determined by Soil Test.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.

1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
2. Protect grade stakes set by others until directed to remove them.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 FIELD QUALITY CONTROL

A. Field Inspections:
1. Seeded areas will be accepted at final inspection if:
a. Seeded areas are properly established.
b. Lawn is free of bare and dead spots and is without weeds.
c. No surface soil is visible when grass has been cut to height of 2 inches.
d. Seeded areas have been mowed a minimum of twice.

3.4 LAWN PREPARATION

A. Limit lawn subgrade preparation to areas to be planted.

B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 6 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.

a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
b. Mix lime with dry soil before mixing fertilizer.

2. Spread planting soil mix to a depth of 6 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.

    a. Spread approximately 1/2 the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil mix.
    b. Reduce elevation of planting soil to allow for soil thickness of sod.

C. Unchanged Subgrades: If lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:

1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
2. Loosen surface soil to a depth of at least 6 inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 4 inches of soil. Till soil to a homogeneous mixture of fine texture.

    a. Apply fertilizer directly to surface soil before loosening.

3. Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.
4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.

D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

E. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

F. Before planting, restore areas if eroded or otherwise disturbed after finish grading.

3.5 PREPARATION FOR EROSION-CONTROL MATERIALS

A. Prepare area as specified in "Lawn Preparation" Article.

B. For erosion-control blanket and turf reinforcement mat, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.

C. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.6 HYDROSEEDING

A. Interface With Other Work:
    1. Do not commence work of this Section until work of section 312000 Earth Moving has been completed and approved.

B. Tolerances:
   1. Final grade of soil after seeding of lawn areas is complete shall be one inch below top of adjacent pavement of any kind.

C. After lawn areas are graded, apply specified slurry mix with machine capable of continuously mixing slurry and providing an application meeting Contract Document requirements. Hydro-mulch shall form an absorptive mat, but not a plant inhibiting membrane, which will allow water to percolate into underlying soil.

D. Post Application Watering:
   1. Allow slurry mixture to 'set.'
   2. Water hydro-seeded areas sufficiently to insure proper seed germination, but not cause erosion or slope failure. Repeat watering at regular intervals to keep seed germinating and growing until plantings are established. Note hydroseeding will take place in summer months and Contractor shall water accordingly to provide establishment in hot, dry conditions.
   3. After plantings are established, decrease frequency and increase amount of water per application as necessary to meet plant water requirements.

E. If fungicide has been applied with slurry mix, make a second application of fungicide fourteen (14) days after initial application.

3.7 SODDING

A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.

B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

   1. Lay sod across angle of slopes exceeding 1:3.
   2. Anchor sod on slopes exceeding 1:6 with wood pegs spaced as recommended by sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.

C. Saturate sod with fine water spray within two hours of planting. During first week after planting, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below sod.

3.8 LAWN RENOVATION

A. Renovate existing lawn damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.

   1. Reestablish lawn where settlement or washouts occur or where minor regrading is required.
   2. Provide new topsoil as required.

3. Lawn renovation shall be done by hydroseeding.

B. Remove sod and vegetation from diseased or unsatisfactory lawn areas; do not bury in soil.

C. Remove topsoil containing foreign materials resulting from Contractor's operations, including oil drippings, fuel spills, stone, gravel, and other construction materials, and replace with new topsoil.

D. Mow, dethatch, core aerate, and rake existing lawn.

E. Remove weeds before hydroseeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.

F. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.

G. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches.

H. Apply soil amendments and initial fertilizers required for establishing new lawns and mix thoroughly into top 4 inches of existing soil. Provide new planting soil to fill low spots and meet finish grades.

I. Apply seed and protect with straw mulch as required for new lawns.

J. Water newly planted areas and keep moist until new lawn is established.

3.9 LAWN MAINTENANCE

A. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn. Provide materials and installation the same as those used in the original installation.

1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.

B. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep lawn uniformly moist to a depth of 4 inches.

1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
2. Water lawn with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

C. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:

1. Mow grass to a height of 2 to 3 inches.

D. Lawn Postfertilization: Apply fertilizer after initial mowing and when grass is dry.

1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. to lawn area.

3.10 SATISFACTORY LAWNS

A. Lawn installations shall meet the following criteria as determined by Architect:

1. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
2. Satisfactory Sodded Lawn: At end of maintenance period, a healthy, well-rooted, even-colored, viable lawn has been established, free of weeds, open joints, bare areas, and surface irregularities.

B. Use specified materials to reestablish lawns that do not comply with requirements and continue maintenance until lawns are satisfactory.

3.11 LAWN WARRANTY

A. Warranty for all seeded and sodded lawns shall be for one (1) year past the date of project Final Completion.

3.12 CLEANUP AND PROTECTION

A. Promptly remove soil and debris, created by lawn work, from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after lawn is established.

C. Remove nondegradable erosion-control measures after grass establishment period.

END OF SECTION 32 92 00

SECTION 329300 – PLANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Trees
   2. Shrubs
   3. Perennials
   4. Groundcovers

B. Related Sections:

   1. Division 31 Section "Site Clearing" for protection of existing trees and plantings, topsoil stripping and stockpiling, and site clearing.
   2. Division 31 Section "Earth Moving" for excavation, filling, and rough grading and for subsurface aggregate drainage and drainage backfill materials.
   3. Division 32 Section "Turf and Grasses" for lawn.
   4. Division 33 Section "Subdrainage" for below-grade drainage of landscaped areas, paved areas, and wall perimeters, if applicable.

1.3 DEFINITIONS

A. Backfill: The earth used to replace or the act of replacing earth in an excavation.

B. Balled and Burlapped Stock: Exterior plants dug with firm, natural balls of earth in which they are grown, with ball size not less than sizes indicated; wrapped, tied, rigidly supported, and drum laced as recommended by ANSI Z60.1.

C. Clump: Where three or more young trees were planted in a group and have grown together as a single tree having three or more main stems or trunks.

D. Container-Grown Stock: Healthy, vigorous, well-rooted exterior plants grown in a container with well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of exterior plant required.

E. Finish Grade: Elevation of finished surface of planting soil.

F. Multi-Stem: Where three or more main stems arise from the ground from a single root crown or at a point right above the root crown.

G. Planting Soil: Native or imported topsoil, mixed with soil amendments.

H. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.

I. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples for Verification: For each of the following:

1. Edging materials and accessories, of manufacturer's standard size, to verify color selected.

C. Qualification Data: For qualified landscape Installer.

D. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:

1. Manufacturer's certified analysis for standard products.
2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.

E. Material Test Reports: For existing surface soil and imported topsoil.

F. Planting Schedule: Indicating anticipated planting dates for exterior plants.

G. Warranty: Sample of special warranty.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of exterior plants.

1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.

B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

C. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of topsoil.

1. Report suitability of topsoil for plant growth. State-recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory topsoil.

D. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."

1. Selection of exterior plants purchased under allowances will be made by Architect, who will tag plants at their place of growth before they are prepared for transplanting.

E. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches above the ground for trees up to 4-inch caliper size, and 12 inches above the ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

F. Observation: Architect may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size, and quality. Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Architect of sources of planting materials seven days in advance of delivery to site.

G. Preinstallation Conference: Conduct conference at Project site.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver exterior plants freshly dug.

1. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting.

B. Do not prune trees and shrubs before delivery except as approved by Architect. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery and handling.

C. Handle planting stock by root ball.

D. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants and trees in shade, protect from weather and mechanical damage, and keep roots moist.
1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
2. Do not remove container-grown stock from containers before time of planting.

3. Water root systems of exterior plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.7 PROJECT CONDITIONS

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

1. Spring Planting: March 1st to May 15th.
2. Fall Planting: October 15th to December 1st.

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed according to manufacturer's written instructions and warranty requirements.

C. Coordination with Lawns: Plant trees and shrubs after finish grades are established and before planting lawns unless otherwise acceptable to Architect.

1. When planting trees and shrubs after lawns, protect lawn areas and promptly repair damage caused by planting operations.

1.8 WARRANTY

A. Special Warranty: Installer's standard form in which Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, abuse by Owner, or incidents that are beyond Contractor's control.
b. Structural failures including plantings falling or blowing over.
c. Faulty operation of tree stabilization and edgings.
d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Periods from Date of Substantial Completion:

a. Trees and Shrubs: One year.
b. Ground Cover and Plants: One year.

3. Include the following remedial actions as a minimum:

a. Remove dead exterior plants immediately. Replace immediately unless required to plant in the succeeding planting season.
b. Replace exterior plants that are more than 25 percent dead or in an unhealthy condition at end of warranty period.
c. A limit of one replacement of each exterior plant will be required except for losses or replacements due to failure to comply with requirements.

d. Provide extended warranty for replaced plant materials; warranty period equal to original warranty period.

1.9 MAINTENANCE SERVICE

A. Initial Maintenance Service for Trees, Shrubs, Ground Cover and Plants: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until plantings are acceptably healthy and well established, but for not less than 60 days past the date of Project Substantial Completion.

PART 2 - PRODUCTS

2.1 TREE AND SHRUB MATERIAL

A. General: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Provide trees and shrubs of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.

C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.

D. Label each tree and shrub with securely attached, waterproof tag bearing legible designation of botanical and common name.

E. If formal arrangements or consecutive order of trees or shrubs is shown, select stock for uniform height and spread, and number label to assure symmetry in planting.

2.2 SHADE AND FLOWERING TREES

A. Type 1 or Type 2 (Slower Growth) Shade Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated, complying with ANSI Z60.1 for type of trees required.

1. Provide balled and burlapped trees.
2. Branching Height: One-half of tree height.

B. Small Upright Trees: Branched or pruned naturally according to species and type, with relationship of caliper, height, and branching according to ANSI Z60.1; stem form as follows:

1. Stem Form: Single trunk or multi-trunk clump as indicated.
2. Provide balled and burlapped trees.

C. Small Spreading Trees: Branched or pruned naturally according to species and type, with relationship of caliper, height, and branching according to ANSI Z60.1; stem form as follows:

1. Stem Form: Single trunk or multi-stem clump as indicated.
2. Provide balled and burlapped trees.

2.3 DECIDUOUS SHRUBS

A. Form and Size: Shrubs with not less than the minimum number of canes required by and measured according to ANSI Z60.1 for type, shape, and height of shrub.

1. Shrub sizes indicated are sizes after pruning.
2. Provide balled and burlapped or container-grown shrubs as indicated.

3. Provide balled and burlapped trees.

2.4 GROUND COVER PLANTS

A. Ground Cover: Provide ground cover of species indicated, established and well rooted in pots or similar containers, and complying with ANSI Z60.1 and the following requirements:

2.5 PLANTS

A. Perennials: Provide healthy, field-grown plants from a commercial nursery, of species and variety shown or listed, complying with requirements in ANSI Z60.1.

2.6 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth. Stones shall not exceed 10% by volume.

1. Topsoil Source: Import topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from bogs or marshes.

2.7 INORGANIC SOIL AMENDMENTS

A. Aluminum Sulfate: Commercial grade, unadulterated.

2.8 ORGANIC SOIL AMENDMENTS

A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1/2-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.
2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.

B. Peat: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.

C. Manure: Well-rotted, composted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

2.9 FERTILIZER

A. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

2.10 MULCHES

A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:

1. Type: Shredded pine bark.

2.11 TREE STABILIZATION MATERIALS

A. Stakes and Guys:

1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, redwood, or pressure-preservative-treated softwood, free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal by length indicated, pointed at one end.
2. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes or compression springs.

2.12 MISCELLANEOUS PRODUCTS

A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.

B. Trunk-Wrap Tape: Two layers of crinkled paper cemented together with bituminous material, 4-inch- wide minimum, with stretch factor of 33 percent.

2.13 PLANTING SOIL MIX

A. Planting Soil Mix: Mix topsoil with the following soil amendments and fertilizers in the following quantities:

1. Ratio of Loose Compost to Topsoil by Volume: 1:4.
2. Ratio of Loose Peat to Topsoil by Volume: 1:4.
3. Weight of Aluminum Sulfate per 1000 Sq. Ft.: As recommended by soil test.
4. Weight of Slow-Release Fertilizer per 1000 Sq. Ft.: As recommended by soil test.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting installation and performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, and lawns and existing exterior plants from damage caused by planting operations.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before planting. Make minor adjustments as required.

D. Lay out exterior plants at locations directed by Architect. Stake locations of individual trees and shrubs and outline areas for multiple plantings.

E. Trunk Wrapping: Inspect tree trunks for injury, improper pruning, and insect infestation; take corrective measures required before wrapping. Wrap trees of 2-inch caliper and larger with trunk-wrap tape. Start at base of trunk and spiral cover trunk to height of first branches. Overlap wrap, exposing half the width, and securely attach without causing girdling.

F. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.

1. If deciduous trees or shrubs are moved in full leaf, spray with antidesiccant at nursery before moving and again two weeks after planting.

G. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

3.3 PLANTING BED ESTABLISHMENT

A. Loosen subgrade of planting beds to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.

a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
b. Mix lime with dry soil before mixing fertilizer.

2. Spread planting soil mix to a depth of 12 inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.

a. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil mix.

B. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

C. Before planting, restore planting beds if eroded or otherwise disturbed after finish grading.

3.4 EXCAVATION FOR TREES AND SHRUBS

A. Pits and Trenches: Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.

1. Excavate approximately three times as wide as ball diameter for balled and burlapped stock.

B. Subsoil removed from excavations may not be used as backfill.

C. Obstructions: Notify Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

1. Hardpan Layer: Drill 6-inch- diameter holes, 24 inches apart, into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.

D. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub pits.

E. Fill excavations with water and allow to percolate away before positioning trees and shrubs.

3.5 TREE AND SHRUB PLANTING

A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1.

B. Set balled and burlapped stock plumb and in center of pit or trench with top of root ball flush with adjacent finish grades.

1. Remove burlap and wire baskets from tops of root balls and partially from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.

C. Set container-grown stock plumb and in center of pit or trench with top of root ball flush with adjacent finish grades.

1. Carefully remove root ball from container without damaging root ball or plant.
2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.

D. Organic Mulching: Apply 2-inch minimum thickness of organic mulch extending 12 inches beyond edge of planting pit or trench. Do not place mulch within 3 inches of trunks or stems.

E. Trunk Wrapping: Inspect tree trunks for injury, improper pruning, and insect infestation; take corrective measures required before wrapping. Wrap trees of 2-inch caliper and larger with trunk-wrap tape. Start at base of trunk and spiral cover trunk to height of first branches. Overlap wrap, exposing half the width, and securely attach without causing girdling.

3.6 TREE AND SHRUB PRUNING

A. Remove only dead, dying, or broken branches. Do not prune for shape.

B. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise indicated by Architect, do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character.

3.7 TREE STABILIZATION

A. Trunk Stabilization: Unless otherwise indicated, provide trunk stabilization as follows:

1. Upright Staking and Tying: Stake trees of 2- through 5-inch caliper. Stake trees of less than 2-inch caliper only as required to prevent wind tip-out. Use a minimum of 2 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation

and to extend dimension shown above grade. Set vertical stakes and space to avoid penetrating root balls or root masses.

2. Use 2 stakes for trees up to 12 feet high and 2-1/2 inches or less in caliper; 3 stakes for trees less than 14 feet high and up to 4 inches in caliper. Space stakes equally around trees.
3. Support trees with bands of flexible ties at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.

3.8 PLANTING BED MULCHING

A. Mulch backfilled surfaces of planting beds and other areas indicated. Provide mulch ring around trees in lawn areas.

1. Organic Mulch: Apply 2-inch minimum thickness of organic mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.

3.9 EDGING INSTALLATION

A. Aluminum Edging: Install aluminum edging where indicated according to manufacturer's written instructions. Anchor with aluminum stakes spaced approximately 36 inches apart, driven below top elevation of edging.

3.10 PLANT MAINTENANCE

A. Tree and Shrub Maintenance: Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, adjusting and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease. Restore or replace damaged tree wrappings.

B. Ground Cover and Plant Maintenance: Maintain and establish plantings by watering, weeding, fertilizing, mulching, and other operations as required to establish healthy, viable plantings.

3.11 CLEANUP AND PROTECTION

A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.

B. Protect exterior plants from damage due to landscape operations, operations by other contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.

3.12 DISPOSAL

A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 329300

DIVISION 33

UTILITIES

SECTION 334100 - STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Pipe and fittings.
2. Nonpressure transition couplings.
3. Cleanouts.
4. Storm Water Inlets
5. Water Quality Units
6. Pipe outlets.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings:

1. Manholes: Include plans, elevations, sections, details, frames, and covers.
2. Terrace drains, stormwater inlets, junction boxes, pipe outlets and cleanouts. Include plans, elevations, sections, details, frames, covers, and grates.

C. Product Certificates: For each type of cast-iron soil pipe and fitting, from manufacturer.

D. Field quality-control reports.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Do not store plastic drainage structures, pipe, and fittings in direct sunlight.

B. Protect pipe, pipe fittings, and seals from dirt and damage.

C. Handle manholes according to manufacturer's written rigging instructions.

D. Handle stormwater inlets according to manufacturer's written rigging instructions.

PART 2 - PRODUCTS

2.1 PE PIPE AND FITTINGS

A. Corrugated PE Drainage Pipe and Fittings NPS 3 to NPS 10: AASHTO M 252M, Type S, with smooth waterway for coupling joints.

1. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with tube and fittings.

B. Corrugated PE Pipe and Fittings NPS 12 to NPS 60: AASHTO M 294M, Type S, with smooth waterway for coupling joints.

1. Silttight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings.

2.2 CONCRETE PIPE AND FITTINGS

A. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76.

1. Bell-and-spigot or tongue-and-groove ends and gasketed joints with ASTM C 443, rubber gaskets
2. Class III, Wall B.

2.3 NONPRESSURE TRANSITION COUPLINGS

A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Concrete Pipes: ASTM C 443, rubber.
2. For Cast-Iron Soil Pipes: ASTM C 564, rubber.
3. For Fiberglass Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
4. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
5. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

C. Shielded, Flexible Couplings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

a. Cascade Waterworks Mfg.
b. Dallas Specialty & Mfg. Co.
c. Mission Rubber Company; a division of MCP Industries, Inc.

2. Description: ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.

2.4 CLEANOUTS

A. Cast-Iron Cleanouts:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Josam Company.
    b. MIFAB, Inc.
    c. Smith, Jay R. Mfg. Co.
    d. Tyler Pipe.
    e. Watts Water Technologies, Inc.
    f. Zurn Specification Drainage Operation; Zurn Plumbing Products Group.

2. Description: ASME A112.36.2M, round, gray-iron housing with clamping device and round, secured, scoriated, polished bronze cover. Include gray-iron ferrule with inside calk or spigot connection and countersunk, tapered-thread, brass closure plug.
3. Top-Loading Classification(s): Heavy Duty.
4. Sewer Pipe Fitting and Riser to Cleanout: ASTM A 74, Service class, cast-iron soil pipe and fittings.

2.5 MANHOLES

A. Standard Precast Concrete Manholes:

1. Description: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 48 inches minimum unless otherwise indicated.
3. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
4. Riser Sections: 4-inch minimum thickness, and lengths to provide depth indicated.
5. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated, and top of cone of size that matches grade rings.
6. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
7. Resilient Pipe Connectors: ASTM C 923, cast or fitted into manhole walls, for each pipe connection.
8. Steps: Individual FRP steps; FRP ladder; or ASTM A 615/A 615M, deformed, 1/2-inch steel reinforcing rods encased in ASTM D 4101, PP, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of manhole to finished grade is less than 60 inches.
9. Adjusting Rings: Interlocking HDPE rings with level or sloped edge in thickness and diameter matching manhole frame and cover, and of height required to adjust manhole frame and cover to indicated elevation and slope. Include sealant recommended by ring manufacturer.

10. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match diameter of manhole frame and cover, and height as required to adjust manhole frame and cover to indicated elevation and slope.

B. Manhole Frames and Covers:

1. Description: Ferrous; 24-inch ID by 7- to 9-inch riser with 4-inch- minimum width flange and 26-inch- diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "STORM SEWER."
2. Material: ASTM A 48/A 48M, Class 35 gray iron unless otherwise indicated.

2.6 CONCRETE

A. General: Cast-in-place concrete according to ACI 318, ACI 350/350R, and the following:

1. Cement: ASTM C 150, Type II.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.
4. Water: Potable.

B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

2.7 STORMWATER INLETS

A. Catch Basin: Precast or cast-in-place basin and heavy duty grate and frame, size as indicated. Round frame and grate unless otherwise indicated on plans.

B. Yard Inlet: Nyloplast “Drain Basin”, size as indicated with heavy duty cast iron grate and frame or approved similar product.

C. Curb Inlet: KYTC “Type F” inlet per KYTC standard drawings & specifications.

D. Slot drains: as indicated on Drawings.

2.8 WATER QUALITY UNITS

A. Self contained vortex separation unit from one of the following manufacturers: Hydro-International, Contech, Hancor.

B. Induced vortex to system used to separate pollutants from stormwater that removes greater than 90% of TSS based on TPS of 106 microns and / or 80% of TSS based on the TPS of 230 microns at .3 cfs and .53cfs.

C. Treatment system shall convey peak flow up to 15cfs without causing upstream surcharge.

D. Refer to Drawings for additional requirements, install per Manufacturer’s written instructions.

2.9 PIPE OUTLETS

A. Head Walls: KYDOH Sloped and Flared, size as indicated with precast or cast-in-place basin conforming with KYDOH Standard Drawing or RDH-020-03 with energy dissipators.

B. Class II Channel Lining at outlets, dimensions as indicated on drawings.

PART 3 - EXECUTION

3.1 EARTHWORK

A. Excavation, trenching, and backfilling are specified in Division 2 Section "Earthwork."

3.2 PIPING INSTALLATION

A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.

D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.

E. When installing pipe under streets or other obstructions that cannot be disturbed, use pipe-jacking process of microtunneling.

F. Install gravity-flow, nonpressure drainage piping according to the following:

1. Install piping pitched down in direction of flow.
2. Install piping with minimum cover as indicated.
3. Install PE corrugated sewer piping according to ASTM D 2321.
4. Install reinforced-concrete sewer piping according to ASTM C 1479 and ACPA's "Concrete Pipe Installation Manual."

3.3 PIPE JOINT CONSTRUCTION

A. Join gravity-flow, nonpressure drainage piping according to the following:

1. Join corrugated PE piping according to ASTM D 3212 for push-on joints.
2. Join reinforced-concrete sewer piping according to ACPA's "Concrete Pipe Installation Manual" for rubber-gasketed joints.
3. Join dissimilar pipe materials with nonpressure-type flexible couplings.

3.4 CLEANOUT INSTALLATION

A. Install cleanouts and riser extensions from sewer pipes to cleanouts at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts and cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.

1. Use Heavy-Duty, top-loading classification cleanouts in all areas.

B. Set cleanout frames and covers in earth in cast-in-place concrete block, 12 by 12 by 12 inches deep. Set with tops 1 inch above surrounding earth grade.

C. Set cleanout frames and covers in concrete pavement and roads with tops flush with pavement surface.

3.5 DRAIN INSTALLATION

A. Install type of drains in locations indicated.

1. Use Heavy-Duty, top-loading classification drains in all areas.

B. Embed drains in 4-inch minimum concrete around bottom and sides.

C. Fasten grates to drains if indicated.

D. Set drain frames and covers with tops flush with pavement surface.

3.6 MANHOLE INSTALLATION

A. General: Install manholes, complete with appurtenances and accessories indicated.

B. Install precast concrete manhole sections with sealants according to ASTM C 891.

C. Where specific manhole construction is not indicated, follow manhole manufacturer's written instructions.

D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements. Set tops 1 inch above finished surface elsewhere unless otherwise indicated.

3.7 CATCH BASIN INSTALLATION

A. Construct catch basins to sizes and shapes indicated.

B. Set frames and grates to elevations indicated.

3.8 STORMWATER INLET AND OUTLET INSTALLATION

A. Construct inlets, head walls, aprons, and sides of reinforced concrete, as indicated.

B. Set frames and grates to elevations indicated.

C. Place turf reinforcement mat as indicated.

D. Install outlets that spill onto grade, with flared end sections that match pipe, where indicated.

3.9 CONCRETE PLACEMENT

A. Place cast-in-place concrete according to ACI 318.

3.10 IDENTIFICATION

A. Materials and their installation are specified in Division 2 Section "Earthwork." Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.

1. Use detectable warning tape over nonferrous piping and over edges of underground structures.

3.11 FIELD QUALITY CONTROL

A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.

1. Submit separate reports for each system inspection.
2. Defects requiring correction include the following:

    a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    d. Infiltration: Water leakage into piping.
    e. Exfiltration: Water leakage from or around piping.

3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
4. Reinspect and repeat procedure until results are satisfactory.

B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.

1. Do not enclose, cover, or put into service before inspection and approval.
2. Test completed piping systems according to requirements of authorities having jurisdiction.
3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
4. Submit separate report for each test.
5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction, UNI-B-6, and the following:

    a. Exception: Piping with soiltight joints unless required by authorities having jurisdiction.
    b. Option: Test plastic piping according to ASTM F 1417.
    c. Option: Test concrete piping according to ASTM C 924.

C. Leaks and loss in test pressure constitute defects that must be repaired.

D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

3.12 CLEANING

A. Clean interior of piping of dirt and superfluous materials. Flush with water.

CONSTRUCTION DOCUMENTS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

AUGUST 15, 2025

ENGINEERING - ARCHITECTURE - GEOSPATIAL

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DRAWING SHEET INDEX

SHEET IDENTIFICATION			QUALITY ASSURANCE / QUALITY CONTROL				REVISION	SHEET REVISIONS					
SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	CURRENT REVISION	CURRENT REVISION ISSUED	CURRENT REVISION DESCRIPTION	CURRENT REVISION ISSUED BY	CURRENT REVISION ISSUED TO	CURRENT REVISION DATE
GI001	COVER SHEET	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GI002	DRAWING INDEX	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GI003	PROJECT DATA	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GJ101	PROGRAM VALIDATION PLAN	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GJ401	PROGRAM VALIDATION PLAN - AREA A	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GJ402	PROGRAM VALIDATION PLAN - AREA B	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GJ403	PROGRAM VALIDATION PLAN - AREA C	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GJ404	PROGRAM VALIDATION PLAN - AREA D	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GJ601	PROGRAM VALIDATION SCHEDULE	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
GK101	FIRST LEVEL - LIFE SAFETY PLAN	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
C-100	SITE CIVIL UTILITIES PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
CK100	ADDITIVE ALTERNATE #1 SITE CIVIL UTILITIES PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
C-200	SITE CIVIL UTILITIES DETAILS	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-100	EPSC NOTES & DETAILS	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-101	EPSC PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-200	SITE DEMOLITION PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
LK200	ADDITIVE ALTERNATE #1 SITE DEMOLITION PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-300	SITE GRADING AND DRAINAGE PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
LK300	ADDITIVE ALTERNATE #1 SITE GRADING & DRAINAGE PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-301	STORM PIPE PROFILES	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-400	SITE LAYOUT PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
LK400	ADDITIVE ALTERNATE #1 SITE LAYOUT PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-401	SITE MATERIALS PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
LK401	ADDITIVE ALTERNATE #1 SITE MATERIALS PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-500	SITE LANDSCAPE PLAN	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-501	SITE LANDSCAPE DETAILS	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-600	SITE DETAILS	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-601	SITE DETAILS	AUGUST 15, 2025	RF	RF	RF	RF		No				
L-602	SITE DETAILS	AUGUST 15, 2025	RF	RF	RF	RF		No				
S-001	STRUCTURAL GENERAL NOTES	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No				
S-002	TYPICAL STRUCTURAL DETAILS	AUGUST 15, 2025	NEK	MWC	MWC	DRV		No				
SD101	FIRST LEVEL - STRUCTURAL DEMOLITION	AUGUST 15, 2025	NEK	DRV	MWC	DRV		No				
SD102	ROOF FRAMING - DEMOLITION	AUGUST 15, 2025	NEK	DRV	MWC	DRV		No				
SB101	FIRST LEVEL - STRUCTURAL PLAN	AUGUST 15, 2025	NEK	DRV	MWC	DRV		No				
SE101	ROOF FRAMING PLAN	AUGUST 15, 2025	NEK	DRV	MWC	DRV		No				
SE401	ENLARGED ELEVATIONS	AUGUST 15, 2025	NEK	DRV	MWC	DRV		No				
AD101	FIRST LEVEL - DEMOLITION PLAN	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD102	ROOF LEVEL - DEMOLITION	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD103	FIRST LEVEL CEILING - DEMOLIITON	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD201	EXTERIOR ELEVATIONS - DEMOLITION	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD301	LONGITUDINAL BUILIDNG SECTIONS - DEMOLITION	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD302	TRANSVERSE BUILDING SECTION - DEMOLITION	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD401	FIRST LEVEL - DEMOLITION - AREA A	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD402	FIRST LEVEL - DEMOLITION - AREA B	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD403	FIRST LEVEL - DEMOLITION - AREA C	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD404	FIRST LEVEL - DEMOLITION - AREA D	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD405	ROOF LEVEL - DEMOLITION - AREA A	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD406	ROOF LEVEL - DEMOLITION - AREA B	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD407	ROOF LEVEL - DEMOLITION - AREA C	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD408	ROOF LEVEL - DEMOLITION - AREA D	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD409	FIRST LEVEL CEILING - DEMOLITION - AREA A	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD410	FIRST LEVEL CEILING - DEMOLITION - AREA B	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD411	FIRST LEVEL CEILING - DEMOLITION - AREA C	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD412	FIRST LEVEL CEILING - DEMOLITION - AREA D	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD601	SCHEDULE - ROOM FINISH DEMOLITION	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD602	SCHEDULE - WALL SCHEDULE - EXISTING TO REMAIN	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD603	SCHEDULE - EXISTING WALL / CEILING TO REMAIN	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AD604	SCHEDULE - DEMOLITION WALL / CEILING / DOOR FRAME	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE101	FIRST LEVEL - FLOOR PLAN	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE102	ROOF LEVEL - PLAN	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE201	EXTERIOR ELEVATIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE301	LONGITUDINAL BUILDING SECTIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE302	TRANSVERSE BUILDING SECTION	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE401	FIRST LEVEL - AREA A	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE402	FIRST LEVEL - AREA B	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE403	FIRST LEVEL - AREA C	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE404	FIRST LEVEL - AREA D	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE405	ROOF LEVEL - AREA A	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE406	ROOF LEVEL - AREA B	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE407	ROOF LEVEL - AREA C	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE408	ROOF LEVEL - AREA D	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE409	ENLARGED PLAN AND ELEVATIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE410	ENLARGED PLAN AND ELEVATIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE411	ENLARGED PLAN AND ELEVATIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE412	ENLARGED PLAN AND ELEVATIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE413	ENLARGED PLAN AND ELEVATIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE414	ENLARGED PLAN AND ELEVATIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE415	ENLARGED PLAN AND ELEVATIONS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE501	DOOR / WINDOW / WALL TYPES	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE502	DOOR DETAILS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE503	STANDARD ROOFING DETAILS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE601	SCHEDULE - NEW ROOM FINISH	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE602	SCHEDULE - NEW ROOM FINISH	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE603	SCHEDULE - DOOR AND FRAME	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE604	SCHEDULE -WALL / CEILING - NEW CONSTRUCTION	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AE901	ISOMETRIC VIEWS	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AF101	FIRST LEVEL - REFLECTED CEILING PLAN	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AF401	FIRST LEVEL - REFLECTED CEILING PLAN - AREA A	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AF402	FIRST LEVEL - REFLECTED CEILING PLAN - AREA B	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AF403	FIRST LEVEL - REFLECTED CEILING PLAN - AREA C	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
AF404	FIRST LEVEL - REFLECTED CEILING PLAN - AREA D	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No				
FP001	FIRE PROTECTION LEGEND, GENERAL NOTES	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
FP101	FIRST LEVEL - FIRE PROTECTION PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-001	PLUMBING STANDARD SYMBOLS AND GENERAL NOTES	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
PD101	ROOF LEVEL - DEMOLITION - PLUMBING PLAN	AUGUST 15, 2025	PBS	CVS	CVS	CVS		No				
PD401	FIRST LEVEL - DEMOLITION - AREA A - PLUMBING PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
PD402	FIRST LEVEL - DEMOLITION - AREA B - PLUMBING PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
PD403	FIRST LEVEL - DEMOLITION - AREA C - PLUMBING PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
PD404	FIRST LEVEL - DEMOLITION - AREA D - PLUMBING PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-101	ROOF LEVEL - PLUMBING PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-401	FIRST LEVEL - AREA A - DOMESTIC WATER PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-402	FIRST LEVEL - AREA B - DOMESTIC WATER PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-403	FIRST LEVEL - AREA C - DOMESTIC WATER PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-404	FIRST LEVEL - AREA D - DOENSTIC WATER PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-405	FIRST LEVEL - AREA A - SANITARY SEWER PLAN	AUGUST 15, 2025	SPB	DRV	DRV	DRV		No				
P-406	FIRST LEVEL - AREA B - SANITARY SEWER PLAN	AUGUST 15, 2025	SPB	DRV	DRV	DRV		No				
P-407	FIRST LEVEL - AREA C - SANITARY SEWER PLAN	AUGUST 15, 2025	SPB	DRV	DRV	DRV		No				
P-408	FIRST LEVEL - AREA D - SANITARY SEWER PLAN	AUGUST 15, 2025	SPB	DRV	DRV	DRV		No				
P-501	PLUMBING DETAILS	AUGUST 15, 2025	JAC	CVS	CVS	CVS		No				
P-502	PLUMBING DETAILS	AUGUST 15, 2025	JAC	CVS	CVS	CVS		No				
P-601	PLUMBING SCHEDULES	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-602	PLUMBING RISERS	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
P-603	PLUMBING RISERS	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-001	MECHANICAL LEGEND AND GENERAL NOTES	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
MD101	ROOF LEVEL - DEMOLITION - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
MD401	FIRST LEVEL - DEMOLITION - AREA A - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
MD402	FIRST LEVEL - DEMOLITION - AREA B - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
MD403	FIRST LEVEL - DEMOLITION - AREA C - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
MD404	FIRST LEVEL - DEMOLITION - AREA D - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-101	FIRST LEVEL - HVAC ZONING PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-102	ROOF LEVEL - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-401	FIRST LEVEL - AREA A - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-402	FIRST LEVEL - AREA B - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-403	FIRST LEVEL - AREA C - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-404	FIRST LEVEL - AREA D - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-501	MECHANICAL DETAILS	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-502	MECHANICAL DETAILS	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-601	MECHANICAL SCHEDULES	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
M-701	MECHANICAL CONTROLS	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No				
E-001	STANDARD ELECTRICAL SYMBOLS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-501	ELECTRICAL DETAILS I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-502	ELECTRICAL DETAILS II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-503	ELECTRICAL DETAILS III	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-504	ELECTRICAL DETAILS IV	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-601	ELECTRICAL ONE-LINE DIAGRAM I - EXISTING	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-602	ELECTRICAL ONE-LINE DIAGRAM II - EXISTING	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-603	ELECTRICAL ONE-LINE DIAGRAM III - EXISTING	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-604	ELECTRICAL ONE-LINE DIAGRAM I - NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-605	ELECTRICAL ONE-LINE DIAGRAM II - NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-606	ELECTRICAL ONE-LINE DIAGRAM III - NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-701	ELECTRICAL SCHEDULES I - EXISTING PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-702	ELECTRICAL SCHEDULES II - EXISTING PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-703	ELECTRICAL SCHEDULES III - EXISTING PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-704	ELECTRICAL SCHEDULES IV - EXISTING PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-705	ELECTRICAL SCHEDULES V - EXISTING PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-706	ELECTRICAL SCHEDULES VI - EXISTING PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-707	ELECTRICAL SCHEDULES VII - EXISTING PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-708	ELECTRICAL SCHEDULES VIII - EXISTING PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
E-709	ELECTRICAL SCHEDULES IX - NEW PANELBOARDS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ES101	SITE PLAN - ELECTRICAL DEMOLITION	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ES102	SITE PLAN - ELECTRICAL NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ES103	ADD ALTERNATE #1 - SITE PLAN - ELECTRICAL NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ES401	SITE PLAN - ENLARGED ELECTRICAL NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED101	FIRST LEVEL - ELECTRICAL DEMOLITION PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED102	ROOF LEVEL - ELECTRICAL DEMOLITION PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				

DRAWING SHEET INDEX

SHEET IDENTIFICATION			QUALITY ASSURANCE / QUALITY CONTROL				REVISION	SHEET REVISIONS					
SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	CURRENT REVISION	CURRENT REVISION ISSUED	CURRENT REVISION DESCRIPTION	CURRENT REVISION ISSUED BY	CURRENT REVISION ISSUED TO	CURRENT REVISION DATE
ED401	FIRST LEVEL - ELECTRICAL DEMOLITION - AREA A	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED402	FIRST LEVEL - ELECTRICAL DEMOLITION - AREA B	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED403	FIRST LEVEL - ELECTRICAL DEMOLITION - AREA C	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED404	FIRST LEVEL - ELECTRICAL DEMOLITION - AREA D	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED405	ROOF LEVEL - ELECTRICAL DEMOLITION - AREA A	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED406	ROOF LEVEL - ELECTRICAL DEMOLITION - AREA B	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED407	ROOF LEVEL - ELECTRICAL DEMOLITION - AREA C	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ED408	ROOF LEVEL - ELECTRICAL DEMOLITION - AREA D	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL101	FIRST LEVEL - LIGHTING PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL401	FIRST LEVEL - LIGHTING PLAN - AREA A	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL402	FIRST LEVEL - LIGHTING PLAN - AREA B	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL403	FIRST LEVEL - LIGHTING PLAN - AREA C	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL404	FIRST LEVEL - LIGHTING PLAN - AREA D	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL501	LIGHTING CONTROL DETAILS I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL502	LIGHTING CONTROL DETAILS II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL503	LIGHTING CONTROL DETAILS III	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EL701	LUMINAIRE SCHEDULE	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EC101	FIRST LEVEL - LIGHTING CONTROL PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EC401	FIRST LEVEL - LIGHTING CONTROL PLAN - AREA A	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EC402	FIRST LEVEL - LIGHTING CONTROL PLAN - AREA B	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EC403	FIRST LEVEL - LIGHTING CONTROL PLAN - AREA C	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EC404	FIRST LEVEL - LIGHTING CONTROL PLAN - AREA D	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP101	FIRST LEVEL - POWER PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP102	ROOF LEVEL - POWER PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP401	FIRST LEVEL - POWER PLAN - AREA A	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP402	FIRST LEVEL - POWER PLAN - AREA B	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP403	FIRST LEVEL - POWER PLAN - AREA C	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP404	FIRST LEVEL - POWER PLAN - AREA D	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP405	ROOF LEVEL - POWER PLAN - AREA A	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP406	ROOF LEVEL - POWER PLAN - AREA B	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP407	ROOF LEVEL - POWER PLAN - AREA C	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP408	ROOF LEVEL - POWER PLAN - AREA D	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EP409	FIRST LEVEL - ENLARGED POWER PLAN - MULTI-PURPOSE TRAINING	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET101	FIRST LEVEL - TELECOMMUNICATIONS PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET401	FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA A	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET402	FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA B	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET403	FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA C	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET404	FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA D	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET501	TELECOMMUNICATIONS DETAILS I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET502	TELECOMMUNICATIONS DETAILS II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET601	TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER ROOM 261 - DEMOLITION	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET602	TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER ROOM 261 - NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET603	TELECOMMUNICATIONS RISER DIAGRAM - IDF 287 - NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
ET604	TELECOMMUNICATIONS RISER DIAGRAM - SITE - NEW WORK	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY101	FIRST LEVEL - FIRE ALARM AND SECURITY PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY401	FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA A	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY402	FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA B	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY403	FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA C	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY404	FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA D	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY501	SECURITY DETAILS I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY502	SECURITY DETAILS II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY503	SECURITY DETAILS III	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY601	FIRE ALARM RISER DIAGRAM	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY602	ACCESS CONTROL SYSTEM RISER DIAGRAM I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY603	ACCESS CONTROL SYSTEM RISER DIAGRAM II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY604	ACCESS CONTROL SYSTEM RISER DIAGRAM III	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY605	VIDEO SURVEILLANCE RISER DIAGRAM I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY606	VIDEO SURVEILLANCE RISER DIAGRAM II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY607	VIDEO SURVEILLANCE RISER DIAGRAM III	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY608	INTERCOM SYSTEM RISER DIAGRAM I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				
EY609	INTERCOM SYSTEM RISER DIAGRAM II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No				

Grand total: 216

JAMES K. PEEPLES JR. REGISTERED NO. 44447 COMMONWEALTH OF VIRGINIA 8/15/25

GRW PROJECT NO. 052417-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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DRAWING INDEX

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE:

SHEET NO.: GI002 01

8/18/2025 10:21:35 AM G:\GAC-LEXCG DWQ\Lex\Working Drawings\Sheet Set\Cover\Lex-MasterSet-AECB2501.rvt

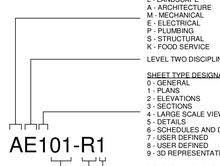
DRAWING ABBREVIATIONS

A	----------
A LABEL	CLASS A DOOR
A/C	AIR CONDITION
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT/ENGINEER
AB	ANCHOR BOLT
ACC	ACCESSIBLE
ACS	AUTOMATIC CONTROL SYSTEM
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADMIN	ADMINISTRATION
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
AIB	AIR INFILTRATION BARRIER
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZE
APC	ACOUSTICAL PANEL CEILING
APPROX	APPROXIMATE
AR	AS REQUIRED
ARCH	ARCHITECT
ASC	ABOVE SUSPENDED CEILING
ASSY	ASSEMBLY
ATC	ACOUSTICAL TILE CEILING
AVG	AVERAGE
AW	ARCHITECTURAL WOODWORK
AWT	ACOUSTICAL WALL TREATMENT
B	----------
B LABEL	CLASS B DOOR
BALC	BALCONY
BB	BASEBOARD
BC	BOOKCASE
BD	BOARD
BDRY	BOUNDARY
BFF	BELOW FINISH FLOOR
BHMA	BUILDER'S HARDWARE MANUFACTURER'S ASSOCIATION
BLDG	BUILDING
BLKG	BLOCKING
BLT IN	BUILT-IN
BN	BULLNOSE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	BUILDING PAPER
BRKT	BRACKET
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
C	----------
C CONC	CAST CONCRETE
C LABEL	CLASS C DOOR
CAB	CABINET
CATW	CATWALK
CAV	CAVITY
CBB	CEMENTITIOUS (BACKER) BOARD
CD	CONSTRUCTION DOCUMENTS
CDW	CHILLED DRINKING WATER
CEM PLAS	CEMENT PLASTER
CER	CERAMIC
CF	CONTRACTOR FURNISHED
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CFE	CONTRACTOR FURNISHED EQUIPMENT
CFLG	COUNTERFLASHING
CFM	CUBIC FEET PER MINUTE
CFMF	COLD-FORMED METAL FRAMING
CFS	CUBIC FEET PER SECOND
CG	CORNER GUARD
CI	CAST IRON
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLG DIFF	CEILING DIFFUSER
CLG HT	CEILING HEIGHT
CLL	COLUMN LINE
CLO	CLOSET
CLR	COLOR
CLRM	CLASSROOM
CMU	CONCRETE MASONRY UNIT
CNDS	CONDENSATE
COR	CARD READER
CO	CLEANOUT
COL	COLUMN
COMM	COMMUNICATION
CONC	CONCRETE
CONC FLR	CONCRETE FLOOR
CONF	CONFERENCE
CONT	CONTINUE
COORD	COORDINATE
CORR	CORRIDOR
CP	CONCRETE PIPE
CPT	CARPET
CR	CONTROL ROOM
CS	CAST STONE
CSWK	CASEWORK
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTF	CERAMIC TILE FLOOR
CTR	CENTER
CU FT	CUBIC FEET
CW	CASEMENT WINDOW
D	----------
D	DEPTH
D LABEL	CLASS D DOOR
DBL	DOUBLE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIR	DIRECTION
DIST	DISTANCE
DOC	DOCUMENT
DR	DOOR
DS	DOWNSPOUT
E	----------
E LABEL	CLASS E DOOR
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
ES	EACH SIDE
EL	ELEVATION
ELEV	ELEVATOR
ENTR	ENTRANCE
EPS	EXPANDED POLYSTYRENE BOARD (INSULATION)
EQ	EQUAL
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED
EXT	EXTERIOR
EXT	EXTINGUISHER
EXT GR	EXTERIOR GRADE
GB	GRAB BAR
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT INSTALLED FURNISHED
	INSTALLED BY GOVERNMENT
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GLZ	GLAZING
GR FL	GROUND FLOOR
GUT	GUTTER
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER

H	----------
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HDWD	HARDWOOD
HEPA (FILTER)	HIGH EFFICIENCY PARTICULATE AIR
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HORIZ	HORIZONTAL
HT	HEIGHT
HYDR	HYDRAULIC
F	----------
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAS BD	FASCIA BOARD
FC BRK	FACE BRICK
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FED	FEDERAL
FF	FINISH FACE
FF EL	FINISH FLOOR ELEVATION
FF INSUL	FOIL BACKED INSULATION
FGL	FIBERGLASS
FH	FIRE HOSE
FHP	FULL HEIGHT PARTITION
FIN	FINISH
FIN BS	FINISH BOTH SIDES
FIN FLR	FINISH FLOOR
FIN GR	FINISH GRADE
FIXT	FIXTURE
FLDG	FOLDING
FLEX	FLEXIBLE
FLG	FLOORING
FLMT	FLUSH MOUNT
FLR	FLOOR
FM	FACTORY MUTUAL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FR	FIRE RESISTANT
FRG	FIBER REINFORCED GYPSUM
FRMG	FRAMING
FRP	FIBERGLASS REINFORCED PLASTIC
FRTW	FIRE RETARDANT TREATED WOOD
FS	FEDERAL SPECIFICATION
FSTNR	FASTENER
FT	FEET
FTG	FOOTING
FWC	FABRIC WALLCOVERING
G	----------
G	NATURAL GAS
GALV	GALVANIZED
GB	GRAB BAR
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT INSTALLED FURNISHED
	INSTALLED BY GOVERNMENT
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GLZ	GLAZING
GR FL	GROUND FLOOR
GUT	GUTTER
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
H	----------
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HDWD	HARDWOOD
HEPA (FILTER)	HIGH EFFICIENCY PARTICULATE AIR
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HORIZ	HORIZONTAL
HT	HEIGHT
HYDR	HYDRAULIC
I	----------
IC	INTERNATIONAL BUILDING CODE
INSUL	INSULATION
INT	INTERIOR
ILO	IN LIEU OF
J	----------
JAN	JANITOR
K	----------
KPD	KEYPAD
KIT	KITCHEN
KPL	KICKPLATE
L	----------
LAM	LAMINATE
LAV	LAVATORY
LBR	LUMBER
LBS	POUND
LDG	LANDING
LF	LINEAR FEET (FOOT)
LIB	LIBRARY
LIN	LINEAR
LKR	LOCKER
LOC	LOCATION
LT	LIGHT
LVDR	LOUVER DOOR
LVR	LOUVER
M	----------
MACH RM	MACHINE ROOM
MATL	MATERIAL
MAX	MAXIMUM
MC	MOISTURE CONTENT
MD	METAL DECK
MECH	MECHANICAL
MECH RM	MECHANICAL ROOM
MEMB	MEMBRANE
MF	MILL FINISH
MFR	MANUFACTURER
MID	MIDDLE
MIL STD	MILITARY STANDARD
MIN	MINIMUM, MINUTE
MIRR	MIRROR
MISC	MISCELLANEOUS
MLDG	MOLDING (MOULDING)
MO	MASONRY OPENING
MOD	MODIFY
MB	MOISTURE BARRIER
MTG	MOUNTING
MTL	METAL
MVBL	MOVABLE
MWP	MEMBRANE WATERPROOFING
N	----------
N	NORTH
NA	NOT APPLICABLE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NP	NO PAINT
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE

O	----------
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OFF	OFFICE
OGL	OBSCURE GLASS
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPQ	OPAQUE
OWSJ	OPEN WEB STEEL JOIST
OPR	OPERABLE
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
P	----------
PA	PUBLIC ADDRESS
PAR	PARAPET
PAT	PATTERN
PB	PULL BOX
PBD	PARTICLEBOARD
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PERF	PERFORATED
PERIM	PERIMETER
PH	PHASE
PIL	PILASTER
PL	PROPERTY LINE
PL GL	PLATE GLASS
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLG	PILING
PLYWD	PLYWOOD
PNL	PANEL
PP PL	PUSH/PULL PLATE
PR	PAIR
PRCST	PRECAST
PRKG	PARKING
PS CONC	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTDR	PAPER TOWEL DISPENSER AND RECEPTACLE
PTN	PARTITION
PWR	POWER
Q	----------
QT	QUARRY TILE
QTY	QUANTITY
R	----------
RB	RESILIENT BASE
RBM	REINFORCED BRICK MASONRY
RBR	RUBBER
RC	REINFORCED CONCRETE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDG INS	RIGID INSULATION, SOLID
REC	RECESSED
REC ROOM	RECREATION ROOM
REF	REFERENCE
REM	REMOVABLE
REP	REPAIR
REPL	REPLACE
REQ	REQUIRE
REQD	REQUIRED
RESIL	RESILIENT
REST	RESTROOM
RF	RESILIENT FLOORING
RFG	ROOFING
RH	ROOF HATCH
RHR	RIGHT HAND REVERSE
RL	ROOF LEADER
RLG	RAILING
RM	ROOM
RO	ROUGH OPENING
RSD	ROLLING STEEL DOOR
RV	ROOF VENT
RVL	REVEAL
S	----------
SB	SPLASH BLOCK
SCHED	SCHEDULE
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SFTWD	SOFTWOOD
SGL	SINGLE
SHT MTL FLASH	SHEET METAL (FLASHING)
SHTHG	SHEATHING
SHV	SHELVING
SIM	SIMILAR
SMK	SMOKE
SMLS	SEAMLESS
SP EL	SPOT ELEVATION
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SST	STAINLESS STEEL
ST	STAIRS
STD	STANDARD
STL JST	STEEL JOIST
STL RF DK	STEEL ROOF DECK
STOR	STORAGE
STR	STRINGERS
STRB/HRN	STROBE/HORN
SUB FL	SUBFLOOR
SV	SHEET VINYL
SW	SIDEWALK
T	----------
T	TREAD
T/S	TUB/SHOWER
TC	TERRA COTTA
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
TFF	TOP OF FINISH FLOOR
THK	THICKNESS
TK BD	TACKBOARD
TMPD GL	TEMPERED GLASS
TN	TRUE NORTH
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB
TRANS	TRANSOM
TRTD	TREATED
TV	TELEVISION

SHEET NUMBERING



LEVEL ONE DISCIPLINE:
C - CIVIL
L - LANDSCAPE
A - ARCHITECTURE
M - MECHANICAL
E - ELECTRICAL
P - PLUMBING
S - STRUCTURAL
K - FOOD SERVICE

LEVEL TWO DISCIPLINE: IF USED

SHEET TYPE DESIGNATOR:
0 - GENERAL
1 - PLANS
2 - ELEVATIONS
3 - SECTIONS
4 - LARGE SCALE VIEWS
5 - DETAILS
6 - SCHEDULES AND DIAGRAMS
7 - USER DEFINED
8 - USER DEFINED
9 - 3D REPRESENTATIONS

REVISION SEQUENCE NUMBER

REVISION TYPE:
R - PARTIALLY REVISED SHEET
X - TOTALLY REVISED SHEET

SHEET SEQUENCE NUMBER

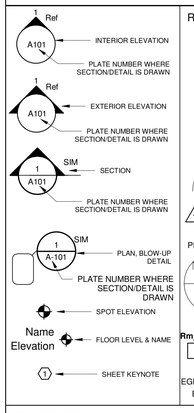
LEGEND

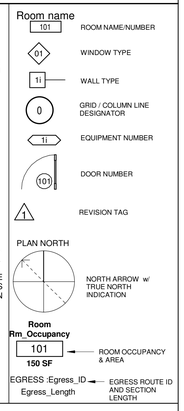
MATERIALS

- CONCRETE/ PRECAST CONCRETE
- SOIL
- SAND, EIFS FINISH COAT, OR CEMENT PLASTER
- BRICK
- CMU
- STONE
- FIBERGLASS BATT INSULATION
- FIBERGLASS SEMI RIGID INSULATION
- MINERAL WOOL SEMI RIGID INSULATION
- EXPANDED POLYSTYRENE RIGID INSULATION
- EXTRUDED POLYSTYRENE RIGID INSULATION
- POLYISOCYANURATE RIGID INSULATION
- GYPSUM BOARD
- EXTERIOR GYPSUM SHEATHING
- EXTERIOR CEMENT BOARD
- COATED GLASS MAT WATER RESISTANT GYP BD
- PLYWOOD
- COVER BOARD

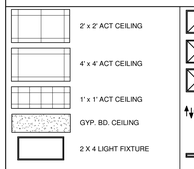
FIRE RATED WALL SYMBOLS:
- 1 HR FIRE
- 2 HR FIRE
- 3 HR FIRE
- 4 HR FIRE
- S 1 HR FIRE/SMOKE WALL
- S 2 HR FIRE/SMOKE WALL
- S 3 HR FIRE/SMOKE WALL
- S 4 HR FIRE/SMOKE WALL

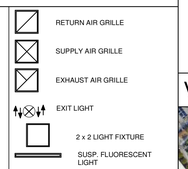
ANNOTATION CALLOUTS/DRAWING SYMBOLS





CEILING SYMBOLS





BUILDING SUMMARY

PROJECT INFORMATION

PROJECT NAME: LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
ADDRESS: 130 WEST NEW CIRCLE ROAD, LEXINGTON KY 40505
USE GROUP: B, F-1, S-1, S-2
OWNER-CONTACT PERSON: RICHARD DUGAS

APPLICABLE CODES

2018 - KENTUCKY BUILDING CODE (BASED ON THE 2015 INTERNATIONAL BUILDING CODE)

2015 - INTERNATIONAL MECHANICAL CODE

2012 - NFPA 54 NATIONAL FUEL GAS CODE

2009 - ICC/ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

2012 - NFPA 1 FIRE PREVENTION CODE (AS DIRECTED BY 815 KAR 10:60 KENTUCKY STANDARDS OF SAFETY)

2012 - INTERNATIONAL ENERGY CONSERVATION CODE - (FOR USE WITH THE KBC ONLY)

2009 - INTERNATIONAL ENERGY CONSERVATION CODE - (FOR USE WITH THE KRC ONLY)

2013 - KENTUCKY RESIDENTIAL CODE (BASED ON THE 2012 INTERNATIONAL RESIDENTIAL CODE)

0000 - KENTUCKY STATE PLUMBING LAW, REGULATIONS & CODE (815 KAR CHAPTER 20)

0000 - STATE BOILER REGULATIONS (KRS 236, 815 KAR 15)

2017 - NFPA 70 NATIONAL ELECTRICAL CODE

2015 - INTERNATIONAL FIRE CODE (IFC) (NEW CONSTRUCTION PROJECTS, ONLY BY THE BODY OF KBC.)

2012 - NFPA 101 LIFE SAFETY CODE (HEALTH CARE FACILITIES)

2006 - INTERNATIONAL FIRE CODE FOR PORTABLE EXTINGUISHERS (SECTION 906)

2013 - NFPA 13 INSTALLATION OF SPRINKLER SYSTEMS

2013 - NFPA 13D INSTALLATION OF SPRINKLER SYSTEMS - ONE/TWO FAMILY DWELLING

2013 - NFPA 13R INSTALLATION OF SPRINKLER SYSTEMS IN RESIDENTIAL OCCUPANCIES UP TO FOUR STORIES

2013 - NFPA 14 INSTALLATION OF STANDPIPE, HOSE SYSTEMS

2013 - NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE

2007 - STRUCTURAL ENGINEERS ASSOCIATION OF KENTUCKY - SPECIAL INSPECTION GUIDELINES, THIRD EDITION

BUILDING PLANNING

OCCUPANCY: B, F-1, S-1

MIXED OCCUPANCY YES

REQUIRED FIRE SEPARATION: NO

TYPE OF CONSTRUCTION

CONSTRUCTION TYPE: 2B

ESSENTIAL FACILITY (CHAPTER 16, IBC)

ESSENTIAL FACILITY NO (TABLE 1604.5 RISK CATEGORY 2)

GENERAL BUILDING LIMITATIONS

- HEIGHT OF BUILDING: ALLOWED 75FT > ACTUAL 20'-0"FT (TABLE 503 2015 IBC)
- NUMBER OF STORIES: 1 STORY ACTUAL (3 STORY PER TABLE 503 2015 IBC)
- MAXIMUM SINGLE FLOOR AREA: 46,500SQFT. (PER TABLE 503 2015 IBC)
- TOTAL AREA OF BUILDING: 67,820 SQFT.
- PENTHOUSE AND ROOF STRUCTURE: NONE
- HIGH RISE: NO
- PARKING SPACES PROVIDED: SEE CIVIL PLANS
- PARKING SPACES REQUIRED: SEE CIVIL PLANS
- ACCESSIBLE PARKING SPACES PROVIDED: SEE CIVIL PLANS

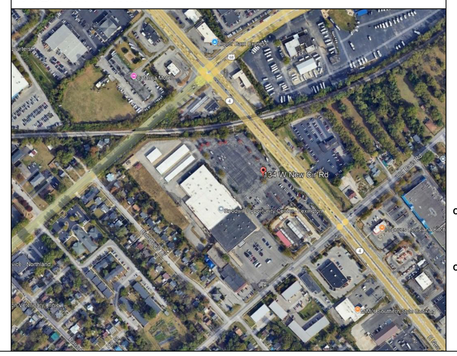
FIRE PROTECTION SYSTEMS

- FIRE EXTINGUISHING SYSTEM: YES
- STANDPIPE SYSTEM: NO TYPE
- SMOKE CONTROL: NO CLASS

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	REQ'D RATING / HR	UL/FM # WHERE APPLICABLE
PRIMARY STRUCTURAL FRAME	0 / HR	N/A
BEARING WALLS		
EXTERIOR	0 / HR	N/A
INTERIOR	0 / HR	N/A
NONBEARING WALLS AND PARTITIONS		
EXTERIOR 10' > SEPARATION DISTANCE	1/ HR	N/A
NONBEARING WALLS AND PARTITIONS		
INTERIOR	0 / HR	N/A
FLOOR CONSTRUCTION	0 / HR	N/A
ROOF CONSTRUCTION	0 / HR	N/A

VICINITY MAP



BUILDING CODE REVIEW - 2018 KBC

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION:

1. BUSINESS GROUP B (SECTION 304.1)
2. MODERATE-HAZARD FACTORY INDUSTRIAL, GROUP F-1 (SECTION 306.2)
3. MODERATE-HAZARD STORAGE, GROUP S-1 (SECTION 311.2)

CHAPTER 4: SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY:

1. ATRIUMS (SECTION 404.2)
2. MOTOR-VEHICLE-RELATED OCCUPANCIES (SECTION 406.8)

CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS:

1. ASSEMBLY GROUP B (TYPE 2B CONSTRUCTION) HEIGHT 4 STORIES (75' H) @ 69,000 SQFT PER STORY. (SECTION 503, 504, 506)
2. ASSEMBLY GROUP F-1 (TYPE 2B CONSTRUCTION) HEIGHT 3 STORIES (75' H) @ 46,500 SQFT PER STORY. (SECTION 503, 504, 506)
3. ASSEMBLY GROUP S-1 (TYPE 2B CONSTRUCTION) HEIGHT 3 STORIES (75' H) @ 52,500 SQFT PER STORY. (SECTION 503, 504, 506)
4. SEPARATED OCCUPANCIES (TABLE 508.4) B, F-1, S-1 NO SEPARATION IS REQUIRED.
5. BUILDING AREA MODIFICATIONS: (SECTION 506.3)
   - A. If = [867/1093 - 0.25] 30/30 = .54
   - B. Aa = 46,500 sqft + [46,500sqft x .54] = 71,610 sqft > 70,431 sqft ACTUAL. (AREA IS UNDER ALLOWED.)
6. UNLIMITED AREA BUILDINGS: (SECTION 507.5 GROUP B, F-1, S-1 BUILDINGS OF TYPE 2 CONSTRUCTION)
   - A. BUILDING AREA NOT LIMITED WHERE EQUIPPED THROUGHOUT WITH AUTOMATIC SPRINKLER SYSTEM AND IS SURROUNDED AND ADJOINED BY PUBLIC WAYS OR YARDS NOT LESS THAN 60 FEET IN WIDTH. ACTUAL LESS THAN 60'
7. MIXED USE AND OCCUPANCY: (SECTION 508.3)
   - A. NONSEPARATED OCCUPANCIES:
   - B. 508.3.2 ALLOWABLE BUILDING AREA AND HEIGHT OF THE BUILDING BASED ON MOST RESTRICTIVE.
   - C. TABLE 508.4 REQUIRED SEPARATION OF OCCUPANCIES: OCCUPANCIES B, F-1, AND S-1 ARE NOT REQUIRED TO BE SEPARATED.
8. INCIDENTAL USES (SECTION 509)
   - A. N/A
9. SPECIAL PROVISIONS (SECTION 510)
   - A. N/A

CHAPTER 6: TYPES OF CONSTRUCTION:

1. CONSTRUCTION CLASSIFICATION:
   - A. TYPE 2B
2. SEE FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS HOURS (TABLE 601)
   - A. SEE TABLE THIS SHEET.
3. FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE
   - A. FIRE SEPARATION DISTANCE = 10 < x <30
   - B. TYPES OF CONSTRUCTION = 2B
   - C. OCCUPANCY GROUP = B, F-1, S-1
   - D. FIRE RATING REQUIRED = 1HR

CHAPTER 7: FIRE AND SMOKE PROTECTION FEATURES:

1. SHAFT ENCLOSURES:
   - A. 1 HOUR WHERE CONNECTING FOUR STORIES OR LESS. (713.4)
   - B. SHAFT ENCLOSURES SHALL BE CONSTRUCTED AS FIRE BARRIERS PER SECTION 707.

CHAPTER 8: INTERIOR FINISHES:

1. INTERIOR WALL AND FINISH MATERIAL (803.1.1)
   - A. CLASS C: – FLAME SPREAD INDEX 76-200; SMOKE DEVELOPMENT INDEX 0-450
2. INTERIOR WALL AND FINISH REQUIREMENTS BY OCCUPANCY: (TABLE 803.11 SPRINKLERED)
   - A. GROUP B = CLASS C
   - B. GROUP F = CLASS C
   - C. GROUP S = CLASS C
3. ACOUSTICAL CEILING SYSTEMS (808)
   - A. SUSPENDED ACOUSTICAL CEILINGS SHALL BE INSTALLED IN ACCORDANCE WITH PROVISIONS OF ASTM C 635 AND ASTM C 636.

CHAPTER 9: FIRE PROTECTION SYSTEMS:

1. AUTOMATIC SPRINKLER SYSTEMS: (SECTION 903)
   - A. GROUP F-1 (SECTION 903.2.4)
     - a. THE FIRE AREA EXCEEDS 12,000 SQUARE FEET > 3,180 ACTUAL.
     - b. THE COMBINED AREA OF F-1EXCEEDS 24,000 SQFT. > 3,180 SQFT.
   - B. GROUP F-1 WOODWORKING OPERATIONS: (903.2.4.1)
     - a. FIRE AREA EXCEEDS 2,500 SQFT. < 3,180 SQFT.
   - C. GROUP S-1 (SECTION 903.2.9)
     - a. THE FIRE AREA EXCEEDS 24,000 SQFT > 18,240 SQFT.
     - b. STORAGE OF COMMERCIAL MOTOR VEHICLES EXCEEDS 5,000 SQFT. < 18,240 SQFT
   - D. PORTABLE FIRE EXTINGUISHERS (SECTION 906)
     - a. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN GROUP B,F,S (SECTION 906.1)
     - b. INSTALL FIRE EXTINGUISHERS PER NFPA 10.
     - c. MIN. NUMBER OF EXTINGUISHERS = 67,873 / 3000 = 22.62 < ACTUAL 23
     - d. MAX. DISTANCE TO TRAVEL TO EXTINGUISHER = 75 FEET.
   - E. FIRE ALARM DETECTION SYSTEMS (907.2.2 GROUP B)
     - a. THE COMBINED GROUP B OCCUPANT LOAD EXCEEDS 500 < 493
     - b. THE COMBINED GROUP F OCCUPANT LOAD EXCEEDS 500 < 11

CHAPTER 10: MEANS OF EGRESS:

1. OCCUPANT LOAD (SECTION 1004)
   - A. TABLE 1004.1.2 MAXIMUM FLOOR AREA ALLOWANCE PER OCCUPANT.
     - a. BUSINESS AREAS 100 SQFT
     - b. INDUSTRIAL AREAS 100 SQFT
     - c. WAREHOUSE AREA 500 SQFT
     - d. STORAGE AREA 300 SQFT.
     - e. SEE PROGRAM SCHEDULE FOR OCCUPANCY LOADS
2. GUARDS (SECTION 1015)
   - A. GUARDS SHALL BE LOCATED ALONG OPEN SIDED WALKING SURFACES, INCLUDING MEZZANINES, EQUIPMENT PLATFORMS, STAIRS, RAMPS AND LANDINGS THAT ARE LOCATED MORE THAN 30 INCHES MEASURED VERTICALLY TO THE FLOOR OR GRADE BELOW WITHIN 36 INCHES HORIZONTALLY TO THE EDGE OF THE OPEN SIDE.
   - B. HEIGHT: 42"
   - C. OPENING LIMITATIONS: 21" AT AREAS NOT OPEN TO THE PUBLIC IN F AND S USE GROUP.
3. COMMON PATH OF EGRESS TRAVEL (SECTION 1014.3)
   - A. GROUP A-3: OCCUPANT LOAD GREATER THAN 30 WITHOUT SPRINKLER SYSTEM = 75 FEET.
4. EXIT ACCESS TRAVEL DISTANCE (SECTION 1017.2)
   - A. GROUP B = 300 FEET MAXIMUM WITH SPRINKLER SYSTEM.
   - B. GROUP F-1 AND S-1 = 250 FEET MAXIMUM WITH SPRINKLER SYSTEM.
5. CORRIDOR FIRE RESISTANCE RATING (1020.1)
   - A. GROUP B,F,S, WITH SPRINKLER SYSTEM REQUIRED RATED CORRIDOR = 0 HOURS.
   - B. MINIMUM CORRIDOR WIDTH 44 INCHES (1020.2)

CHAPTER 12: INTERIOR ENVIRONMENT:

1. LIGHTING (SECTION 1205.2)
   - A. THE MINIMUM NET GLAZED AREA SHALL BE NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE ROOM SERVED.
     - a. 67,873sqft x .08 = 5,430 sqft < 5,182 sqft.
2. TOILET AND BATHROOM REQUIREMENTS (SECTION 1210)
   - A. FLOORS AND WALL BASES (1210.2.1)
     - a. TOILET, BATHING, AND SHOWERS FLOOR FINISH AND 4" MIN. BASE MATERIAL SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE
     - b. WALLS AND PARTITIONS WITHIN 2 FEET OF SERVICE SINK, URINALS, AND WATER CLOSETS SHALL HAVE A SMOOTH, HARD NONABSORBENT SURFACE TO A HEIGHT OF NOT LESS THAN 4 FEET ABOVE THE FLOOR.
   - B. THE NUMBER AND TYPE OF PLUMBING FIXTURES PROVIDED IN ANY OCCUPANCY SHALL COMPLY WITH CHAPTER 29.
   - C. PLUMBING SYSTEMS (TABLE 2902.1)

a.	GROUP B = 2 FOR 50 + 1/50 OVER 50 (250 MALES)	6 MALE WC REQUIRED.
b.	GROUP B = 2 FOR 50 + 1/50 OVER 50 (250 FEMALES)	6 FEMALE WC REQUIRED.
c.	GROUP S = 1 PER 100 (50 MALES)	1 MALE WC REQUIRED.
d.	GROUP S = 1 PER 100 (50 FEMALES)	1 FEMALE WC REQUIRED
e.	GROUP B = 2 FOR 80 + 1/80 OVER 80 (250 MALES)	5 MALE LAVATORIES
f.	GROUP B = 2 FOR 80 + 1/80 OVER 80 (250 FEMALES)	5 FEMALE LAVATORIES
g.	GROUP S = 1 PER 100 (50 MALES)	1 MALE LAVATORIES.
h.	GROUP S = 1 PER 100 (50 FEMALES)	1 FEMALE LAVATORIES
i.	GROUP F = 2 FOR 51 TO 100 + 1 FOR 100 (250 MALES)	3 URINALS
j.	GROUP B = 1 DRINKING FOUNTAIN PER 100 (500)	5 ADA DRINKING FOUNTAIN.
k.	GROUP S = 1 DRINKING FOUNTAIN PER 1000 (500)	1 ADA DRINKING FOUNTAIN.
l.	GROUP B = TWO SERVICE SINK REQUIRED.	

CHAPTER 13: ENERGY EFFICIENCY

1. GENERAL (SECTION 1301)
   - A. BUILDINGS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE.

CHAPTER 16: STRUCTURAL DESIGN:

1. RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES (TABLE 1604.5.1)
   - A. RISK CATEGORY 2.

JAMES R. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

1 / GJ404
1 / GJ403
1 / GJ401
1 / GJ402
SLM PUMP STORAGE 00 14 005
SLM PUMP STORAGE 00 14 006
SLM PUMP STORAGE 00 14 007
PS GENERATOR STORAGE 00 11 306
PS GENERATOR STORAGE 00 11 305
PS GENERATOR STORAGE 00 11 304
PS GENERATOR STORAGE 00 11 303
PS GENERATOR STORAGE 00 11 302
PS GENERATOR STORAGE 00 11 301
PS GENERATOR STORAGE 00 11 300
PS GENERATOR STORAGE 00 11 123
PS PUMPS STORAGE 00 12 010
PUMP STATION STORAGE 00 12 200
SLM EQUIPMENT COMPRESSOR STORAGE 00 14 004
WAREHOUSE CIRCULATION 00 12 003
WAREHOUSE CIRCULATION 00 12 004
WAREHOUSE CIRCULATION 00 12 204
WAREHOUSE CIRCULATION 00 12 205
WAREHOUSE CIRCULATION 00 12 206
UNASSIGNED STORAGE / WORK AREA 00 11 005
UNASSIGNED STORAGE / WORK AREA 00 11 006
UNASSIGNED STORAGE / WORK AREA 00 11 007
UNASSIGNED STORAGE / WORK AREA 00 11 008
MODULAR 00 31 005
SEWER LINE MAINTENANCE STORAGE AREA 00 12 000
PUMP STATION STORAGE 00 12 201
PUMP STATION STORAGE 00 12 202
PUMP STATION STORAGE 00 12 203
PUMP STATION STORAGE 00 12 204
PUMP STATION STORAGE 00 12 205
PUMP STATION STORAGE 00 12 206
PUMP STATION STORAGE 00 12

1 FIRST LEVEL - PROGRAM VALIDATION - AREA A

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE PROGRAM VALIDATION SCHEDULE FOR ADDITIONAL REQUIREMENTS. SHEET GJ601.
2. SEE ROOM FINISH SCHEDULE FOR ADDITIONAL REQUIREMENTS.
3. SEE LIFE SAFETY PLAN FOR ADDITIONAL REQUIREMENTS. SHEET GK101.
4. SEE FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	SOLID SURFACE COUNTERTOPS.
2	ADA COMPLIANT DRINKING FOUNTAIN.
3	EQUIPMENT - PALLET RACK SHELVING. (OFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
4	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
5	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
6	CHAIN LINK FENCE PARTITION. 8'-0" HIGH.
7	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
9	24" X 24" MOP SINK.
10	CHAIN LINK FENCE GATE. 8'-0" HIGH.
11	PRE-FABRICATED MODULAR OFFICE. (OFCI) SEE MECHANICAL AND ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

AREA KEY PLAN

PLAN NORTH

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

PROGRAM VALIDATION PLAN - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

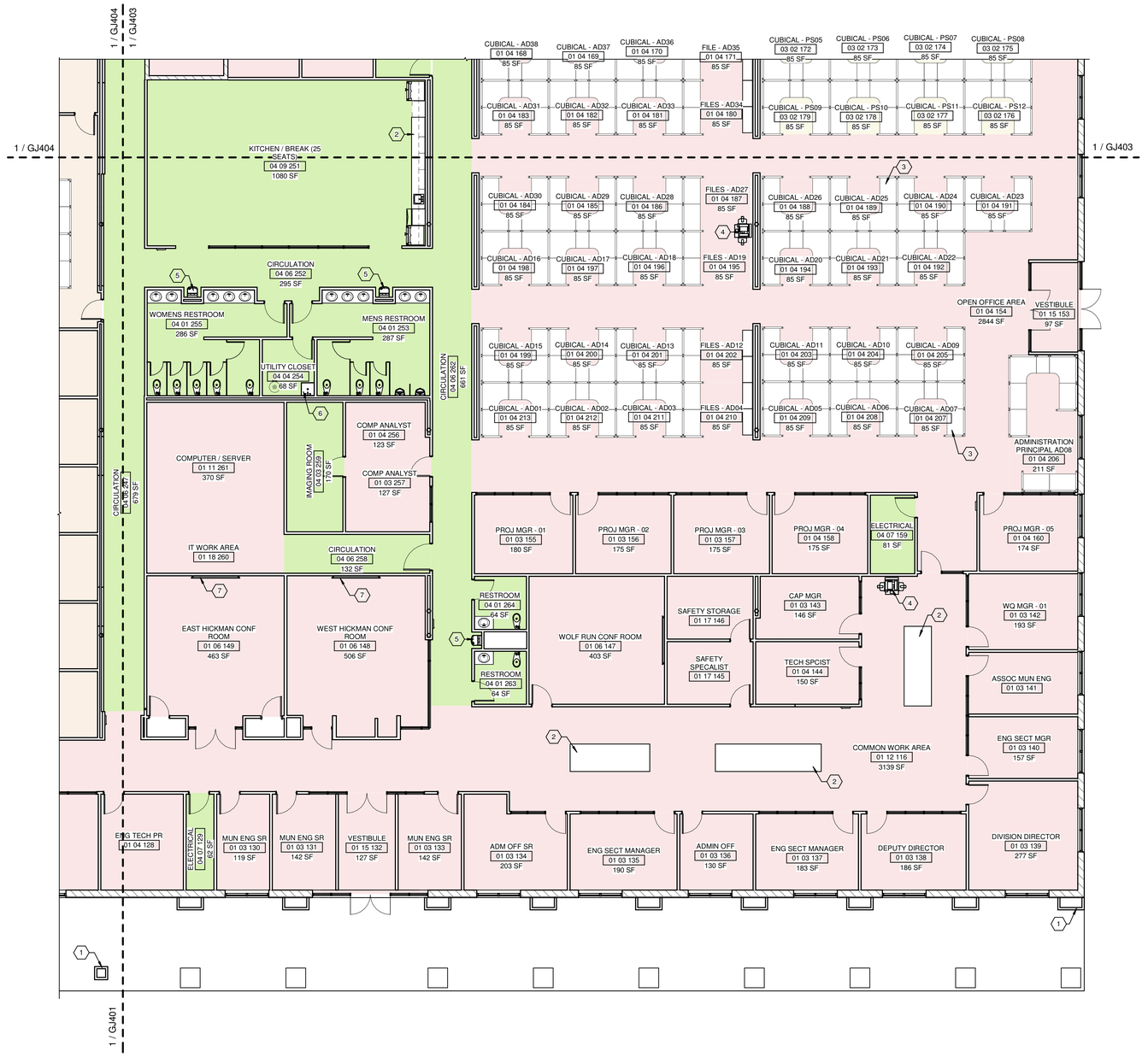
SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: GJ401 01

8/13/2025 9:30:11 AM G:\GAV\1-EVLC\1-DWG\1-WDB\Working Drawings\Revit Archi\Central Model\GAV1-MDSB01r.rvt



1 FIRST LEVEL - PROGRAM VALIDATION - AREA B
SCALE: 1/8" = 1'-0"

PLAN NORTH

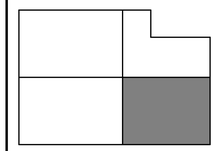
GENERAL NOTES:

1. SEE PROGRAM VALIDATION SCHEDULE FOR ADDITIONAL REQUIREMENTS. SHEET GJ601.
2. SEE ROOM FINISH SCHEDULE FOR ADDITIONAL REQUIREMENTS.
3. SEE LIFE SAFETY PLAN FOR ADDITIONAL REQUIREMENTS. SHEET GK101.
4. SEE FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
2	SOLID SURFACE COUNTERTOPS.
3	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
4	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5	ADA COMPLIANT DRINKING FOUNTAIN.
6	24" X 24" MOP SINK.
7	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

AREA KEY PLAN



JAMES K. RIPPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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PROGRAM VALIDATION PLAN - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY
1	05/30/25	DRV

SCALE CHECK — 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO. GJ402 01

8/15/2025 9:39:21 AM G:\DAT-FS\CG\DWG\WDB\Working Drawings\Revit Auto Cache Model\5247-NEOSBDG01.rvt

1 FIRST LEVEL - PROGRAM VALIDATION - AREA C

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE PROGRAM VALIDATION SCHEDULE FOR ADDITIONAL REQUIREMENTS. SHEET GJ601.
2. SEE ROOM FINISH SCHEDULE FOR ADDITIONAL REQUIREMENTS.
3. SEE LIFE SAFETY PLAN FOR ADDITIONAL REQUIREMENTS. SHEET GK101.
4. SEE FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
2	SOLID SURFACE COUNTERTOPS.
3	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4	ADA COMPLIANT DRINKING FOUNTAIN.
5	EXISTING SCISSOR DOCK LEVELER TO REMAIN. RECONDITION FOR SMOOTH OPERATION.
6	FILING CABINETS. (OFOI)

AREA KEY PLAN

PLAN NORTH

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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www.grwinc.com

PROGRAM VALIDATION PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	DATE	BY	REVISION DESCRIPTION

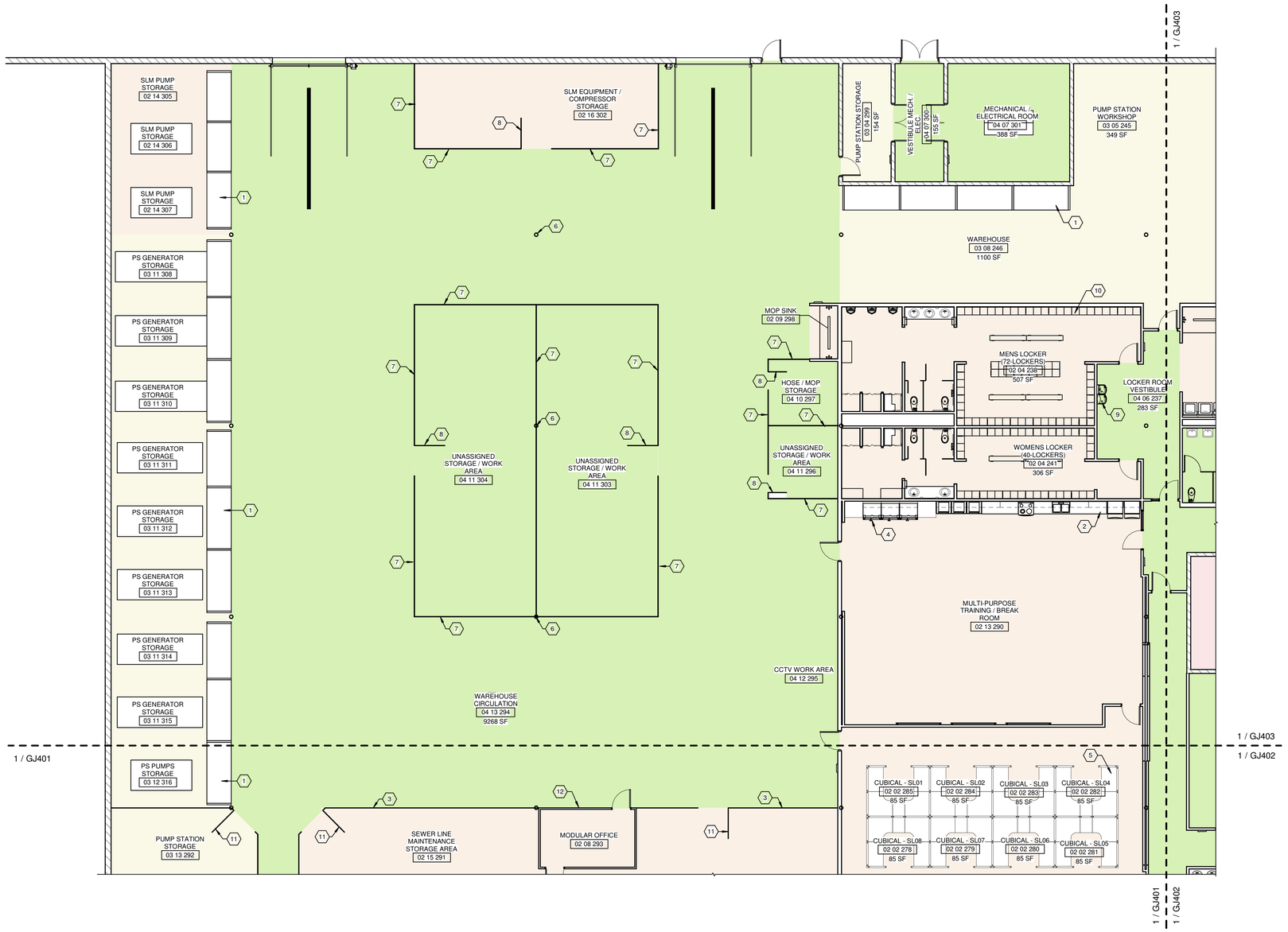
SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: GJ403 01

8/15/2025 9:35:31 AM G:\GJ\24 LEX\CAD\DWG\ARCH\Working Drawings\Revit Arch\Center Model\GAJ24LAEXB0001.rvt



1 FIRST LEVEL - PROGRAM VALIDATION - AREA D
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE PROGRAM VALIDATION SCHEDULE FOR ADDITIONAL REQUIREMENTS. SHEET GJ601.
2. SEE ROOM FINISH SCHEDULE FOR ADDITIONAL REQUIREMENTS.
3. SEE LIFE SAFETY PLAN FOR ADDITIONAL REQUIREMENTS. SHEET GK101.
4. SEE FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
2	SOLID SURFACE COUNTERTOPS.
3	CHAIN LINK FENCE PARTITION. 8'-0" HIGH.
4	REFRIGERATOR - (OFCI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
6	EXISTING STRUCTURAL COLUMN TO REMAIN.
7	CHAIN LINK FENCE PARTITION. 8'-0" HIGH. (OFCI)
8	CHAIN LINK FENCE GATE. 8'-0" HIGH. (OFCI)
9	ADA COMPLIANT DRINKING FOUNTAIN.
10	METAL LOCKERS.
11	CHAIN LINK FENCE GATE. 8'-0" HIGH.
12	PRE-FABRICATED MODULAR OFFICE. (OFCI) SEE MECHANICAL AND ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

AREA KEY PLAN

PLAN NORTH

JAMES K. PIPER JR. REGISTERED NO. 4447 CHRONICALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

PROGRAM VALIDATION - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: GJ404 01

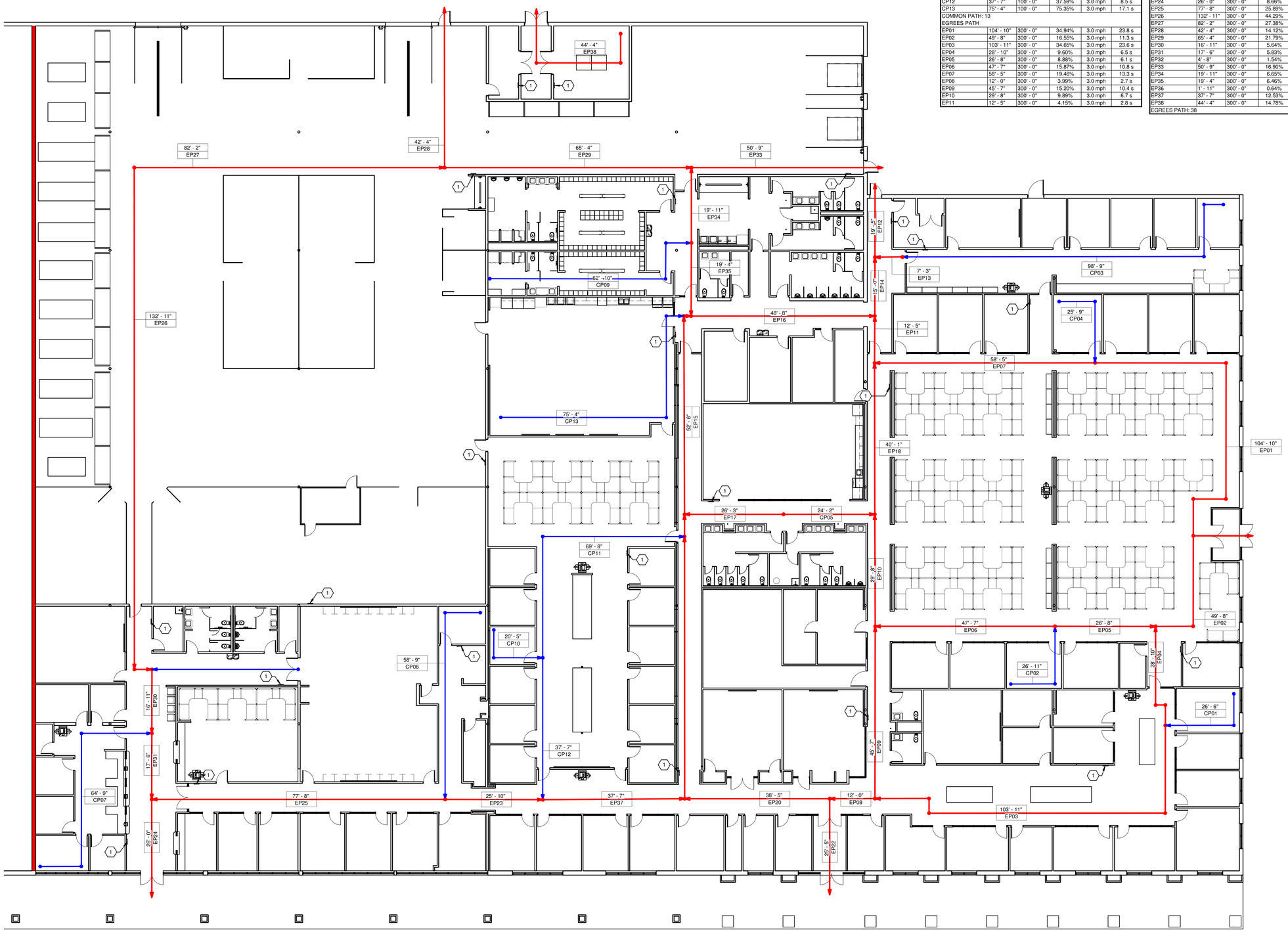
8/15/2025 9:04 AM GJ404 FLFCI DWG HOB Working Drawings\Revit Auto Cache Model\247-MEDBRGH.rvt

PROGRAM VALIDATION SCHEDULE

BUILDING IDENTIFICATION	DEPARTMENT NUMBER	DEPARTMENT TYPE	ROOM NUMBER	ROOM NAME	INCUMBENT	ROOM IDENTIFICATION LEVEL	AREA PROGRAMMED AREA	AREA ACTUAL AREA	AREA DELTA	USE AND OCCUPANCY CLASSIFICATION USE GROUP	USE AND OCCUPANCY CLASSIFICATION OCCUPANT LOAD FACTOR	USE AND OCCUPANCY CLASSIFICATION OCCUPANT LOAD	COMMENTS
ADMINISTRATIVE													
01	01	01	101	LOBBY		FIRST LEVEL	250.00 SF	531.80 SF	212.72%	B	100 SF	5	
01	01	02	104	MENS PUBLIC RESTROOM		FIRST LEVEL	300.00 SF	134.34 SF	44.78%	B	100 SF	1	
01	01	02	105	WOMENS PUBLIC RESTROOM		FIRST LEVEL	300.00 SF	146.20 SF	48.73%	B	100 SF	1	
01	01	03	140	ENG SECT MGR	C MARTIN	FIRST LEVEL	196.00 SF	157.02 SF	80.11%	B	100 SF	2	
01	01	03	139	DIVISION DIRECTOR	LUBECK	FIRST LEVEL	196.00 SF	277.26 SF	141.46%	B	100 SF	3	
01	01	03	165	CONSTRUCTION MANAGER - 02	DAY	FIRST LEVEL	169.00 SF	176.93 SF	104.69%	B	100 SF	2	
01	01	03	166	CONSTRUCTION MANAGER - 01	PETERSON	FIRST LEVEL	169.00 SF	176.93 SF	104.69%	B	100 SF	2	
01	01	03	138	DEPUTY DIRECTOR	SANDERS	FIRST LEVEL	144.00 SF	186.39 SF	129.44%	B	100 SF	2	
01	01	03	137	ENG SECT MANAGER	DENT	FIRST LEVEL	144.00 SF	182.57 SF	126.79%	B	100 SF	2	
01	01	03	135	ENG SECT MANAGER	YOUNG	FIRST LEVEL	144.00 SF	190.34 SF	132.18%	B	100 SF	2	
01	01	03	133	MUN ENG SR	MORGAN	FIRST LEVEL	120.00 SF	141.58 SF	117.98%	B	100 SF	1	
01	01	03	131	MUN ENG SR	BALDWIN	FIRST LEVEL	120.00 SF	141.58 SF	117.98%	B	100 SF	1	
01	01	03	130	MUN ENG SR	MERINO	FIRST LEVEL	120.00 SF	118.54 SF	98.78%	B	100 SF	1	
01	01	03	134	ADM OFF SR	MCFADDEN	FIRST LEVEL	144.00 SF	203.09 SF	141.03%	B	100 SF	2	
01	01	03	123	PROG MGR SR	MABSON	FIRST LEVEL	120.00 SF	188.96 SF	157.47%	B	100 SF	2	
01	01	03	161	CONST SUP - 04	CLAYBORN	FIRST LEVEL	120.00 SF	182.81 SF	152.34%	B	100 SF	2	
01	01	03	162	CONST SUP - 03	GABBARD	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	B	100 SF	2	
01	01	03	163	CONST SUP - 02	PRATER	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	B	100 SF	2	
01	01	03	164	CONST SUP - 01	T TAYLOR	FIRST LEVEL	120.00 SF	194.72 SF	162.27%	B	100 SF	2	
01	01	03	142	WQ MGR - 01	HENSLEY	FIRST LEVEL	120.00 SF	193.11 SF	160.92%	B	100 SF	2	
01	01	03	136	ADMIN OFF	MANTROM	FIRST LEVEL	120.00 SF	130.23 SF	108.52%	B	100 SF	1	
01	01	03	143	CAP MGR	BEGLEY	FIRST LEVEL	120.00 SF	146.27 SF	121.89%	B	100 SF	1	
01	01	03	167	INF PROG MGR	J MARTIN	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	B	100 SF	2	
01	01	03	141	ASSOC MUN ENG	AI HUMADI	FIRST LEVEL	120.00 SF	157.02 SF	130.85%	B	100 SF	1	
01	01	03	257	COMP ANALYST	EDWARDS	FIRST LEVEL	120.00 SF	127.02 SF	105.85%	B	100 SF	1	
01	01	03	120	ADMIN SPCIST PR	KING	FIRST LEVEL	120.00 SF	178.78 SF	148.98%	B	100 SF	2	
01	01	03	121	ADMIN SPCIST PR	SCRIVNER	FIRST LEVEL	120.00 SF	179.60 SF	149.66%	B	100 SF	2	
01	01	03	122	ADMIN SPCIST PR	BULLOCK	FIRST LEVEL	120.00 SF	178.13 SF	148.45%	B	100 SF	2	
01	01	03	118	ENV INSP SUPER	VACANT	FIRST LEVEL	120.00 SF	156.83 SF	130.69%	B	100 SF	2	
01	01	03	119	ENV INSP SUPER	LYNE	FIRST LEVEL	120.00 SF	158.09 SF	131.75%	B	100 SF	2	
01	01	03	155	PROJ MGR - 01	ARLEDGE	FIRST LEVEL	120.00 SF	180.28 SF	150.23%	B	100 SF	2	
01	01	03	156	PROJ MGR - 02	BAUMGARDNER	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	B	100 SF	2	
01	01	03	157	PROJ MGR - 03	HOLLOWAY	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	B	100 SF	2	
01	01	03	248	PROJECT MANAGER		FIRST LEVEL	400.00 SF	196.76 SF	49.19%	B	100 SF	2	
01	01	03	249	PROJECT MANAGER		FIRST LEVEL	200.00 SF	211.56 SF	105.78%	B	100 SF	2	
01	01	03	248A	PROJECT MANAGER		FIRST LEVEL	120.00 SF	186.95 SF	155.79%	B	100 SF	2	
01	01	04	158	PROJ MGR - 04	HOLTZCLAW	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	B	100 SF	2	
01	01	04	160	PROJ MGR - 05	WAGNER	FIRST LEVEL	120.00 SF	173.79 SF	144.82%	B	100 SF	2	
01	01	04	124	ENG TECH PR	CUMMINS	FIRST LEVEL	100.00 SF	174.91 SF	174.91%	B	100 SF	2	
01	01	04	125	ENG TECH PR	NEWBY	FIRST LEVEL	100.00 SF	174.92 SF	174.92%	B	100 SF	2	
01	01	04	126	ENG TECH PR	PARNASS	FIRST LEVEL	100.00 SF	175.06 SF	175.06%	B	100 SF	2	
01	01	04	127	ENG TECH PR	WARREN	FIRST LEVEL	100.00 SF	174.92 SF	174.92%	B	100 SF	2	
01	01	04	256	COMP ANALYST	BAILEY	FIRST LEVEL	120.00 SF	123.29 SF	102.74%	B	100 SF	1	
01	01	04	144	TECH SPCIST	L'ESPERANCE	FIRST LEVEL	144.00 SF	150.38 SF	104.43%	B	100 SF	2	
01	01	04	213	CUBICAL - AD01		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	212	CUBICAL - AD02		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	211	CUBICAL - AD03		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	210	FILES - AD04		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	209	CUBICAL - AD05		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	208	CUBICAL - AD06		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	207	CUBICAL - AD07		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	206	ADMINISTRATION PRINCIPAL AD08		FIRST LEVEL	80.00 SF	211.35 SF	264.19%	B	100 SF	2	
01	01	04	205	CUBICAL - AD09		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	204	CUBICAL - AD10		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	203	CUBICAL - AD11		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	202	FILES - AD12		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	201	CUBICAL - AD13		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	200	CUBICAL - AD14		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	199	CUBICAL - AD15		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	198	CUBICAL - AD16		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	197	CUBICAL - AD17		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	196	CUBICAL - AD18		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	195	FILES - AD19		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	194	CUBICAL - AD20		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	193	CUBICAL - AD21		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	192	CUBICAL - AD22		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	191	CUBICAL - AD23		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	190	CUBICAL - AD24		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	189	CUBICAL - AD25		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	188	CUBICAL - AD26		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	187	FILES - AD27		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	186	CUBICAL - AD28		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	185	CUBICAL - AD29		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	184	CUBICAL - AD30		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	183	CUBICAL - AD31		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	182	CUBICAL - AD32		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	181	CUBICAL - AD33		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	180	FILES - AD34		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	171	FILE - AD35		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	170	CUBICAL - AD36		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	169	CUBICAL - AD37		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	168	CUBICAL - AD38		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	01	04	154	OPEN OFFICE AREA		FIRST LEVEL	2900.00 SF	2844.38 SF	98.08%	B	100 SF	28	
01	01	04	128	ENG TECH PR		FIRST LEVEL	100.00 SF	184.44 SF	184.44%	B	100 SF	2	
01	01	05	150	NORTH ELKHORN TRANING ROOM		FIRST LEVEL	1200.00 SF	823.75 SF	68.65%	B	15 SF	55	
01	01	05	151	SOUTH ELKHORN TRAINING ROOM		FIRST LEVEL	800.00 SF	828.16 SF	103.52%	B	15 SF	55	
01	01	06	149	EAST HICKMAN CONF ROOM		FIRST LEVEL	400.00 SF	463.33 SF	115.83%	B	100 SF	5	
01	01	06	148	WEST HICKMAN CONF ROOM		FIRST LEVEL	400.00 SF	506.00 SF	126.50%	B	100 SF	5	
01	01	06	147	WOLF RUN CONF ROOM		FIRST LEVEL	400.00 SF	403.22 SF	100.80%	B	100 SF	4	
01	01	09	152	TAP ON DESK		FIRST LEVEL	500.00 SF	800.57 SF	160.11%	B	100 SF	8	
01	01	11	261	COMPUTER / SERVER		FIRST LEVEL	300.00 SF	370.15 SF	123.38%	B	100 SF	4	
01	01	12	116	COMMON WORK AREA		FIRST LEVEL	0.00 SF	3138.91 SF		B	100 SF	31	
01	01	13	107	TOWN BRANCH CONF ROOM		FIRST LEVEL	0.00 SF	481.75 SF		B	100 SF	5	
01	01	14	117	SECURE RECEPTION OFFICE		FIRST LEVEL	100.00 SF	156.83 SF	156.83%	B	100 SF	2	
01	01	15	153	VESTIBULE		FIRST LEVEL	90.00 SF	97.09 SF	107.88%	B	100 SF	1	
01	01	15	132	VESTIBULE		FIRST LEVEL	0.00 SF	127.39 SF		B	100 SF	1	
01	01	16	102	RECEPTION AREA		FIRST LEVEL	0.00 SF	599.44 SF		B	100 SF	6	
01	01	17	146	SAFETY STORAGE		FIRST LEVEL	250.00 SF	125.31 SF	50.12%	B	100 SF	1	
01	01	17	145	SAFETY SPECALIST		FIRST LEVEL	120.00 SF	125.04 SF	104.20%	B	100 SF	1	
01	01	18	260	IT WORK AREA		FIRST LEVEL	120.00 SF	175.92 SF	146.60%	B	100 SF	2	
ADMINISTRATIVE: 100							17140.00 SF	23507.36 SF				329	
SEWER LINE MAINTENANCE													
01	02	01	271	CMOM MGR	ROSS	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	B	100 SF	1	
01	02	01	270	SLM SUPER	CLAY	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	B	100 SF	1	
01	02	01	268	SUPER SR	COWHER	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	B	100 SF	1	
01	02	01	267	SUPER SR	JOHNSON	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	B	100 SF	1	
01	02	01	266	SUPER SR	OWENS	FIRST LEVEL	100.00 SF	121.00 SF	121.00%	B	100 SF	1	
01	02	01	273	SUPER II	VACANT	FIRST LEVEL	100.00 SF	120.09 SF	120.09%	B	100 SF	1	
01	02	01	274	SUPER II	VACANT	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	B	100 SF	1	
01	02	01	275	SUPER II	VACANT	FIRST LEVEL	100.00 SF	120.09 SF	120.09%	B	100 SF	1	
01	02	01	276	SUPER II	VACANT	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	B	100 SF	1	
01	02	01	277	ODOR CONTROL MANAGER	VACANT	FIRST LEVEL	120.00 SF	121.00 SF	100.83%	B	100 SF	1	
01	02	01	269	SUPER SR	VACANT	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	B	100 SF	1	
01	02	02	285	CUBICAL - SL01		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	02	02	284	CUBICAL - SL02		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	02	02	283	CUBICAL - SL03		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	02	02	282	CUBICAL - SL04		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	02	02	281	CUBICAL - SL05		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	02	02	280	CUBICAL - SL06		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	02	02	279	CUBICAL - SL07		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	02	02	278	CUBICAL - SL08		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	02	03	234	LAUNDRY		FIRST LEVEL	144.00 SF	166.87 SF	115.88%	B	100 SF	2	
01	02	03	235	DIRTY LINEN STORAGE		FIRST LEVEL	20.00 SF	22.20 SF	111.01%	B	100 SF	0	
01	02	04	238	MENS LOCKER (72-LOCKERS)		FIRST LEVEL	500.00 SF	506.68 SF	101.34%	B	100 SF	5	
01	02	04	241	WOMENS LOCKER (40-LOCKERS)		FIRST LEVEL	300.00 SF	305.81 SF	101.94%	B	100 SF	3	
01	02	04	239	MENS TOILET		FIRST LEVEL	140.00 SF	141.30 SF	100.93%	B	100 SF	1	
01	02	04	240	MENS SHOWER		FIRST LEVEL	160.00 SF	167.93 SF	104.96%	B	100 SF	2	
01	02	04	242	WOMENS TOILET		FIRST LEVEL	90.00 SF	94.89 SF	105.43%	B	100 SF	1	
01	02	04	243	WOMENS SHOWER		FIRST LEVEL	100.00 SF	112.31 SF	112.31%	B	100 SF	1	
01	02	08	293	MODULAR OFFICE		FIRST LEVEL	145.00 SF	147.25 SF	101.55%	B	100 SF	1	
01	02	09	236	MOP SINK		FIRST LEVEL	0.00 SF	76.28 SF		S	300 SF	0	
01	02	09	298	MOP SINK		FIRST LEVEL	37.00 SF	39.96 SF	107.99%	B	100 SF	0	REPAIR DAMAGED GYP BOARD
01	02	10	265	OPEN OFFICE AREA		FIRST LEVEL	220.00 SF	2189.03 SF	995.01%	B	100 SF	22	
01	02	12	272	SUPER II		FIRST LEVEL	100.00 SF	120.00 SF	120.00%	B	100 SF	1	
01	02	13	290	MULTI-PURPOSE TRAINING / BREAK ROOM		FIRST LEVEL	1500.00 SF	1773.48 SF	118.23%	A	15 SF	118	
01	02	14	307	SLM PUMP STORAGE		FIRST LEVEL	206.00 SF	206.83 SF	100.40%	S	100 SF	2	
01	02	14	306	SLM PUMP STORAGE		FIRST LEVEL	206.00 SF	206.83 SF	100.40%	S	100 SF	2	
01	02	14	305	SLM PUMP STORAGE		FIRST LEVEL	139.00 SF	139.32 SF	100.23%	S	100 SF	1	
01	02	15	291	SEWER LINE MAINTENANCE STORAGE AREA		FIRST LEVEL	2252.00 SF	2565.42 SF	113.92%	S	100 SF	26	REPAIR DAMAGED GYP BOARD
01	02	16	302	SLM EQUIPMENT / COMPRESSOR STORAGE		FIRST LEVEL	557.00 SF	557.65 SF	100.12%	B	100 SF	6	

PROGRAM VALIDATION SCHEDULE

BUILDING IDENTIFICATION	DEPARTMENT NUMBER	DEPARTMENT TYPE	ROOM NUMBER	ROOM NAME	INCUMBENT	ROOM IDENTIFICATION LEVEL	AREA PROGRAMMED AREA	AREA ACTUAL AREA	AREA DELTA	USE AND OCCUPANCY CLASSIFICATION USE GROUP	USE AND OCCUPANCY CLASSIFICATION OCCUPANT LOAD FACTOR	USE AND OCCUPANCY CLASSIFICATION OCCUPANT LOAD	COMMENTS
SEWER LINE MAINTENANCE: 38							8636.00 SF	11538.70 SF				215	
PUMP STATION MAINTENANCE													
01	03	01	218	PS PROG MGR	DOVE	FIRST LEVEL	120.00 SF	146.35 SF	121.96%	B	100 SF	1	
01	03	01	219	PS SUPER	VACANT	FIRST LEVEL	120.00 SF	144.17 SF	120.14%	B	100 SF	1	
01	03	01	220	PS CONTROLS	COLE	FIRST LEVEL	120.00 SF	144.17 SF	120.14%	B	100 SF	1	
01	03	01	221	OFFICE	VACANT	FIRST LEVEL	100.00 SF	144.17 SF	144.17%	B	100 SF	1	
01	03	01	222	OFFICE	VACANT	FIRST LEVEL	100.00 SF	153.99 SF	153.99%	B	100 SF	2	
01	03	02	217	CUBICAL - PS04		FIRST LEVEL	70.00 SF	73.76 SF	105.36%	B	100 SF	1	
01	03	02	172	CUBICAL - PS05		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	03	02	173	CUBICAL - PS06		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	03	02	174	CUBICAL - PS07		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	03	02	175	CUBICAL - PS08		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	03	02	179	CUBICAL - PS09		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	03	02	178	CUBICAL - PS10		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	03	02	177	CUBICAL - PS11		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	03	02	176	CUBICAL - PS12		FIRST LEVEL	80.00 SF	84.56 SF	105.70%	B	100 SF	1	
01	03	02	216	OPEN OFFICE AREA		FIRST LEVEL	270.00 SF	495.69 SF	183.59%	B	100 SF	5	
01	03	02	215	FILE AREA / WORKROOM A		FIRST LEVEL	400.00 SF	446.48 SF	111.62%	B	100 SF	4	
01	03	03	223	CANE RUN CONF ROOM		FIRST LEVEL	200.00 SF	258.74 SF	129.37%	B	100 SF	3	
01	03	04	299	PUMP STATION STORAGE		FIRST LEVEL	100.00 SF	154.38 SF	154.38%	S	300 SF	1	
01	03	05	245	PUMP STATION WORKSHOP		FIRST LEVEL	150.00 SF	349.04 SF	232.69%	F	300 SF	1	
01	03	06	224	ELECTRONIC STORAGE		FIRST LEVEL	100.00 SF	142.92 SF	142.92%	B	100 SF	1	
01	03	07	214	CORRIDOR - PS		FIRST LEVEL	0.00 SF	94.16 SF		B	100 SF	1	
01	03	07	230	VESTIBULE - PS RESTROOMS		FIRST LEVEL	0.00 SF	138.76 SF		B	100 SF	1	
01	03	08	246	WAREHOUSE		FIRST LEVEL	1116.00 SF	1099.66 SF	98.54%	F	300 SF	4	REPAIR DAMAGED GYP BOARD
01	03	09	233	WOMEN RESTROOM		FIRST LEVEL	0.00 SF	178.87 SF		B	100 SF	2	EXISTING TILE TO REMAIN, CLEAN.
01	03	09	231	MENS RESTROOM		FIRST LEVEL	0.00 SF	179.86 SF		B	100 SF	2	EXISTING TILE TO REMAIN, CLEAN.
01	03	10	244	PUMP STATION WORK AREA		FIRST LEVEL	0.00 SF	1729.29 SF		F	300 SF	6	REPAIR DAMAGED GYP BOARD
01	03	11	314	PS GENERATOR STORAGE		FIRST LEVEL	196.00 SF	207.03 SF	105.63%	S	100 SF	2	
01	03	11	315	PS GENERATOR STORAGE		FIRST LEVEL	196.00 SF	196.98 SF	100.50%	S	100 SF	2	
01	03	11	311	PS GENERATOR STORAGE		FIRST LEVEL	206.00 SF	206.83 SF	100.40%	S	100 SF	2	
01	03	11	312	PS GENERATOR STORAGE		FIRST LEVEL	203.00 SF	203.54 SF	100.27%	S	100 SF	2	
01	03	11	313	PS GENERATOR STORAGE		FIRST LEVEL	206.00 SF	206.83 SF	100.40%	S	100 SF	2	
01	03	11	308	PS GENERATOR STORAGE		FIRST LEVEL	206.00 SF	206.83 SF	100.40%	S	100 SF	2	
01	03	11	309	PS GENERATOR STORAGE		FIRST LEVEL	203.00 SF	203.54 SF	100.27%	S	100 SF	2	
01	03	11	310	PS GENERATOR STORAGE		FIRST LEVEL	206.00 SF	206.83 SF	100.40%	S	100 SF	2	
01	03	12	316	PS PUMPS STORAGE		FIRST LEVEL	210.00 SF	210.11 SF	100.05%	S	100 SF	2	
01	03	13	292	PUMP STATION STORAGE		FIRST LEVEL	735.00 SF	734.20 SF	99.89%	S	300 SF	2	REPAIR DAMAGED GYP BOARD
PUMP STATION MAINTENANCE: 36							6173.00 SF	9333.67 SF				66	
UTILITY AND EQUIPMENT													
01	04	01	253	MENS RESTROOM		FIRST LEVEL	500.00 SF	287.09 SF	57.42%	B	100 SF	3	EXISTING TILE TO REMAIN, CLEAN.
01	04	01	255	WOMENS RESTROOM		FIRST LEVEL	500.00 SF	285.87 SF	57.17%	B	100 SF	3	EXISTING TILE TO REMAIN, CLEAN.
01	04	01	264	RESTROOM		FIRST LEVEL	60.00 SF	64.20 SF	107.00%	B	100 SF	1	EXISTING TILE TO REMAIN, CLEAN.
01	04	01	263	RESTROOM		FIRST LEVEL	60.00 SF	64.12 SF	106.86%	B	100 SF	1	EXISTING TILE TO REMAIN, CLEAN.
01	04	01	228	MENS RESTROOM		FIRST LEVEL	0.00 SF	291.30 SF		B	100 SF	3	EXISTING TILE TO REMAIN, CLEAN.
01	04	01	229	WOMENS RESTROOM		FIRST LEVEL	0.00 SF	153.53 SF		B	100 SF	2	EXISTING TILE TO REMAIN, CLEAN.
01	04	02	250	PROJECT MANAGER		FIRST LEVEL	100.00 SF	148.67 SF	148.67%	B	100 SF	1	
01	04	02	287	IDF		FIRST LEVEL	100.00 SF	100.73 SF	100.73%	B	100 SF	1	
01	04	02	106	JANITOR CLOSET		FIRST LEVEL	100.00 SF	95.28 SF	95.28%	B	100 SF	1	
01	04	03	259	IMAGING ROOM		FIRST LEVEL	50.00 SF	169.80 SF	339.60%	B	100 SF	2	
01	04	04	254	UTILITY CLOSET		FIRST LEVEL	50.00 SF	67.96 SF	135.92%	B	100 SF	1	
01	04	04	232	UTILITY CLOSET		FIRST LEVEL	50.00 SF	26.52 SF	53.04%	B	100 SF	0	
01	04	04	289	BUILDING MANAGER		FIRST LEVEL	50.00 SF	124.29 SF	248.57%	B	100 SF	1	
01	04	05	225	SPRINKLER CLOSET		FIRST LEVEL	28.00 SF	28.23 SF	100.81%	B	100 SF	0	
01	04	06	226	VESTIBULE		FIRST LEVEL	0.00 SF	306.79 SF		B	100 SF	3	
01	04	06	262	CIRCULATION		FIRST LEVEL	0.00 SF	661.39 SF		B	100 SF	7	
01	04	06	247	CIRCULATION		FIRST LEVEL	0.00 SF	678.59 SF		B	100 SF	7	
01	04	06	252	CIRCULATION		FIRST LEVEL	0.00 SF	294.99 SF		B	100 SF	3	
01	04	06	258	CIRCULATION		FIRST LEVEL	0.00 SF	131.95 SF		B	100 SF	1	
01	04	06	227	CIRCULATION		FIRST LEVEL	0.00 SF	530.47 SF		B	100 SF	5	
01	04	06	237	LOCKER ROOM VESTIBULE



PATH OF EGRESS TRAVEL

PATH ID.	LENGTH	MAXIMUM TRAVEL DISTANCE	DELTA	SPEED	TIME
COMMON PATH					
CP01	26' - 6"	100' - 0"	26.50%	3.0 mph	6.0 s
CP02	26' - 11"	100' - 0"	26.92%	3.0 mph	6.1 s
CP03	98' - 9"	100' - 0"	98.76%	3.0 mph	22.4 s
CP04	25' - 9"	100' - 0"	25.75%	3.0 mph	5.9 s
CP05	24' - 2"	100' - 0"	24.15%	3.0 mph	5.5 s
CP06	58' - 9"	100' - 0"	58.79%	3.0 mph	13.4 s
CP07	64' - 9"	100' - 0"	64.72%	3.0 mph	14.7 s
CP08	38' - 9"	100' - 0"	38.74%	3.0 mph	8.8 s
CP09	62' - 10"	100' - 0"	62.79%	3.0 mph	14.3 s
CP10	20' - 5"	100' - 0"	20.38%	3.0 mph	4.6 s
CP11	69' - 8"	100' - 0"	69.64%	3.0 mph	15.8 s
CP12	37' - 7"	100' - 0"	37.59%	3.0 mph	8.5 s
CP13	75' - 4"	100' - 0"	75.35%	3.0 mph	17.1 s
COMMON PATH: 13					
EGREES PATH					
EP01	104' - 10"	300' - 0"	34.94%	3.0 mph	23.8 s
EP02	49' - 8"	300' - 0"	16.55%	3.0 mph	11.3 s
EP03	103' - 11"	300' - 0"	34.65%	3.0 mph	23.6 s
EP04	28' - 10"	300' - 0"	9.60%	3.0 mph	6.5 s
EP05	26' - 8"	300' - 0"	8.88%	3.0 mph	6.1 s
EP06	47' - 7"	300' - 0"	15.87%	3.0 mph	10.8 s
EP07	58' - 5"	300' - 0"	19.46%	3.0 mph	13.3 s
EP08	12' - 0"	300' - 0"	3.99%	3.0 mph	2.7 s
EP09	45' - 7"	300' - 0"	15.20%	3.0 mph	10.4 s
EP10	29' - 8"	300' - 0"	9.89%	3.0 mph	6.7 s
EP11	12' - 5"	300' - 0"	4.15%	3.0 mph	2.8 s

PATH OF EGRESS TRAVEL

PATH ID.	LENGTH	MAXIMUM TRAVEL DISTANCE	DELTA	SPEED	TIME
EP12	19' - 5"	300' - 0"	6.49%	3.0 mph	4.4 s
EP13	7' - 3"	300' - 0"	2.42%	3.0 mph	1.7 s
EP14	15' - 7"	300' - 0"	5.20%	3.0 mph	3.5 s
EP15	52' - 6"	300' - 0"	17.51%	3.0 mph	11.9 s
EP16	48' - 8"	300' - 0"	16.21%	3.0 mph	11.1 s
EP17	26' - 3"	300' - 0"	8.74%	3.0 mph	6.0 s
EP18	40' - 1"	300' - 0"	13.35%	3.0 mph	9.1 s
EP19	5' - 11"	300' - 0"	1.97%	3.0 mph	1.3 s
EP20	38' - 5"	300' - 0"	12.80%	3.0 mph	8.7 s
EP21	69' - 5"	300' - 0"	23.14%	3.0 mph	15.8 s
EP22	25' - 5"	300' - 0"	8.47%	3.0 mph	5.8 s
EP23	25' - 10"	300' - 0"	8.62%	3.0 mph	5.9 s
EP24	26' - 0"	300' - 0"	8.66%	3.0 mph	5.9 s
EP25	77' - 8"	300' - 0"	25.89%	3.0 mph	17.7 s
EP26	132' - 11"	300' - 0"	44.29%	3.0 mph	30.2 s
EP27	82' - 2"	300' - 0"	27.38%	3.0 mph	18.7 s
EP28	42' - 4"	300' - 0"	14.12%	3.0 mph	9.6 s
EP29	65' - 4"	300' - 0"	21.79%	3.0 mph	14.9 s
EP30	16' - 11"	300' - 0"	5.64%	3.0 mph	3.8 s
EP31	17' - 6"	300' - 0"	5.83%	3.0 mph	4.0 s
EP32	4' - 8"	300' - 0"	1.54%	3.0 mph	1.1 s
EP33	50' - 9"	300' - 0"	16.90%	3.0 mph	11.5 s
EP34	19' - 11"	300' - 0"	6.65%	3.0 mph	4.5 s
EP35	19' - 4"	300' - 0"	6.46%	3.0 mph	4.4 s
EP36	1' - 11"	300' - 0"	0.64%	3.0 mph	0.4 s
EP37	37' - 7"	300' - 0"	12.53%	3.0 mph	8.5 s
EP38	44' - 4"	300' - 0"	14.78%	3.0 mph	10.1 s
EGREES PATH: 38					

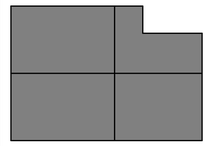
GENERAL NOTES:

1. SEE BUILDING CODE REVIEW KBC 2018 INFORMATION ON PROJECT DATA SHEET.
2. SEE FIRE EXTINGUISHER SCHEDULE FOR FIRE EXTINGUISHERS AND FIRE EXTINGUISHER CABINETS INDICATED ON THIS SHEET.
3. RED LINES ON THIS SHEET INDICATE EGRESS PATH.
4. BLUE LINES ON THIS SHEET INDICATE COMMON PATH OF TRAVEL.
5. WALLS INDICATED ON THIS SHEET SHADED IN RED INDICATE A ONE HOUR FIRE RATED WALL

SHEET KEYNOTES:

1 FIRE EXTINGUISHER CABINET, FIRE EXTINGUISHER IS (OFCI). COORDINATE CABINET SIZE WITH OWNER PROVIDED FIRE EXTINGUISHERS.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - LIFE SAFETY
SCALE: 3/32" = 1'-0"

JAMES K. FISER
REGISTERED
NO.
44427
COMMONWEALTH
8/15/25

GRW PROJECT NO. 65247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

FIRST LEVEL - LIFE SAFETY PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS
NO. DESCRIPTION DATE

SCALE: 0" 8"
1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 3/32" = 1'-0"
SHEET NO.: GK101 01

X:\13000\13152-R AM - CLOUD\LFUCG DWQ Hdtr\Working Drawings\Revit Arch Central Model\GK1401\EGRESS01.rvt

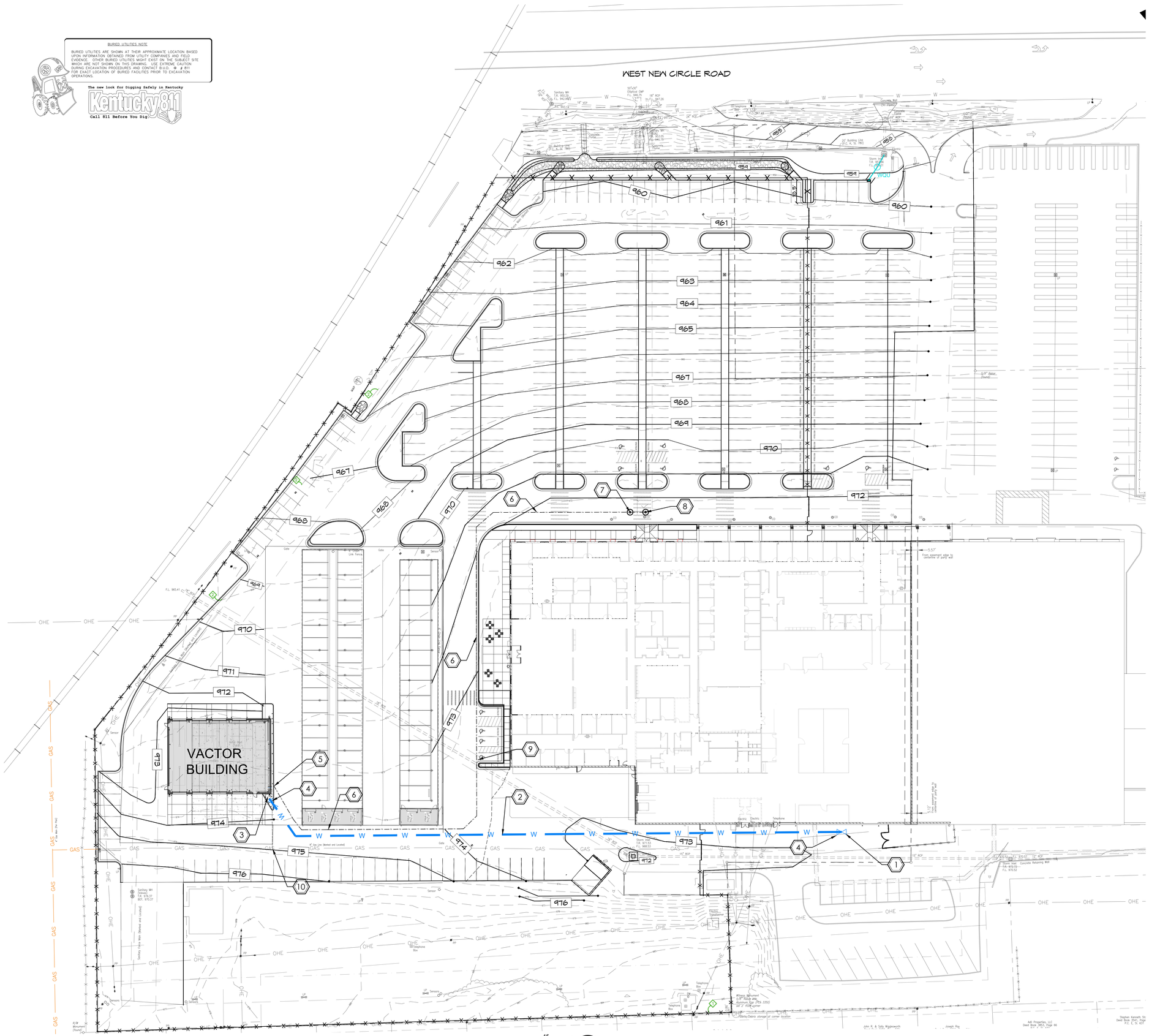
BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT KU.O. @ # 811 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

The new look for Digging Safely in Kentucky

Kentucky 811

Call 811 Before You Dig



BASE BID CIVIL SITE UTILITIES PLAN

SCALE 1" = 30'-0"

0 15 30

GENERAL NOTES:

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN IS FROM A SURVEY PROVIDED BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.

B. THE DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION; THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL LOCATIONS.

C. PROTECT EXISTING TREES FROM POTENTIAL DAMAGE OF CONSTRUCTION OPERATIONS. STEEPEN GRADES UPHILL FROM EXISTING TREES TO A MAX. OF 2:1 TO AVOID FILLING SOILS ONTO TRUNKS.

D. UNLESS OTHERWISE INDICATED TO BE REMOVED, ALL ITEMS REMAINING WITHIN THE LIMIT OF CONTRACT ARE TO REMAIN AND BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

E. THE CONTRACTOR SHALL MAINTAIN STORM DRAINAGE SYSTEMS TO FUNCTION THROUGHOUT THE CONSTRUCTION PERIOD.

F. PROPOSED GRADES SHOWN ARE FINISHED GRADES. ELEVATIONS SHOWN AT CURBS ARE BOTTOM OF CURB UNLESS NOTED TC.

G. LIMIT OF GRADING EXTENTS TO INCLUDE ALL AREAS DISTURBED BY ALL SITE UTILITY WORK, REFER TO SITE UTILITY DRAWINGS FOR LOCATIONS OF PROPOSED SITE UTILITIES.

H. REFER TO SPECIFICATION / PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.

I. ADJUST RIM ELEVATIONS OF ALL EXISTING STRUCTURES TO MATCH PROPOSED FINISHED GRADES.

J. GRADE ALL NEW PAVEMENTS TO DRAIN. GRADE ALL NEW WALKS AT MAX. 2% CROSS SLOPE. GRADE ALL NEW WALKS TO MAX. 5% LONGITUDINAL SLOPE UNLESS OTHERWISE SPECIFICALLY INDICATED ON PLANS TO BE A RAMP.

CIVIL UTILITY LEGEND

- W — PROPOSED POTABLE WATER LINE
- PROPOSED FIRE PROTECTION SERVICE LINE
- STRM — PROPOSED STORM LINE- SEE L-300 FOR REQUIREMENTS
- PROPOSED WATER LINE VALVE
- FLUSHING HYDRANT
- S — MANHOLE

CIVIL UTILITY NOTES (1)

1. CONTRACTOR TO LOCATE EXISTING METER AND SERVICE LINE. CONNECT PROPOSED 2" WATER LINE TO EXISTING SERVICE LINE BETWEEN METER AND BUILDING
2. 2" PVC SDR-17 WATERLINE. REFER TO DETAIL A/C200. MAINTAIN 10 FEET SEPARATION FROM FORCE MAIN.
3. INSTALL FLUSH HYDRANT. REFER TO DETAIL D/C200.
4. PROPOSED WATER LINE VALVE. REFER TO DETAIL B/C200.
5. CONNECT FORCE MAIN TO THE BUILDING LIFT STATION. REFER TO MEP PLANS.
6. 2" HDPE FORCE MAIN. MAINTAIN 10 FEET SEPARATION FROM WATER LINE.
7. INSTALL MANHOLE TO ALLOW FOR FORCE MAIN TRANSITION TO GRAVITY FLOW. REFER TO DETAIL E/C200
8. INSTALL MANHOLE AT CONNECTION POINT TO EXISTING 8" SANITARY SEWER. FIELD VERIFY INVERT ELEVATION AT CONNECTION POINT PRIOR TO PURCHASING MANHOLE MATERIALS. PROVIDE ENGINEER WITH FIELD VERIFIED ELEVATIONS, REFER TO DETAIL E/C200.
9. FIELD VERIFY EXISTING UTILITY ELEVATIONS AND ADJUST PROPOSED UTILITY TO AVOID CONFLICT.
10. TAP EXISTING GAS LINE AND EXTEND 1" MDPE GAS LINE TO BUILDING POINT OF CONNECTION. REFER TO MEP PLANS FOR CONTINUATION.

STATE OF KENTUCKY
R. DEREK MOTSCH
26439
LICENSED PROFESSIONAL ENGINEER

GRW PROJECT NO. 0000-00

CLIENT PROJECT NO. 0000-00

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CONSTRUCTION DOCUMENTS

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SITE CIVIL UTILITIES PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED:
DRAWN:
REVIEWED:
APPROVED:

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: Refer to Plan

SHEET NO. C100

BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT 811.O. @ # 811 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

The new look for Digging Safely in Kentucky

Kentucky 811

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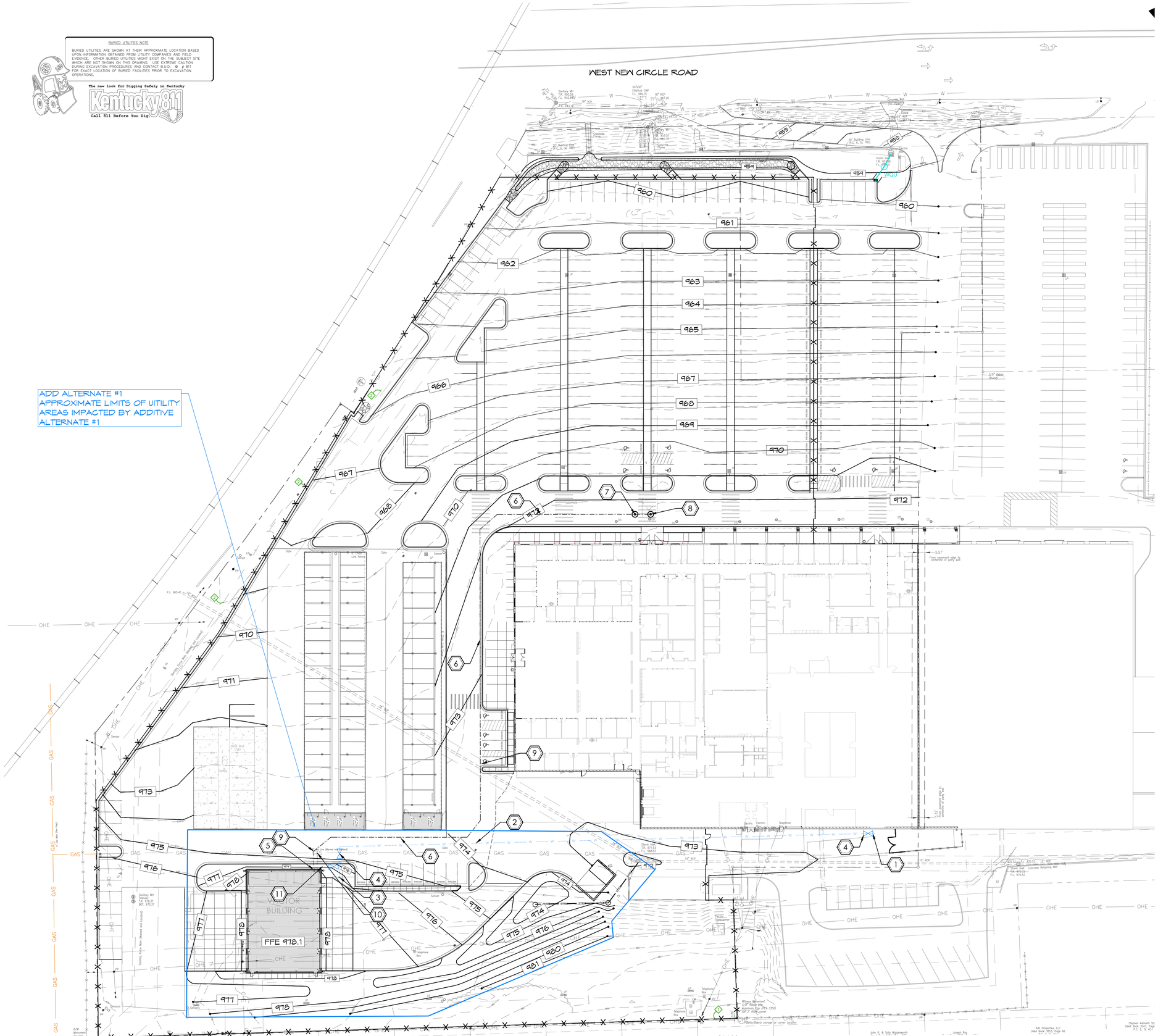
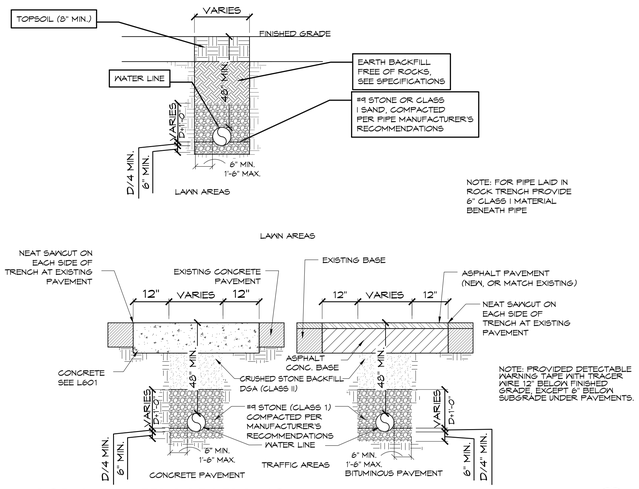
ADD ALTERNATE #1
APPROXIMATE LIMITS OF UITILITY AREAS IMPACTED BY ADDITIVE ALTERNATE #1

WEST NEW CIRCLE ROAD

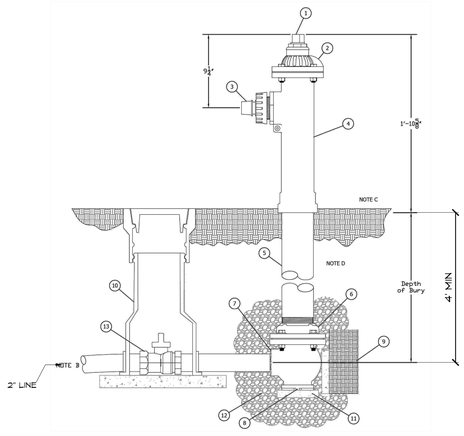




POTABLE WATER PIPE BEDDING

N.T.S.

A



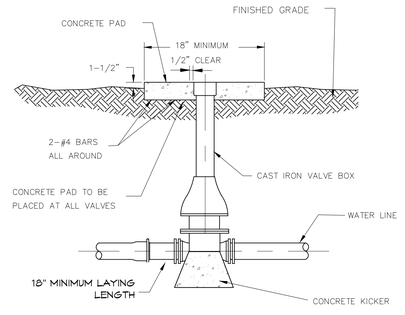
ITEM	ITEM / DESCRIPTION	NOTES
1	OPERATING SCREW	
2	TOP CAP	
3	SIDE CAP	
4	TOP STOCK	
5	3-1/2" FBE COATED STEEL PIPE	
6	COUPLING	
7	INLET VALVE BODY	
8	DRAIN HOLE	
9	UNDISTURBED EARTH	
10	VALVE BOX	
11	THRUST BLOCKS	
12	CRUSHED ROCK	
13	HYDRANT SHUT-OFF VALVE	

NOTE:
1. POST HYDRANT SHALL BE SELF DRAINING, NON-FREEZING, COMPRESSION TYPE WITH 2-5/16" MAIN VALVE OPENING. INLET CONNECTION SHALL BE 2" FIP STANDARD. OUTLET SHALL BE 2-1/2" NST STANDARD. STANDARD DEPTH OF BURY IS 3'.
2. ALL WATER FLOW SHALL PASS THROUGH 3-1/2" FBE COATED STEEL PIPE AND CAST IRON TOP STOCK WATER WAY.
3. ALL WORKING PARTS SHALL BE SERVICEABLE FROM ABOVE GROUND WITH NO DIGGING OR REPLACEMENT NEEDED.
4. HYDRANT SHALL BE SET IN 4 CUBIC FEET OF CRUSHED STONE TO ALLOW FOR PROPER DRAINAGE OF HYDRANT. RECOMMENDATION OF THE AWWA SHOULD BE FOLLOWED WHEN INSTALLING THE HYDRANT.

FLUSH HYDRANT

N.T.S.

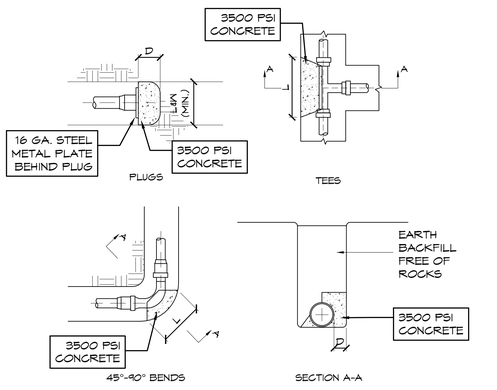
D



TYPICAL VALVE SETTING DETAIL

N.T.S.

B



PLUGS

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
D	6"	6"	6"	8"	10"	10"	12"	14"	16"	18"	20"
L	4"	6"	8"	10"	21"	30"	36"	42"	48"	54"	60"

PLUGS

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
D	6"	6"	6"	6"	6"	6"	12"	24"	28"	32"	
L MIN	14"	16"	18"	20"	22"	24"	24"	24"	30"	36"	

THIRTY-SECOND BENDS (11-1/4°))

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
D	6"	6"	6"	8"	10"	10"	12"	14"	16"	18"	20"
L	15"	18"	21"	24"	27"	30"	34"	34"	36"	39"	42"
T	10"	12"	14"	16"	18"	20"	22"	25"	28"	30"	36"

QUARTER BENDS (90°)

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
D	6"	6"	6"	8"	10"	12"	12"	12"	16"	18"	20"
L	15"	18"	21"	24"	27"	30"	34"	34"	36"	39"	42"
T	10"	12"	14"	16"	18"	20"	22"	25"	28"	30"	36"

EIGHTH BENDS (45°)

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
D	6"	6"	6"	8"	10"	12"	12"	12"	16"	18"	20"
L	15"	18"	21"	24"	27"	30"	34"	34"	36"	39"	42"
T	10"	12"	14"	16"	18"	20"	22"	25"	28"	30"	36"

QUARTER BENDS (90°)

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
D	6"	6"	6"	8"	10"	12"	12"	14"	16"	18"	20"
L	15"	18"	21"	24"	27"	30"	34"	38"	44"	45°	53"
T	10"	12"	14"	16"	18"	20"	22"	25"	28"	30"	36"

THRUST BLOCK SCHEDULE

TYPICAL THRUST BLOCKING DETAIL

N.T.S.

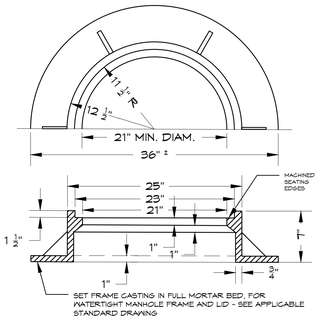
C

NOTES:
1. ALL BARREL JOINTS BETWEEN BASE AND BARREL, BETWEEN BARREL AND TOP, BETWEEN TOP AND ADJUSTING RINGS, BETWEEN ADJUSTING RINGS AND FRAME SHALL HAVE ONE OUTER MASTIC SEAL AND AN INNER SEAL OF NONSHRINK GROUT.
2. COAT OUTSIDE OF ADJUSTING RINGS WITH SEMIFIBRATED ASPHALT DAMPROOFING COMPOUND APPLIED BY BRUSH OR SPRAY.
3. WATER STOPS SHOULD BE PROVIDED FOR INLETS AND OUTLETS OF EVERY MANHOLE, DESIGNED FOR TYPE OF PIPE USED AND WITH EXPANSIVE GROUT. SEE STD DWG 213 FOR WATER STOP DETAIL.
4. NO REINFORCEMENT NEEDED IN BOTTOM SLAB AT DEPTHS UP TO 12'. AT DEPTHS GREATER THAN 12' REINFORCE WITH NO. 4 BARS - 12" C-C.
5. A DIFFERENCE OF FLOW ELEVATION MORE THAN 24" REQUIRES AND OUTSIDE DROP. (SEE STD. DWG. 212)
6. MANHOLE STEPS SHALL BE ALIGNED WITH STRAIGHT SIDE OF CONCENTRIC CONE SECTION, AND ALIGNED OVER THE OUTLET PIPE.
7. PIPES SHALL NOT ENTER THE CONE SECTION.
8. MANHOLES MUST PASS VACUUM TEST PER ASTM C-1244 PRIOR TO ACCEPTANCE.
9. NO NEW SANITARY MANHOLES ARE ANTICIPATED IN THIS PROJECT. DETAILS ARE SHOWN FOR REFERENCE SHOULD REVISIONS BE REQUIRED.

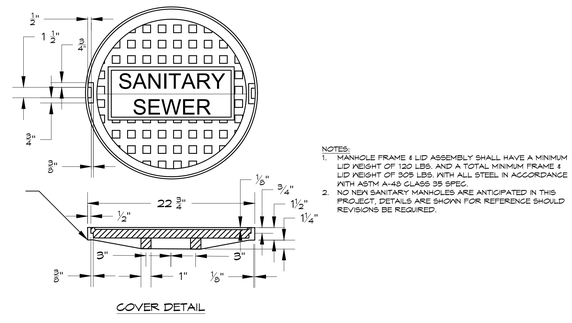
SANITARY SEWER MANHOLE FOR PIPES UP TO 24"

N.T.S.

E



FRAME DETAIL



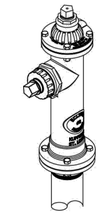
COVER DETAIL

NOTES:
1. MANHOLE FRAME & LID ASSEMBLY SHALL HAVE A MINIMUM LID WEIGHT OF 120 LBS. AND A TOTAL MINIMUM FRAME & LID WEIGHT OF 305 LBS. WITH ALL STEEL IN ACCORDANCE WITH ASTM A-48 CLASS 35 SPEC.
2. NO NEW SANITARY MANHOLES ARE ANTICIPATED IN THIS PROJECT. DETAILS ARE SHOWN FOR REFERENCE SHOULD REVISIONS BE REQUIRED.

SANITARY SEWER MANHOLE FRAME & COVER

N.T.S.

F



NOZZLE BOLTER FLANGE TOP STOCK

2" MJ INLET

PRODUCT ORDERING GUIDE

COMMONWEALTH OF KENTUCKY
R. DEREK MOTSCH
26439
LICENSED PROFESSIONAL ENGINEER

GRW PROJECT NO. 0000-00
CLIENT PROJECT NO. 0000-00

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SITE CIVIL UTILITIES DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED
DRAWN
REVIEWED
APPROVED

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE:
AUGUST 15, 2025

SCALE:
Refer to Plan

SHEET NO.
C200

EPSC NOTES

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED BY A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND PROTECT ALL UTILITIES PRIOR TO THE COMMENCEMENT OF DIGGING. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS.

B. THE CONTRACT DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL UTILITY LOCATIONS.

C. THE DESIGNATED CONCRETE WASH OUT PIT SHALL BE CLEANED AND ALL CONCRETE AND ASSOCIATED DEBRIS SHALL BE REMOVED AND HAULED OFF SITE AT THE CONCLUSION OF ALL CONCRETE CONSTRUCTION WORK.

D. LIMIT CONSTRUCTION ACCESS TO THE SITE TO THE LOCATION INDICATED AS AN ACCESS DRIVEWAY. TEMPORARY ACCESS DRIVEWAYS FOR CONSTRUCTION VEHICLES SHALL BE GRAVELED A MINIMUM OF 6" DEPTH WITH FILTER FABRIC PLACED BETWEEN SOIL AND STONE FOR A DISTANCE OF 100 FEET INTO THE SITE AND MAINTAINED IN GOOD CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. THE ACCESS DRIVE TO THE SITE SHALL BE MAINTAINED BY THE CONTRACTOR TO MINIMIZE THE ACCUMULATION OF MUD, DIRT, DUST AND OTHER DEBRIS CAUSED BY THE CONTRACTOR'S OPERATIONS. THE DRIVE AND ROAD SHALL BE CHECKED DAILY AND CLEANED BY THE CONTRACTOR AS REQUIRED TO MAINTAIN THIS CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.

E. PRIOR TO BEGINNING GRADING OPERATIONS, SURROUND ALL DRAINAGE INLET STRUCTURES WITH ROCK BAGS, STONE, OR TEMPORARY SILT FENCE FOR SILT CONTROL, SEE DETAIL A & B/L1000 AND PROVIDE CHECK DAMS AT ALL DRAINAGE SWALES. MAINTAIN IN GOOD OPERATING CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. REMOVE AFTER SURROUNDING PERMANENT VEGETATION IS ESTABLISHED OR SURROUNDING PAVEMENT IS INSTALLED. THE CONTRACTOR SHALL MAINTAIN ALL STORM DRAINAGE SYSTEMS TO FUNCTION THROUGHOUT THE CONSTRUCTION PERIOD.

F. SILT FENCING SHALL BE INSTALLED PRIOR TO THE BEGINNING OF GRADING OPERATIONS AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD UNTIL PERMANENT VEGETATION IS ESTABLISHED, SEE DETAIL A/L000. REFER TO PLAN FOR APPROXIMATE LOCATIONS. MAINTENANCE INCLUDES INSPECTION ONCE PER WEEK, IMMEDIATELY AFTER EACH RAINFALL OF 1/2" OR MORE, AND AT LEAST DAILY DURING PROLONGED PERIODS OF RAIN. REPAIR ANY UNDERCUTTING OR END RUNS. REPLACE DAMAGED FABRIC SECTIONS PROMPTLY. REMOVE SEDIMENT DEPOSITS WHEN DEPOSITS REACH APPROXIMATELY 1/2 THE HEIGHT OF THE BARRIER. UPON FINAL REMOVAL OF BARRIER, GRADE OUT ANY DEPOSITS TO CONFORM TO EXISTING SURROUNDING GRADE, AND SOD THE AREA.

G. TO REDUCE EROSION, MUD AND DUST FROM EXPOSED SOIL AREAS, TEMPORARY SEEDING SHALL BE DONE ON EXPOSED SOIL SURFACES IN LAWN AND LANDSCAPE AREAS WHERE ADDITIONAL GRADING WORK IS NOT SCHEDULED FOR A PERIOD OF 14 DAYS OR MORE. MAINTAIN AND RE-SEED AS NEEDED THROUGHOUT CONSTRUCTION PERIOD UNTIL FINISH GRADES ARE ESTABLISHED.

H. STOCKPILED TOPSOIL SHALL BE PROTECTED FROM WIND AND WATER EROSION BY TEMPORARY VEGETATIVE SEEDING. IN ADDITION, PROVIDE SILT FENCING AT THE PERIMETER OF STOCKPILES TO PREVENT SEDIMENT RUNOFF. MAINTAIN VEGETATIVE COVER AND SILT FENCING UNTIL TOPSOIL STOCKPILES ARE REMOVED.

I. THE CONTRACTOR SHALL OBTAIN A STORM WATER PERMIT / SUBMITTING A NOTICE OF INTENT (NOI) TO THE KENTUCKY DIVISION OF WATER AND ANY APPLICABLE PERMITS FROM STATE AND LOCAL GOVERNING AGENCIES. IN ADDITION, THE CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION AND MAINTENANCE SHOWN ON THIS PLAN AS PART OF THE CONTRACT SCOPE OF WORK.

J. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING AN ON SITE MAINTENANCE LOG OF ALL EROSION CONTROL FEATURES AND BMP'S. DURING THE ENTIRE CONSTRUCTION PERIOD, THE CONTRACTOR'S SUPERINTENDENT OR OTHER DULY AUTHORIZED FIELD REPRESENTATIVE SHALL INSPECT ALL BMP'S AS LISTED IN THE LOG BOOK, NOTE THE CONDITION AND PERFORMANCE OF EACH BMP AND TAKE CORRECTIVE ACTION FOR EACH BMP AS REQUIRED.

K. BEST MANAGEMENT PRACTICES (BMP) MANUAL
IN ADDITION TO THIS PLAN, THE CONTRACTOR SHALL COMPLY WITH THE MANUAL ENTITLED 'KENTUCKY BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES', CURRENT ADDITION, PREPARED BY THE KENTUCKY DIVISION OF CONSERVATION AND OF WATER. THE CONTRACTOR SHALL ALSO COMPLY WITH THE KENTUCKY EROSION PREVENTION AND SEDIMENT CONTROL FIELD GUIDE, CURRENT EDITION. THE CONTRACTOR SHALL MAKE APPROPRIATE MODIFICATIONS TO THIS PLAN AS NECESSARY TO ACHIEVE THE PLAN GOAL OF MINIMIZING EROSION AND SEDIMENTATION. ANY SUCH CHANGES ARE SUBJECT TO REVIEW BY THE LANDSCAPE ARCHITECT.

L. DURING THE CONSTRUCTION PERIOD THE CONTRACTOR WILL PROMPTLY REPAIR, REBUILD, REPLACE, CLEAN OUT OR OTHERWISE MODIFY ANY BMP'S THAT REQUIRE ATTENTION OR THAT DO NOT PERFORM AS REQUIRED. THE CONTRACTOR WILL NOTE IN THE MAINTENANCE LOG WHAT MAINTENANCE OR RECONSTRUCTION WAS REQUIRED AND ANY ACTION TAKEN.

M. TO REDUCE EROSION, MUD AND DUST FROM EXPOSED SOIL AREAS, TEMPORARY SEEDING SHALL BE DONE ON EXPOSED SOILS. FOR ANY BMP'S THAT DO NOT APPEAR TO PERFORM AS DESIGNED, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER (A/E) FOR REVIEW. IF THE A/E AND OR STATE AND LOCAL GOVERNING AGENCY DETERMINE THAT A BMP NEEDS TO BE REDESIGNED OR REPLACED WITH ANOTHER MORE APPROPRIATE BMP BECAUSE OF ACTUAL FIELD PERFORMANCE OR OTHERWISE, UPON APPROVAL OF THE OWNER, THE A/E WILL MAKE THOSE DESIGN CHANGES AND PROVIDE TO THE CONTRACTOR FOR CONSTRUCTION. IF THIS REQUIRES MEASURABLE ADDITIONAL WORK ABOVE THE SPECIFIED SCOPE OF WORK, THE CONTRACTOR MAY REQUEST A CHANGE ORDER FOR THE WORK.

N. UPON COMPLETION OF THE PROJECT, AND ONCE FINAL VEGETATIVE COVER HAS BEEN ESTABLISHED TO THE SATISFACTION OF THE A/E THE CONTRACTOR WILL REMOVE ALL BMP'S AND SUBMIT A NOTICE OF TERMINATION (NOT) TO THE DIVISION OF WATER & APPLICABLE STATE AND LOCAL GOVERNING AGENCIES.

O. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING INLET PROTECTION FOR ALL EXISTING AND PROPOSED STORM STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION.

P. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES AND AVAILABILITY OF SITES WITH THE OWNER PRIOR TO BEGINNING WORK AT ANY GIVEN SITE.

Q. ALL ROADS AND DRIVES USED TO ACCESS THE SITE SHALL BE KEPT CLEAN AND FREE OF MUD & SILT DURING THE CONSTRUCTION PERIOD. PERIODIC INSPECTION BY GOVERNING OFFICIALS WILL OCCUR. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING THE VEHICLE WASH DOWN AREAS INDICATED ON THIS PLAN.

R. THE CONTRACTOR SHALL EXTEND THE LIMITS OF SILT FENCING AS REQUIRED BY EARTHWORK / SITE DISTURBANCE REQUIRED BY THE PROJECT DOCUMENTS.

S. SHOULD THE CONTRACTOR ELECT TO CHANGE / ALTER THE CONSTRUCTION SITE ENTRANCE LOCATION, THE CONTRACTOR SHALL COORDINATE THIS WITH PARKS AND THE LANDSCAPE ARCHITECT A MINIMUM OF 2 WEEKS IN ADVANCE. ALL EROSION CONTROL MEASURES INDICATED FOR THE ACCESS DRIVE ON THIS PLAN SHALL THEN BE INSTALLED AT ANY NEW ACCESS DRIVES.

EPSC SEQUENCE & SCHEDULE:

A. CONTACT LOCAL INSPECTOR FOR A PRECONSTRUCTION MEETING BEFORE INSTALLING ANY BMP'S

B. INSTALL & MAINTAIN CONSTRUCTION ENTRANCES. LIMIT CONSTRUCTION ACCESS TO THE SITE TO THE LOCATION INDICATED AS AN ACCESS DRIVEWAY.

C. INSTALL & MAINTAIN PERIMETER SILT FENCE. SILT FENCING SHALL BE INSTALLED PRIOR TO THE BEGINNING OF GRADING OPERATIONS AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD UNTIL PERMANENT VEGETATION IS ESTABLISHED. REFER TO PLAN FOR APPROXIMATE LOCATIONS.

D. INSTALL & MAINTAIN STONE BAG INLET PROTECTION FOR EXISTING INLETS. MAINTAIN IN GOOD OPERATING CONDITION THROUGHOUT THE CONSTRUCTION PERIOD OR IF BEING REMOVED UNTIL NEW STORM SYSTEM IS IN PLACE AND INLET IS REMOVED.

E. COMMENCE SITE DEMOLITION, GRADING, AND CONSTRUCTION ACTIVITIES. INSTALL STORM SYSTEM INLETS, WQU & BMP'S WHERE REQUIRED BY THE DOCUMENTS. BLOCK WQU FROM STORM SYSTEM UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETE AND THE SITE IS STABILIZED.

F. INSTALL & MAINTAIN STONE BAG INLET PROTECTION FOR NEW INLETS AS THEY ARE INSTALLED. INSTALL IN ACCORDANCE DETAIL. MAINTAIN IN GOOD OPERATING CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.

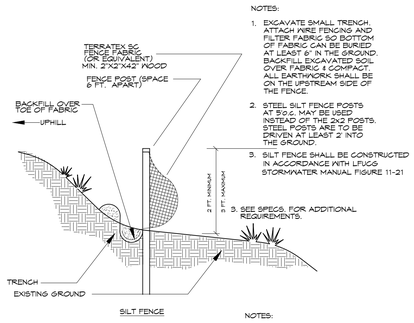
G. INSTALL PLANNED SURFACE STABILIZATION FEATURES AS WORK IS COMPLETED.

H. REMOVE ALL TEMPORARY BMP'S UPON FINAL INSPECTION AND APPROVAL BY GOVERNING AUTHORITIES.

I. INSPECT ALL SEDIMENT CONTROL BMP'S EVERY 7 DAYS AND AFTER EVERY RAINFALL EVENT GREATER THAN 1/2". ALL SEDIMENT CONTROL BMP'S SHALL BE CLEANED WHEN SEDIMENT REACHES 1/3 THE HEIGHT OF THE STRUCTURE.

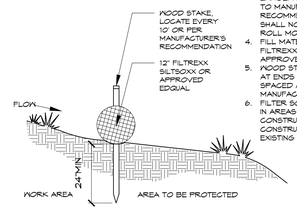
EPSC SCHEDULE

BMP SCHEDULE	
ELEMENT	TIMING / DURATION
Silt Fencing	Install at beginning of grading operations.
	Maintain until permanent vegetation is established.
Temporary Seeding	Immed. after rough grading, lawn & landscape areas.
	Maintain until permanent vegetation is established.
Temporary Topsoil Stockpile Seeding	Immed. after topsoil is stripped and stockpiled.
	Maintain until stockpiles are removed.
Silt Fencing at Stockpile Perimeters	Immed. after topsoil is stripped and stockpiled.
	Maintain until stockpiles are removed.
Drainage Swales	Create at beginning of grading operations.
	Permanent feature.
Check Dams in Swales	As soon as swales are created.
	Maintain until permanent vegetation is established.
Construction Access Drives	Install at beginning of grading operations.
	Maintain throughout construction period
Rock/Silt Fence Exist. Inlet Protection	Install at beginning of grading operations.
	Maintain until permanent vegetation is established.
Rock/Silt Fence New Inlet Protection	As soon as drainage inlets are installed.
	Maintain until permanent vegetation is established.
Sod/Seed	Immediately after finish grading.
	Permanent feature.



NOTES:
1. EXCAVATE SMALL TRENCH, ATTACH WIRE FENCING AND FILTER FABRIC SO BOTTOM OF FABRIC CAN BE BURIED AT LEAST 6" IN THE GROUND. BACKFILL EXCAVATED SOIL OVER FABRIC & COMPACT. ALL EARTHWORK SHALL BE ON THE UPSTREAM SIDE OF THE FENCE.
2. STEEL SILT FENCE POSTS AT 5'o.c. MAY BE USED INSTEAD OF THE 2x2 POSTS. STEEL POSTS ARE TO BE DRIVEN AT LEAST 2' INTO THE GROUND.
3. SILT FENCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH LFUCG STORMWATER MANUAL FIGURE 11-21
3. SEE SPECS. FOR ADDITIONAL REQUIREMENTS.

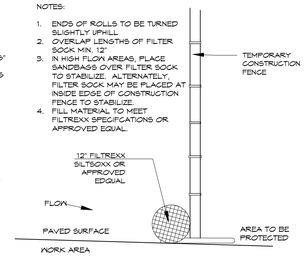
SILT FENCE



NOTES:
1. ENDS OF ROLLS TO BE TURNED SLIGHTLY UPHILL
2. OVERLAP LENGTHS OF FILTER SOCK MIN. 12'
3. 2" SQ. STAKES SHALL BE MIN. 36" LONG FOR 12" DIA. ROLL. IF LARGER ROLL, SIZE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. STAKES SHALL NOT EXTEND ABOVE THE ROLL MORE THAN 2".
4. FILL MATERIAL TO MEET FILTREXX SPECIFICATIONS OR APPROVED EQUAL.
5. WOOD STAKES TO BE LOCATED AT ENDS OF ROLL AND THEN SPACED AT 10' O.C. OR PER MANUFACTURER.
6. FILTER SOCK TO BE USED ALSO IN AREAS WHERE EDGE OF CONSTRUCTION AREA AND / OR CONSTRUCTION FENCE ABUT EXISTING PAVEMENT.

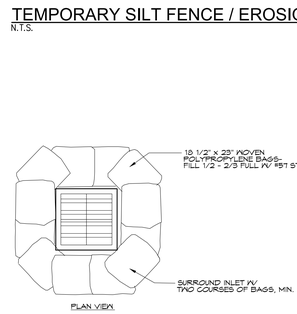
FILTER SOCK IN LANDSCAPE OR TURF AREAS

NOTES:
1. ENDS OF ROLLS TO BE TURNED SLIGHTLY UPHILL
2. OVERLAP LENGTHS OF FILTER SOCK MIN. 12'
3. IN HIGH FLOW AREAS, PLACE SANDBAGS OVER FILTER SOCK TO STABILIZE. ALTERNATELY, FILTER SOCK MAY BE PLACED AT INSIDE EDGE OF CONSTRUCTION FENCE TO STABILIZE.
4. FILL MATERIAL TO MEET FILTREXX SPECIFICATIONS OR APPROVED EQUAL.



FILTER SOCK ON PAVED SURFACES

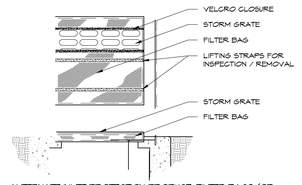
TEMPORARY SILT FENCE / EROSION BARRIER
N.T.S. A



NOTES:

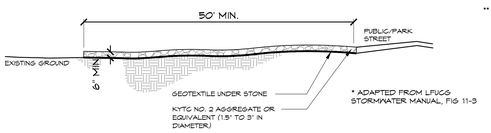
INSTALLATION:
STONE FILL BAGS SHALL BE WOVEN POLYPROPYLENE BAGS WITH APPROXIMATE DIMENSION 50# 18½" BY 28".
THE BAGS SHALL BE FILLED ½ TO ⅔ FULL WITH KTC #57 STONE. TIE THE ENDS OF FILLED BAGS USING EITHER DRAW STRINGS OR WIRE TIES.
INTERWEAVE THE LOOSE ENDS OF THE BAGS SO THAT THE GAPS BETWEEN BAGS ARE FILLED AND THE ENDS OF THE BAGS ARE SEALED.
COMPLETELY SURROUND THE INLET WITH A MINIMUM OF TWO (2) ROWS OF BAGS TO A MINIMUM OF 12" IN HEIGHT.
INSTALL AT ALL EXISTING STORM INLETS AND OUTLET STRUCTURES AND AT ALL NEWLY CONSTRUCTED STORM INLETS AND OUTLET STRUCTURES UNTIL PERMANENT STABILIZATION HAS BEEN ESTABLISHED.

INSPECTION & MAINTENANCE:
INSPECTIONS SHOULD BE MADE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS AFTER EACH RAINFALL EVENT THAT PRODUCES ½" OR MORE OF PRECIPITATION. ANY NEEDED REPAIRS SHOULD BE HANDLED IMMEDIATELY.
IF SEDIMENT ACCUMULATES, REMOVE IT FROM THE FACE OF THE BAGS BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO ½ THE STRUCTURE HEIGHT. ANY NEEDED REPAIRS SHOULD BE HANDLED IMMEDIATELY. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE BAGS WHEN REMOVING SEDIMENT.
REMOVE AND REPLACE ANY DAMAGED BAGS AND DISPOSE OF THEM PROPERLY.
STORM DRAIN INLET PROTECTION STRUCTURES SHOULD BE REMOVED ONLY AFTER THE DISTURBED AREAS ARE PERMANENTLY STABILIZED. REMOVE ALL CONSTRUCTION MATERIAL AND SEDIMENT AND DISPOSE OF THEM PROPERLY. GRADE THE DISTURBED AREA TO THE ELEVATION OF THE DROP INLET STRUCTURE CREST. USE APPROPRIATE PERMANENT STABILIZATION METHODS TO STABILIZE BARE AREA AROUND THE INLET.



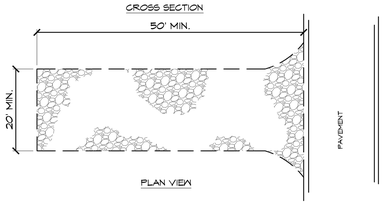
ALTERNATE INLET PROTECTION PRODUCT: FILTER BAGS (OR EQUAL) MAY BE USED INSTEAD OF STONE BAGS, WITH OWNER & ARCHITECTS APPROVAL. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

TEMPORARY INLET PROTECTION
N.T.S. B

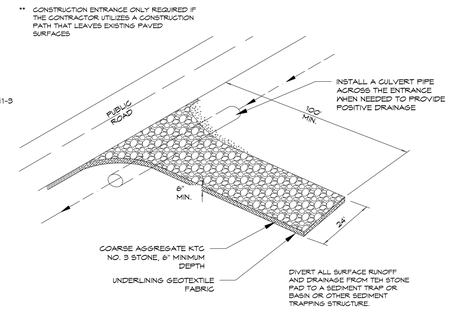


* ADAPTED FROM LFUCG STORMWATER MANUAL, FIG 11-3

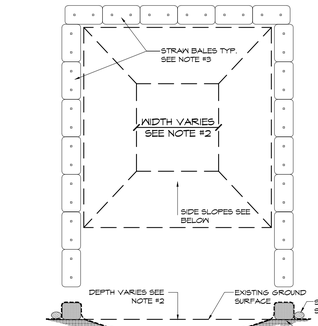
CROSS SECTION



** CONSTRUCTION ENTRANCE ONLY REQUIRED IF THE CONTRACTOR UTILIZES A CONSTRUCTION PATH THAT LEAVES EXISTING PAVED SURFACES



CONSTRUCTION ENTRANCE DETAIL
N.T.S. C



NOTES:
1. CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE. THE CONCRETE WASHOUT AREA SHALL BE ENTIRELY SELF CONTAINED. LOCATION TO BE COORDINATED WITH THE ARCHITECT AND THE OWNER.
2. THE CONTRACTOR SHALL SUBMIT THE DESIGN, LOCATION AND SIZING OF THE CONCRETE WASHOUT AREAS TO THE ARCHITECT FOR APPROVAL PRIOR TO ANY CONCRETE PLACEMENT. COORDINATE LOCATION WITH THE EROSION POLLUTION AND SEDIMENT CONTROL PLAN. LOCATION: WASHOUT AREA(S) ARE TO BE LOCATED AT LEAST 50-FEET FROM AND STREAM, WETLAND, STORM DRAINS OR OTHER SENSITIVE RESOURCE. THE FLOOD CONTINGENCY PLAN MUST ADDRESS THE CONCRETE WASHOUT IF THE WASHOUT IS TO BE LOCATED WITHIN THE FLOOD PLANE. SIZE: THE WASHOUT MUST HAVE SUFFIGIENT VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS INCLUDING, BUT NOT LIMITED TO OPERATIONS ASSOCIATED WITH GROUT AND MORTAR.
3. SURFACE DISCHARGE IS UNACCEPTABLE. THEREFORE, STRAW BALES OR OTHER CONTROL MEASURES, AS APPROVED BY THE ARCHITECT, SHOULD BE USED AROUND THE PERIMETER OF THE CONCRETE WASHOUT AREA FOR CONTAINMENT.
4. SIGNS SHOULD BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CONCRETE AREA(S) AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS. WASHOUT AREA(S) SHOULD BE FLAGGED WITH SAFETY FENCING.
5. WASHOUT AREA(S) ARE TO BE INSPECTED, CLEANED AND REPAIRED AFTER EACH RAIN EVENT OF 0.5-INCHES OR MORE, BUT NO LESS THAN ONCE A WEEK FOR STRUCTURAL INTEGRITY, ADEQUATE HOLDING CAPACITY AND CHECKED FOR LEAKS, TEARS OR OVERFLOWS.
6. HARDENED CONCRETE WASTE SHOULD BE REMOVED AND DISPOSED OF IN A MANNER CONSISTENT WITH ALL 6+ APPLICABLE LAWS, REGULATIONS AND GUIDELINES WHEN THE WASTE HAS ACCUMULATED TO HALF OF THE CONCRETE WASHOUT'S HEIGHT.
7. THE STORMWATER QUALITY MANAGEMENT AND EROSION CONTROL PERMIT HOLDER IS RESPONSIBLE FOR HAVING A CONCRETE WASHOUT AREA PROVIDED IN A SUITABLE LOCATION WITH APPROPRIATE SIGNAGE. THIS CONCRETE WASHOUT SHALL BE MAINTAINED UNTIL THE 'STORMWATER QUALITY MANAGEMENT AND EROSION CONTROL' PERMIT IS TERMINATED, IN WRITING, BY THE AHJ. ONCE TERMINATED, THE CONCRETE WASHOUT MAY BE REMOVED.

CONCRETE WASH OUT PIT DETAIL
N.T.S. D

BURIED UTILITIES NOTE

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www.elementdesign.com

SITE EPSC NOTES & DETAILS
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS

NO.	DESCRIPTION	DATE	BY

DESIGNED | DRAWN | REVIEWED | APPROVED

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
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WEST NEW CIRCLE ROAD

LIMITED CONSTRUCTION ACCESS FROM NEW CIRCLE

PRIMARY CONSTRUCTION ACCESS FROM NORTH LIMESTONE

"TRUCK ROUTE" (PER DEED BOOK 2477, PAGE 560)

ADD ALTERNATE #1
FOR ADD ALT #1, PRICING SHALL INCLUDE INLET PROTECTION FOR ADD ALT #1 NEW STORM INLETS AND SILT FENCING ADDITIVE ALTERNATE #1 VACTOR BUILDING SITE

EPSC PLAN

SCALE 1" = 30'-0"

0 15 30

EPSC PLAN LEGEND

- SILT FENCING SEE NOTES AND DETAIL A/L600
- SILT PROTECTION AT NEW STORM STRUCTURES SEE NOTES AND DETAIL B/L600
- CONCRETE WASH OUT PIT SEE NOTES FOR REQUIREMENTS
- CONSTRUCTION ACCESS DRIVE, SEE DETAIL C/L600. INSTALL CONSTRUCTION ACCESS DRIVE WHERE CONSTRUCTION VEHICLES MUST EXIT PAVEMENT INTO LANDSCAPE / TURF / AREAS OF BARE SOIL.
- CONSTRUCTION VEHICLE WASH DOWN AREA. ALL CONSTRUCTION VEHICLES / TRAFFIC SHALL BE WASHED DOWN PRIOR TO EXITING INTO THE PUBLIC ROW. CONTRACTOR IS RESPONSIBLE FOR KEEPING ALL OPEN SIDEWALKS AND PUBLIC STREETS CLEAN AND FREE OF CONSTRUCTION DEBRIS.

EPSC PLAN KEYNOTES (1)

1. SILT FENCING, SEE DETAIL A/L600. INSTALL SILT FENCE DOWNSLOPE OF ANY AREAS OF SOIL DISTURBANCE. SILT FENCE MAY BE INCORPORATED WITH CONSTRUCTION FENCE IN AREAS WHERE CONSTRUCTION FENCE WILL NOT BE MOVED, BUT MUST CONFORM TO REQUIREMENTS OF A/L600. ALTERNATELY, IN LIEU OF SILT FENCE AT CONSTRUCTION FENCE, COIR LOGS OR FILTER SOCKS MAY BE USED IF PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION.
2. INLET PROTECTION AT EXISTING INLET TO BE REMOVED PROTECT UNTIL REMOVAL, IN WALKWAYS PROVIDE SILT FENCE MATERIAL AT INLET TO AVOID PEDESTRIAN HAZARDS. FOR INLETS IN PAVED VEHICULAR AREAS, PROVIDE ADJUSTABLE FRAME STORM DRAIN FILTER.
3. INLET PROTECTION AT NEW INLET, PROTECT WHEN INSTALLED UNTIL SITE IS ESTABLISHED.
4. CONSTRUCTION ENTRANCE. IF CONSTRUCTION TRAFFIC LEAVES EXISTING PAVED SURFACES, INSTALL CONSTRUCTION ENTRANCE AT UNPAVED ACCESS ROUTES PER DETAIL C/L600.
5. ADDITIVE ALTERNATE #1 STORM STRUCTURES - INCLUDE IN ADDITIVE ALTERNATE #1 COST FOR INLET PROTECTION AT NEW STORM STRUCTURES AT THIS LOCATION.
6. ADDITIVE ALTERNATE #1 SILT FENCE- INCLUDE IN ADDITIVE ALTERNATE #1 COST FOR SILT FENCING AT THIS LOCATION.

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SITE EPSC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:
DRAWN:
REVIEWED:
APPROVED:

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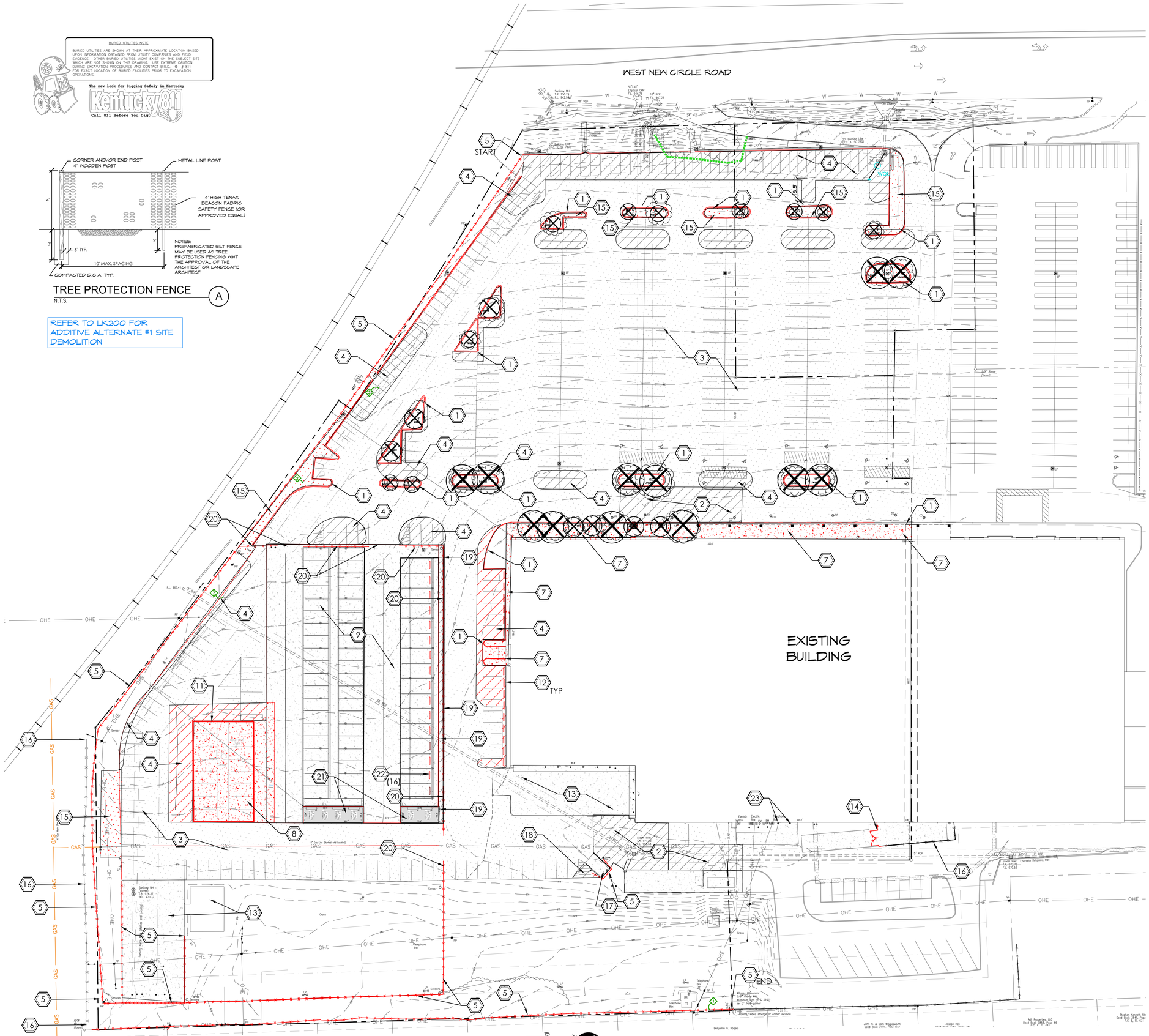
TREE PROTECTION FENCE
N.T.S. A

REFER TO LK200 FOR ADDITIVE ALTERNATE #1 SITE DEMOLITION



BASE BID SITE DEMOLITION PLAN
SCALE 1" = 30'-0"

DEMOLITION NOTES:

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED FROM A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
B. THE CONTRACT DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL UTILITY LOCATIONS.
C. SAWCUT EDGES OF EXISTING PAVEMENT WHERE NEW PAVEMENT ABUTS AND / OR EXISTING PAVEMENT IS INDICATED TO BE REMOVED.
D. CONTRACTOR TO PROTECT ALL EXISTING TREES TO REMAIN- ALL TREES WITHIN THE LIMITS OF WORK SHALL BE PROTECTED. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF ANY TREES ARE DAMAGED ON OR OFF SITE. NO MATERIALS ARE TO BE STORED UNDER A TREE IN ANY CIRCUMSTANCE. THE CONTRACTOR SHALL MAINTAIN TREE PROTECTION FENCING WHERE INDICATED AND FOR ALL EXISTING TREES WITHIN THE LIMITS OF THE CONSTRUCTION FENCING. TREE PROTECTION FENCING SHALL BE CONSTRUCTED OF SAFETY FENCE WITH STEEL T-SECTION FENCE POSTS SPACED AT 6' MAXIMUM; LIMIT OF FENCE TO ALIGN WITH CANOPY / DRIP EDGE OF TREES TO AVOID DAMAGE TO EXISTING TREES DURING CONSTRUCTION.
E. CONTRACTOR SHALL PROTECT ALL SURROUNDING AREAS. CONTRACTOR SHALL REPAIR ANY DAMAGES TO OFF OR ON SITE PROPERTY THAT IS NOT LISTED TO BE REMOVED AT NO ADDITIONAL COST TO OWNER.
F. SEE SPECIFICATIONS FOR OTHER DEMOLITION AND SITE CLEARING REQUIREMENTS.
G. CONTRACTOR SHALL PROTECT ALL UTILITY STRUCTURES. ANY DAMAGES TO UTILITIES ON OR OFF SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR REPAIR AT NO ADDITIONAL COST TO OWNER. THE CONTRACTOR SHALL SALVAGE AND REINSTALL ALL EXISTING UTILITY MARKERS IN NEW PAVEMENT.
H. PROTECT ALL WALKWAYS, WALLS, VEGETATION, TREES AND OTHER IMPROVEMENTS WITHIN THE CONSTRUCTION LIMITS THAT ARE NOT INDICATED FOR REMOVAL. ANY DAMAGE OR DESTRUCTION OF SUCH SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
I. WHERE ITEMS ARE INDICATED TO BE SALVAGED AND RETURNED TO OWNER, THE OWNER SHALL DESIGNATE A LOCATION FOR CONTRACTOR TO DELIVER AND OFFLOAD SALVAGED ITEMS.
J. FOR WORK SCOPE ITEMS OUTSIDE OF THE CONSTRUCTION FENCE, THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCE AND SIGNAGE TO DIRECT PEDESTRIANS AROUND CONSTRUCTION AREAS AS NEEDED FOR DEMOLITION AND CONSTRUCTION IN THESE AREAS. CONTRACTOR SHALL MINIMIZE THE DURATION OF WORK OUTSIDE OF THE CONSTRUCTION FENCE AS MUCH AS FEASIBLE, AND SHALL NOTIFY OWNER OF ANY PROPOSED CHANGES TO THE CONSTRUCTION FENCE AND WORK OUTSIDE OF THE CONSTRUCTION FENCE A MINIMUM OF 72 HOURS IN ADVANCE.

SITE DEMOLITION LEGEND

- ASPHALT PAVEMENT TO BE MILLED 1 ½", SEE KEYNOTE 3
- EXISTING ASPHALT PAVEMENT TO BE REMOVED- FULL PAVEMENT SECTION- SEE KEYNOTES 2 & 4
- EXISTING CONCRETE PAVEMENT TO BE REMOVED TO STONE BASE, SEE KEYNOTE 7 AND 8 FOR TYPE
- EXISTING CONCRETE PAVEMENT TO REMAIN, SEE KEYNOTES 9 AND 13
- EXISTING TURF AREA TO BE CLEARED FOR NEW SITE IMPROVEMENTS, SEE KEYNOTE 15
- EXISTING CHAIN LINK FENCING TO BE REMOVED, SEE KEYNOTES 5 & 6
- EXISTING FENCING TO REMAIN, SEE KEYNOTE 16
- EXISTING CONCRETE CURB TO BE REMOVED, SEE KEYNOTE 1
- EXISTING TREE TO BE REMOVED, SEE KEYNOTES AND SPECIFICATIONS 'SITE CLEARING' FOR ADDITIONAL REQUIREMENTS
- EXISTING TREE TO BE PROTECTED WITH TREE PROTECTION FENCING, SEE GENERAL NOTES. EXTEND TREE FENCING TO DRIP LINE OF TREE- SEE DETAIL A/L200; NO PARKING, MATERIAL STORAGE OR GRADING TO TAKE PLACE WITHIN DRIPLINE OF EXISTING TREES

DEMOLITION KEYNOTES 1

1. EXISTING CURB AND GUTTER TO BE REMOVED, FULL SECTION.
2. EXISTING ASPHALT PAVEMENT TO BE REMOVED, FULL SECTION INCLUDING STONE BASE, WHERE ASPHALT PAVEMENT HAS FAILED. REMEDIATE BASE WITH 6" #2 STONE CHOKED WITH 4" DGA TO PAVEMENT SUBGRADE. FIELD VERIFY EXTENTS WITH OWNER AND ARCHITECT.
3. EXISTING ASPHALT PAVEMENT TO BE MILLED 1 ½" AND PREPARED FOR NEW ASPHALT SURFACE.
4. EXISTING ASPHALT PAVEMENT TO BE REMOVED, FULL PAVEMENT SECTION INCLUDING STONE BASE. SEE L401 FOR PROPOSED IMPROVEMENTS.
5. EXISTING FENCE TO BE REMOVED, FENCING, FABRIC, POSTS AND FOOTINGS.
6. EXISTING PERIMETER FENCING AT EXISTING COVERED PARKING, FENCING TO BE REMOVED INCLUDING FABRIC, POSTS AND FOOTINGS. CUT FOOTINGS OFF AT GRADE AND GROUT OPENING SOLID.
7. EXISTING CONCRETE PAVEMENT TO BE REMOVED.
8. EXISTING HEAVY DUTY CONCRETE PAVEMENT TO BE REMOVED TO CONSTRUCT NEW VACTOR BUILDING. SAWCUT AT NEAREST CONTROL JOINT AND REMOVE PAVEMENT AND STONE BASE.
9. EXISTING HEAVY DUTY CONCRETE PAVEMENT AT COVERED PARKING AREA, TO REMAIN. TREAT AND REMOVE WEEDS IN CRACKS AND PATCH CRACKS WITH CONCRETE FILLER. PROTECT CONCRETE AND CANOPIES TO REMAIN FROM CONSTRUCTION ACTIVITIES.
10. EXISTING ASPHALT PAVEMENT, SUBGRADE FAILURE. REMOVE FULL ASPHALT PAVEMENT SECTION AND STONE BASE TO ADDRESS SUBGRADE FAILURE.
11. EXISTING OVERHEAD CANOPY TO BE REMOVED TO CONSTRUCT NEW VACTOR BUILDING. REMOVE CANOPY, FRAMING, POSTS AND FOOTINGS IN THEIR ENTIRETY. BACKFILL FOOTINGS WITH COMPACTED DGA IN MAX. 8" LIFTS TO NEW PAVEMENT OR BUILDING SUBGRADE.
12. REMOVE ALL EXISTING WHEELSTOPS, TYPICAL.
13. EXISTING CONCRETE PAVEMENT TO REMAIN.
14. EXISTING FENCE / GATE TO BE REMOVED AND RELOCATED 10' BACK. FIELD VERIFY NEW GATE LOCATION WITH OWNER AND ARCHITECT.
15. EXISTING TURF OR LANDSCAPE AREA TO BE CLEARED, EXCAVATED AND COMPACTED / PREPARED FOR NEW CONCRETE CURB AND GUTTER AND / OR ASPHALT PAVEMENT, SEE L400 AND L401 FOR REQUIREMENTS.
16. EXISTING FENCE ON ADJACENT PROPERTY TO REMAIN IN PLACE.
17. EXISTING CONCRETE DUMPSTER PAD AND BOLLARDS TO REMAIN FOR REUSE.
18. AREA OF EXISTING ASPHALT PAVEMENT TO BE SAWCUT AND REMOVED FOR NEW HEAVY DUTY CONCRETE UTILITY PAD, SEE L400 AND L401 FOR ADDITIONAL NOTES.
19. EXISTING CURB AT EAST EDGE OF EXISTING COVERED PARKING AREA TO BE REMOVED. REMOVE CURB AND REMOVE ASPHALT STRIP BEHIND CURB / BETWEEN CURB AND EXISTING COVERED CONCRETE PAVEMENT THAT REMAINS. ASPHALT STRIP THAT IS REMOVED SHALL BE REPLACED WITH NEW ASPHALT PAVEMENT TRANSITION FROM ASPHALT DRIVE TO CONCRETE PAVEMENT.
20. EXISTING FENCE TO BE REMOVED AROUND COVERED PARKING. REMOVE FENCE, POSTS, GATES AND GATE OPERATORS AND ALL APPURTENANCES. WHERE EXISTING POSTS ARE EMBEDDED IN CONCRETE THAT REMAINS, CUT FENCE POST TO GRADE AND GROUT POST HOLES SOLID WITH NON-SHRINK GROUT.
21. EXISTING BUILDINGS TO REMAIN IN COVERED PARKING AREA.
22. REMOVE EXISTING WHEELSTOPS AND GROUT HOLES SOLID.
23. REMOVE EXISTING BOLLARD AND PATCH / GROUT HOLE SOLID.

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SITE DEMOLITION PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS

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BURIED UTILITIES NOTE

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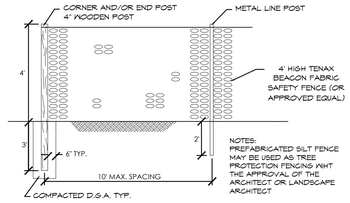

TREE PROTECTION FENCE (A)
N.T.S.

ADD ALTERNATE #1
APPROXIMATE LIMITS OF AREAS IMPACTED BY ADDITIVE ALTERNATE #1

ITEMS INCLUDED IN (BUT NOT LIMITED TO) ADDITIVE ALTERNATE #1 PRICING: CREDIT FOR LEAVING EXISTING HEAVY DUTY CONCRETE PARKING AREA, CANOPY AND ASPHALT REMOVAL AT BASE BID VACTOR BUILDING LOCATION ADDITIVE ALTERNATE #1 VACTOR BUILDING LOCATION AND ASSOCIATED SITE DEMOLITION, CLEARING, GRADING & DRAINAGE, CURBS, PAVEMENTS, UTILITIES.
PERMEABLE PAVERS AT NORTH PARKING AREA

START

EXISTING CANOPIES & PAVEMENT TO REMAIN

EXISTING BUILDING

TYP

END

ADD ALTERNATE #1 DRAWING

SEE L200, L300, L301, L400, L401 & C100 FOR BASE BID CONDITIONS AND FOR ADDITIONAL NOTES AND REQUIREMENTS OF ALL AREAS NOT IMPACTED BY ADDITIVE ALTERNATE #1

ADD ALT #1 SITE DEMOLITION PLAN

SCALE 1" = 30'-0"

DEMOLITION NOTES:

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED FROM A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
B. THE CONTRACT DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL UTILITY LOCATIONS.
C. SAWCUT EDGES OF EXISTING PAVEMENT WHERE NEW PAVEMENT ABUTS AND / OR EXISTING PAVEMENT IS INDICATED TO BE REMOVED.
D. CONTRACTOR TO PROTECT ALL EXISTING TREES TO REMAIN- ALL TREES WITHIN THE LIMITS OF WORK SHALL BE PROTECTED. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF ANY TREES ARE DAMAGED ON OR OFF SITE. NO MATERIALS ARE TO BE STORED UNDER A TREE IN ANY CIRCUMSTANCE. THE CONTRACTOR SHALL MAINTAIN TREE PROTECTION FENCING WHERE INDICATED AND FOR ALL EXISTING TREES WITHIN THE LIMITS OF THE CONSTRUCTION FENCING. TREE PROTECTION FENCING SHALL BE CONSTRUCTED OF SAFETY FENCE WITH STEEL T-SECTION FENCE POSTS SPACED AT 6' MAXIMUM; LIMIT OF FENCE TO ALIGN WITH CANOPY / DRIP EDGE OF TREES TO AVOID DAMAGE TO EXISTING TREES DURING CONSTRUCTION.
E. CONTRACTOR SHALL PROTECT ALL SURROUNDING AREAS. CONTRACTOR SHALL REPAIR ANY DAMAGES TO OFF OR ON SITE PROPERTY THAT IS NOT LISTED TO BE REMOVED AT NO ADDITIONAL COST TO OWNER.
F. SEE SPECIFICATIONS FOR OTHER DEMOLITION AND SITE CLEARING REQUIREMENTS.
G. CONTRACTOR SHALL PROTECT ALL UTILITY STRUCTURES. ANY DAMAGES TO UTILITIES ON OR OFF SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR REPAIR AT NO ADDITIONAL COST TO OWNER. THE CONTRACTOR SHALL SALVAGE AND REINSTALL ALL EXISTING UTILITY MARKERS IN NEW PAVEMENT.
H. PROTECT ALL WALKWAYS, WALLS, VEGETATION, TREES AND OTHER IMPROVEMENTS WITHIN THE CONSTRUCTION LIMITS THAT ARE NOT INDICATED FOR REMOVAL. ANY DAMAGE OR DESTRUCTION OF SUCH SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
I. WHERE ITEMS ARE INDICATED TO BE SALVAGED AND RETURNED TO OWNER, THE OWNER SHALL DESIGNATE A LOCATION FOR CONTRACTOR TO DELIVER AND OFFLOAD SALVAGED ITEMS.
J. FOR WORK SCOPE ITEMS OUTSIDE OF THE CONSTRUCTION FENCE, THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCE AND SIGNAGE TO DIRECT PEDESTRIANS AROUND CONSTRUCTION AREAS AS NEEDED FOR DEMOLITION AND CONSTRUCTION IN THESE AREAS. CONTRACTOR SHALL MINIMIZE THE DURATION OF WORK OUTSIDE OF THE CONSTRUCTION FENCE AS MUCH AS FEASIBLE, AND SHALL NOTIFY OWNER OF ANY PROPOSED CHANGES TO THE CONSTRUCTION FENCE AND WORK OUTSIDE OF THE CONSTRUCTION FENCE A MINIMUM OF 72 HOURS IN ADVANCE.

SITE DEMOLITION LEGEND

- ASPHALT PAVEMENT TO BE MILLED 1 ½", SEE KEYNOTE 3
- EXISTING ASPHALT PAVEMENT TO BE REMOVED- FULL PAVEMENT SECTION- SEE KEYNOTES 2 & 4
- EXISTING CONCRETE PAVEMENT TO BE REMOVED TO STONE BASE, SEE KEYNOTE 7 AND 8 FOR TYPE
- EXISTING CONCRETE PAVEMENT TO REMAIN, SEE KEYNOTES 9 AND 13
- EXISTING TURF AREA TO BE CLEARED FOR NEW SITE IMPROVEMENTS, SEE KEYNOTE 15
- EXISTING CHAIN LINK FENCING TO BE REMOVED, SEE KEYNOTES 5 & 6
- EXISTING FENCING TO REMAIN, SEE KEYNOTE 16
- EXISTING CONCRETE CURB TO BE REMOVED, SEE KEYNOTE 1
- EXISTING TREE TO BE REMOVED, SEE KEYNOTES AND SPECIFICATIONS 'SITE CLEARING' FOR ADDITIONAL REQUIREMENTS
- EXISTING TREE TO BE PROTECTED WITH TREE PROTECTION FENCING, SEE GENERAL NOTES. EXTEND TREE FENCING TO DRIP LINE OF TREE- SEE DETAIL A/L200; NO PARKING, MATERIAL STORAGE OR GRADING TO TAKE PLACE WITHIN DRIPLINE OF EXISTING TREES

DEMOLITION KEYNOTES (1)

1. EXISTING CURB AND GUTTER TO BE REMOVED, FULL SECTION.
2. EXISTING ASPHALT PAVEMENT TO BE REMOVED, FULL SECTION INCLUDING STONE BASE, WHERE ASPHALT PAVEMENT HAS FAILED. REMEDIATE BASE WITH 6" #2 STONE CHOKED WITH 4" DGA TO PAVEMENT SUBGRADE. FIELD VERIFY EXTENTS WITH OWNER AND ARCHITECT.
3. EXISTING ASPHALT PAVEMENT TO BE MILLED 1 ½" AND PREPARED FOR NEW ASPHALT SURFACE.
4. EXISTING ASPHALT PAVEMENT TO BE REMOVED, FULL PAVEMENT SECTION INCLUDING STONE BASE. SEE LK401 FOR PROPOSED IMPROVEMENTS.
5. EXISTING FENCE TO BE REMOVED, FENCING, FABRIC, POSTS AND FOOTINGS.
6. EXISTING PERIMETER FENCING AT EXISTING COVERED PARKING, FENCING TO BE REMOVED INCLUDING FABRIC, POSTS AND FOOTINGS. CUT FOOTINGS OFF AT GRADE AND GROUT OPENING SOLID.
7. EXISTING CONCRETE PAVEMENT TO BE REMOVED.
8. NOTE NOT USED THIS SHEET.
9. EXISTING HEAVY DUTY CONCRETE PAVEMENT AT COVERED PARKING AREA, TO REMAIN. TREAT AND REMOVE WEEDS IN CRACKS AND PATCH CRACKS WITH CONCRETE FILLER. PROTECT CONCRETE AND CANOPIES TO REMAIN FROM CONSTRUCTION ACTIVITIES.
10. EXISTING ASPHALT PAVEMENT, SUBGRADE FAILURE. REMOVE FULL ASPHALT PAVEMENT SECTION AND STONE BASE TO ADDRESS SUBGRADE FAILURE.
11. NOTE NOT USED THIS SHEET.
12. REMOVE ALL EXISTING WHEELSTOPS, TYPICAL.
13. EXISTING CONCRETE PAVEMENT TO REMAIN.
14. EXISTING FENCE / GATE TO BE REMOVED AND RELOCATED 10' BACK. FIELD VERIFY NEW GATE LOCATION WITH OWNER AND ARCHITECT.
15. EXISTING TURF OR LANDSCAPE AREA TO BE CLEARED, EXCAVATED AND COMPACTED / PREPARED FOR NEW CONCRETE CURB AND GUTTER AND / OR ASPHALT PAVEMENT, SEE L400 AND L401 FOR REQUIREMENTS.
16. EXISTING FENCE ON ADJACENT PROPERTY TO REMAIN IN PLACE.
17. EXISTING CONCRETE DUMPSTER PAD AND BOLLARDS TO REMAIN FOR REUSE.
18. AREA OF EXISTING ASPHALT PAVEMENT TO BE SAWCUT AND REMOVED FOR NEW HEAVY DUTY CONCRETE UTILITY PAD, SEE L400 AND L401 FOR ADDITIONAL NOTES.
19. EXISTING CURB AT EAST EDGE OF EXISTING COVERED PARKING AREA TO BE REMOVED. REMOVE CURB AND REMOVE ASPHALT STRIP BEHIND CURB / BETWEEN CURB AND EXISTING COVERED CONCRETE PAVEMENT THAT REMAINS. ASPHALT STRIP THAT IS REMOVED SHALL BE REPLACED WITH NEW ASPHALT PAVEMENT TRANSITION FROM ASPHALT DRIVE TO CONCRETE PAVEMENT.
20. EXISTING FENCE TO BE REMOVED AROUND COVERED PARKING. REMOVE FENCE, POSTS, GATES AND GATE OPERATORS AND ALL APPURTENANCES. WHERE EXISTING POSTS ARE EMBEDDED IN CONCRETE THAT REMAINS, CUT FENCE POST TO GRADE AND GROUT POST HOLES SOLID WITH NON-SHRINK GROUT.
21. EXISTING BUILDINGS TO REMAIN IN COVERED PARKING AREA.
22. REMOVE EXISTING WHEELSTOPS AND GROUT HOLES SOLID.
23. REMOVE EXISTING BOLLARD AND PATCH / GROUT HOLE SOLID.

CONSTRUCTION DOCUMENTS

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ADDITIVE ALTERNATE #1 SITE DEMOLITION PLAN
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS				
NO.	DATE:	BY:		
REVISION DESCRIPTION				

DESIGNED | DRAWN | REVIEWED | APPROVED

SCALE CHECK - THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: Refer to Plan
SHEET NO.: LK200

BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT 811.0. @ # 811 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

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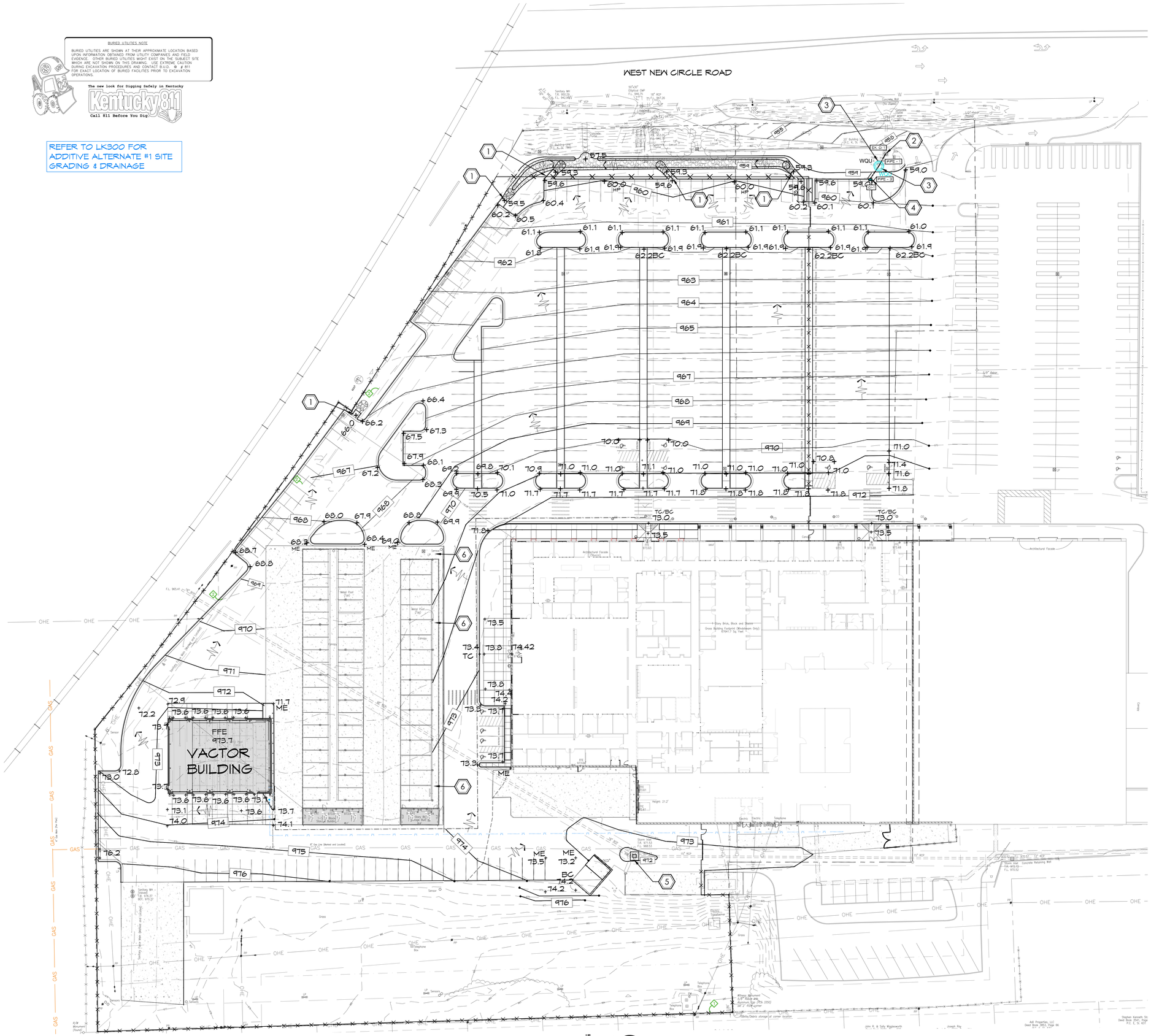
REFER TO LK300 FOR ADDITIVE ALTERNATE #1 SITE GRADING & DRAINAGE



BASE BID GRADING & DRAINAGE PLAN

SCALE 1" = 30'-0"

GRADING & DRAINAGE NOTES:

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN IS FROM A SURVEY PROVIDED BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.

B. THE DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION; THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL LOCATIONS.

C. PROTECT EXISTING TREES FROM POTENTIAL DAMAGE OF CONSTRUCTION OPERATIONS. STEEPEN GRADES UPHILL FROM EXISTING TREES TO A MAX. OF 2:1 TO AVOID FILLING SOILS ONTO TRUNKS.

D. UNLESS OTHERWISE INDICATED TO BE REMOVED, ALL ITEMS REMAINING WITHIN THE LIMIT OF CONTRACT ARE TO REMAIN AND BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

E. THE CONTRACTOR SHALL MAINTAIN STORM DRAINAGE SYSTEMS TO FUNCTION THROUGHOUT THE CONSTRUCTION PERIOD.

F. PROPOSED GRADES SHOWN ARE FINISHED GRADES. ELEVATIONS SHOWN AT CURBS ARE BOTTOM OF CURB UNLESS NOTED TC.

G. LIMIT OF GRADING EXTENTS TO INCLUDE ALL AREAS DISTURBED BY ALL SITE UTILITY WORK, REFER TO SITE UTILITY DRAWINGS FOR LOCATIONS OF PROPOSED SITE UTILITIES.

H. REFER TO SPECIFICATION / PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.

I. ADJUST RIM ELEVATIONS OF ALL EXISTING STRUCTURES TO MATCH PROPOSED FINISHED GRADES.

J. GRADE ALL NEW PAVEMENTS TO DRAIN. GRADE ALL NEW WALKS AT MAX. 2% CROSS SLOPE. GRADE ALL NEW WALKS TO MAX. 5% LONGITUDINAL SLOPE UNLESS OTHERWISE SPECIFICALLY INDICATED ON PLANS TO BE A RAMP.

GRADING & DRAINAGE LEGEND

991	PROPOSED CONTOUR
+93.0	PROPOSED SPOT ELEVATION
ME	MATCH EXISTING
BC	BOTTOM OF CURB
TC	TOP OF CURB
	DRAINAGE DIRECTION
STM	NEW STORM LINE, SEE DETAIL ON D/L600
	RIP RAP CHANNEL LINING, SEE DETAIL J/L600 (SIMILAR)
WQU	WATER QUALITY UNIT; SEE STORM CHART

GRADING & DRAINAGE KEYNOTES (1)

1. CURB CUT FLUMES AT NEW CURB WITH RIP RAP OUTLET CHANNEL, SEE DETAIL O/L601.
2. REPLACE EXISTING INLET WITH NEW CATCH BASIN. FIELD VERIFY EXISTING INVERTS. REFER TO DETAIL E/L600
3. WATER QUALITY INLET, REFER TO DETAIL G/L600.
4. CURB INLET. REFER TO DETAIL K AND L/L600. REFER TO PROFILE ON L301.
5. AT EXISTING CATCH BASIN TO REMAIN, POUR NEW HEAVY DUTY CONCRETE COLLAR AROUND CATCH BASIN PRIOR TO REPLACING ASPHALT AS INDICATED ON L401. CONCRETE COLLAR TO BE MIN. 6' WIDE AROUND CATCH BASIN X 8" DEEP CONCRETE OVER 8" DGA.
6. WHERE CURB WAS REMOVED AT COVERED PARKING, TRANSITION GRADE FROM EDGE OF DRIVE / EDGE OF MILLED / RESURFACED ASPHALT TO EDGE OF EXISTING CONCRETE PAVEMENT. USE NEW ASPHALT STRIP TO CREATE SMOOTH TRANSITION.

STORM PIPE SCHEDULE

PIPE NUMBER	APPROX. LENGTH	SIZE	APPROX. SLOPE %	MATERIAL
P-1	11.33	12"	0.50	PIPE
P-2	12.12	12"	0.50	PIPE

NOTE: ALL PIPE LENGTHS ARE APPROXIMATE AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR TO FIELD VERIFY LENGTHS AND SLOPES NEED TO MEET THE REQUIREMENTS OF THE STORM SYSTEM AS INDICATED. CONTRACTOR MAY CHOOSE TO USE HDPE, HP STORM OR RCP WHERE THE MATERIAL IS NOTED AS "PIPE". WHERE MATERIAL IS SPECIFIED IN THE CHART ABOVE, THE CONTRACTOR IS TO USE THAT MATERIAL.

STORM STRUCTURE SCHEDULE

STRUCTURE #	RIM ELEVATION	INVERT IN	INVERT OUT	NOTES
WQU	958.20	955.17	955.27	
C1-1	958.50	-	955.34	

CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL STRUCTURES ARE SUFFICIENTLY SIZED TO ACCOMMODATE ALL INLET PIPE SIZES, SIZE STRUCTURES ACCORDINGLY

STATE OF KENTUCKY
R. DEREK MOTSCH
26439
LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION DOCUMENTS

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SITE GRADING & DRAINAGE PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED:
DRAWN:
REVIEWED:
APPROVED:

REVISIONS

NO. | DATE | BY | REVISION DESCRIPTION:

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: Refer to Plan

SHEET NO. L300

BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT 811.O. @ # 811 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

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Kentucky 811

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ADD ALTERNATE #1
PERMEABLE PAVERS
OUTLET 4" PERFORATED SUBDRAIN TO DITCH

ADD ALTERNATE #1
APPROXIMATE LIMITS OF AREAS IMPACTED BY ADDITIVE ALTERNATE #1

REVISED PAVEMENT GRADES, VACTOR BUILDING LOCATION & ASSOCIATED PAVEMENTS AND GRADES

WEST NEW CIRCLE ROAD

VACTOR BUILDING
FFE 978.1

ADD ALTERNATE #1 DRAWING

SEE L200, L300, L301, L400, L401 & C100 FOR BASE BID CONDITIONS AND FOR ADDITIONAL NOTES AND REQUIREMENTS OF ALL AREAS NOT IMPACTED BY ADDITIVE ALTERNATE #1

ADD ALT #1 GRADING & DRAINAGE PLAN

SCALE 1" = 30'-0"

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN IS FROM A SURVEY PROVIDED BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.

B. THE DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION; THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL LOCATIONS.

C. PROTECT EXISTING TREES FROM POTENTIAL DAMAGE OF CONSTRUCTION OPERATIONS. STEEPEN GRADES UPHILL FROM EXISTING TREES TO A MAX. OF 2:1 TO AVOID FILLING SOILS ONTO TRUNKS.

D. UNLESS OTHERWISE INDICATED TO BE REMOVED, ALL ITEMS REMAINING WITHIN THE LIMIT OF CONTRACT ARE TO REMAIN AND BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

E. THE CONTRACTOR SHALL MAINTAIN STORM DRAINAGE SYSTEMS TO FUNCTION THROUGHOUT THE CONSTRUCTION PERIOD.

F. PROPOSED GRADES SHOWN ARE FINISHED GRADES. ELEVATIONS SHOWN AT CURBS ARE BOTTOM OF CURB UNLESS NOTED TC.

G. LIMIT OF GRADING EXTENTS TO INCLUDE ALL AREAS DISTURBED BY ALL SITE UTILITY WORK, REFER TO SITE UTILITY DRAWINGS FOR LOCATIONS OF PROPOSED SITE UTILITIES.

H. REFER TO SPECIFICATION / PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.

I. ADJUST RIM ELEVATIONS OF ALL EXISTING STRUCTURES TO MATCH PROPOSED FINISHED GRADES.

J. GRADE ALL NEW PAVEMENTS TO DRAIN. GRADE ALL NEW WALKS AT MAX. 2% CROSS SLOPE. GRADE ALL NEW WALKS TO MAX. 5% LONGITUDINAL SLOPE UNLESS OTHERWISE SPECIFICALLY INDICATED ON PLANS TO BE A RAMP.

GRADING & DRAINAGE LEGEND

- 991 — PROPOSED CONTOUR
- +93.0 — PROPOSED SPOT ELEVATION
- ME — MATCH EXISTING
- BC — BOTTOM OF CURB
- TC — TOP OF CURB
- DRAINAGE DIRECTION
- STM — NEW STORM LINE, SEE DETAIL ON D/L600
- NEW 6 SUBDRAIN UNDER PERMEABLE PAVERS, SEE DETAIL ON LK401
- RIP RAP CHANNEL LINING, SEE DETAIL J/L600 (SIMILAR)
- WQU — WATER QUALITY UNIT; SEE STORM CHART

GRADING & DRAINAGE KEYNOTES (1)

1. CURB CUT FLUMES AT NEW CURB WITH RIP RAP OUTLET CHANNEL, SEE DETAIL O/L601.
2. REPLACE EXISTING INLET WITH NEW CATCH BASIN. FIELD VERIFY EXISTING INVERTS. REFER TO DETAIL E/L600
3. WATER QUALITY INLET, REFER TO DETAIL G/L600.
4. CURB INLET. REFER TO DETAIL K AND L/L600. REFER TO PROFILE ON L301.
5. AT EXISTING CATCH BASIN TO REMAIN, POUR NEW HEAVY DUTY CONCRETE COLLAR AROUND CATCH BASIN PRIOR TO REPLACING ASPHALT AS INDICATED ON L401. CONCRETE COLLAR TO BE MIN. 6' WIDE AROUND CATCH BASIN X 6" DEEP CONCRETE OVER 8" DGA.
6. WHERE CURB WAS REMOVED AT COVERED PARKING, TRANSITION GRADE FROM EDGE OF DRIVE / EDGE OF MILLED / RESURFACED ASPHALT TO EDGE OF EXISTING CONCRETE PAVEMENT. USE NEW ASPHALT STRIP TO CREATE SMOOTH TRANSITION.
7. YARD INLET, REFER TO DETAIL F/L600.
8. JUNCTION BOX, REFER TO DETAIL J/L600.
9. CONNECT PROPOSED STORM TO EXISTING STORM STRUCTURE.

STORM PIPE SCHEDULE

PIPE NUMBER	APPROX. LENGTH	SIZE	APPROX. SLOPE %	MATERIAL
P-1	11.33	12"	0.50	PIPE
P-2	12.12	12"	0.50	PIPE
P-3	400.80	12"	0.50	PIPE
P-4	57.75	12"	0.50	PIPE

NOTE: ALL PIPE LENGTHS ARE APPROXIMATE AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR TO FIELD VERIFY LENGTHS AND SLOPES NEED TO MEET THE REQUIREMENTS OF THE STORM SYSTEM AS INDICATED. CONTRACTOR MAY CHOOSE TO USE HDPE, HP STORM OR RCP WHERE THE MATERIAL IS NOTED AS "PIPE". WHERE MATERIAL IS SPECIFIED IN THE CHART ABOVE, THE CONTRACTOR IS TO USE THAT MATERIAL.

STORM STRUCTURE SCHEDULE

STRUCTURE #	RIM ELEVATION	INVERT IN	INVERT OUT	NOTES
WQU	958.20	955.17	955.27	
CI-1	958.50	-	955.34	
JB	974.50	968.91	968.81	
YI-1	973.50	969.28	969.18	

CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL STRUCTURES ARE SUFFICIENTLY SIZED TO ACCOMMODATE ALL INLET PIPE SIZES, SIZE STRUCTURES ACCORDINGLY

STATE OF KENTUCKY
R. DEREK MOTSCH
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LICENSED PROFESSIONAL ENGINEER

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CLIENT PROJECT NO. 0000-00

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ADDITIVE ALTERNATE #1 SITE GRADING & DRAINAGE PLAN
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS				
NO.	REVISION DESCRIPTION	DATE	BY	

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DESIGNED | DRAWN | REVIEWED | APPROVED

DATE: AUGUST 15, 2025
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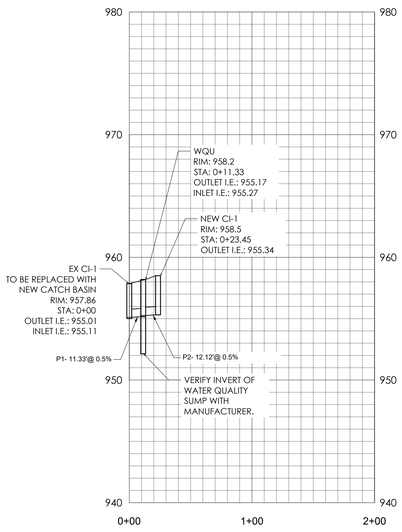
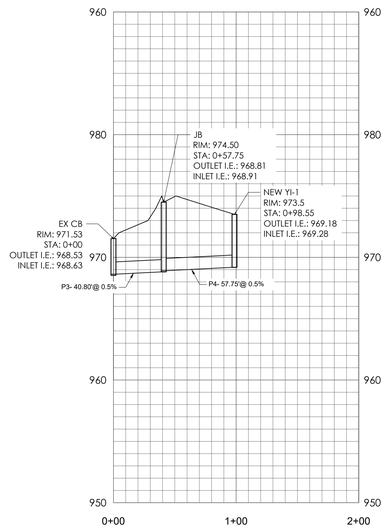
SHEET NO.: LK300



Horizontal Scale = 1 :50
Vertical Scale = 1 :5

BASE BID PIPES 1-2 PROFILES



Horizontal Scale = 1 :50
Vertical Scale = 1 :5

ADDITIVE ALTERNATE #1 PIPES 3-4 PROFILES

ADD ALTERNATE #1
STORM PROFILE FOR ADDITIVE
ALTERNATE #1 PIPES 3 & 4

STATE OF KENTUCKY
R. DEREK MOTSCH
26439
LICENSED
PROFESSIONAL ENGINEER

GRW PROJECT NO. 0000-00

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STORM PROFILES

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:
DRAWN:
REVIEWED:
APPROVED:

REVISIONS

NO.	REVISION DESCRIPTION:	DATE:	BY:

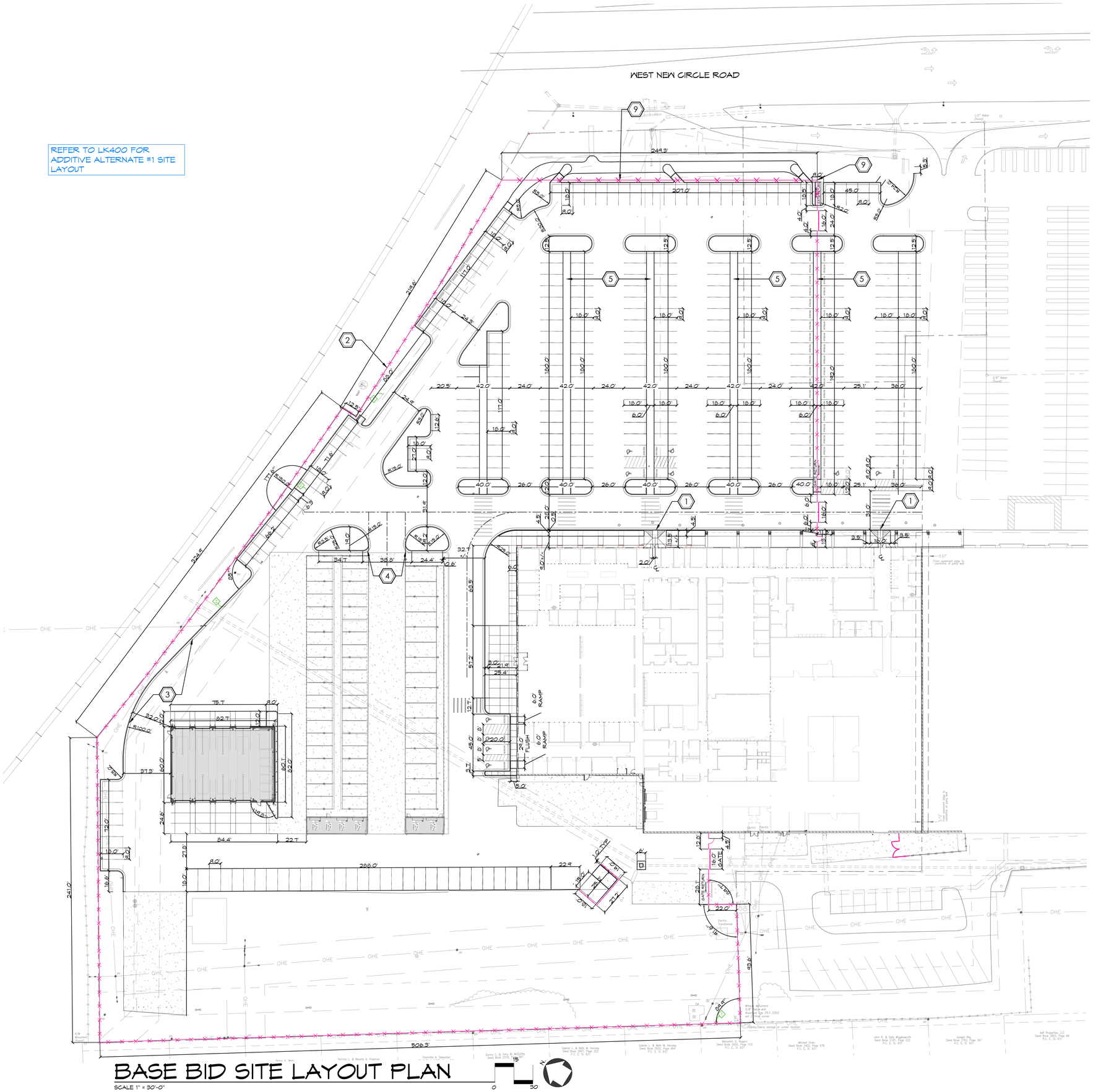
SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: Refer to Plan

SHEET NO. L301

REFER TO LK400 FOR ADDITIVE ALTERNATE #1 SITE LAYOUT



BASE BID SITE LAYOUT PLAN

SCALE 1" = 30'-0"

0 30

LAYOUT & MATERIALS NOTES

A. EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED FROM A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND PROTECT ALL UTILITIES PRIOR TO THE COMMENCEMENT OF DIGGING. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS.

B. DIMENSIONS GIVEN IN RELATIONSHIP TO BUILDINGS OR OTHER SITE ELEMENTS ARE MEASURED PERPENDICULAR FROM THE OUTSIDE FACE OF BRICK, STONE OR CONCRETE UNLESS OTHERWISE INDICATED. DIMENSIONS GIVEN AT ROADWAYS ARE FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED. DIMENSIONS GIVE AT WALKWAYS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT OR FACE OF CURB UNLESS OTHERWISE NOTED.

C. DIMENSIONS ARE REFERENCED AT 90 DEGREE ANGLES UNLESS OTHERWISE INDICATED. RADII ARE 5' UNLESS OTHERWISE INDICATED.

D. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL INVOLVED UTILITY COMPANIES AND COORDINATING WITH THEM ALL CONSTRUCTION ACTIVITIES AND VERIFYING ALL SITE UTILITIES PRIOR TO CONSTRUCTION ACTIVITY.

E. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

LAYOUT LEGEND:

----------	CENTERLINE	PI	CENTERLINE POINT OF INTERSECTION
CL	CENTERLINE	PC	CENTERLINE POINT OF CURVATURE
ME	MATCH EXISTING DIMENSION	PT	CENTERLINE POINT OF TANGENCY
EQ	SPACE EQUALLY	BC	BUILDING CORNER
+/-	DIMENSION MAY VARY DUE TO EXISTING FIELD CONDITIONS	CP	CENTER POINT OF CURVATURE
		PT N:XXXX E:XXX	POINT COORDINATES
			SURVEY BENCHMARK- REFER TO SITE SURVEY

SITE LAYOUT KEYNOTES

1. ALIGN NEW ADA COMPLIANT CURB RAMP WITH CENTERLINE OF NEW DOORS.
2. NEW SECURITY FENCE TO FOLLOW PROPERTY LINE AT PERIMETER. LOCATE FENCE JUST INSIDE PROPERTY LINE TO ENSURE POSTS AND ALL COMPONENTS ARE WITHIN THE PROPERTY LINE.
3. ANGLE OF DRIVE CHANGES TO ACCOMMODATE TURNING MOVEMENT AROUND NEW VACTOR BUILDING.
4. ALIGN NEW LANDSCAPE ISLANDS AT OPENING TO EXISTING COVERED PARKING DRIVE LANES.
5. 6' CENTER WALK AISLE, TYPICAL, STRIPED ASPHALT.
6. 6' ASPHALT AISLE FOR NEW SECURITY FENCE. FENCE TO BE LOCATED IN CENTER OF AISLE.
7. NEW SECURITY FENCE VEHICULAR GATE. FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION
8. NEW SECURITY FENCE MAN GATE. FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.
9. NEW SECURITY FENCE LOCATION OFF PROPERTY LINE. FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.

GRW PROJECT NO. 0000-00

CLIENT PROJECT NO. 0000-00

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SITE LAYOUT PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED | DRAWN | REVIEWED | APPROVED

REVISIONS

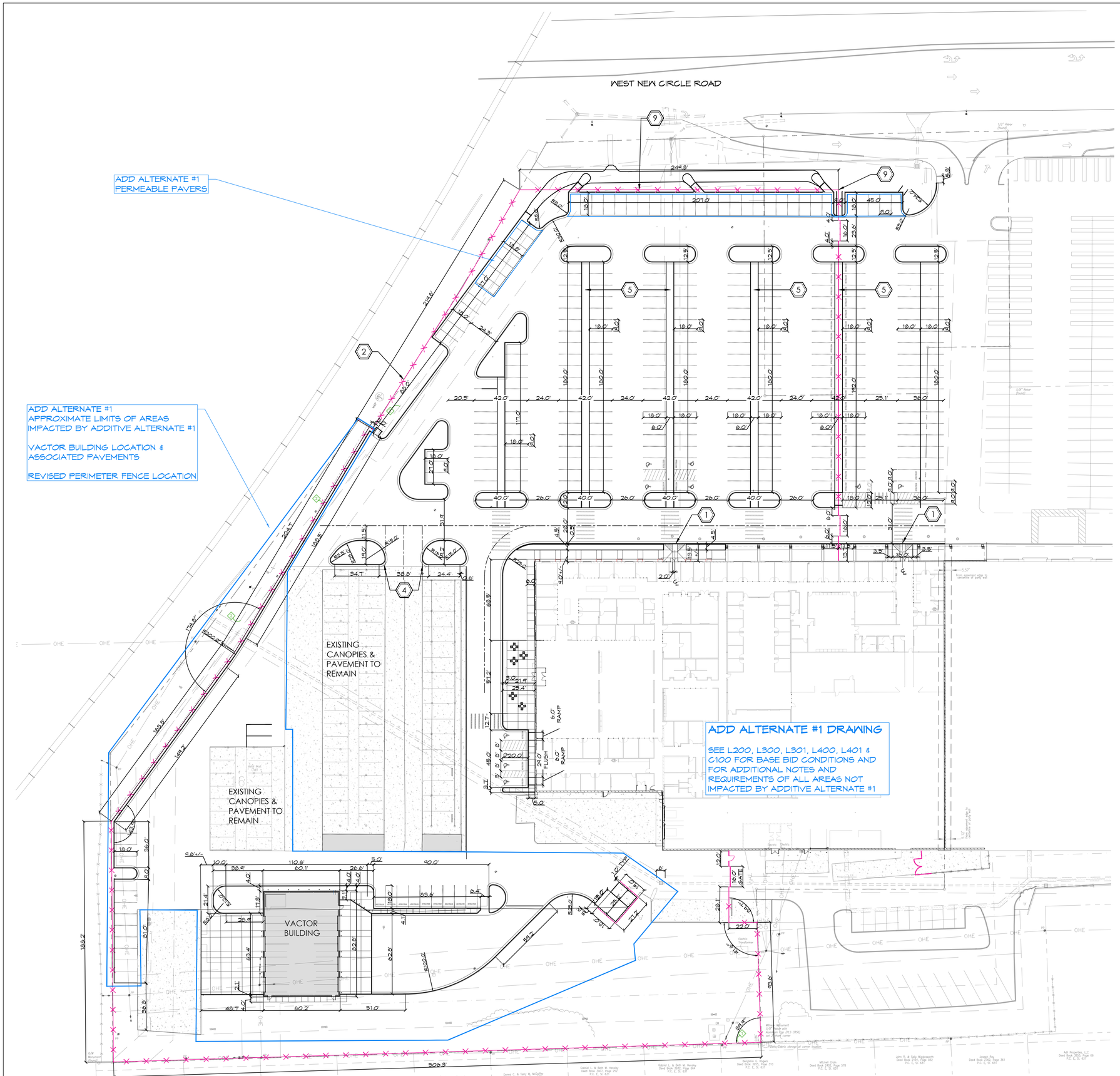
NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: Refer to Plan

SHEET NO. L400



ADD ALT #1 SITE LAYOUT PLAN

SCALE 1" = 30'-0"

0 30 60

LAYOUT & MATERIALS NOTES

A. EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED FROM A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND PROTECT ALL UTILITIES PRIOR TO THE COMMENCEMENT OF DIGGING. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS.

B. DIMENSIONS GIVEN IN RELATIONSHIP TO BUILDINGS OR OTHER SITE ELEMENTS ARE MEASURED PERPENDICULAR FROM THE OUTSIDE FACE OF BRICK, STONE OR CONCRETE UNLESS OTHERWISE INDICATED. DIMENSIONS GIVEN AT ROADWAYS ARE FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED. DIMENSIONS GIVE AT WALKWAYS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT OR FACE OF CURB UNLESS OTHERWISE NOTED.

C. DIMENSIONS ARE REFERENCED AT 90 DEGREE ANGLES UNLESS OTHERWISE INDICATED. RADII ARE 5' UNLESS OTHERWISE INDICATED.

D. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL INVOLVED UTILITY COMPANIES AND COORDINATING WITH THEM ALL CONSTRUCTION ACTIVITIES AND VERIFYING ALL SITE UTILITIES PRIOR TO CONSTRUCTION ACTIVITY.

E. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

LAYOUT LEGEND:

	CENTERLINE
CL	CENTERLINE
ME	MATCH EXISTING DIMENSION
EQ	SPACE EQUALLY
+/-	DIMENSION MAY VARY DUE TO EXISTING FIELD CONDITIONS

PI	CENTERLINE POINT OF INTERSECTION
PC	CENTERLINE POINT OF CURVATURE
PT	CENTERLINE POINT OF TANGENCY
BC	BUILDING CORNER
CP	CENTER POINT OF CURVATURE
PT N:XXX E:XXX	POINT COORDINATES
	SURVEY BENCHMARK- REFER TO SITE SURVEY

SITE LAYOUT KEYNOTES

1. ALIGN NEW ADA COMPLIANT CURB RAMP WITH CENTERLINE OF NEW DOORS.
2. NEW SECURITY FENCE TO FOLLOW PROPERTY LINE AT PERIMETER. LOCATE FENCE JUST INSIDE PROPERTY LINE TO ENSURE POSTS AND ALL COMPONENTS ARE WITHIN THE PROPERTY LINE.
3. ANGLE OF DRIVE CHANGES TO ACCOMMODATE TURNING MOVEMENT AROUND NEW VACTOR BUILDING.
4. ALIGN NEW LANDSCAPE ISLANDS AT OPENING TO EXISTING COVERED PARKING DRIVE LANES.
5. 6' CENTER WALK AISLE, TYPICAL, STRIPED ASPHALT.
6. 8' ASPHALT AISLE FOR NEW SECURITY FENCE. FENCE TO BE LOCATED IN CENTER OF AISLE.
7. NEW SECURITY FENCE VEHICULAR GATE. FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION
8. NEW SECURITY FENCE MAN GATE. FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.
9. NEW SECURITY FENCE LOCATION OFF PROPERTY LINE. FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.

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ADDITIVE ALTERNATE #1 SITE LAYOUT PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED | DRAWN | REVIEWED | APPROVED

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

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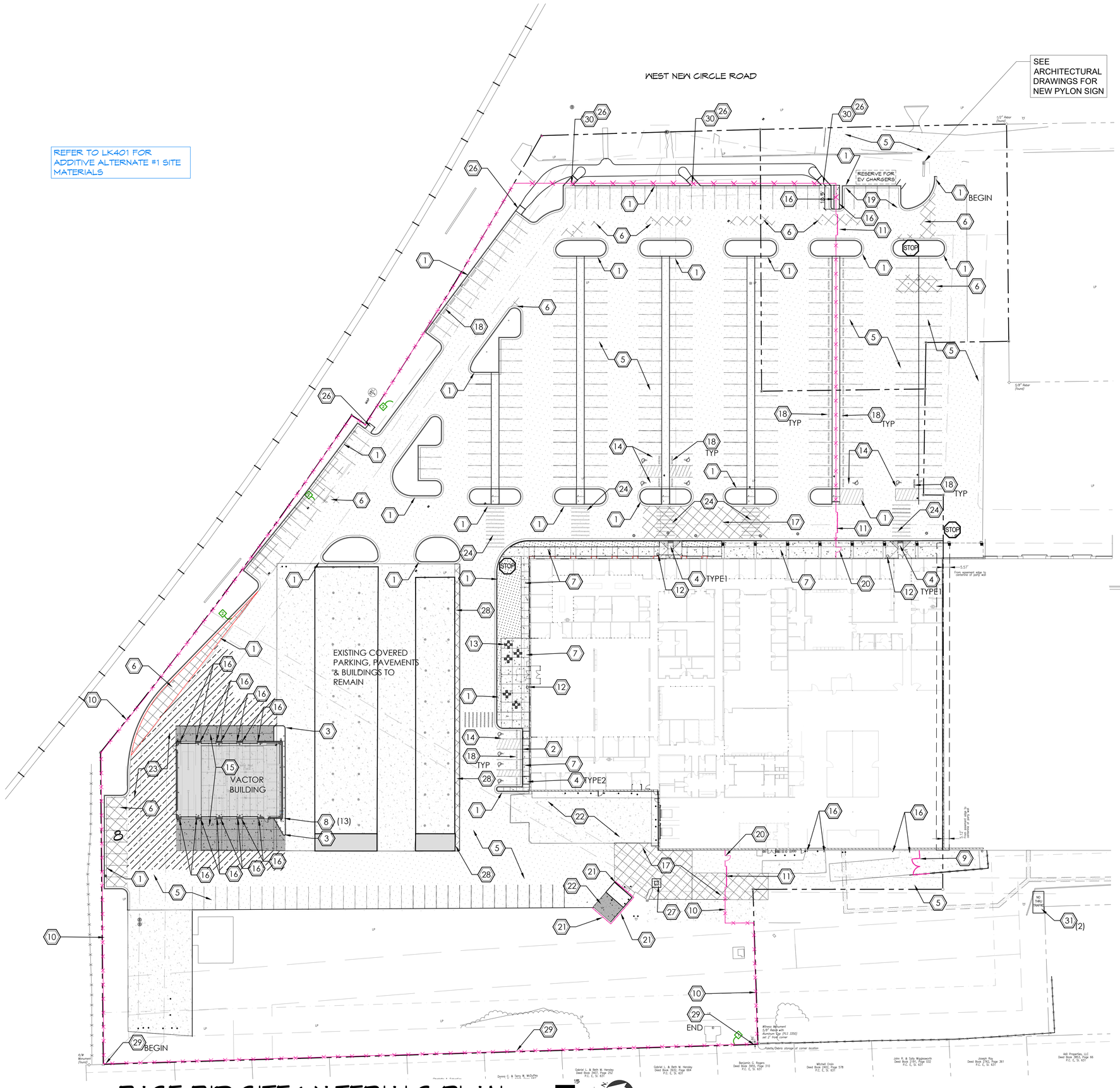
SHEET NO. LK400

REFER TO LK401 FOR ADDITIVE ALTERNATE #1 SITE MATERIALS



BASE BID SITE MATERIALS PLAN

SCALE 1" = 30'-0"

LAYOUT & MATERIALS NOTES

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B. DIMENSIONS GIVEN IN RELATIONSHIP TO BUILDINGS OR OTHER SITE ELEMENTS ARE MEASURED PERPENDICULAR FROM THE OUTSIDE FACE OF BRICK, STONE OR CONCRETE UNLESS OTHERWISE INDICATED. DIMENSIONS GIVEN AT ROADWAYS ARE FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.

C. DIMENSIONS ARE REFERENCED AT 90 DEGREE ANGLES UNLESS OTHERWISE INDICATED. RADII ARE 5' UNLESS OTHERWISE INDICATED.

D. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL INVOLVED UTILITY COMPANIES AND COORDINATING WITH THEM ALL CONSTRUCTION ACTIVITIES AND VERIFYING ALL SITE UTILITIES PRIOR TO CONSTRUCTION ACTIVITY.

E. ANY EXISTING SIGNAGE ALONG SHILLITO PARK ROAD THAT IS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT NOT ADDITIONAL COST TO THE OWNER.

F. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

MATERIALS LEGEND:

- NEW 1 ½" ASPHALT SURFACE OVERLAY OVER MILLED PAVEMENT BASE
- NEW FULL ASPHALT PAVEMENT SECTION, SEE KEYNOTES 6 & 11
- AREA OF EXISTING ASPHALT PAVEMENT TO BE OVERLAID TO MEET FINISH GRADES INDICATED, SEE KEYNOTE 23
- NEW BROOMED 4" CONCRETE PAVEMENT WITH TOOLED CONTROL JTS SEE KEYNOTE 6
- NEW BROOMED HEAVY DUTY 5" CONCRETE PAVEMENT WITH TOOLED CONTROL JTS SEE KEYNOTES AND DETAIL P/L601
- NEW LANDSCAPE AREA, SEE L300
- NEW CONCRETE CURB & GUTTER - SEE KEYNOTE 1
- NEW HEADER CURB
- CURB TRANSITION FROM 6" TO FLUSH CURB CONDITION
- NEW CURB RAMP
- EJ EXPANSION JOINT- SEE DETAIL E/L601
- CONTROL JOINT- SEE DETAIL D/L601
- NEW THERMOPLASTIC STRIPING AND ARROWS, SEE DETAIL D/L6.1 AND SPECIFICATIONS FOR REQUIREMENTS. COMPLY FHWA STANDARDS FOR DIRECTIONAL AND TURN ARROWS
- NEW WHEELSTOP, SEE DETAIL L/L601
- STOP STOP SIGN AND STOP BAR, SEE DETAIL M/L601 FIELD VERIFY FINAL LOCATION
- NO THRU TRAFFIC NO THRU TRAFFIC, SEE DETAIL M/L601 FIELD VERIFY FINAL LOCATION WITH LFUCG, SEE KEYNOTE 31
- PARKING SPACE STRIPING - 4" X 18' THERMOPLASTIC STRIPING TYPICAL FOR STANDARD SPACES
- TRASH RECEPTACLE BY OWNER AND NIC, SEE KEYNOTE 12
- MOVABLE TABLE AND CHAIR BY OWNER AND NIC, SEE KEYNOTE 13

SITE MATERIALS KEYNOTES

1. NEW CONCRETE CURB AND GUTTER, SEE DETAIL A/L601.
2. NEW FLUSH CONCRETE CURB AND GUTTER, SEE DETAIL A/L601.
3. NEW 6" HEADER CURB.SEE DETAIL A/L601.
4. NEW CURB RAMP, SEE DETAIL F/L601.
5. NEW 1 ½" ASPHALT SURFACE OVER MILLED ASPHALT BASE, SEE DETAIL H/L601.
6. NEW FULL ASPHALT PAVEMENT SECTION, SEE DETAIL H/L601. FULLY COMPACT SUB BASE PRIOR TO INSTALLING NEW DGA STONE BASE.
7. NEW LIGHT DUTY CONCRETE PAVEMENT, SEE DETAIL B/L601.
8. NEW PROTECTIVE BOLLARD, SEE DETAIL E/L602.
9. EXISTING CHAIN LINK FENCE / GATES TO BE RELOCATED APPROXIMATELY 10' BACK IN EXISTING PAVEMENT. FIELD VERIFY NEW GATE LOCATION WITH OWNER AND ARCHITECT.
10. NEW PERIMETER SECURITY FENCE, SEE DETAIL A/L602.
11. NEW 16' WIDE SLIDING VEHICULAR SECURITY GATE, SEE DETAIL B/L602. PROVIDE LEVEL GATE RETURN AREA AS REQUIRED BY MANUFACTURER (MIN. 24' LONG COUNTERBALANCE PANELS).
12. NEW TRASH RECEPTACLE SHOWN FOR REFERENCE ONLY. PROVIDED AND INSTALLED BY OWNER, NOT IN CONTRACT.
13. NEW MOVABLE TABLE AND CHAIR SET SHOWN FOR REFERENCE ONLY. PROVIDED AND INSTALLED BY OWNER, NOT IN CONTRACT.
14. NEW ADA PARKING SPACE, SEE DETAIL I/L601 AND J/L602 FOR ADA PARKING SIGNS.
15. NEW HEAVY DUTY CONCRETE PAVEMENT APRON AT ENTRANCE TO VACTOR BULDING, SEE DETAIL P/L601, SEE ALSO N/L601 FOR WHERE NEW APRON MEETS BULDING AT OVERHEAD DOORS.
16. NEW PROTECTIVE BOLLARDS AT ENTRANCE TO VACTOR BULDING / OVERHEAD DOORS, SEE DETAIL E/L602.
17. NEW HEAVY DUTY ASPHALT PAVEMENT, FULL SECTION, IN AREA OF PREVIOUS SUBGRADE FAILURE. PLACE 8" #2 STONE CHOKED OFF WITH 4" DGA AND COMPACT PRIOR TO PLACING PAVEMENT DGA BASE. SEE DETAIL H/L601 FOR ASPHALT PAVEMENT SECTION.
18. NEW RECYCLED RUBBER WHEELSTOP WHERE INDICATED, SEE DETAIL L/L601.
19. NEW PARKING SPACES / FUTURE LOCATION FOR EV CHARGERS (EV CHARGERS ARE NOT IN CONTRACT).
20. NEW 36' WIDE CHAIN LINK PEDESTRIAN GATE WITH PANIC HARDWARE. REFER TO MEP PLANS FOR POWER SUPPLY. SEE DETAIL C/L602.
21. NEW 8' TALL CHAIN LINK SCREEN FENCE WITH PRIVACY SLATS, SEE DETAIL D/L602.
22. NEW HEAVY DUTY CONCRETE UTILITY PAD, SEE DETAIL P/L601.
23. AREA OF EXISTING ASPHALT PAVEMENT TO BE OVERLAID TO MEET FINISH GRADES INDICATED, SEE L300 FOR FINISH GRADES.
24. THERMOPLASTIC CROSSWALK STRIPING, SEE DETAIL M/L601.
25. NEW HEADER CURB IN PARKING ISLAND TO FORM CHANNEL FOR SLIDING GATE RETURN, SEE DETAIL A/L601.
26. CURB CUT AND CONCRETE FLUME DRAINAGE CHANNEL, SEE DETAIL D/L601.
27. NEW HEAVY DUTY CONCRETE COLLAR AROUND EXISTING CATCH BASIN, SEE L300.
28. AT AREA OF REMOVED CURB AND ASPHALT STRIP, INSTALL NEW ASPHALT PAVEMENT, FULL SECTION. ASPHALT SHALL TRANSITION FROM GRADE AT EDGE OF EXISTING DRIVE TO EXISTING GRADE AT CONCRETE PAVEMENT IN COVERED PARKING AREA.
29. NEW SECURITY FENCE WITH PRIVACY SLATS ALONG SOUTH PROPERTY BOUNDARY. SEE DETAIL A/L602, PRIVACY SLAT CONDITION.
30. WHERE NEW SECURITY FENCE SPANS OVER CONCRETE FLUMES AND RIP RAP, LOCATE FENCE POSTS EQUALLY TO EITHER SIDE OF FLUME AND SPAN OVER FLUME WITH FENCE PANEL.
31. NO THRU TRAFFIC SIGN TO BE LOCATED EAST OF PROJECT SITE, TWO SIGNS. ONE AT LOCATION SHOWN BEHIND EXISTING GOODWILL BUILDING, THE SECOND SHALL BE LOCATED NEAR LIMESTONE STREET, TO PREVENT VEHICLES FROM DRIVING THROUGH / USING SERVICE DRIVE. FIELD VERIFY FINAL LOCATION WITH LFUCG.

GRW PROJECT NO. 0000-00

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SITE MATERIALS PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DATE	BY	REVISION DESCRIPTION

DESIGNED | DRAWN | REVIEWED | APPROVED

SCALE CHECK - THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

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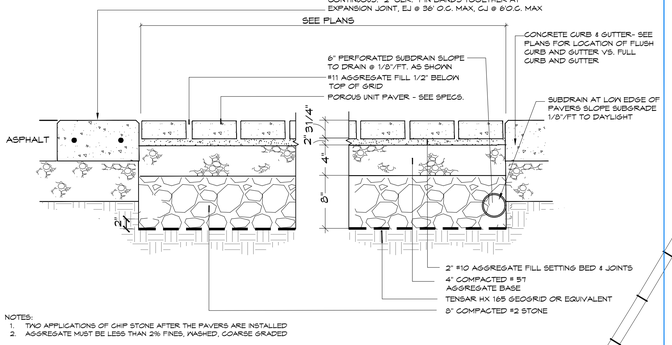
SHEET NO. L401

ADD ALTERNATE #1
PERMEABLE PAVERS



NOTES:
1. TWO APPLICATIONS OF CHIP STONE AFTER THE PAVERS ARE INSTALLED
2. AGGREGATE MUST BE LESS THAN 2% FINES, WASHED, COARSE GRADED

PERMEABLE PAVERS IN PARKING BAYS (A)
N.T.S.

ADD ALTERNATE #1
PERMEABLE PAVERS

WEST NEW CIRCLE ROAD

SEE ARCHITECTURAL DRAWINGS FOR NEW PYLON SIGN

RESERVE FOR EV CHARGERS

VACTOR BUILDING

ADDITIVE ALTERNATE #1
INCLUDE TOPSOIL AND SODDING AT ISLANDS

ADD ALTERNATE #1 DRAWING

SEE L200, L300, L301, L400, L401 & C100 FOR BASE BID CONDITIONS AND FOR ADDITIONAL NOTES AND REQUIREMENTS OF ALL AREAS NOT IMPACTED BY ADDITIVE ALTERNATE #1

BEGIN

END

TYPE1

TYPE2

TYP

ADD ALT #1 SITE MATERIALS PLAN

SCALE 1" = 30'-0"

0 15 30

LAYOUT & MATERIALS NOTES

A. EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED FROM A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND PROTECT ALL UTILITIES PRIOR TO THE COMMENCEMENT OF DIGGING. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS.

B. DIMENSIONS GIVEN IN RELATIONSHIP TO BUILDINGS OR OTHER SITE ELEMENTS ARE MEASURED PERPENDICULAR FROM THE OUTSIDE FACE OF BRICK, STONE OR CONCRETE UNLESS OTHERWISE INDICATED. DIMENSIONS GIVEN AT ROADWAYS ARE FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.

C. DIMENSIONS ARE REFERENCED AT 90 DEGREE ANGLES UNLESS OTHERWISE INDICATED. RADII ARE 5' UNLESS OTHERWISE INDICATED.

D. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL INVOLVED UTILITY COMPANIES AND COORDINATING WITH THEM ALL CONSTRUCTION ACTIVITIES AND VERIFYING ALL SITE UTILITIES PRIOR TO CONSTRUCTION ACTIVITY.

E. ANY EXISTING SIGNAGE ALONG SHILLITO PARK ROAD THAT IS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT NOT ADDITIONAL COST TO THE OWNER.

F. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

MATERIALS LEGEND:

- NEW 1 ½" ASPHALT SURFACE OVERLAY OVER MILLED PAVEMENT BASE
- NEW FULL ASPHALT PAVEMENT SECTION, SEE KEYNOTES 8 & 17
- AREA OF EXISTING ASPHALT PAVEMENT TO BE OVERLAID TO MEET FINISH GRADES INDICATED, SEE KEYNOTE 23
- NEW BROOMED 4" CONCRETE PAVEMENT WITH TOOLED CONTROL JTS SEE KEYNOTE 6
- NEW BROOMED HEAVY DUTY 6" CONCRETE PAVEMENT WITH TOOLED CONTROL JTS SEE KEYNOTES AND DETAIL G/L601
- NEW LANDSCAPE AREA, SEE L300
- NEW CONCRETE CURB & GUTTER - SEE KEYNOTE 1
- NEW HEADER CURB
- CURB TRANSITION FROM 6" TO FLUSH CURB CONDITION
- NEW CURB RAMP
- EJ EXPANSION JOINT- SEE DETAIL E/L601
- CONTROL JOINT- SEE DETAIL D/L601
- NEW THERMOPLASTIC STRIPING AND ARROWS, SEE DETAIL D/L6.1 AND SPECIFICATIONS FOR REQUIREMENTS. COMPLY FHWA STANDARDS FOR DIRECTIONAL AND TURN ARROWS
- NEW WHEELSTOP, SEE DETAIL L/L601
- STOP STOP SIGN AND STOP BAR, SEE DETAIL M/L601 FIELD VERIFY FINAL LOCATION
- NO THRU TRAFFIC NO THRU TRAFFIC, SEE DETAIL M/L601 FIELD VERIFY FINAL LOCATION WITH LFUCG, SEE KEYNOTE 31
- PARKING SPACE STRIPING - 4" X 18' THERMOPLASTIC STRIPING TYPICAL FOR STANDARD SPACES
- TRASH RECEPTACLE BY OWNER AND NIC, SEE KEYNOTE 12
- MOVABLE TABLE AND CHAIR BY OWNER AND NIC, SEE KEYNOTE 13
- ADD ALTERNATE #1 PERMEABLE PAVERS, SEE DETAIL A/LK-401

SITE MATERIALS KEYNOTES

1. NEW CONCRETE CURB AND GUTTER, SEE DETAIL A/L601.
2. NEW FLUSH CONCRETE CURB AND GUTTER, SEE DETAIL A/L601.
3. NEW 6" HEADER CURB SEE DETAIL A/L601.
4. NEW CURB RAMP, SEE DETAIL F/L601.
5. NEW 1 ½" ASPHALT SURFACE OVER MILLED ASPHALT BASE, SEE DETAIL H/L601.
6. NEW FULL ASPHALT PAVEMENT SECTION, SEE DETAIL H/L601. FULLY COMPACT SUB BASE PRIOR TO INSTALLING NEW DGA STONE BASE.
7. NEW LIGHT DUTY CONCRETE PAVEMENT, SEE DETAIL B/L601.
8. NEW PROTECTIVE BOLLARD, SEE DETAIL E/L602.
9. EXISTING CHAIN LINK FENCE / GATES TO BE RELOCATED APPROXIMATELY 10' BACK IN EXISTING PAVEMENT. FIELD VERIFY NEW GATE LOCATION WITH OWNER AND ARCHITECT.
10. NEW PERIMETER SECURITY FENCE, SEE DETAIL A/L602.
11. NEW 18' WIDE SLIDING VEHICULAR SECURITY GATE, SEE DETAIL B/L602. PROVIDE LEVEL GATE RETURN AREA AS REQUIRED BY MANUFACTURER (MIN. 24' LONG COUNTERBALANCE PANELS).
12. NEW TRASH RECEPTACLE SHOWN FOR REFERENCE ONLY. PROVIDED AND INSTALLED BY OWNER, NOT N CONTRACT.
13. NEW MOVABLE TABLE AND CHAIR SET SHOWN FOR REFERENCE ONLY. PROVIDED AND INSTALLED BY OWNER, NOT N CONTRACT.
14. NEW ADA PARKING SPACE, SEE DETAIL I/L601 AND J/L602 FOR ADA PARKING SIGNS.
15. NEW HEAVY DUTY CONCRETE PAVEMENT APRON AT ENTRANCE TO VACTOR BUILDING, SEE DETAIL P/L601. NEW HEAVY DUTY CONCRETE PAVEMENT APRON AT ENTRANCE TO VACTOR BUILDING, SEE DETAIL P/L601, SEE ALSO N/L601 FOR WHERE NEW APRON MEETS BUILDING AT OVERHEAD DOORS.
16. NEW PROTECTIVE BOLLARDS AT ENTRANCES / OVERHEAD DOORS, SEE DETAIL E/L602.
17. NEW ASPHALT PAVEMENT, FULL SECTION, IN AREA OF PREVIOUS SUBGRADE FAILURE. PLACE 8" #2 STONE CHOKED OFF WITH 4" DGA AND COMPACT PRIOR TO PLACING PAVEMENT DGA BASE. SEE DETAIL H/L601 FOR ASPHALT PAVEMENT SECTION.
18. NEW RECYCLED RUBBER WHEELSTOP WHERE INDICATED, SEE DETAIL L/L601.
19. NEW PARKING SPACES / FUTURE LOCATION FOR EV CHARGERS (EV CHARGERS ARE NOT N CONTRACT).
20. NEW 36' WIDE CHAIN LINK PEDESTRIAN GATE WITH PANIC HARDWARE. REFER TO MEP PLANS FOR POWER SUPPLY. SEE DETAIL G/L602.
21. NEW 8' TALL CHAIN LINK SCREEN FENCE WITH PRIVACY SLATS, SEE DETAIL D/L602.
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24. THERMOPLASTIC CROSSWALK STRIPING, SEE DETAIL M/L601.
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29. NEW SECURITY FENCE WITH PRIVACY SLATS ALONG SOUTH PROPERTY BOUNDARY. SEE DETAIL A/L602, PRIVACY SLAT CONDITION.
30. WHERE NEW SECURITY FENCE SPANS OVER CONCRETE FLUMES AND RIP RAP, LOCATE FENCE POSTS EQUALLY TO EITHER SIDE OF FLUME AND SPAN OVER FLUME WITH FENCE PANEL.
31. NO THRU TRAFFIC SIGN TO BE LOCATED EAST OF PROJECT SITE, TWO SIGNS. ONE AT LOCATION SHOWN BEHIND EXISTING GOODWILL BUILDING, THE SECOND SHALL BE LOCATED NEAR LIMESTONE STREET, TO PREVENT VEHICLES FROM DRIVING THROUGH / USING SERVICE DRIVE. FIELD VERIFY FINAL LOCATION WITH LFUCG.
32. ADDITIVE ALTERNATE #1 - AS PART OF ADDITIVE ALTERNATE #1, DEDUCT ASPHALT PAVEMENT AND ADD PERVIOUS PAVERS IN PARKING SPACES AS INDICATED, WITH 12"X6" CIP CONCRETE EDGE RESTRAINT BAND. SEE DETAIL A/LK-401

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ADDITIVE ALTERNATE #1 SITE MATERIALS PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

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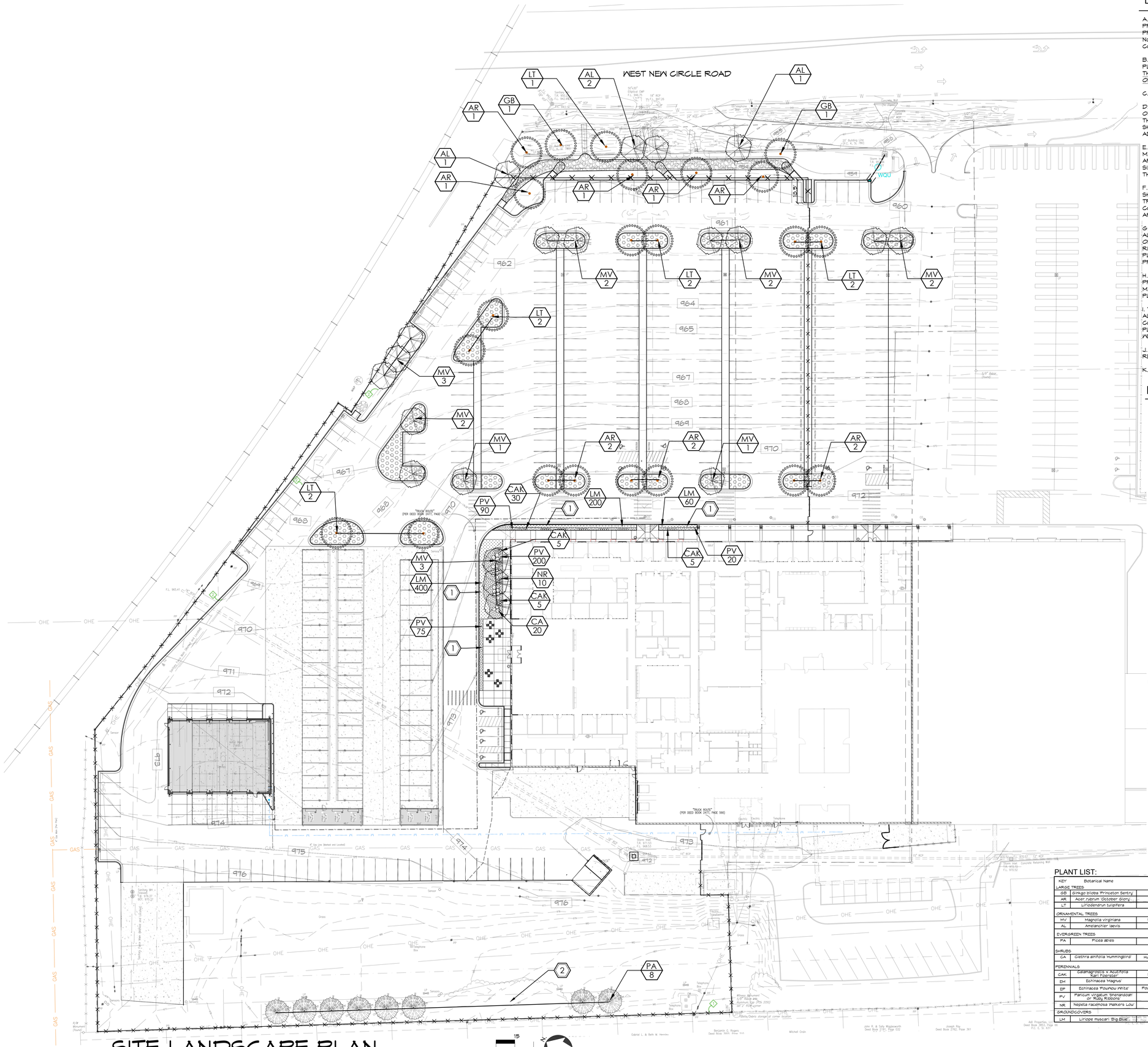

LANDSCAPE GENERAL NOTES

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B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING AND LAYOUT OF THE PLANTINGS ON THIS PROJECT. SECURE APPROVAL OF THE PLANTING LAYOUT IN THE FIELD WITH THE LANDSCAPE ARCHITECT PRIOR TO OPENING ANY PLANTING PITS OR BEDS.

C. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

D. THE CONTRACTOR SHALL PREPARE A CULTIVATED BED AROUND EACH GROUP OF SHRUBS &/OR GROUND COVER BEDS, THE SAME SHAPE AND SIZE AS SHOWN ON THE PLAN. THE ENTIRE BED SHALL BE MULCHED. A CRISP, WELL DEFINED EDGE SHALL BE DEVELOPED BETWEEN ANY SHRUB &/OR GROUND COVER BED AND THE ADJOINING LAWN AREA.

E. ONLY NURSERY GROWN PLANT MATERIAL SHALL BE USED. COLLECTED PLANT MATERIAL IS NOT ACCEPTABLE AND WILL BE REJECTED BY THE LANDSCAPE ARCHITECT. MATERIAL SHALL BE OF HIGH QUALITY, EXCELLENT FORM AND TO THE SIZES AND SPECIFICATIONS INDICATED HEREIN. MATERIAL THAT DOES NOT MEET THE SPECIFICATIONS SHALL BE REJECTED.

F. UNLESS OTHERWISE INDICATED, NATURAL DYE-FREE SHREDDED BARK MULCH SHALL BE USED IN ALL SHRUB AND/OR GROUND COVER BEDS AND AROUND ALL TREES PLANTED WITHIN OR BEYOND THE CONFINES OF THE PLANTING BEDS. CONTRACTOR SHALL PROVIDE MULCH SAMPLE FOR LANDSCAPE ARCHITECTS APPROVAL PRIOR TO CONSTRUCTION.

G. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL OF ALL BINDING CORDS AND ROPES FROM THE TRUNKS OF ALL SHADE AND ORNAMENTAL TREES IMMEDIATELY AFTER PLANTING. IDENTIFICATION TAGS AND RIBBONS SHALL BE REMOVED FROM ALL PLANT MATERIAL AT THE TIME OF PLANTING. TREE BASKETS SHALL BE CUT FROM THE TOP 1/3 OF THE ROOT BALL PRIOR TO PLANTING.

H. ALL PLANT MATERIAL SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO DELIVERY TO THE SITE OR IF AGREED UPON BY LANDSCAPE ARCHITECT, MAY BE REVIEWED AT THE CONTRACTOR'S HOLDING YARD OR THE SITE PRIOR TO PLANTING.

I. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO RELOCATE AND ADJUST ALL PLANT MATERIAL IN THE FIELD PRIOR TO PLANTING. THE CONTRACTOR SHALL COORDINATE ALL PLANTING EFFORTS WITH THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. CONTRACTOR SHALL CONTACT AND NOTIFY LANDSCAPE ARCHITECT 2 WEEKS PRIOR TO PLANT INSTALLATION.

J. ALL PLANT QUANTITIES ARE GIVEN AS A REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES PRIOR TO PLANTING.

K. SOD ALL DISTURBED AND NEW LAWN AREAS. NETTED SOD IS NOT ACCEPTABLE.

LANDSCAPE LEGEND

- NEW SHADE TREE, SEE DETAIL A/L501
- NEW ORNAMENTAL TREE, SEE DETAIL B/L501
- NEW EVERGREEN TREE, SEE DETAIL F/L501
- NEW SHRUB,GRASS, & PERENNIAL. SEE DETAIL C/L501
- AREA OF PERENNIALS, SEE DETAIL D/L501
- AREA OF GROUNDCOVER, SEE DETAIL D/L501
- AREA OF MULCH AT LANDSCAPE ISLANDS, SEE DETAIL D/L501, FOR MULCH REQUIREMENTS

LANDSCAPE KEYNOTES (1)

1. NEW LANDSCAPE AREA, PLACE MIN. 18" PLANTING SOIL MIX COMPRISED OF 4:1 MIX OF AMENDED TOPSOIL AND SPAGHNUM PEAT MOSS. SEE SPECIFICATIONS SECTION 'PLANTS' FOR ADDITIONAL REQUIREMENTS.
2. DO NOT DISTURB EXISTING SHRUB / TREE MASS EXCEPT AS NEEDED TO INSTALL NEW PERIMETER SECURITY FENCING.

PLANT LIST:

KEY	Botanical Name	Common Name	Caliper	Ball Size	Height	Spread	Canes	Notes / Requirements
LARGE TREES								
GB	Ginkgo biloba 'Princeton Sentry'	Princeton Sentry	1 1/2"	28" min	12'		1	B & B, 5' Clear Trunk
AR	Acer rubrum 'October Glory'	Red Maple	2 1/2"	28" min	12'-14'		1	B & B, 5' Clear Trunk
LT	Liriodendron tulipifera	Tulip Poplar	2 1/2"	28" min	12'-14'		1	B & B, 5' Clear Trunk
ORNAMENTAL TREES								
MV	Magnolia virginiana	Sweetbay Magnolia	1 1/2"	24 min	8'-10'		3-5	B & B, Equal canes
AL	Amelanchier laevis	Serviceberry	1 1/2"	24 min	8'-10'		3-5	B & B, Equal canes
EVERGREEN TREES								
PA	Picea abies	Norway Spruce	N/A	28" min	14'	N/A	1	B & B Symmetrical branching to the ground
SHRUBS								
CA	Clethra alnifolia 'Hummingbird'	Hummingbird Summersweet	N/A	No. 2 Cont.	48"	36"	N/A	36" O.C. w/ triangular spacing
PERENNALS								
CAK	Calamagrostis x Acutiflora 'Karl Foerster'	Feather Reed Grass	N/A	3 Gal. Cont.	48"	36"	N/A	36" O.C. w/triangular spacing
EM	Echinacea 'Magnus'	Magnus Coneflower	N/A	No. 1 Cont.	24"-36"	12"-18"	N/A	18" O.C. w/triangular spacing
EP	Echinacea 'Fourlow White'	Fourlow White Coneflower	N/A	No. 1 Cont.	24"-36"	12"-18"	N/A	18" O.C. w/triangular spacing
PV	Panicum virgatum 'Shenandoah' or 'Ruby Ribbons'	Switchgrass	N/A	1 Gal. Cont.	18"	18"	N/A	36" O.C. w/ triangular spacing
NR	Nepeta racemosa 'Walkers Low'	Catmint	N/A	1 Gal. Cont.	30"	36"	N/A	36" O.C. w/triangular spacing
GROUNDCOVERS								
LM	Liriope muscari 'Big Blue'	Big Blue Liriope	N/A	1 Gal. Cont.	18"	18"	N/A	12" O.C. w/ triangular spacing

SITE LANDSCAPE PLAN

SCALE 1" = 30'-0"

0 15 30

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SITE LANDSCAPE PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED | DRAWN | REVIEWED | APPROVED

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: Refer to Plan

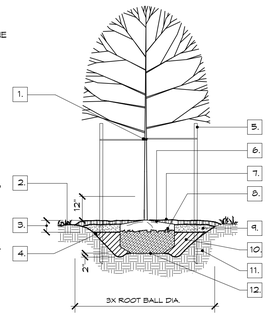
SHEET NO.: L500

NOTES:

1. COMMERCIAL GRADE POLYPROPYLENE TREE STRAP. (NO WIRES PERMITTED)
2. FINISHED GRADE.
3. ONE THIRD DEPTH OF ROOTBALL.
4. TAPER SIDE OF TREE PIT.
5. 2"X2"X8' UNTREATED WOOD STAKE.
6. SET TOP OF ROOT BALL 2" HIGHER THAN FINISHED GRADE.
7. 2" SHREDDED HARDWOOD BARK MULCH.
8. REMOVE BURLAP FROM TOP ONE THIRD OF ROOT BALL.
9. SOIL MIX - 4 PARTS TOPSOIL TO 1 PART ORGANIC MATTER. (SEE SPECIFICATIONS).
10. BACKFILL W. EX. TOPSOIL (NO STONES >1" DIA.)
11. EXISTING SUB-GRADE.
12. 2" RAISED SUB-GRADE PLATFORM
13. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
14. PRUNE ONLY AS DIRECTED BY OWNER.

STAKING SCHEDULE:

CALIPER	# OF STAKES
< 3"	2 STAKES
> 3"	3 STAKES



SHADE TREE STAKING & PLANTING

NOT TO SCALE

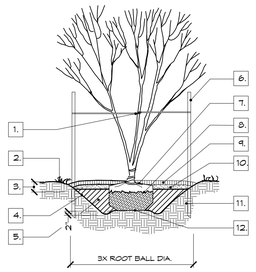
A

NOTES:

1. COMMERCIAL GRADE POLYPROPYLENE TREE STRAP. (NO WIRES PERMITTED)
2. ORIGINAL GRADE.
3. ONE THIRD DEPTH OF ROOTBALL.
4. TAPER SIDE OF TREE PIT.
5. BACKFILL W. EX. TOPSOIL (NO STONES >1" DIA.)
6. 2"X2"X8' UNTREATED WOOD STAKE.
7. SET TOP OF ROOT BALL 2" HIGHER THAN FINISHED GRADE.
8. REMOVE BURLAP FROM TOP ONE THIRD OF ROOT BALL.
9. 2" SHREDDED HARDWOOD BARK MULCH.
10. SOIL MIX - 4 PARTS TOPSOIL TO 1 PART ORGANIC MATTER. (SEE SPECIFICATIONS).
11. EXISTING SUB-GRADE.
12. 2" RAISED SUB-GRADE PLATFORM
13. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
14. PRUNE ONLY AS DIRECTED BY OWNER.

STAKING SCHEDULE:

CALIPER	# OF STAKES
< 3"	2 STAKES
> 3"	3 STAKES



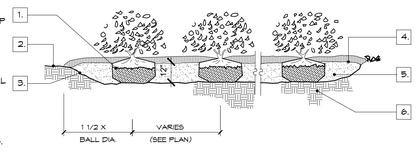
ORNAMENTAL TREE PLANTING DETAIL

NOT TO SCALE

B

NOTES:

1. REMOVE BURLAP FROM TOP ONE THIRD OF ROOT BALL.
2. FINISHED GRADE.
3. TAPER SIDE OF PIT.
4. 2" SHREDDED HARDWOOD BARK MULCH.
5. SOIL MIX - 4 PARTS TOPSOIL TO 1 PART ORGANIC MATTER. (SEE SPECIFICATIONS).
6. EXISTING SUB-GRADE.
7. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. PRUNE ONLY AS DIRECTED BY OWNER.



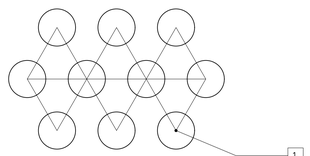
TYPICAL SHRUB MASS PLANTING

NOT TO SCALE

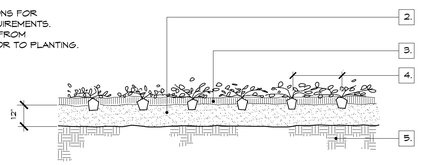
C

NOTES:

1. TRIANGULATE PERENNIALS IN MASS PLANTINGS UNLESS OTHERWISE NOTED.
2. SOIL MIX - 4 PARTS TOPSOIL TO 1 PART ORGANIC MATTER (SEE SPECIFICATIONS).
3. 2" SHREDDED HARDWOOD BARK MULCH.
4. DISTANCE VARIES (SEE LANDSCAPE PLAN).
5. EXISTING SUB-GRADE.
6. PLANTING BED SHALL BE TILLED AND AMENDED TO A DEPTH OF 12" PRIOR TO PLANT INSTALLATION.
7. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. REMOVE PLANTS FROM CONTAINERS PRIOR TO PLANTING.



TYPICAL GROUND COVER/PERENNIAL PLAN.
N.T.S.



TYPICAL GROUND COVER/PERENNIAL PLANTING

NOT TO SCALE

D

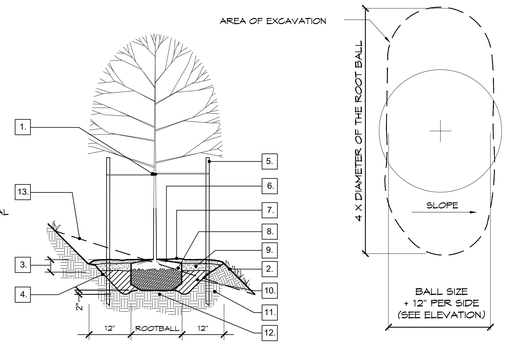
NOTES:

1. COMMERCIAL GRADE POLYPROPYLENE TREE STRAP. (NO WIRES PERMITTED)
2. FINISHED GRADE.
3. ONE THIRD DEPTH OF ROOTBALL.
4. TAPER SIDE OF TREE PIT.
5. 2"X2"X8' UNTREATED WOOD STAKE.
6. SET TOP OF ROOT BALL 2" HIGHER THAN FINISHED GRADE.
7. 2" SHREDDED HARDWOOD BARK MULCH.
8. REMOVE BURLAP FROM TOP ONE THIRD OF ROOT BALL.
9. SOIL MIX - 4 PARTS TOPSOIL TO 1 PART ORGANIC MATTER. (SEE SPECIFICATIONS).
10. BACKFILL W. EX. TOPSOIL (NO STONES >1" DIA.)
11. EXISTING SUB-GRADE.
12. 2" RAISED SUB-GRADE PLATFORM
13. ORIGINAL GRADE
14. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. PRUNE ONLY AS DIRECTED BY OWNER.

STAKING SCHEDULE:

CALIPER	# OF STAKES
< 3"	2 STAKES
> 3"	3 STAKES

* FOR TREES 4" CALIPER OR GREATER, SEE DETAIL B/L5.1 FOR ADDITIONAL TREE PLANTING REQUIREMENTS.



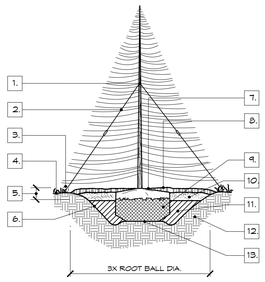
SHADE TREE PLANTING ON SLOPES

NOT TO SCALE

E

NOTES:

1. COMMERCIAL GRADE POLYPROPYLENE TREE STRAP. (NO WIRES PERMITTED)
2. DOUBLE STRAND 12GA. WIRE W. TURNBUCKLE FINISHED GRADE.
3. AUGER TYPE ANCHOR, 24" MIN.
4. FINISHED GRADE.
5. ONE THIRD DEPTH OF ROOTBALL.
6. TAPER SIDE OF TREE PIT.
7. SET TOP OF ROOT BALL 2" HIGHER THAN FINISHED GRADE.
8. 2" SHREDDED HARDWOOD BARK MULCH.
9. REMOVE BURLAP FROM TOP ONE THIRD OF ROOT BALL.
10. SOIL MIX - 4 PARTS TOPSOIL TO 1 PART ORGANIC MATTER. (SEE SPECIFICATIONS).
11. BACKFILL W. EX. TOPSOIL (NO STONES >1" DIA.)
12. EXISTING SUB-GRADE.
13. 2" RAISED SUB-GRADE PLATFORM
14. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. PRUNE ONLY AS DIRECTED BY OWNER.



EVERGREEN TREE PLANTING & GUYING >8' HT.

NOT TO SCALE

F

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SITE LANDSCAPE DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DATE	BY	REVISION DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DESIGNED | DRAWN | REVIEWED | APPROVED

DATE: AUGUST 15, 2025

SCALE: Refer to Plan

SHEET NO. L501

DETAIL NOT USED
N.T.S.

A

DETAIL NOT USED
N.T.S.

B

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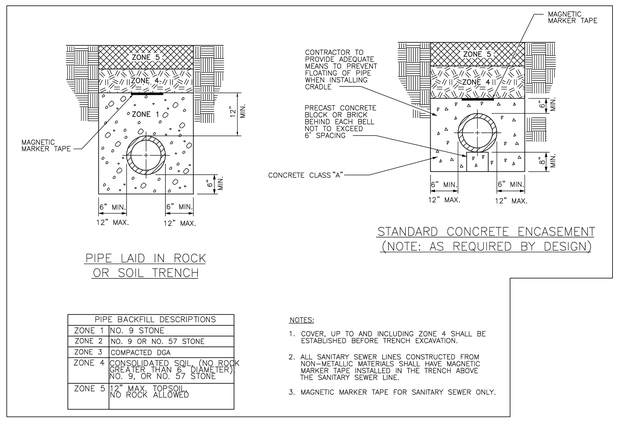
N.T.S.

C



PIPE LAID IN ROCK OR SOIL TRENCH

STANDARD CONCRETE ENCASEMENT (NOTE: AS REQUIRED BY DESIGN)

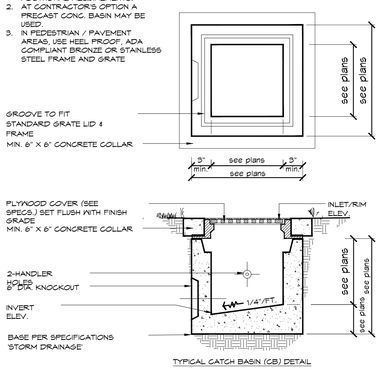
PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SOIL, (NO ROCK GREATER THAN 8" DIAMETER) NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL NO ROCK ALLOWED

NOTES:
1. COVER, UP TO AND INCLUDING ZONE 4, SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
2. ALL SANITARY SEWER LINES CONSTRUCTED FROM NON-METALLIC MATERIALS SHALL HAVE MAGNETIC MARKER TAPE INSTALLED IN THE TRENCH ABOVE THE SANITARY SEWER LINE.
3. MAGNETIC MARKER TAPE FOR SANITARY SEWER ONLY.

TYPICAL BEDDING FOR STORM PIPE
N.T.S.

D

NOTE:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. AT CONTRACTOR'S OPTION A PRECAST CONC. BASIN MAY BE USED.
3. IN PEDESTRIAN / PAVEMENT AREAS, USE HEEL PROOF, ADA COMPLIANT BRONZE OR STAINLESS STEEL FRAME AND GRATE

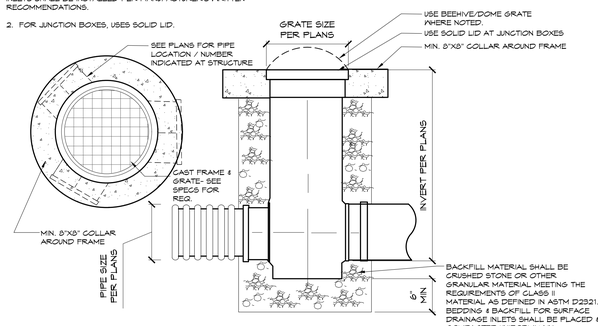


TYPICAL CATCH BASIN (CB) DETAIL

CONCRETE CATCH BASIN
NOT TO SCALE

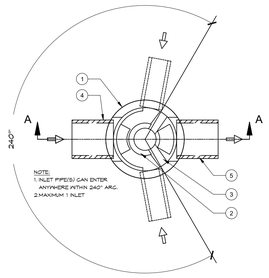
E

NOTES:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. ALL INLETS SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN RECOMMENDATIONS.
2. FOR JUNCTION BOXES, USES SOLID LID.



YARD INLET
N.T.S.

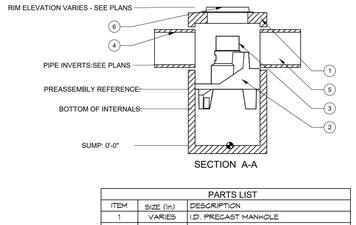
F



NOTE:
1. INLET PIPE(S) CAN ENTER ANYWHERE WITHIN 240° ARC.
2. MAXIMUM 1 INLET

CAPACITIES:

1. PEAK TREATMENT FLOW (WQU 2.40 CFS @ 80% TSS REMOVAL PER CITY OF INDIANAPOLIS STORMWATER QUALITY UNIT (SQU) SELECTION GUIDE AND NJDEP
2. SEDIMENT STORAGE CAPACITY: PER LOCAL REQUIREMENTS
3. OIL STORAGE CAPACITY: PER LOCAL REQUIREMENTS
4. MAXIMUM INLET/OUTLET PIPE DIAMETERS: 24 IN. (600 MM)



SECTION A-A

PARTS LIST		
ITEM	SIZE (in)	DESCRIPTION
1	VARIES	I.D. PRECAST MANHOLE
2		INTERNAL COMPONENTS (PRE-INSTALLED)
3		SEPARATION MODULE
4	PER PLANS	INLET PIPE (BY OTHERS)
5	PER PLANS	OUTLET PIPE (BY OTHERS)
6	30	FRAME AND COVER (OR GRATE) (ROUND)

BASIS OF DESIGN:
HYDRO INTERNATIONAL FIRST DEFENSE HIGH CAPACITY.
REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

GENERAL NOTES:

1. GENERAL ARRANGEMENT DRAWINGS ONLY.
2. THE DIAMETER OF THE INLET & OUTLET PIPES MAY BE NO MORE THAN 24".
3. INLET/OUTLET PIPE ANGLE CAN VARY TO ALIGN WITH DRAINAGE NETWORK (REFER TO PROJECT PLANS).
4. PEAK FLOW RATE AND MINIMUM HEIGHT LIMITED BY AVAILABLE COVER AND PIPE DIAMETER.
5. LARGER SEDIMENT STORAGE CAPACITY MAY BE PROVIDED WITH A DEEPER SUMP DEPTH.

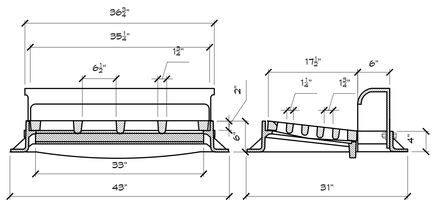
PRODUCT SPECIFICATIONS:

THE TREATMENT SYSTEM SHALL FIT WITHIN THE LIMITS OF EXCAVATION (AREA AND DEPTH) AS SHOWN IN THE PROJECT PLANS.
THE TREATMENT SYSTEM SHALL BE CAPABLE OF CAPTURING AND RETAINING FINE SILT AND SAND SIZE PARTICLES. ANALYSIS OF CAPTURED SEDIMENT FROM FULL-SCALE FIELD INSTALLATIONS SHALL DEMONSTRATE PARTICLE SIZES PREDOMINATELY IN THE 20-MICRON RANGE

WATER QUALITY UNIT- TYP
N.T.S.

REFER TO GRADING AND DRAINAGE PLAN L300 AND L301

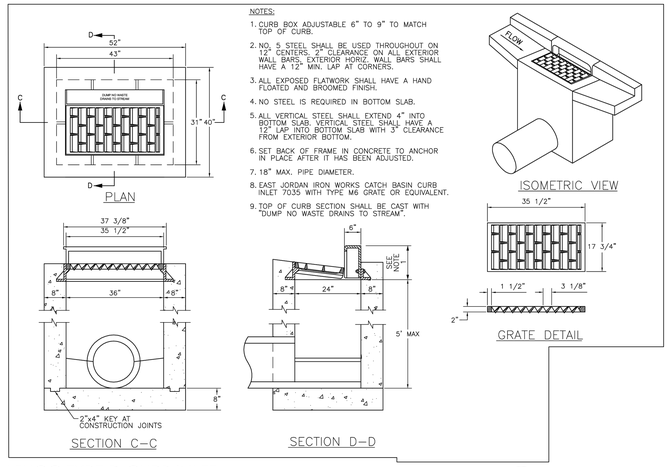
G



CURB INLET (C.I.) (GRATE ONLY)
N.T.S.

H

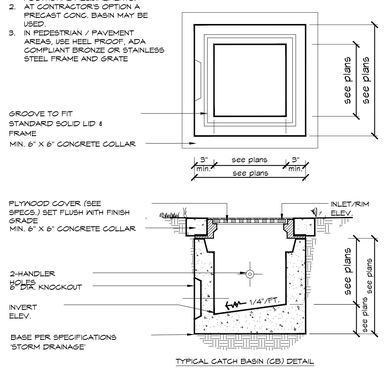
NOTES:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. CURB BOX ADJUSTABLE 6" TO 9" TO MATCH TOP OF CURB.
3. NO. 5 STEEL SHALL BE USED THROUGHOUT ON 12" CENTERS. 2" CLEARANCE ON ALL EXTERIOR WALL BARS. EXTERIOR HORIZ. WALL BARS SHALL HAVE A 12" MIN. LAP AT CORNERS.
4. ALL EXPOSED FLATWORK SHALL HAVE A HAND FLOATED AND BROOMED FINISH.
5. NO STEEL IS REQUIRED IN BOTTOM SLAB.
6. ALL VERTICAL STEEL SHALL EXTEND 4" INTO BOTTOM SLAB. VERTICAL STEEL SHALL HAVE A 12" LAP INTO BOTTOM SLAB WITH 3" CLEARANCE FROM EXTERIOR BOTTOM.
7. SET BACK OF FRAME IN CONCRETE TO ANCHOR IN PLACE AFTER IT HAS BEEN ADJUSTED.
8. 18" MAX. PIPE DIAMETER.
9. EAST JORDAN IRON WORKS CATCH BASIN CURB INLET 7035 WITH TYPE M6 GRATE OR EQUIVALENT.
10. TOP OF CURB SECTION SHALL BE CAST WITH "DUMP NO WASTE DRAINS TO STREAM".



LFUCG TYPE D CURB INLET
N.T.S.

I

NOTE:
1. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. AT CONTRACTOR'S OPTION A PRECAST CONC. BASIN MAY BE USED
3. IN PEDESTRIAN / PAVEMENT AREAS, USE HEEL PROOF, ADA COMPLIANT BRONZE OR STAINLESS STEEL FRAME AND GRATE



TYPICAL CATCH BASIN (CB) DETAIL

CONCRETE JUNCTION BOX
NOT TO SCALE

J

STATE OF KENTUCKY
R. DEREK MOTSCH
26439
LICENSED PROFESSIONAL ENGINEER

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p 859.396.4233
www.elementdesign.com

SITE DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DATE:	BY	REVISION DESCRIPTION:

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

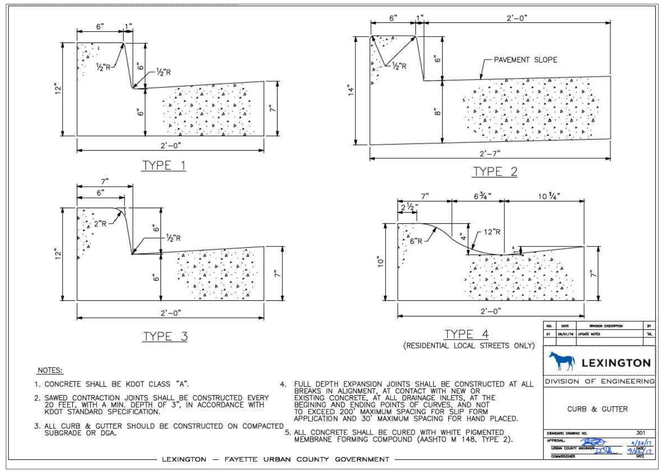
SCALE CHECK

DESIGNED:
DRAWN:
REVIEWED:
APPROVED:

DATE:
AUGUST 15, 2025

SCALE:
Refer to Plan

SHEET NO.
L600



CIP CONCRETE CURB LFUCG STANDARD DRAWING 301 (A)
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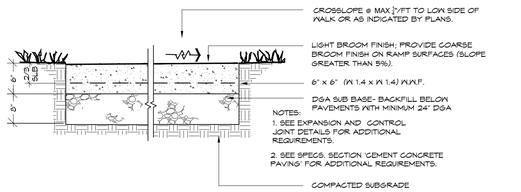

LIGHT DUTY CONCRETE PAVEMENT (B)
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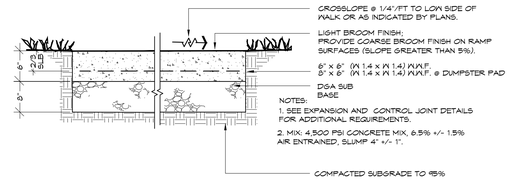
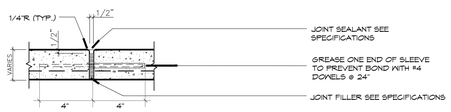


HEAVY DUTY CONCRETE PAVEMENT (C)
N.T.S.

TOOLED CONTROL JOINT (D)
N.T.S.



EXPANSION JOINT AT CONC. PAVEMENT (E)
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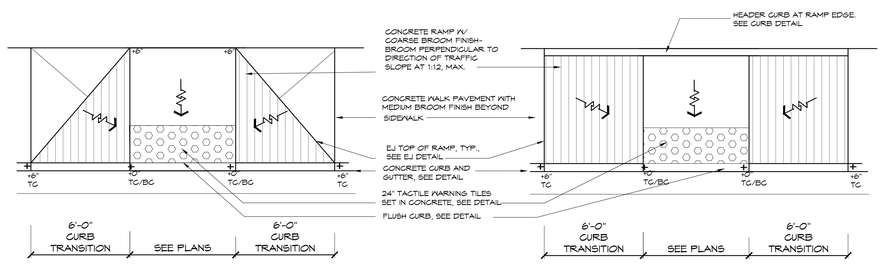

ACCESSIBLE CURB RAMP TYPES 1 & 2 (F)
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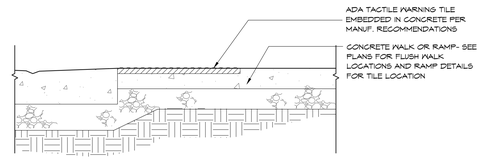
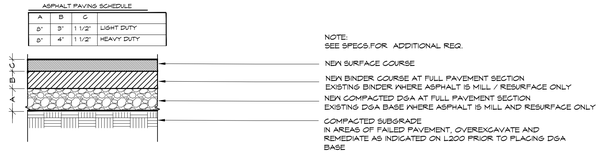
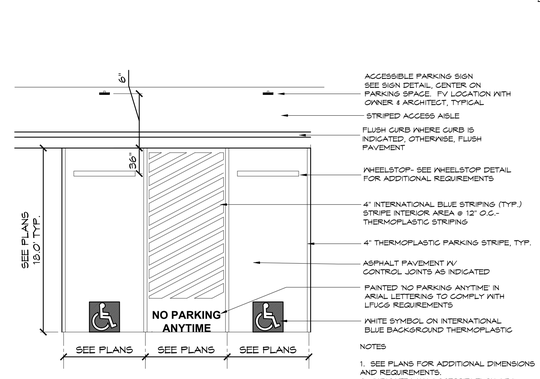


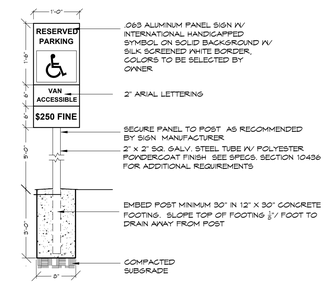
TACTILE WARNING TILE SET IN CONCRETE (G)
N.T.S.



ASPHALT PAVEMENT SECTION (H)
N.T.S.



ACCESSIBLE PARKING SPACES (I)
N.T.S.



ACCESSIBLE PARKING SPACE & PARKING SIGN (J)
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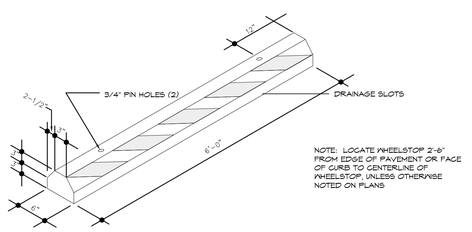

RECYCLED RUBBER WHEELSTOP (L)
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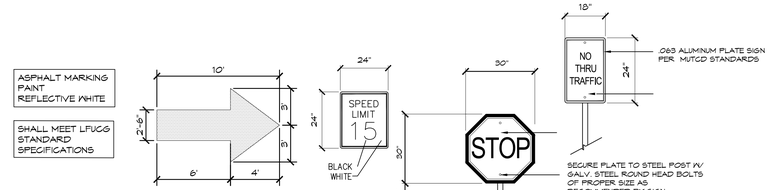

THERMOPLASTIC STRIPING & STOP BAR (M)
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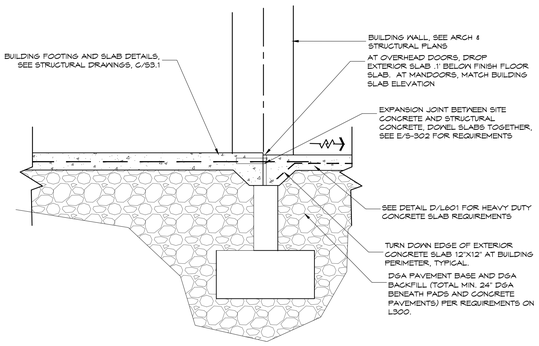

EXTERIOR SLAB TURNDOWN @ BUILDING SLAB (N)
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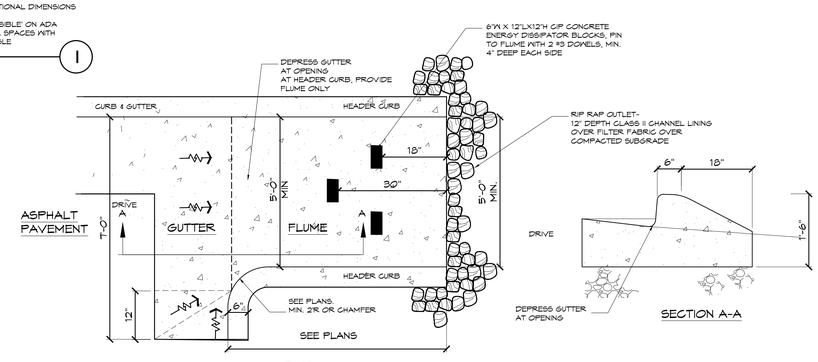
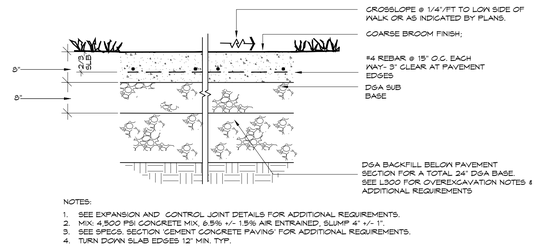


CURB CUT FOR DRAINAGE FLUME (O)
N.T.S.



HEAVY DUTY CONCRETE BUILDING APRON PAVEMENT (P)
N.T.S.

CONSTRUCTION DOCUMENTS

SITE DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

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GRW PROJECT NO. 0000-00
CLIENT PROJECT NO. 0000-00

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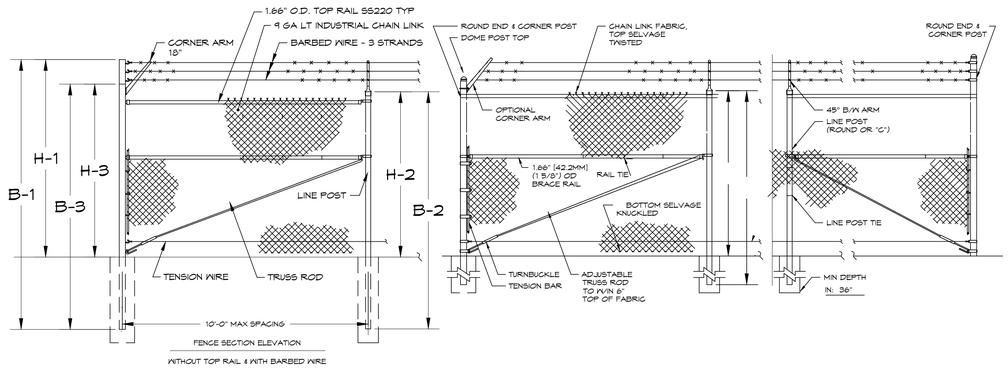
DESIGNED
DRAWN
REVIEWED
APPROVED
REVISIONS
NO. REVISION DESCRIPTION DATE BY
THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: Refer to Plan
SHEET NO. L601

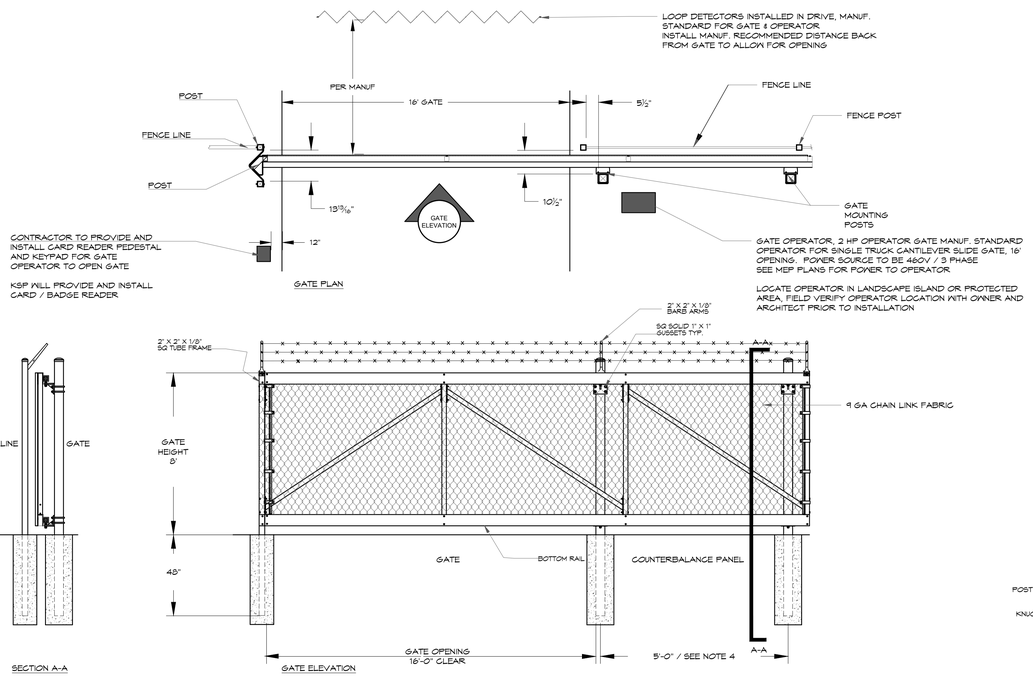


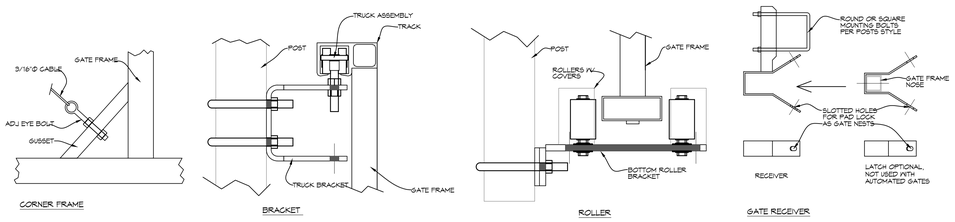
NOTE:
1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FINAL FOOTING DEPTH AND WIDTH PER MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR GIVEN FENCE HEIGHT.
3. EXTEND FABRIC TO WITHIN 2" OF FINISH GRADE.

FENCE HEIGHT	UPRIGHT END & CORNER POSTS		LINE POSTS		CORNER POSTS WITH CORNER ARM	
NOM HT INCLUDING BARBED WIRE	B-1 BAR LENGTH	H-1 HEIGHT ABOVE GRADE	B-2 BAR LENGTH	H-2 HEIGHT ABOVE GRADE	B-3 BAR LENGTH	H-3 HEIGHT ABOVE GRADE
8'-0" [2438MM]	11'-0" [3353MM]	8'-0 5/8" [2454MM]	9'-8" [2946MM]	8'-5 7/8" [2564MM]	10'-0" [3048MM]	7'-0 5/8" [2150MM]

8' GALVANIZED LIGHT INDUSTRIAL CHAIN LINK FENCE WITH BARBED WIRE

N.T.S. A



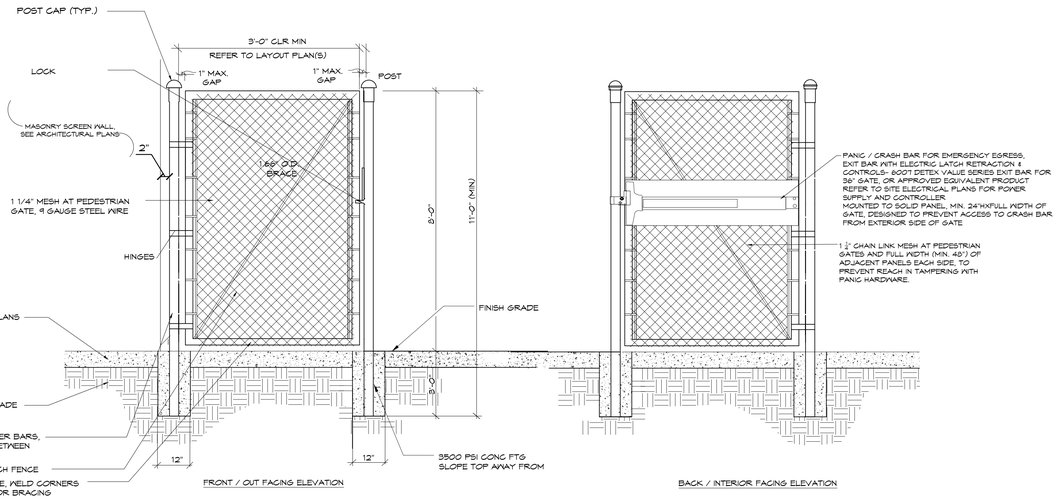


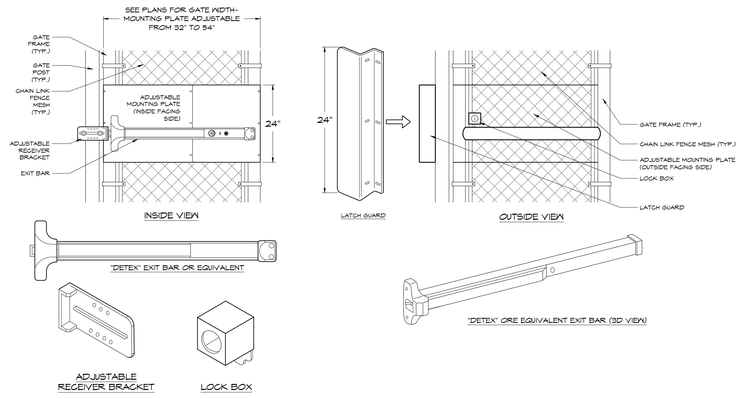
NOTES:

1. INSTALL GATE PER MANUFACTURER'S INSTRUCTIONS. FIELD VERIFY ALL MEASUREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. INSTALL MANUFACTURER'S STANDARD GATE OPERATOR FOR SLIDE GATE, OPENING 16', 2 HP WITH BATTERY BACKUP AND EMERGENCY EXIT.
3. MINIMUM GAP BETWEEN FINISHED GRADE AND BOTTOM OF GATE SHALL BE 2" AND MAXIMUM GAP BETWEEN FINISHED GRADE AND BOTTOM OF GATE SHALL BE 5"

8' GALVANIZED CHAIN LINK SLIDE GATE WITH BARBED WIRE

N.T.S. B



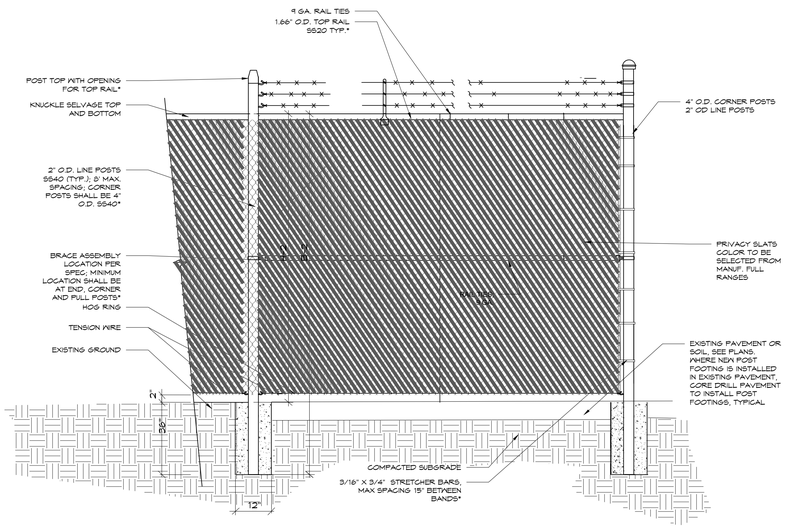


NOTES:

1. ALL FRAMEWORK SHALL BE GALVANIZED STEEL PIPE.
2. INSTALL BRACE ASSEMBLY AT ALL GATE, CORNER AND TERMINAL POSTS.
3. SET POST IN CONCRETE PIER. FOOTING WIDTH TO BE (4)X POST WIDTH. MINIMUM DEPTH 36".
4. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. GATES TO BE SINGLE SWING GATE PER LAYOUT PLAN AND SCHEDULE. MANUFACTURER'S STANDARD GATES.
6. COORDINATE GATE HARDWARE WITH DOOR SCHEDULE ON ARCHITECTURAL PLANS / DOOR HARDWARE SCHEDULE. PROVIDE HASP FOR LOCK INDICATED ON HARDWARE SCHEDULE

CHAIN LINK PEDESTRIAN GATE WITH PANIC HARDWARE

N.T.S. C

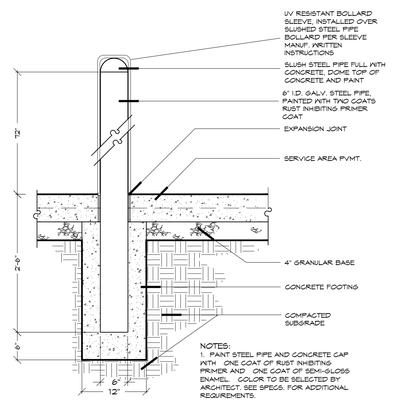


FENCE HEIGHT	END & CORNER POSTS		LINE POSTS	
NOMINAL HEIGHT	B-1 BAR LENGTH	H-1 HEIGHT ABOVE GRADE	B-2 BAR LENGTH	H-2 HEIGHT ABOVE GRADE
8'-0"	11'-0"	8'-0 5/8"	10'-8"	7'-8 7/8"
6'-0"	9'	6'-0 5/8"	8'-8"	5'-8 7/8"
4'-0"	7'	4'-0 5/8"	4'-8"	3'-8 7/8"

NOTES:
1. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. FINAL FOOTING DEPTH AND WIDTH PER MANUFACTURER'S WRITTEN RECOMMENDATIONS FOR GIVEN FENCE HEIGHT.
3. SET POST IN CONCRETE PIER. MINIMUM DEPTH 36".
4. WHERE NEW POST IS INDICATED IN EXISTING PAVEMENT, CORE DRILL PAVEMENT TO SET POST FOOTING.

8' CHAIN LINK FENCE WITH PRIVACY SLATS

N.T.S. D



NOTES:
1. PAINT STEEL PIPE AND CONCRETE CAP WITH ONE COAT OF RUST INHIBITING PRIMER AND ONE COAT OF SEMI-GLOSS ENAMEL. COLOR TO BE SELECTED BY ARCHITECT. SEE SPECS. FOR ADDITIONAL REQUIREMENTS.

TYPICAL STEEL PIPE UTILITY BOLLARD

N.T.S. E

GRW PROJECT NO. 0000-00

CLIENT PROJECT NO. 0000-00

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CONSTRUCTION DOCUMENTS

SITE DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

NO.	REVISIONS REVISION DESCRIPTION	DATE	BY

DESIGNED | DRAWN | REVIEWED | APPROVED | SCALE CHECK

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: Refer to Plan

SHEET NO. L602

00.AB CODE CRITERIA FOR DESIGN

A. THESE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS & CONTRACT DOCUMENTS.

B. THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT SHALL CONFORM TO THE REFERENCED CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITH THE LATEST EDITIONS SHALL APPLY UNLESS NOTED.

C. BUILDING CODE: INTERNATIONAL BUILDING CODE - 2015, INTERNATIONAL EXISTING BUILDING CODE – 2015

D. COUNTY/STATE: FAYETTE / KENTUCKY

E. RISK CATEGORY: II

F. DEAD LOADS

1. ROOFS = 2 PSF
2. COLLATERAL = 2 PSF
3. MISC. MECH/ELEC = XX PSF
4. SOLAR PANELS = 5PSF

G. DESIGN LIVE LOADS

1. ROOF = 20 PSF
2. ROOF LIVE LOAD = 25 PSF MIN
3. CORRIDORS = 80 PSF
4. LOBBY/PUBLIC AREA = 100 PSF
5. OFFICE = 50 PSF
6. STORAGE = 125 PSF
7. MECHANICAL EQUIP RM = XX PSF
8. CRANES = 3 T

H. ROOF SNOW LOAD

1. GROUND SNOW LOAD (p_g) = 15 PSF
2. SNOW EXPOSURE FACTOR (C_e) = 0.9
3. THERMAL FACTOR (C_T) = 1.0
4. SLOPE FACTOR (C_S) = 1.0
5. IMPORTANCE FACTOR (I_S) = 1.0
6. RAIN ON SNOW SURCHARGE (P_{RS}) = 5 PSF
7. FLAT ROOF SNOW LOAD (p_f) = 9.45 PSF
8. SLOPED ROOF SNOW LOAD (p_s) = 9.45 PSF PLUS DRIFTS AS APPLICABLE
9. MINIMUM ROOF SNOW LOAD (p_m) = 15 psf

I. LATERAL LOADS

1. WIND
   a. BASIC WIND SPEED: 115 MPH
   b. EXPOSURE CATEGORY: B
   c. WIND IMPORTANCE FACTOR: Iw = 1.0
   d. NOTE: THE MAIN WIND FORCE RESISTING SYSTEM OF THESE STRUCTURES WERE NOT MODIFIED BY THIS RENOVATION, NOR WERE THE WIND AREAS OR LOADS ON IT INCREASED BY MORE THAN 5%. THEREFORE, WIND DESIGN WAS ONLY PERFORMED ON THE COMPONENTS THAT WERE MODIFIED AND THE OVERALL EXISTING MAIN WIND FORCE RESISITING SYSTEM WAS NOT ANALYZED.
2. SEISMIC
   a. MAPPED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (S_S) = 0.189g
   b. MAPPED 1 SECOND SPECTRAL RESPONSE ACCELERATION (S_1) = 0.091g
   c. DESIGN SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (S_{DS}) = 0.151
   d. DESIGN 1 SECOND SPECTRAL RESPONSE ACCELERATION (S_{D1}) = 0.103
   e. SEISMIC IMPORTANCE FACTOR (I_e) = 1.0
   f. SEISMIC RESPONSE FACTOR (R) = 1.0
   g. SEISMIC COEFFICIENT (C_S) = 1.0
   h. SOIL SITE CLASS: C
   i. SEISMIC DESIGN CATEGORY: B
   j. BASIC SEISMIC FORCE RESISTING SYSTEM: ORDINARY REINFORCED MASONRY SHEAR WALL
   k. DESIGN BASE SHEAR = $W \times C_s$
   l. NOTE: THE MAIN SEISMIC FORCE RESISTING SYSTEM OF THIS STRUCTURE WAS NOT MODIFIED BY THIS RENOVATION, NOR WERE THE SEISMIC LOADS ON IT INCREASED BY MORE THAN 5%. THEREFORE, SEISMIC DESIGN WAS ONLY PERFORMED ON THE COMPONENTS THAT WERE MODIFIED AND THE OVERALL EXISTING MAIN SEISMIC FORCE RESISITING SYSTEM WAS NOT ANALYZED.

J. INFORMATION OF EXISTING CONSTRUCTION, INCLUDING CONSTRUCTION COMPOSITION AND DIMENSIONS, WAS TAKEN FROM OWNER FURNISHED DRAWINGS OF PAST CONSTRUCTION AND SHALL BE FIELD VERIFIED. DEVIATIONS FROM THOSE SHOWN SHALL BE FURNISHED TO THE ARCHITECT AND ENGINEER.

K. ALL CONTRACTOR PROPOSED STRUCTURAL SUBSTITUTIONS, INCLUDING CONCRETE ADDITIVES, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY PERTINENT WORK AND PRIOR TO THE AWARD OF A SUBCONTRACTOR.

L. SHOP DRAWINGS, TEST REPORTS, AND CERTIFICATIONS ARE REQUIRED FOR THE FOLLOWING STRUCTURAL ITEMS:

1. MISCELLANEOUS AND STRUCTURAL STEEL SHOP DRAWINGS
2. CONCRETE MASONRY UNIT CERTIFICATION AND DATA
3. MORTAR CERTIFICATION AND DATA
4. WALL REINFORCING DATA

M. THE SHOP DRAWINGS SPECIFIED BY THE ENGINEER ARE AN INTEGRAL PART OF THE COMPLETE DESIGN. THEY SERVE AS BOTH A CHECK ON THE CONTRACTOR'S INTERPRETATION OF THE ENGINEER'S DRAWINGS AND SPECIFICATIONS AND AS A FINAL CHECK ON THE COORDINATED, DETAILED DESIGN PRIOR TO CONSTRUCTION. THEREFORE, ANY MATERIAL ORDERED OR WORK PERFORMED PRIOR TO THE ENGINEER'S REVIEW AND APPROVAL OF THE SHOP DRAWINGS ARE DONE AT THE CONTRACTOR'S SOLE FINANCIAL RISK. THIS MEANS THAT WHERE DIFFERENCES OF INTERPRETATION EXIST, WORK DONE PRIOR TO THE APPROVAL OF THE SHOP DRAWINGS THAT IS ADJUDGED BY THE ENGINEER TO BE NOT IN CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTORS SOLE EXPENSE. AT A MINIMUM, WHERE REASONABLE ADDITIONS TO THE WORK ARE INDICATED ON THE SHOP DRAWINGS, THE ADDITIONAL COST OF THE REMOVAL AND REWORK THAT WOULD NOT HAVE BEEN REQUIRED HAD THE CONTRACTOR NOT PROCEEDED PRIOR TO SHOP DRAWING APPROVAL SHALL BE AT THE CONTRACTOR'S SOLE EXPENSE.

N. CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.

O. COORDINATION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS TO VERIFY THE LOCATIONS AND SIZES OF ALL CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, AND OTHER PROJECT REQUIREMENTS ARE THE CONTRACTOR'S RESPONSIBILITY. ALL REQUIRED OPENINGS, SLEEVES, OR OTHER COMPONENTS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

P. IMPOSED CONSTRUCTION LOADS, INCLUDING CRANE LOADS, IN EXCESS OF THE STATED DESIGN LOADS MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE IMPOSITION OF SUCH LOADS.

Q. IMPLEMENTING JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

R. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.

01.41.AB SPECIAL INSPECTIONS

A. SPECIAL INSPECTION IS REQUIRED ACCORDING TO CHAPTER 17 OF THE 2015 INTERNATIONAL BUILDING CODE.

B. SPECIAL INSPECTIONS SHALL BE PERFORMED FOR THE FOLLOWING WORK AS REQUIRED IN THE 2015 INTERNATIONAL BUILDING CODE:

1. STEEL CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.02
2. CONCRETE CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.3
3. MASONRY CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.4
4. WOOD CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.5
5. SOILS CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.6
6. DRIVEN DEEP FOUNDATION CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.7
7. CAST-IN-PLACE DEEP FOUNDATION CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.8
8. HELICAL PILE FOUNDATION CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.9
9. FABRICATED ITEMS IN ACCORDANCE WITH SECTION 1705.10
10. THE TYPE AND EXTENT OF EACH TEST AND INSPECTION REQUIRED FOR EACH TYPE OF WORK SHALL BE AS INDICATED IN THE BUILDING CODE AND THE REFERENCES INCORPORATED THEREIN.

C. SPECIAL INSPECTION SERVICES SHALL BE CONTRACTED AND PAID FOR BY THE OWNER.

D. WORK REQUIRING SPECIAL INSPECTION SHALL BE INSPECTED BY THE SPECIAL INSPECTOR FOR CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS. INSPECTION REPORTS INDICATING THE RESULTS OF SPECIAL INSPECTIONS SHALL BE PROMPTLY SUBMITTED TO THE CONTRACTOR, THE ARCHITECT, AND THE STRUCTURAL ENGINEER.

E. ALL SPECIAL INSPECTIONS INDICATING NON-CONFORMING WORK SHALL BE REPORTED IMMEDIATELY TO THE CONTRACTOR, THE ARCHITECT AND THE STRUCTURAL ENGINEER. IMPENDING CONSTRUCTION WORK THAT WOULD IMPEDE ECONOMICAL CORRECTION OF NON-CONFORMING WORK SHALL NOT PROCEED WITHOUT WRITTEN APPROVAL.

F. A FINAL REPORT DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY NON-CONFORMING WORK NOTED IN THE INSPECTIONS SHALL BE SUBMITTED BY THE SPECIAL INSPECTOR AT THE COMPLETION OF THE PROJECT.

G. THE SPECIAL INSPECTION AGENCY SHALL NOT BE ENGAGED BY THE CONTRACTOR FOR OTHER TESTING OR INSPECTION SERVICES ON THIS PROJECT.

H. SPECIAL INSPECTION SHALL BE PERFORMED BY A QUALIFIED INSPECTION AND TESTING AGENCY APPROVED BY THE BUILDING OFFICIAL, THE ARCHITECT, AND THE STRUCTURAL ENGINEER.

01.45.30 STRUCTURAL TESTS & INSPECTIONS

A. STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED FOR THE FOLLOWING WORK AS REQUIRED FOR GENERAL CONFORMANCE WITH THE ADMINISTRATIVE AND PROCEDURAL REQUIREMENTS DETERMINED TO BE NECESSARY BY THE DESIGNATED INSPECTING PROFESSIONAL FOR COMPLIANCE WITH THE KENTUCKY BUILDING CODE, ITS REFERENCED STANDARDS, AND GENERAL ADMINISTRATIVE RULES IN THE STATE OF KENTUCKY:

1. SOILS
2. CONCRETE CONSTRUCTION
3. PRECAST CONCRETE CONSTRUCTION
4. STRUCTURAL STEEL CONSTRUCTION
5. MASONRY CONSTRUCTION
6. COLD-FORMED METAL FRAMING CONSTRUCTION
7. WOOD CONSTRUCTION
8. DRIVEN DEEP FOUNDATION CONSTRUCTION
9. CAST-IN-PLACE DEEP FOUNDATION CONSTRUCTION
10. HELICAL PILE FOUNDATION CONSTRUCTION
11. MICRO PILE FOUNDAITON CONSTRCUTION
12. FABRICATED ITEMS
13. SPRAY-APPLIED FIREPROOFING

B. THE TYPE AND EXTENT OF EACH STRUCTURAL TEST AND INSPECTION REQUIRED FOR EACH TYPE OF WORK SHALL BE AS INDICATED IN THE BUILDING CODE AND THE REFERENCES INCORPORATED THEREIN. REFER TO SPECIFICATION 014530 FOR SPECIFIC TESTING AND INSPECTION REQUIREMENTS FOR THIS STRUCTURE.

02.41 STRUCTURAL DEMOLITION

A. CONTRACTOR SHALL MAINTAIN THE STRUCTURAL INTEGRITY OF THE EXISTING BUILDING AND ITS STRUCTURAL ELEMENTS DURING THE DEMOLITION AND STRUCTURAL ELEMENT MODIFICATION PROCESS.

B. IDENTIFY LOAD BEARING WALLS THAT ARE TO RECEIVE NEW PENETRATIONS AND TEMPORARILY SHORE ADJACENT FLOOR OR ROOF FRAMING WHILE DEMOLITION AND STRUCTURAL ELEMENT MODIFICATION OPERATIONS ARE ONGOING.

C. SHORING SHALL SUPPORT ALL STRUCTURAL ELEMENTS SUPPORTED BY ELEMENTS BEING DEMOLISHED, AND SHALL EXTEND TO THE LOWEST AT GRADE WORKING SURFACE, UNLESS NOTED OTHERWISE ON THE CONSTRUCTION DRAWINGS.

D. SHORING LOADS ON THE AT GRADE WORKING SURFACE SHALL BE DISTRIBUTED SUCH THAT CONCENTRATED LOADS DO NOT CRACK, PUNCH THROUGH, OR CAUSE LOCALIZED SETTLEMENT CONDITIONS UNDER THAT WORKING SURFACE. LOADS CAUSING STRUCTURAL OR COSMETIC DAMAGE TO THE AT GRADE WORKING SURFACE DUE TO SHORING LOADS, MUST BE REPAIRED BY AN APPROVED REPAIRED METHOD.

04 STRUCTURAL MASONRY

A. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES ANDSTANDARDS:

1. "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530-11/ASCE 5-11/TMS 402-11) AND "SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530. 1-11/ASCE 6-11/TMS 602-11).
2. LOAD BEARING CONCRETE MASONRY UNITS: ASTM C90, TYPE I, GRADE N (MIN. COMPRESSIVE STRENGTH ON NET AREA = 1900 PSI) NORMAL (MEDIUM-LIGHT) WEIGHT
3. NON-LOAD BEARING CONCRETE MASONRY UNITS: ASTM C129, TYPE II
4. IVANY OPEN END BLOCK: ASTM C901 (MIN. COMPRESSIVE STRENGTH ON NET AREA = 3000 psi)
5. MORTAR: ASTM C270, TYPE S ABOVE GRADE/BELOW GRADE
6. CONCRETE BUILDING BRICK: ASTM C55, GRADE N (MIN. COMPRESSIVE STRENGTH ON NET AREA = 3500 PSI
7. CMU GROUT: ASTM C476, (MIN. COMPRESSIVE STRENGTH AT 28 DAYS = 2000 PSI)
8. CMU PRISM STRENGTH: F'm = 1500 PSI PER ACI 530/ASCE 5/TMS 402 UNIT STRENGTH METHOD
9. HORIZONTAL JOINT REINFORCING: ASTM A951, HOT DIPPED GALVANIZED
10. PLAIN REINFORCING BARS: ASTM A615, GRADE 60
11. WELDABLE REINFORCING BARS: ASTM A706, GRADE 60

B. CONCRETE MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 530.1 "SPECIFICATIONS FOR MASONRY STRUCTURES".

C. INSTALLATION DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BY THE STRUCTURAL ENGINEER. THE INSTALLATION DRAWINGS SHALL INDICATE:

1. THE MATERIALS USED, THEIR SPECIFICATIONS, AND THEIR DESIGN STRENGTHS.
2. ELEVATIONS OF ALL STRUCTURAL CONCRETE MASONRY WALLS SHOWING THE LAYOUT, INCLUDING OPENINGS AND JOINTS, REINFORCING, ACCESSORIES, BOND BEAMS, LINTELS AND EMBEDDED ITEMS.

D. PRODUCT DATA AND MATERIAL CERTIFICATIONS FOR MASONRY MATERIALS AND ACCESSORIES SHALL BE SUBMITTED FOR APPROVAL IN SHOP DRAWING FORMAT.

E. MORTAR CEMENT SHALL BE PORTLAND-LIME CEMENT. MASONRY CEMENT SHALL NOT BE USED.

F. THE TYPICAL DETAILS ON THE DRAWINGS CONTAIN ADDITIONAL GENERAL MASONRY NOTES AND DETAILS.

G. BEARING WALLS SHALL BE ANCHORED AT INTERSECTIONS BY GALVANIZED STEEL STRAPS 1 1/2" X 1/4" X 24" WITH 2" BEND AT 90 DEGREES EACH END. INSTALL STRAPS INTO GROUTED CORES OF C.M.U. AT 24" MAXIMUM VERTICAL SPACING. DO NOT INSTALL ANCHORS AT CONTROL JOINTS.

H. CORNERS OF LOAD BEARING CONCRETE MASONRY WALLS SHALL BE LAID IN RUNNING BOND.

I. PROVIDE SOLID GROUTED CONCRETE MASONRY AROUND BEARING ENDS OF ALL BEAMS AND JOISTS.

J. NO OPENINGS FOR TRADES SHALL OCCUR IN CONCRETE MASONRY WALLS WITHIN 16 INCHES OF BEAM BEARING CENTERLINES.

K. EMBEDDED ITEM LOCATIONS SHALL BE COORDINATED WITH THE APPROVED SHOP DRAWINGS OF THE TRADES.

L. PROVIDE GALVANIZED HORIZONTAL JOINT REINFORCING IN ALL WALLS AT 16" O.C. PROVIDE ONE-PEICE PREFABRICATED "T" AND "L" SHAPED UNITS AT ALL WALL CORNERS AND INTERSECTIONS.

M. ONLY WELDABLE REINFORCING BARS MAY BE WELDED.

N. CONCRETE MASONRY IS SUPPOSED TO ABSORB WATER FROM MORTAR AND GROUT. DO NOT PLACE OR GROUT WET CONCRETE MASONRY UNITS.

O. WEBS OF MASONRY UNITS FOR PIERS, COLUMNS, PILASTERS, AND THE STARTER COURSE SHALL BE MORTARED. WEBS OF MASONRY UNITS SHALL ALSO BE MORTARED WHERE REQUIRED TO CONFINE GROUT.

P. IN GROUTED AND/OR REINFORCED MASONRY WALLS, USE MASONRY UNITS WITH CORES THAT ALIGN VERTICALLY. PROVIDE CONTINUOUS UNOBSTRUCTED CELLS FOR REINFORCEMENT PLACEMENT AND GROUTING.

Q. SPACES TO BE FILLED WITH GROUT SHALL BE KEPT CLEAN AND FREE FROM PROTRUSIONS OF MASONRY OR MORTAR.

R. ALL CELLS OF BELOW-GRADE CONCRETE MASONRY UNITS SHALL BE GROUTED.

S. THE MAXIMUM GROUT POUR HEIGHT FOR EACH SPECIFIC TYPE AND SIZE OF CONCRETE MASONRY UNIT SHALL NOT EXCEED THE LIMITS SPECIFIED IN ACI 530.1.

T. GROUT POURS SHALL BE CONSOLIDATED ADEQUATELY DURING PLACEMENT BY MECHANICAL VIBRATION IN ACCORDANCE WITH PUBLISHED PRACTICES.

U. PROVIDE VERTICAL MASONRY CONTROL JOINTS AT APPROXIMATELY 20'-0" O.C., AND IN ACCORDANCE WITH RECOMMENDATIONS IN THE "MASONRY DESIGNER'S GUIDE". REFER TO ARCHITECTURAL PLANS FOR LOCATIONS, OR IF NOT SHOWN, COORDINATE LOCATIONS WITH THE ARCHITECT.

V. SPLICE LAP LENGTHS FOR REINFORCING SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, U.N.O. ON THE PLANS:

	BAR SIZE	LAP LENGTH
a.	#3	24"
b.	#4	36"
c.	#5	48"
d.	#6	60"

W. DO NOT EMBED ANY NON-STRUCTURAL ITEMS IN STRUCTURAL MASONRY WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.

X. ALL REINFORCING STEEL SHALL BE PLACED AND TIED IN THE PROPER POSITION AS THE WALLS ARE CONSTRUCTED. LOWERING THE BARS IN FROM THE TOP OF A COMPLETED WALL OR SECTION OF WALL IS NOT ALLOWED.

Y. CONTRACTOR SHALL PROVIDE BRACING AND SUPPORT FOR ALL MASONRY WORK UNTIL PERMANENT ROOF/FLOOR FRAMING IS IN PLACE.

Z. DO NOT APPLY UNIFORM FLOOR OR ROOF LOADS FOR AT LEAST 12 HOURS AND CONCENTRATED LOADS FOR AT LEAST 3 DAYS AFTER BUILDING MASONRY WALLS OR COLUMNS.

05.12 STRUCTURAL STEEL FRAMING

A. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:

B. "MANUAL OF STEEL CONSTRUCTION - AISC 360-10 FOURTEENTH EDITION, 2010, AMERICAN INSTITUTE OF STEEL CONSTRUCTION (INCLUDING SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, AND AISC CODE OF STANDARD PRACTICE).

1. "DETAILING FOR STEEL CONSTRUCTION" AISC 326-09, AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
2. "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, ANSI/AISC 341-05"" AMERICAN INSTITUTE OF STEEL CONSTRUCTIONS.
3. "STRUCTURAL WELDING CODE ANSI/AWS D1.1/D1.1M-2004", AMERICAN WELDING SOCIETY.
4. MEMBER TYPE — SPECIFICATION
   a. W SHAPES — ASTM A992, Fy = 50 KSI
   b. CHANNELS — ASTM A36, Fy = 36 KSI
   c. PLATES — ASTM A572, Fy = 50 KSI
   d. ANGLES — ASTM A36, Fy = 36 KSI
   e. BARS AND RODS — ASTM A36, Fy = 36 KSI
   f. HSS SECTIONS — ASTM A500, GRADE B, Fy = 46 KSI
   g. STRUCTURAL PIPE — ASTM A53, GRADE B, Fy = 35 KSI
   h. THREADED RODS — ASTM A36, Fy = 36 KSI, Fu = 58 KSI
   i. ANCHOR RODS — ASTM F 1554 GR 36, (50), (105)
   j. HIGH-STRENGTH BOLTS FOR 1/2" TO 1", Fu = 105 KSI >1" — ASTM A325-N, Fu = 120 KSI
   k. NUTS — ASTM A563
   l. HEADED SHEAR STUDS — ASTM A108, Fu = 65 KSI
   m. WELDING ELECTRODES — AWS A5.1 OR A5.5 E70XX

C. THE FRAMING SHOWN ON THE COMPLETED DRAWINGS HAS BEEN DESIGNED FOR THE LOADS INDICATED ON THE DRAWINGS. THE FABRICATOR AND ERECTOR ARE SOLELY RESPONSIBLE FOR THE DESIGN OF TEMPORARY BRACING AND RECOMMENDED ERECTION PROCEDURES.

D. THE TYPICAL DETAILS ON THE DRAWINGS CONTAIN ADDITIONAL GENERAL STEEL CONSTRUCTION NOTES AND DETAILS.

E. DESIGN OF ALL STRUCTURAL STEEL CONNECTIONS IS HEREBY DELEGATED. THE DESIGN OF ALL SUCH CONNECTIONS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A LICENSED KENTUCKY PROFESSIONAL ENGINEER QUALIFIED AND EXPERIENCED IN THE DESIGN OF STRUCTURAL STEEL CONNECTIONS.

F. ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS OR WELDS. ALL BOLTS AND NUTS SHALL BE CLEARLY MARKED AS REQUIRED BY AISC SPECIFICATIONS. ALL CONNECTIONS MADE WITH UNMARKED NUTS AND BOLTS WILL BE REJECTED. ALL BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS.

G. THE DESIGN OF ALL STRUCTURAL STEEL CONNECTIONS SHALL BE AS FOLLOWS:

1. ALL CONNECTIONS SHALL CONFORM TO AISC REQUIREMENTS AND SHALL BE DESIGNED FOR THE GREATER OF 50% OF THE MAXIMUM UNIFORM DESIGN LOAD PER AISC TABLES, OR AS INDICATED ON THE DRAWINGS.
2. BRACE MEMBER CONNECTIONS SHALL BE DESIGNED FOR THE FORCES INDICATED ON EACH MEMBER, IF SHOWN.
3. IF BRACE MEMBER FORCES ARE NOT SHOWN, BRACE MEMBER CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL TENSILE YIELD STRENGTH OF THE BRACE MEMBER.
4. CONNECTION DESIGN SHALL BE IN ACCORDANCE WITH PROVISIONS OF THE AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION AND THE AISC MANUAL "DETAILING FOR STEEL CONSTRUCTION".

H. SHOP DRAWINGS AND CONNECTION CALCULATIONS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION OF STRUCTURAL STEEL.

1. SHOP DRAWINGS SHALL CONTAIN ERECTION DRAWINGS AND DETAIL DRAWINGS.
2. ERECTION DRAWING SHALL SHOW THE LAYOUT AND PIECEMARK OF ALL STRUCTURAL STEEL MEMBERS AND ALL CONNECTIONS OF STRUCTURAL STEEL. SHOP-MADE AND FIELD-MADE CONNECTIONS SHALL BE INDICATED ON THE ERECTION DRAWINGS. ERECTION DRAWINGS SHALL INCLUDE SETTING DRAWINGS FOR ALL ANCHORAGES FOR STRUCTURAL STEEL.
3. CONNECTIONS BETWEEN STRUCTURAL STEEL AND STEEL JOIST FRAMING SHALL BE COORDINATED ON THE STRUCTURAL STEEL ERECTION DRAWINGS.
4. THE ERECTION DRAWINGS SHALL BEAR THE SEAL OF THE LICENSED ENGINEER UNDER WHOSE SUPERVISION THE CONNECTIONS WERE DESIGNED.
5. DETAIL DRAWINGS SHALL SHOW THE DIMENSIONS OF EACH PIECE INCLUDING THE DIMENSIONS OF ALL HOLES, SLOTS, COPES, CUTS ETC.
6. WHERE PIECES ARE SHIPPED AS ASSEMBLIES, THE ASSEMBLIES SHALL BE DETAILED SHOWING CONNECTIONS BETWEEN THE INDIVIDUAL PIECES. WELDS AND BOLTS SHALL BE INDICATED FOR ALL CONNECTIONS.
7. DETAIL DRAWINGS SHALL SHOW THE TYPE AND EXTENT OF PRIME PAINTING FOR EACH PIECE AND/OR ASSEMBLY.
8. CONNECTION DESIGN CALCULATIONS SHALL BEAR THE SEAL OF THE LICENSED ENGINEER UNDER WHOSE SUPERVISION THEY WERE PREPARED.

I. GROUT SHALL BE NON-METALLIC, NON-CORROSIVE, NON-SHRINK, NON-STAINING CONFORMING TO ASTM C 1107 WITH A 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI.

J. EXISTING STEEL SHALL NOT BE WELDED UNLESS INDICATED OR APPROVED IN WRITING.

K. ALL SHOP AND FIELD WELDING SHALL BE DONE BY A CERTIFIED WELDER USING QUALIFIED WELDING PROCEDURES.

L. ALL STEEL SURFACES SHALL BE PREPARED ACCORDING TO SSPC SP-3, "POWER TOOL CLEANING" UNLESS NOTED OR REQUIRED OTHERWISE.

M. CUTTING OR BURNING OF STRUCTURAL STEEL IN THE FIELD IS NOT ALLOWED, UNLESS BY WRITTEN APPROVAL BY THE ENGINEER.

N. PAINTING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE PAINTING SPECIFICATIONS. ONE SHOP COAT OF PAINT SHALL BE APPLIED TO ALL STRUCTURAL MEMBERS EXCEPT:

1. MEMBERS ENCASED IN CONCRETE
2. MEMBERS RECEIVING SPRAY FIREPROOFING
3. SURFACES TO BE FIELD WELDED
4. GALVANIZED SURFACES
5. ALL STEEL AT AND BELOW FINISHED GRADE OR FLOOR SLAB SHALL RECEIVE TWO COATS OF BITUMINOUS PAINT OR 3" MINIMUM CONCRETE COVER.
6. STEEL EXPOSED TO VIEW SHALL BE FABRICATED WITH SURFACES THAT ARE TRUE, SMOOTH AND FREE OF BLEMISHES IN ACCORDANCE WITH INDUSTRY STANDARDS. COPES AND CUTS SHALL BE TRUE, SQUARE AND PROPERLY RADIUSED AS INDICATED ON THE SHOP DETAIL DRAWINGS.
7. ALL STEEL LINTELS IN EXTERIOR WALLS SHALL BE GALVANIZED. HOT-DIPPED GALVANIZING OF STRUCTURAL STEEL SHALL CONFORM TO ASTM A123, A153 OR A385 AS APPROPRIATE WHERE GALVANIZING IS INDICATED ON THE PLANS.
8. FOR MISCELLANEOUS STEEL NOT SHOWN ON THESE DRAWINGS, SEE ARCHITECTURAL AND OTHER ENGINEERING DRAWINGS.
9. THE GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE.
10. CONTRACTOR AND ERECTOR ARE RESPONSIBLE FOR COMPLYING WITH ALL OSHA REGULATIONS.

O. SEE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) REQUIREMENTS.

ABBREVIATIONS

&	AND
@	AT
AB	ANCHOR BOLT
ARCH	ARCHITECT/ARCHITECTURAL
BB	BACK TO BACK
BBE	BOTTOM OF BEAM ELEVATION
BDSE	BOTTOM OF DRILLED SHAFT ELEVATION
BKSE	BRICK/BLOCK SEAT ELEVATION
BLDG	BUILDING
BM	BEAM
BOT	BOTTOM
BPE	BOTTOM OF PILE ELEVATION
BRG	BEARING
CJ	CONTROL JOINT
CL	CENTERLINE
CMU	CONCRETE MASONRY UNIT
CONT	CONTINUOUS
COOR	COORDINATE
CS	COLUMN STRIP
CSJ	CONSTRUCTION JOINT
DB	BAR DIAMETER
DBL	DOUBLE
DIA OR Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DND	DO NOT DISTURB
DWL	DOWEL(S)
DWG	DRAWING(S)
DP	DRILLED PIER
DS	DRILLED SHAFT
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EMB	EMBEDMENT
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
FFE	FINISHED FLOOR ELEVATION
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
JBE	JOIST BEARING ELEVATION
JT	JOINT
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MO	MASONRY OPENING
MS	MIDDLE STRIP
NIC	NOT IN CONTRACT
NO OR #	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PC	PILE CAP
±	PLUS OR MINUS
R	RADIUS
REINF	REINFORCEMENT
REQD	REQUIRED
SCHED	SCHEDULE
SER	STRUCTURAL ENGINEER OF RECORD
SHT	SHEET
SIM	SIMILAR
SP	SPACE OR SPACED
SQ	SQUARE
STIFF	STIFFENER
STD	STANDARD
TBE	TOP OF BEAM ELEVATION
TDSE	TOP OF DRILLED SHAFT ELEVATION
TOC	TOP OF COLUMN ELEVATION
TCE	TOP OF CONCRETE ELEVATION
TFE	TOP OF FOOTING ELEVATION
TJE	TOP OF JOIST ELEVATION
TPSCE	TOP OF PILE CAP ELEVATION
TSE	TOP OF SLAB ELEVATION
TWE	TOP OF WALL ELEVATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
W/	WITH
W/O	WITHOUT
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

LEGEND

- ENGINEERED FILL OR UNDISTURBED SOIL
- BEDROCK
- CONCRETE
- GROUT
- CRUSHED STONE
- STEEL
- EXISTING
- LOAD BEARING CMU
- BRICK
- PLYWOOD OR ENGINEERED LUMBER
- PRECAST
- WOOD CROSS SECTION
- DENSE GRADE AGGREGRATE
- NON-LOAD BEARING CMU
- RX WATER STOP
- KEYWAY - 2" x 4" x CONT. (TYP)
- MOMENT CONNECTION
- [XX] # OF EQ SP SHEAR STUDS OVER FULL BM LENGTH.
- DECK SPAN DIRECTION
- (XX) ELEVATION NOTE
- XX PLAN NOTE
- XX REVISION #

MATTHEW W. CRAIG 24118 LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION DOCUMENTS

GRV PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
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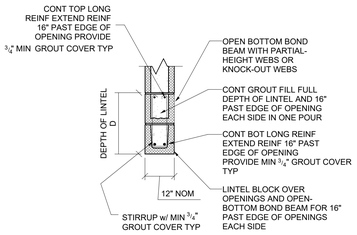
STRUCTURAL GENERAL NOTES

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: MWC
DRAWN: NEK
REVIEWED: MWC
APPROVED: MWC

REVISIONS

| NO. | DESCRIPTION | DATE | BY |



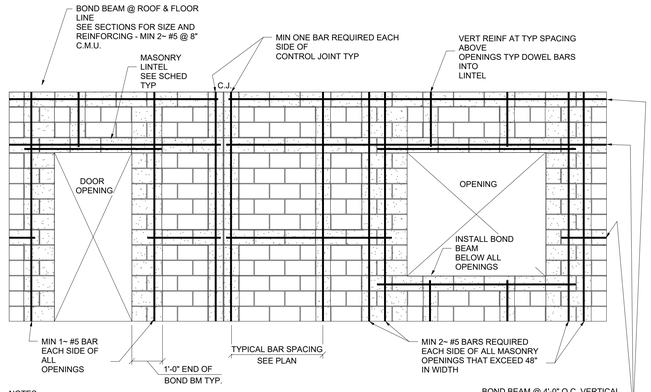
TYPICAL C.M.U. LINTEL DETAIL

MASONRY LINTEL SCHEDULE					
MARK	MAX OPENING SIZE	D	BOTTOM REINF	TOP REINF	STIRRUPS
ML-1	5'-0"	8"	2~#5	NONE	NONE
ML-2	8'-0"	16"	2~#5	NONE	NONE
ML-3	11'-8"	24"	2~#6 (12" C.M.U.)	NONE	NONE
ML-4	18'-0"	40"	4~#6 SQ (12" C.M.U)	2~#5	#3 U-SHAPE 8" O.C

NOTES:

1. IN LIEU OF USING LINTEL BLOCK ON THE BOTTOM OF LINTELS WHICH, REQUIRES SHORING DURING CONSTRUCTION, CONTRACTOR MAY USE PRESTRESSED, PRECAST CONCRETE LINTELS BY "CAST-CRETE" (WWW.CASTCRETE.COM) OR APPROVED EQUAL. SUBMIT PRODUCT DATA AND A PLAN AND SCHEDULE OF LINTEL LOCATIONS AND SIZES FOR APPROVAL FOR THIS OPTION.

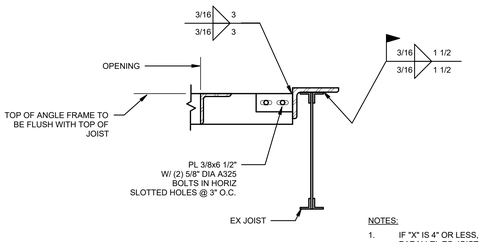
MASONRY LINTEL SCHEDULE



NOTES:

1. MINIMUM VERTICAL WALL REINFORCING SHALL BE #5 @ 2'-0" UNLESS NOTED OTHERWISE.
2. VERTICAL WALL REINFORCING SHALL BE CONTINUOUS.
3. SEE TYPICAL DETAIL FOR DOWELS REQUIRED AT BASE OF WALLS.
4. CENTER REINFORCING BARS IN GROUTED CELLS UNLESS NOTED OTHERWISE.
5. USE BAR POSITIONERS AT MINIMUM 4'-0" SPACING TO SUPPORT REINFORCING BARS.
6. FOLLOW SPECIFIED GROUTING PROCEDURES.
7. CLEAN MORTAR FROM EDGES OF CELLS SO GROUT CAN FLOW SMOOTHLY AND FILL ENTIRE CELL.
8. USE LINTEL BLOCK OVER OPENINGS AND CONTINUE WITH OPEN-BOTTOM BOND BEAM FROM EDGE OF OPENING INTO WALL SO THAT VERTICAL REINFORCING AT JAMB CAN PASS.
9. CONTROL JOINTS SHALL EXTEND FULL HEIGHT OF WALL AND ALIGN FROM FLOOR TO FLOOR.
10. WHERE A CONTROL JOINT OCCURS THROUGH A BOND BEAM OR LINTEL BEARING, PROVIDE 2 ~ 1/2" DOWELS ACROSS JOINT WITH GREASE ON ONE SIDE. DO NOT CONTINUE HORIZONTAL REINFORCING ACROSS CONTROL JOINT.

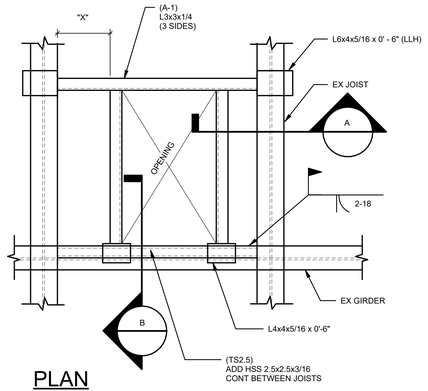
TYPICAL C.M.U. WALL REINFORCEMENT DETAILS



SECTION A

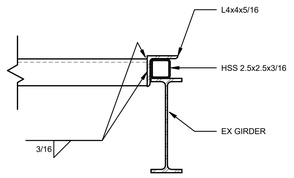
NOTES:

1. IF "X" IS 4" OR LESS, ELIMINATE ANGLE PARALLEL TO JOIST OR BEAM.
2. PROVIDE ANGLE FRAME FOR ALL OPENINGS GREATER THAN 10" DIAMETER OR SQUARE.
3. CONTRACTOR TO VERIFY SIZE AND LOCATION OF ALL OPENINGS. COORDINATE WITH ARCHITECTURAL AND MECHANICAL DWGS.

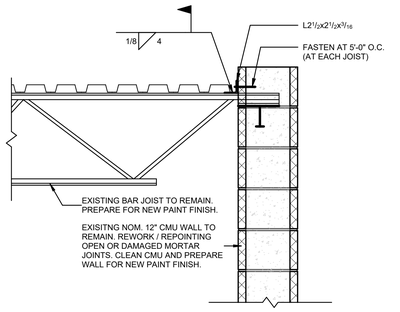


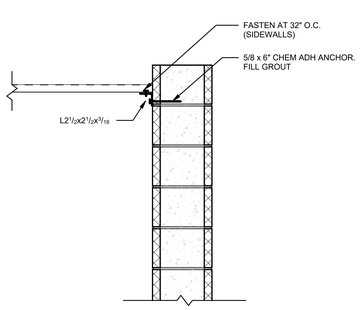
PLAN

TYPICAL ROOF FRAME OPENING DETAIL

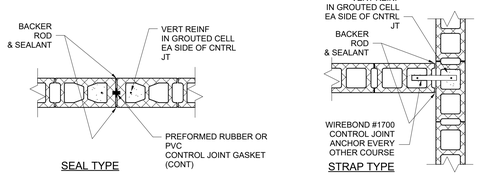


SECTION B





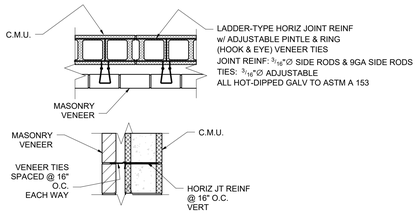
TYPICAL PERIMETER ANGLE DETAILS



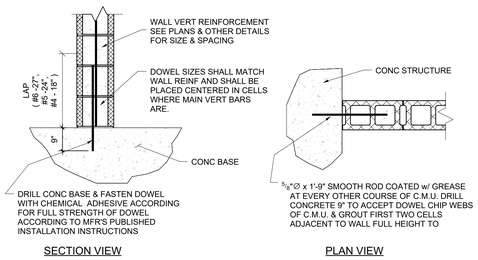
NOTES:

1. ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS.
2. DISCONTINUE HORIZONTAL JOINT REINFORCEMENT AND BOND BEAMS REINFORCEMENT AT CONTROL JOINTS.
3. UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 24 FEET.

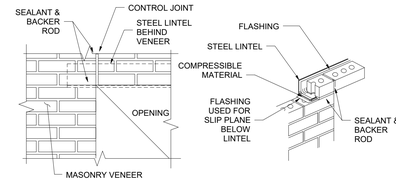
TYPICAL C.M.U. CONTROL JOINT DETAIL



TYPICAL HORIZ JOINT REINF AND VENEER DETAIL



TYPICAL C.M.U. WALL DOWELS DETAIL



LOOSE LINTEL SCHEDULE (FOR MASONRY VENEER)

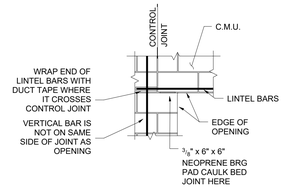
THIS SCHEDULE IS FOR LINTELS OVER MASONRY OPENINGS NOT OTHERWISE SHOWN OR NOTED ON DRAWINGS.

SPAN	ANGLE SIZE	PLAN MARK
UP TO 4'-0"	L3x 3 1/2 x 5/16 LLV	AL-1
UP TO 5'-6"	L4x 3 1/2 x 5/16 LLV	AL-2
UP TO 7'-6"	L5x 3 1/2 x 5/16 LLV	AL-3
UP TO 9'-6"	L6x 3 1/2 x 5/16 LLV	AL-4

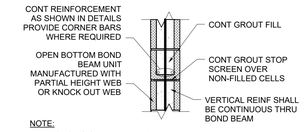
NOTES:

1. PROVIDE ONE ANGLE FOR EACH 4" OF MASONRY WALL.
2. ANGLES EXPOSED TO WEATHER SHALL BE GALVANIZED.
3. MINIMUM BEARING LENGTH SHALL BE 4" EACH END.

TYPICAL MASONRY VENEER LINTEL DETAIL

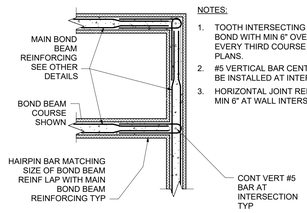


TYPICAL C.M.U. CONTROL JT @ OPENING



NOTE:
REINFORCING SHALL HAVE 3/4" MINIMUM GROUT COVER TO ALL C.M.U. SURFACES.

TYPICAL C.M.U. BOND BEAM DETAIL



NOTES:

1. TOOTH INTERSECTING WALLS TOGETHER IN RUNNING BOND WITH MIN 6" OVERLAP OR USE MASONRY STRAP EVERY THIRD COURSE UNLESS NOTED OTHERWISE ON PLANS.
2. #5 VERTICAL BAR CENTERED IN GROUTED CELL SHALL BE INSTALLED AT INTERSECTION.
3. HORIZONTAL JOINT REINFORCEMENT SHALL BE LAPPED MIN 6" AT WALL INTERSECTION.

TYPICAL MASONRY WALL INTERSECTION DETAIL

MATTHEW W. CRAIG 24118
REGISTERED PROFESSIONAL ENGINEER
STATE OF NORTH CAROLINA
SEAL

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

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TYPICAL STRUCTURAL DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
MWC	NEK	MWC	DRV

NO.	REVISIONS DESCRIPTION	DATE	BY
	REVISIONS		

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: As indicated

SHEET NO.: S-002 01

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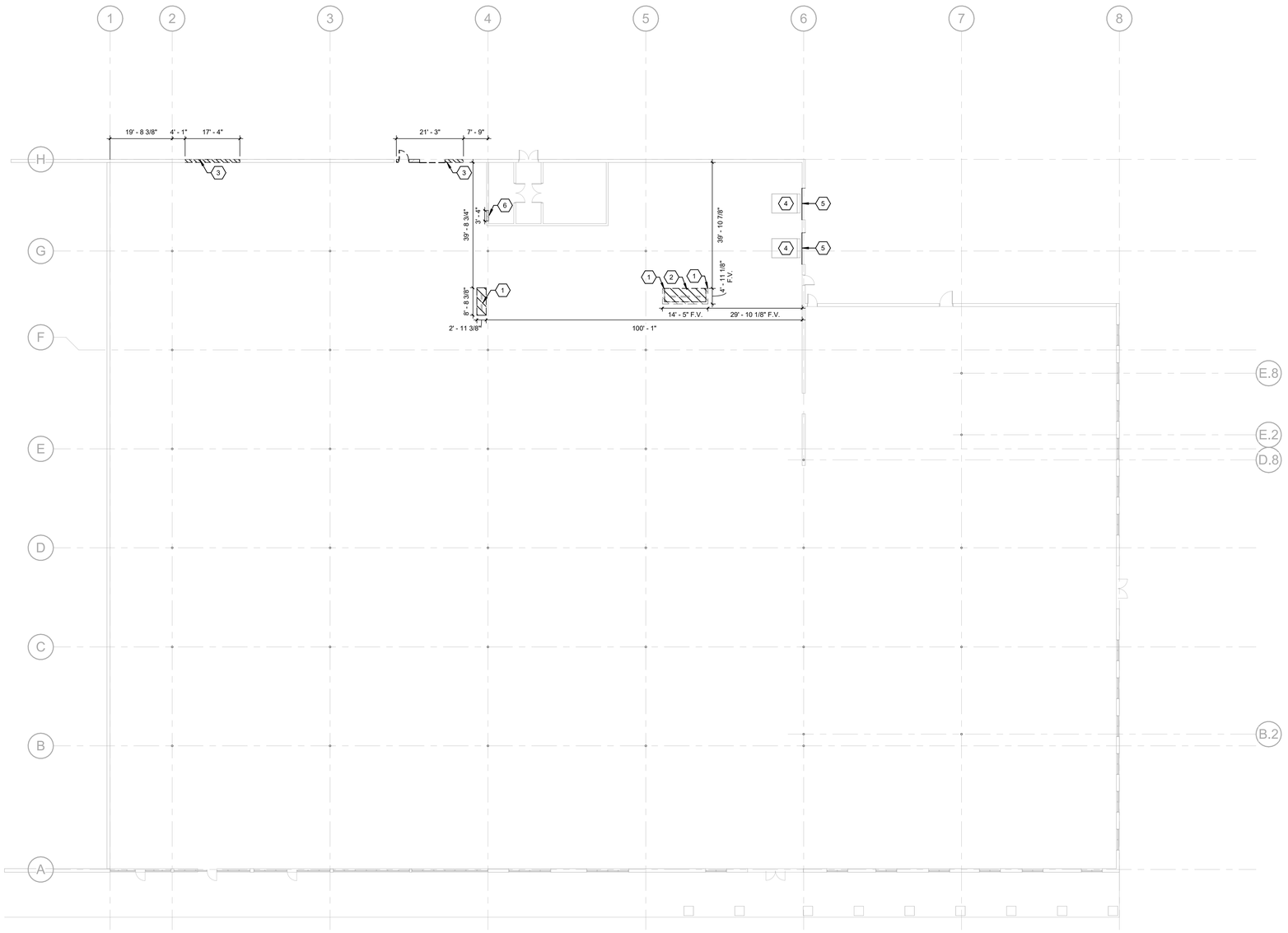


GENERAL NOTES:

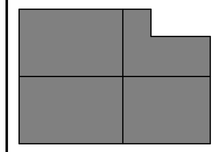
1. ELEMENTS HAVE BEEN DRAWN USING RECORD DOCUMENTS PROVIDED BY THE OWNER. CONTRACTOR IS TO FIELD VERIFY DIMENSIONS.
2. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
3. SEE ARCHITECTURE FOR ADDITIONAL REQUIREMENTS.
4. SEE MEP FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXTENTS OF EXISTING SLAB ON GRADE TO BE DEMOLISHED. PROVIDE RECESS FOR MOP SINK, SEE PLANS AND DETAILS.
2	SELECTIVE DEMOLITION - DEMOLISH EXTENTS OF EXISTING TROUGH DRAIN AND SLAB ON GRADE FOR MOP SINK.
3	SELECTIVE DEMOLITION - EXTENTS OF OPENING TO BE REMOVED. PROVIDE MASONRY LINTEL FOR NEW OPENING, SEE MASONRY DETAILS AND MASONRY LINTEL SCHEDULE. EXISTING MASONRY ABOVE NEW LINTEL MAY BE REMOVED OR REMAIN PER CONTRACTORS OPTION. SEE ARCHITECTURAL PLANS FOR COORDINATION WITH NEW OPENINGS.
4	EXISTING LIFT, SEE ARCHITECTURE.
5	SELECTIVE DEMOLITION - EXISTING DOOR TO BE REMOVED, SEE ARCH.
6	SELECTIVE DEMOLITION - EXTENTS OF MASONRY TO BE REMOVED FOR NEW OPENING. PROVIDE MASONRY LINTEL PER MASONRY LINTEL SCHEDULE. SEE DETAILS.

PLAN NORTH

AREA KEY PLAN



1 FIRST LEVEL - STRUCTURAL DEMOLITION
SCALE: 1/16" = 1'-0"

MATTHEW W. CRAIG 24118 PROFESSIONAL ENGINEER ILLINOIS

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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FIRST LEVEL - STRUCTURAL DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: NEK
REVIEWED: MWC
APPROVED: DRV

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO.: SD101 01

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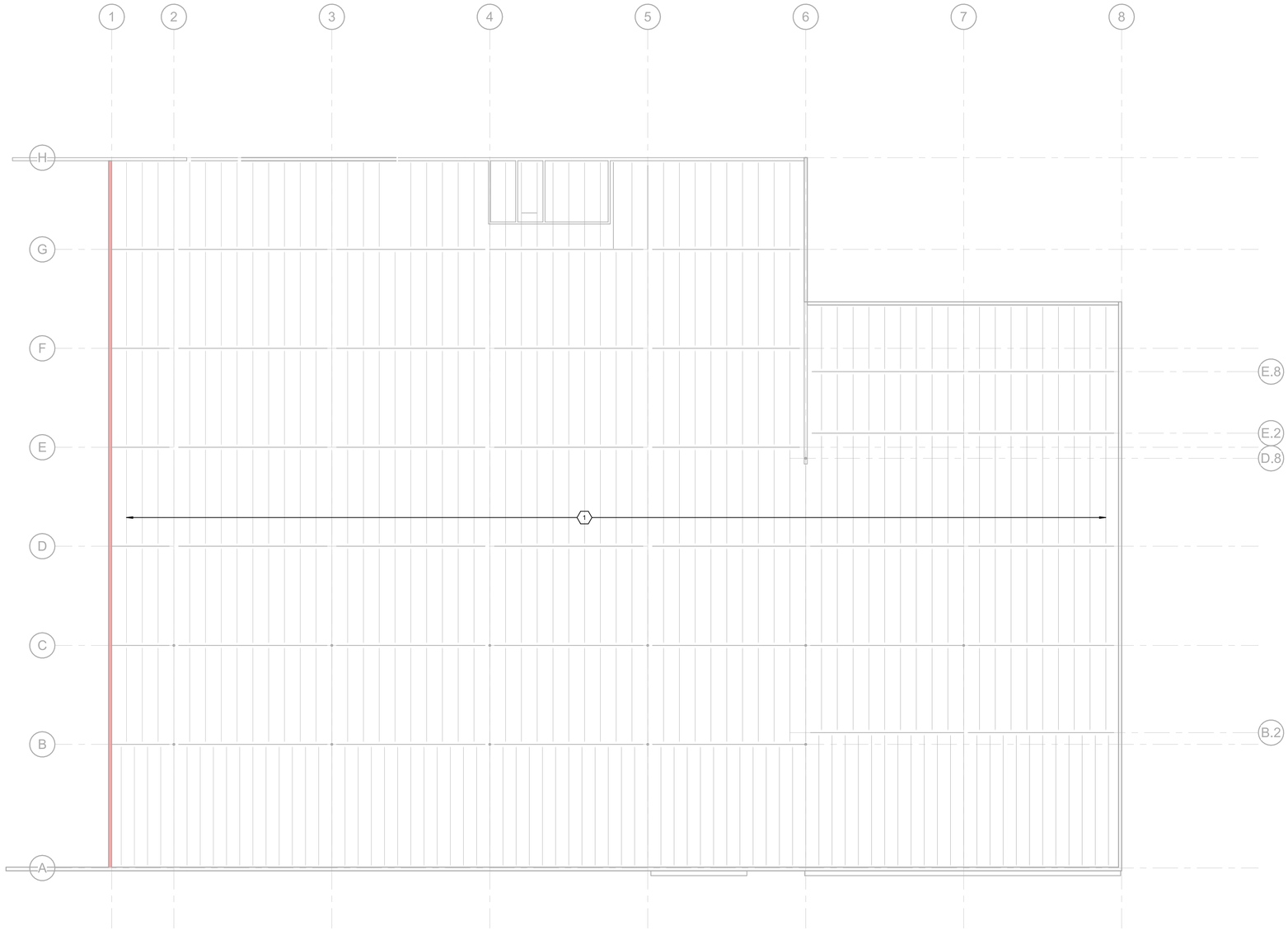
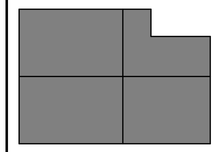


1 ROOF FRAMING - DEMOLITION
SCALE: 1/16" = 1'-0"

PLAN NORTH

AREA KEY PLAN



GENERAL NOTES:

1. ELEMENTS HAVE BEEN DRAWN USING RECORD DOCUMENTS PROVIDED BY THE OWNER. CONTRACTOR IS TO FIELD VERIFY DIMENSIONS.
2. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
3. SEE ARCHITECTURE FOR ADDITIONAL REQUIREMENTS.
4. SEE MEP FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING STRUCTURE. DO NOT DISTURB (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOISTS. SEE SPECS AND TYPCAL DETAILS.)

MATTHEW W. CRAIG 24113 — Licensed PROFESSIONAL ENGINEER — Signature — Date

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CLIENT PROJECT NO. RFB 70-2025

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ROOF FRAMING - DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: NEK
REVIEWED: MWC
APPROVED: DRV

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO.: SD102 01

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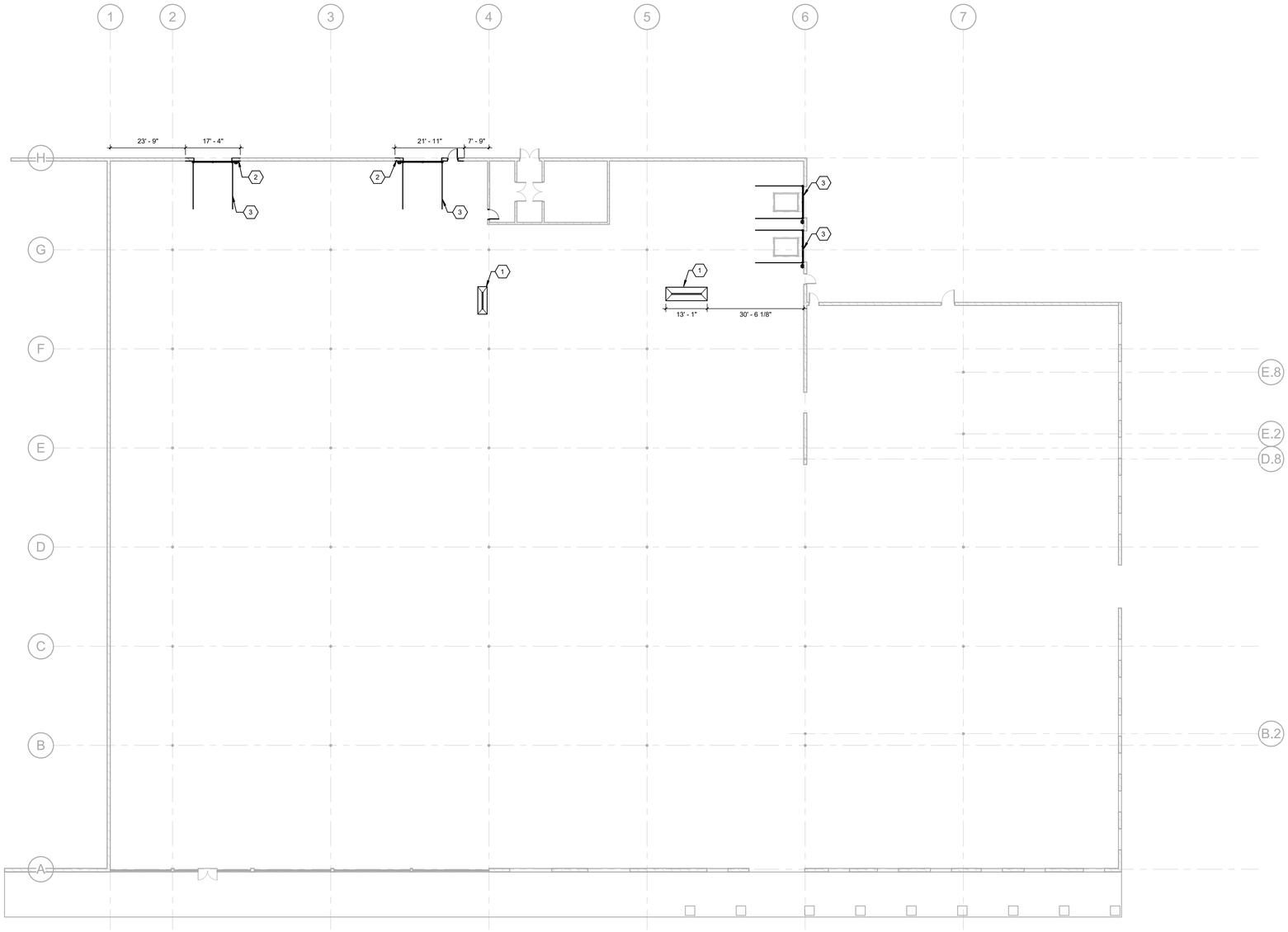


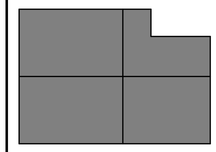
GENERAL NOTES:

1. ELEMENTS HAVE BEEN DRAWN USING RECORD DOCUMENTS PROVIDED BY THE OWNER. CONTRACTOR IS TO FIELD VERIFY DIMENSIONS.
2. SEE ARCHITECTURE FOR COORDINATION OF OPENINGS AND TRENCH DRAINS.
3. SEE MEP FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	SLAB RECESS FOR TROUGH DRAIN. PROVIDE SLOPE TOWARDS DRAIN.
2	SEE ARCHITECTURAL PLANS FOR COORDINATION WITH NEW OPENINGS.
3	SECTIONAL DOOR - SEE ARCH

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - STRUCTURAL PLAN
SCALE: 1/16" = 1'-0"

MATTHEW W. CRAIG 24118
Licensed PROFESSIONAL ENGINEER
STATE OF KENTUCKY

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CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - STRUCTURAL PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	MWC
APPROVED:	DRV

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/16" = 1'-0"

SHEET NO.: SB101 01

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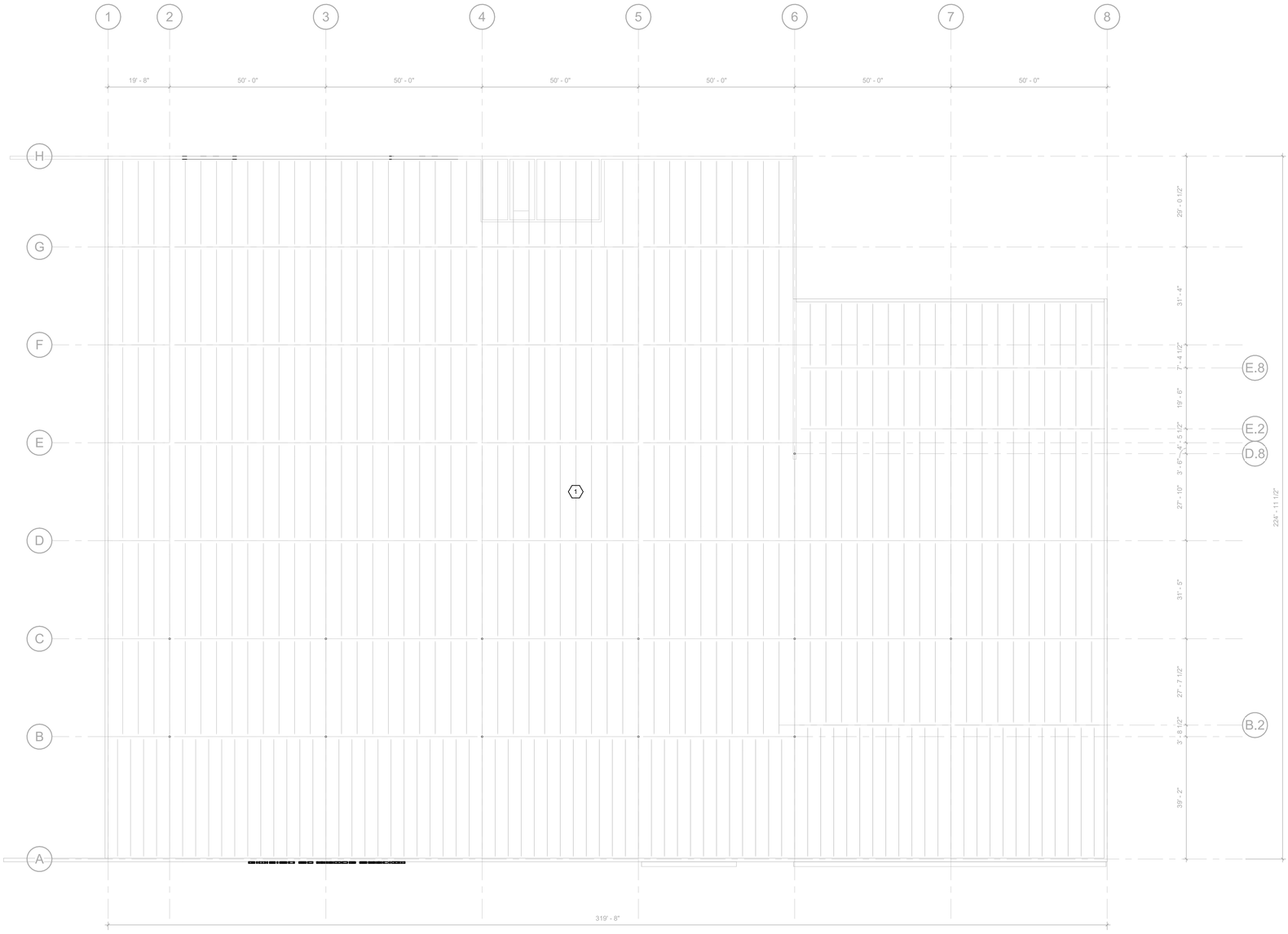


1 ROOF FRAMING PLAN
SCALE: 1/16" = 1'-0"

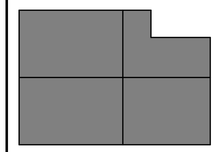
GENERAL NOTES:

1. ELEMENTS HAVE BEEN DRAWN USING RECORD DOCUMENTS PROVIDED BY THE OWNER. CONTRACTOR IS TO FIELD VERIFY DIMENSIONS.
2. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
3. SEE ARCHITECTURE FOR ADDITIONAL REQUIREMENTS.
4. SEE MEP FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING STRUCTURE. DO NOT DISTURB. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOISTS. SEE SPECS AND TYPCAL DETAILS.)

AREA KEY PLAN



PLAN NORTH

MATTHEW W. CRAIG 24113
Licensed PROFESSIONAL ENGINEER

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ROOF FRAMING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: NEK
REVIEWED: MWC
APPROVED: DRV

REVISIONS

NO	DATE	BY
REVISION DESCRIPTION		

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/16" = 1'-0"

SHEET NO.: SE101 01

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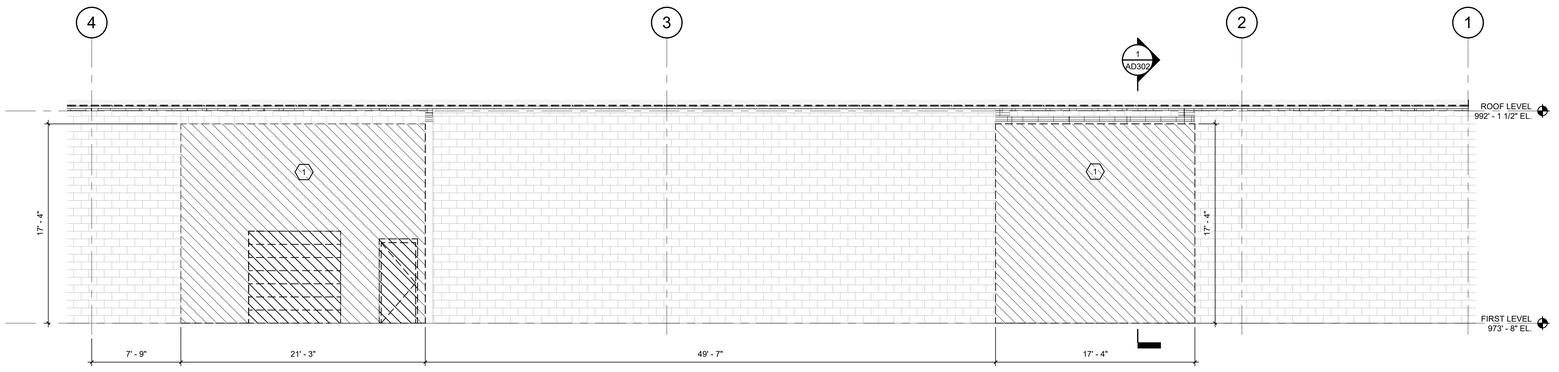
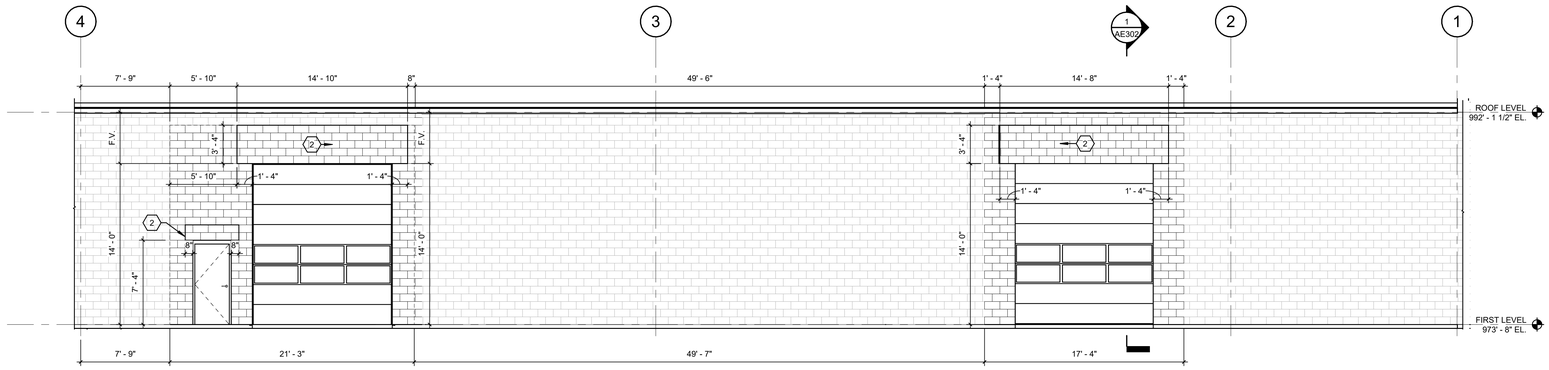


1 ENLARGED ELEVATION - DEMOLITION

SCALE: 3/16" = 1'-0"



2 ENLARGED ELEVATION - PLAN

SCALE: 3/16" = 1'-0"

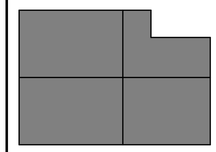
GENERAL NOTES:

1. ELEMENTS HAVE BEEN DRAWN USING RECORD DOCUMENTS PROVIDED BY THE OWNER. CONTRACTOR IS TO FIELD VERIFY DIMENSIONS.
2. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
3. SEE S-002 FOR TYPICAL MASONRY DETAILS AND LINTEL SCHEDULE.
4. SEE ARCHITECTURE FOR ADDITIONAL REQUIREMENTS.
5. SEE MEP FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXTENTS OF OPENING TO BE REMOVED. PROVIDE MASONRY LINTEL FOR NEW OPENING, SEE MASONRY DETAILS AND MASONRY LINTEL SCHEDULE. EXISTING MASONRY ABOVE NEW LINTEL MAY BE REMOVED OR REMAIN PER CONTRACTORS OPTION. SEE ARCHITECTURAL PLANS FOR COORDINATION WITH NEW OPENINGS.
2	PROVIDE MASONRY LINTEL FOR NEW OPENING. SEE MASONRY LINTEL SCHEDULE.

AREA KEY PLAN



MATTHEW W. CRAIG 24118 — Licensed PROFESSIONAL ENGINEER — Signature — Date: 8/15/2025

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ENLARGED ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	MWC
APPROVED:	DRV

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: As indicated

SHEET NO.: SE401 01

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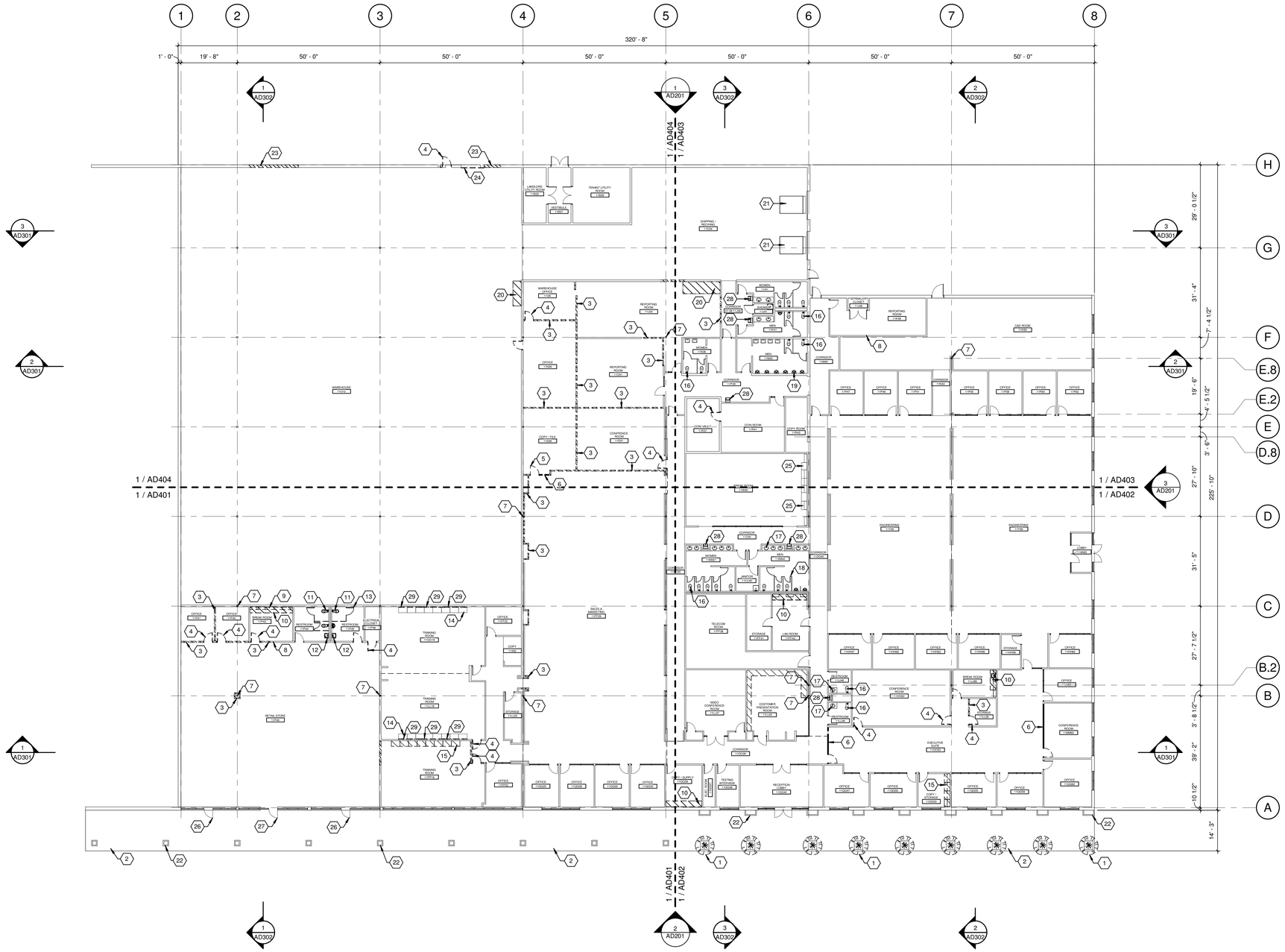
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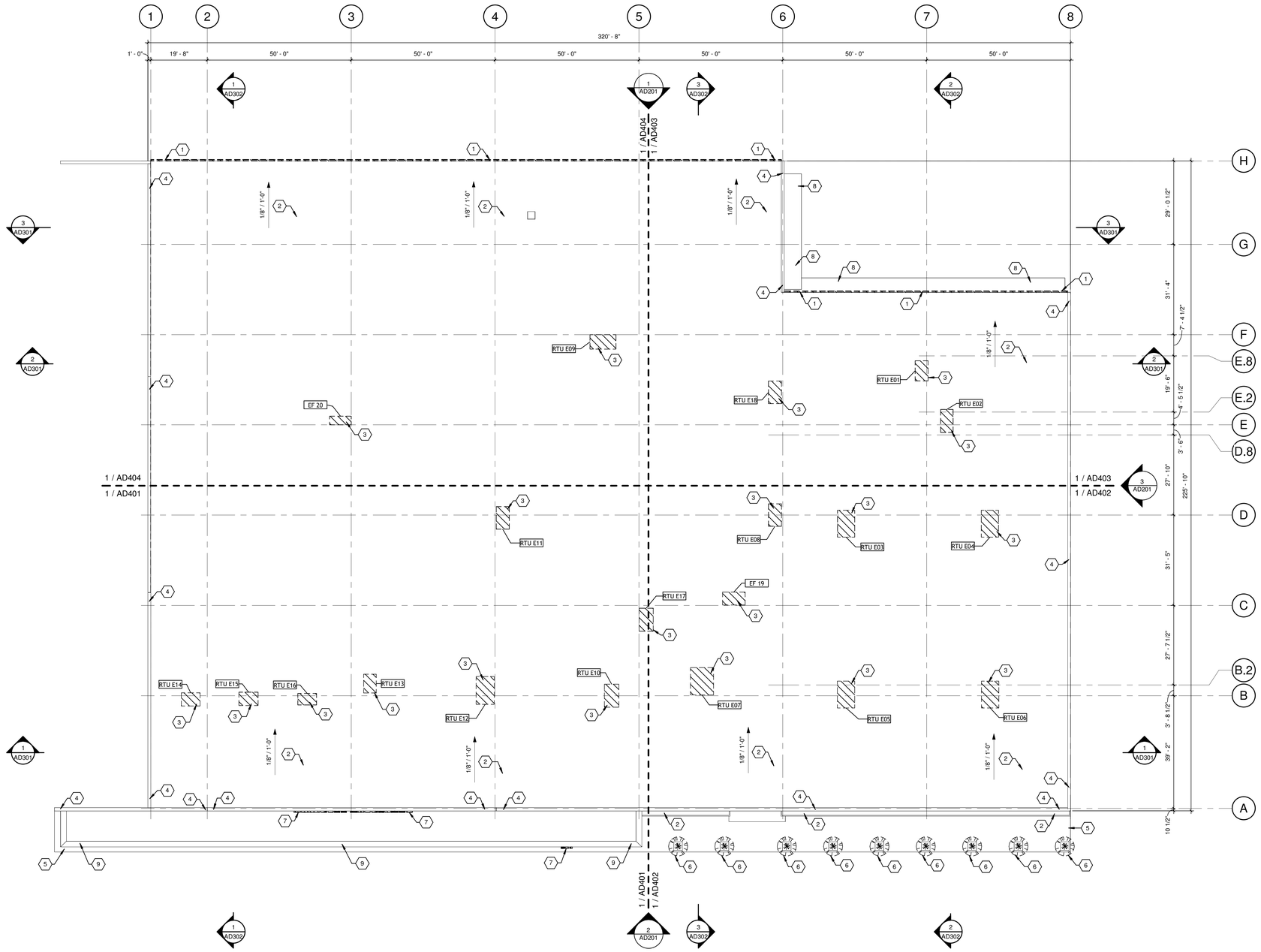

1 ROOF LEVEL - DEMOLITION
SCALE: 1/16" = 1'-0"

GENERAL NOTES:

1. SEE ROOF LEVEL - PLAN FOR ADDITIONAL REQUIREMENTS.
2. SEE AREA OF DETAIL DEMOLITION PLANS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS. SHEETS AD405, AD406, AD407, AD408.
3. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. EXISTING GAS LINES TO RTU ARE NOT SHOWN FOR CLARITY. ALL EXISTING RTU GAS LINES SHALL BE REMOVED WITH EXISTING RTU TO BE REMOVED. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8. EXISTING GAS LINE SERVING ADJACENT OCCUPIED BUILDING SHALL BE REMOVED AND REPLACED IN COORDINATION WITH NEW ROOF INSTALLATION. COORDINATE UTILITY INTERRUPTION WITH ADJACENT OCCUPIED BUILDING THROUGH THE OWNER / ARCHITECT
9. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
10. REMOVE ALL EXISTING ROOFTOP EQUIPMENT, CURBS, MECHANICAL CURBS RAILS SATELLITE DISHES NOT SCHEDULED TO BE REUSED. SEE MECHANICAL PLANS FOR ADDITIONAL COORDINATION / REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING GUTTER TO BE REMOVED. PREPARE FOR NEW GUTTER.
2	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
3	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXISTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
4	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
5	EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL/LANDSCAPE PLANS.
6	EXISTING TREE TO BE REMOVED. SEE SITE LANDSCAPE PLAN.
7	SELECTIVE DEMOLITION - EXISTING SIGNAGE TO BE REMOVED. PREAPRE AREA FOR NEW SIGNAGE.
8	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
9	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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AREA KEY PLAN

PLAN NORTH

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

ROOF LEVEL - DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO. AD102 01

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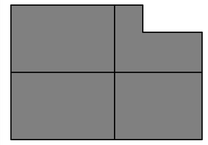
GENERAL NOTES:

1. SEE AREA OF DETAIL DEMOLITION PLANS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS. SHEETS AD409, AD410, AD411, AD412.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING 2X4 ACOUSTICAL PANEL CEILING TO BE REMOVED.
2	SELECTIVE DEMOLITION - EXISTING LIGHT FIXTURE TO BE REMOVED. SEE ELECTRICAL PLANS.
3	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
4	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
5	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
6	SALVAGE - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE SALVAGED. USE EXISTING 2X2 CEILINE TILES TO REPLACE EXISTING DAMAGED CEILING TILES SCHEDUELD TO REMAIN.
7	SELECTIVE DEMOLITION - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE REMOVED.
8	EXISTING GYPSUM BOARD ON METAL STUD TO REMAIN.
9	SELECTIVE DEMOLITION - EXISTING CMU WALL TO BE REMOVED. PREPARE OPENING FOR NEW OVERHEAD DOOR. SEE STRUCTURAL PLANS.
10	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
11	EXISTING STRUCTURAL COLUMN TO REMAIN.
12	SELECTIVE DEMOLITION - EXISTING GYPSUM BOARD ON METAL STUD TO BE REMOVED.
13	EXISTING ALUMINUM SOFFIT TO REMAIN. REMOVE DIRT AND CLEAN.
14	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
15	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.
16	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2, REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.
17	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION
SCALE: 1/16" = 1'-0"

JAMES K. PIPER JR.
REGISTERED NO. 4447 COMMONWEALTH
8/15/25

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FIRST LEVEL CEILING - DEMOLITON

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DATE
0	8/15/2025 ADDENDUM 01

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO.: AD103 01

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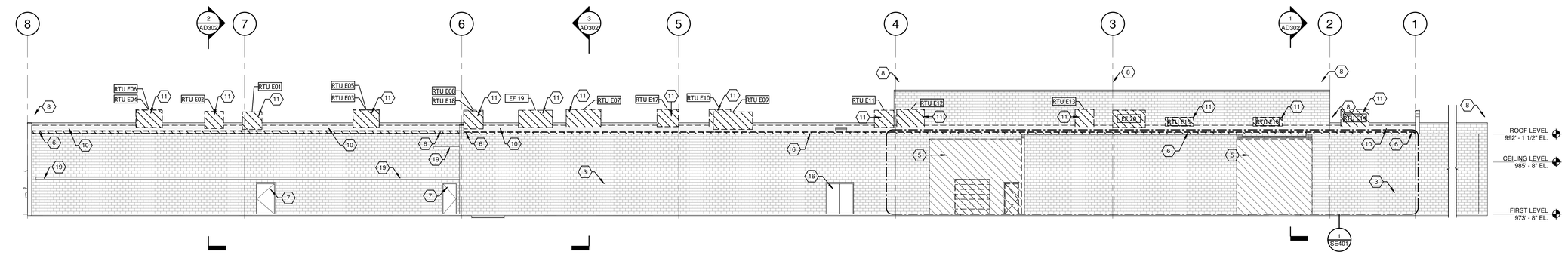
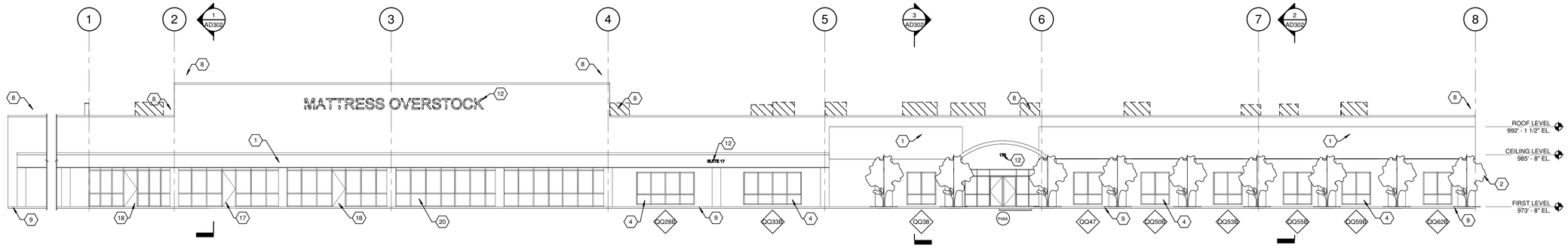


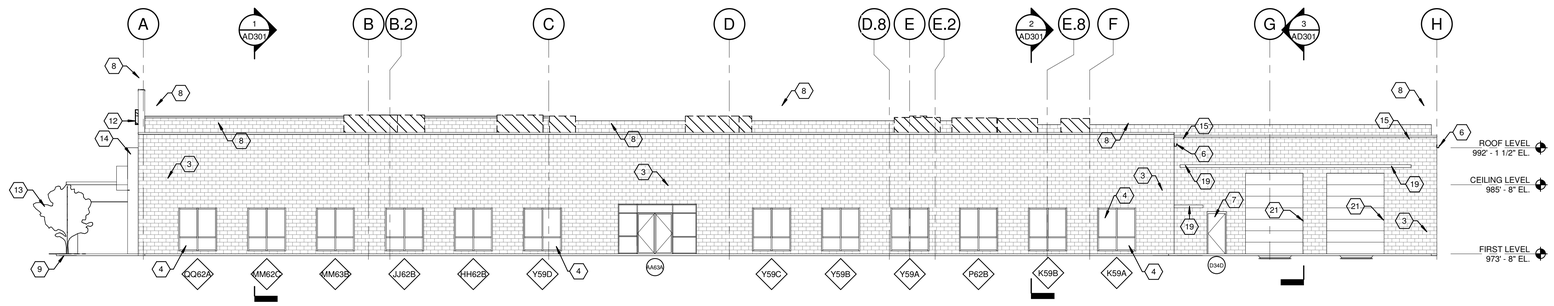
1 EXTERIOR NORTH ELEVATION - DEMOLITION

SCALE: 3/32" = 1'-0"



2 EXTERIOR SOUTH ELEVATION - DEMOLITION

SCALE: 3/32" = 1'-0"



3 EXTERIOR EAST ELEVATION - DEMOLITION

SCALE: 3/32" = 1'-0"

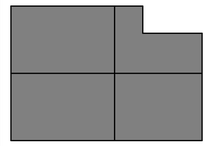
GENERAL NOTES:

1. SEE EXTERIOR ELEVATIONS FOR ADDITIONAL REQUIREMENTS.
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. EXISTING GAS LINES TO RTU ARE NOT SHOWN FOR CLARITY. ALL EXISTING RTU GAS LINES SHALL BE REMOVED WITH EXISTING RTU TO BE REMOVED. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
9. REMOVE ALL EXISTING ROOFTOP EQUIPMENT, CURBS, MECHANICAL CURBS RAILS SATELLITE DISHES NOT SCHEDULED TO BE REUSED. SEE MECHANICAL PLANS FOR ADDITIONAL COORDINATION / REQUIREMENTS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING EIFS SYSTEM TO REMAIN. PREPARE FOR NEW PAINT FINISH.
2	SELECTIVE DEMOLITION - EXISTING TREES TO BE REMOVED. PREPARE AREA FOR NEW LANDSCAPING.
3	EXISITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
4	EXISTING EXTERIOR STORFRONT FRAMING AND GLAZING TO REMAIN. CLEAN EXISTING FRAMING AND GLAZING.
5	SELECTIVE DEMOLITION - EXISTING CMU WALL TO BE REMOVED. PREPARE OPENING FOR NEW OVERHEAD DOOR. SEE STRUCTURAL PLANS.
6	EXISTING GUTTER TO BE REMOVED. PREPARE FOR NEW GUTTER.
7	EXISTING EXTERIOR HOLLOW METAL DOOR FRAME AND DOOR TO REMAIN. PREPARE FOR NEW PAINT FINISH.
8	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
9	EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL/LANDSCAPE PLANS.
10	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
11	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXSTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
12	SELECTIVE DEMOLITION - EXISTING SIGNAGE TO BE REMOVED. PREAPRE AREA FOR NEW SIGNAGE.
13	EXISTING TREE TO BE REMOVED. SEE SITE LANDSCAPE PLAN.
14	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
15	CONCRETE UNIT MASONRY - NOM. 12"
16	EXISTING HOLLOW METAL DOOR FRAME AND DOUBLE DOORS TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
17	SELECTIVE DEMOLITION - REMOVE EXISTING STOREFRONT DOOR. REWORK EXISTING STOREFRONT FRAMING AND GLAZING FOR NEW DOUBLE STOREFRONT DOOR. MATCH EXISTING LAYOUT.
18	SELECTIVE DEMOLITION - REMOVE EXISTING STOREFRONT DOOR. REWORK EXISTING STOREFRONT FRAMING AND GLAZING TO MATCH EXISTING LAYOUT.
19	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
20	EXISTING STOREFRONT FRAMING AND GLAZING TO REMAIN.
21	SELECTIVE DEMOLITION - EXISTING OVERHEAD DOOR TO BE REMOVED.

AREA KEY PLAN



JAMES R. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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EXTERIOR ELEVATIONS - DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY
0		

SCALE: CHECK 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 3/32" = 1'-0"

SHEET NO.: AD201 01

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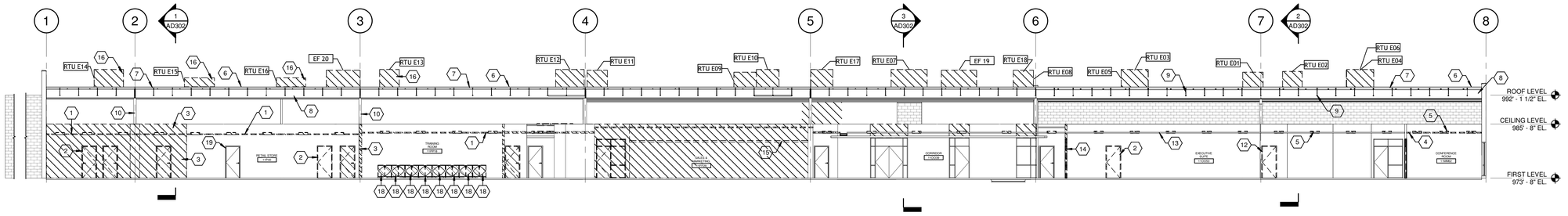
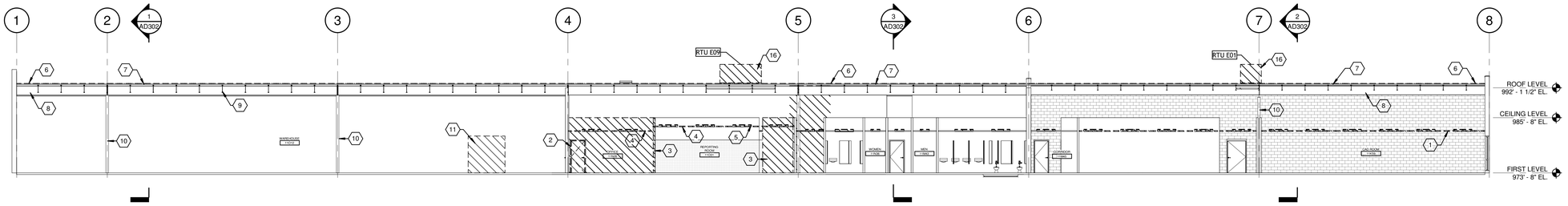


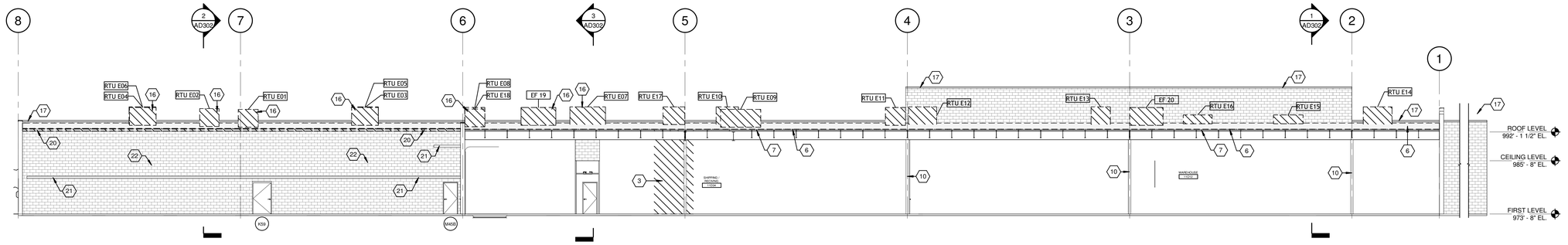
1 LONGITUDINAL BUILDING SECTION 01 - DEMOLITION

SCALE: 3/32" = 1'-0"



2 LONGITUDINAL BUILDING SECTION 02 - DEMOLITION

SCALE: 3/32" = 1'-0"



3 LONGITUDINAL BUILDING SECTION 03 - DEMOLITION

SCALE: 3/32" = 1'-0"

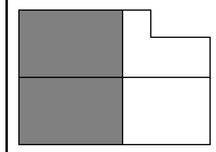
GENERAL NOTES:

1. SEE LONGITUDINAL BUILDING SECTIONS FOR ADDITIONAL REQUIREMENTS.
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE WALL SECTION AREA OF DETAIL INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
4. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
8. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING 2X4 ACOUSTICAL PANEL CEILING TO BE REMOVED.
2	SELECTIVE DEMOLITION - EXISTING HOLLOW METAL DOOR FRAME AND DOOR TO BE REMOVED.
3	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
4	SELECTIVE DEMOLITION - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE REMOVED.
5	SELECTIVE DEMOLITION - EXISTING LIGHT FIXTURE TO BE REMOVED. SEE ELECTRICAL PLANS.
6	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
7	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2, REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.
8	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.
9	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
10	EXISTING STRUCTURAL COLUMN TO REMAIN.
11	SELECTIVE DEMOLITION - EXISTING OVERHEAD DOOR TO BE REMOVED.
12	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
13	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
14	EXISTING STORFRONT FRAMING AND GLAZING TO BE REMOVED.
15	SELECTIVE DEMOLITION - EXISTING GYPSUM BOARD ON METAL STUD TO BE REMOVED.
16	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXSTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
17	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
18	SELECTIVE DEMOLITION - EXISTING BASE CABINET CASEWORK TO BE REMOVED.
19	EXISTING HOLLOW METAL DOOR FRAME AND SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
20	EXISTING GUTTER TO BE REMOVED. PREPARE FOR NEW GUTTER.
21	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
22	EXISITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.

AREA KEY PLAN



JAMES K. FISER JR.
REGISTERED NO. 44417
COMMONWEALTH OF KENTUCKY
8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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NO.	DATE	BY
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SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

LONGITUDINAL BUILDING SECTIONS - DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DATE: AUGUST 15, 2025

SCALE: 3/32" = 1'-0"

SHEET NO.: AD301 01

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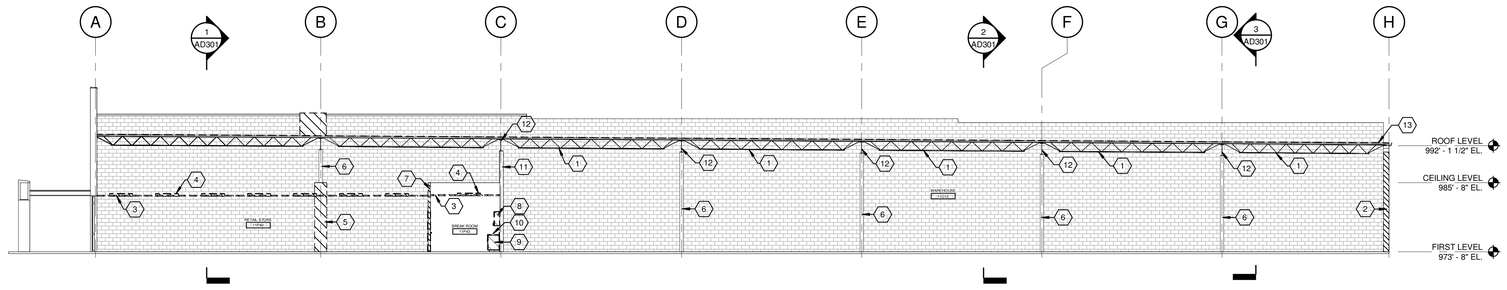
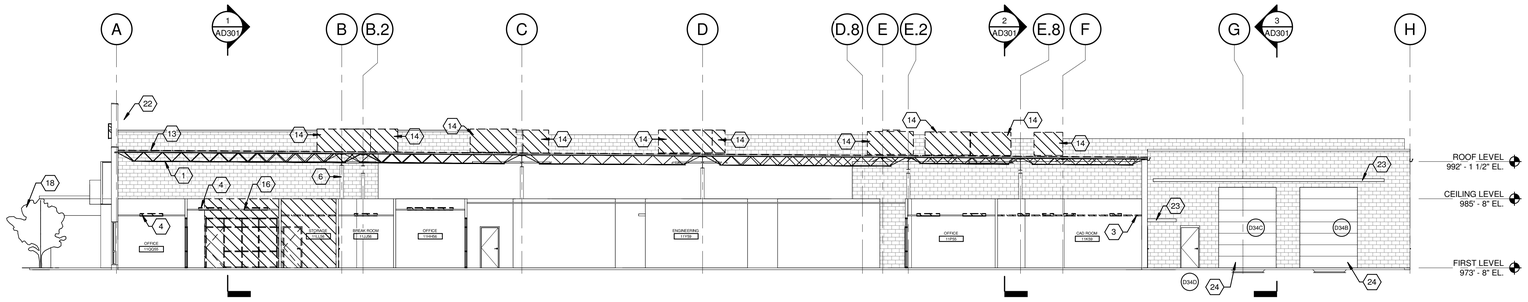


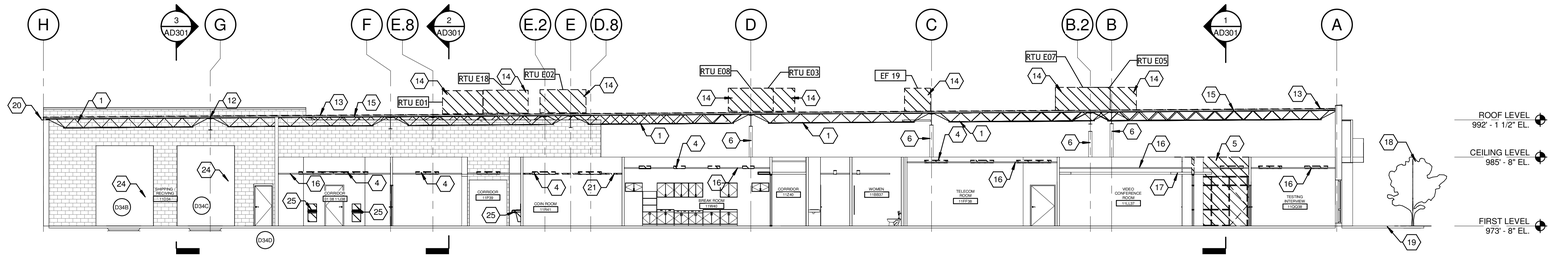
1 TRANSVERSE BUILDING SECTION 01 - DEMOLITION

SCALE: 3/32" = 1'-0"



2 TRANSVERSE BUILDING SECTION 02 - DEMOLITION

SCALE: 3/32" = 1'-0"



3 TRANSVERSE BUILDING SECTION 03 - DEMOLITION

SCALE: 3/32" = 1'-0"

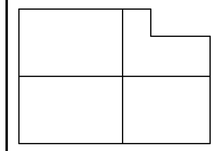
GENERAL NOTES:

1. SEE TRANSVERSE BUILDING SECTIONS FOR ADDITIONAL REQUIREMENTS.
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE WALL SECTION AREA OF DETAIL INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
4. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
8. ADD ALTERNATE #1 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
2	SELECTIVE DEMOLITION - EXISTING CMU WALL TO BE REMOVED. PREPARE OPENING FOR NEW OVERHEAD DOOR. SEE STRUCTURAL PLANS.
3	SELECTIVE DEMOLITION - EXISTING 2X4 ACOUSTICAL PANEL CEILING TO BE REMOVED.
4	SELECTIVE DEMOLITION - EXISTING LIGHT FIXTURE TO BE REMOVED. SEE ELECTRICAL PLANS.
5	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
6	EXISTING STRUCTURAL COLUMN TO REMAIN.
7	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
8	SELECTIVE DEMOLITION - EXISTING WALL CABINET CASEWORK TO BE REMOVED.
9	SELECTIVE DEMOLITION - EXISTING BASE CABINET CASEWORK TO BE REMOVED.
10	SELECTIVE DEMOLITION - EXISTING COUNTERTOP CASEWORK TO BE REMOVED.
11	EXISTING NOM. 8" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
12	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.
13	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
14	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXSTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
15	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2. REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.
16	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
17	EXISTING GYPSUM BOARD ON METAL STUD TO REMAIN.
18	EXISTING TREE TO BE REMOVED. SEE SITE LANDSCAPE PLAN.
19	EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL/LANDSCAPE PLANS.
20	EXISTING GUTTER TO BE REMOVED. PREPARE FOR NEW GUTTER.
21	SELECTIVE DEMOLITION - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE REMOVED.
22	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
23	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
24	SELECTIVE DEMOLITION - EXISTING OVERHEAD DOOR TO BE REMOVED.
25	REMOVE EXISTING DRINKING FOUNTAIN PREPARE FOR NEW DRINKING FOUNTAIN.

AREA KEY PLAN



JAMES K. PIPER JR. REGISTERED NO. 4447 CHINOOK,CALIFORNIA

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

TRANSVERSE BUILDING SECTION - DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
DRV	DRV	DRV	DRV

REVISIONS

NO	DATE
1	8/15/2025

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

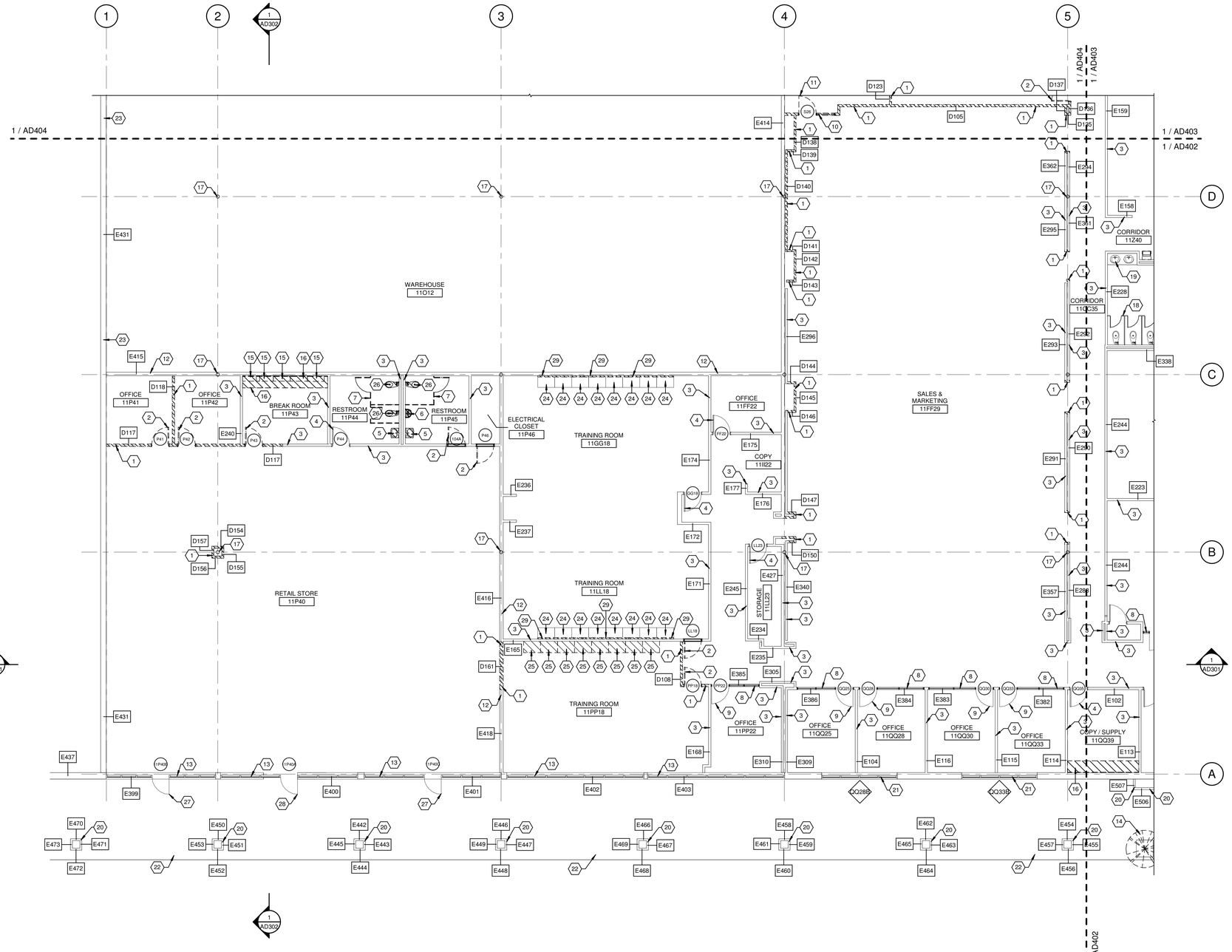
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 3/32" = 1'-0"

SHEET NO. AD302 01

8/15/2025 11:36:36 AM G:\GAZ-1\ELEC\LDWG\HDB\Working Drawings\Revit Arch\Central Model\GAZ1ALEDB02r21.rvt



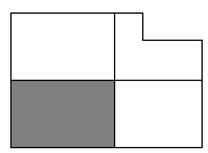
GENERAL NOTES:

1. SEE WALL SCHEDULE - EXISTING TO REMAIN FOR EXISTING WALL MARKS INDICATED ON THIS SHEET. (E000)
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE ROOM FINISH SCHEDULE - DEMOLITION FOR ADDITIONAL REQUIREMENTS.
4. SEE WALL SCHEDULE - DEMOLITION FOR DEMOLITION WALL MARKS INDICATED ON THIS SHEET. (D000)
5. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
8. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
9. SEE FLOOR PLANS AND DOOR AND FRAME SCHEDULE FOR NEW DOORS INSTALLED IN EXISTING WALLS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
2	SELECTIVE DEMOLITION - EXISTING HOLLOW METAL DOOR FRAME AND DOOR TO BE REMOVED.
3	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
4	EXISTING HOLLOW METAL DOOR FRAME AND SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
5	SELECTIVE DEMOLITION - EXISTING LAVATORY TO BE REMOVED.
6	SELECTIVE DEMOLITION - EXISTING URINAL TO BE REMOVED.
7	SELECTIVE DEMOLITION - EXISTING TOILET PARTITIONS TO BE REMOVED.
8	EXISTING STORFRONT FRAMING AND GLAZING TO REMAIN. PREPARE FOR NEW PAINT FINISH.
9	EXISTING SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
10	EXISTING STORFRONT FRAMING AND GLAZING TO BE REMOVED.
11	EXISTING SOLID CORE WOOD DOOR TO BE REMOVED.
12	EXISTING NOM. 8" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
13	EXISTING STOREFRONT FRAMING AND GLAZING TO REMAIN.
14	EXISTING TREE TO BE REMOVED. SEE SITE LANDSCAPE PLAN.
15	SELECTIVE DEMOLITION - EXISTING WALL CABINET CASEWORK TO BE REMOVED.
16	SELECTIVE DEMOLITION - EXISTING COUNTERTOP CASEWORK TO BE REMOVED.
17	EXISTING STRUCTURAL COLUMN TO REMAIN.
18	EXISTING TOILET PARTITIONS TO REMAIN.
19	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
20	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
21	EXISTING EXTERIOR STORFRONT FRAMING AND GLAZING TO REMAIN. CLEAN EXISTING FRAMING AND GLAZING.
22	EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL/LANDSCAPE PLANS.
23	EXISITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
24	EXISTING BASE CABINETS TO REMAIN.
25	SELECTIVE DEMOLITION - EXISTING BASE CABINET CASEWORK TO BE REMOVED.
26	SELECTIVE DEMOLITION - EXISTING WATER CLOSET TO BE REMOVED.
27	SELECTIVE DEMOLITION - REMOVE EXISTING STOREFRONT DOOR. REWORK EXISTING STOREFRONT FRAMING AND GLAZING TO MATCH EXISTING LAYOUT.
28	SELECTIVE DEMOLITION - REMOVE EXISTING STOREFRONT DOOR. REWORK EXISTING STOREFRONT FRAMING AND GLAZING FOR NEW DOUBLE STOREFRONT DOOR. MATCH EXISTING LAYOUT.
29	SELECTIVE DEMOLITION - REMOVE EXISTING PIN BOARDS. PREPARE WALL FOR NEW PAINT FINISH.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION - AREA A

SCALE: 1/8" = 1'-0"

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - DEMOLITION - AREA A
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY
#01	10/03/25	DRV

SCALE CHECK — 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AD401 01

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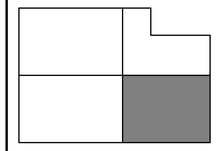
GENERAL NOTES:

1. SEE WALL SCHEDULE - EXISTING TO REMAIN FOR EXISTING WALL MARKS INDICATED ON THIS SHEET. (E000)
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE ROOM FINISH SCHEDULE - DEMOLITION FOR ADDITIONAL REQUIREMENTS.
4. SEE WALL SCHEDULE - DEMOLITION FOR DEMOLITION WALL MARKS INDICATED ON THIS SHEET. (D000)
5. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
8. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
9. SEE FLOOR PLANS AND DOOR AND FRAME SCHEDULE FOR NEW DOORS INSTALLED IN EXISTING WALLS.

SHEET KEYNOTES:

1	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
2	EXISTING HOLLOW METAL DOOR FRAME AND SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
3	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
4	SELECTIVE DEMOLITION - EXISTING HOLLOW METAL DOOR FRAME AND DOOR TO BE REMOVED.
5	EXISTING STORFRONT FRAMING AND GLAZING TO REMAIN. PREPARE FOR NEW PAINT FINISH.
6	EXISTING SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
7	EXISTING TREE TO BE REMOVED. SEE SITE LANDSCAPE PLAN.
8	EXISTING STORFRONT FRAMING AND GLAZING TO BE REMOVED.
9	EXISTING SOLID CORE WOOD DOOR TO BE REMOVED.
10	EXISTING STRUCTURAL COLUMN TO REMAIN.
11	EXISTING URINAL TO REMAIN. SEE PLUMBING PLANS.
12	EXISTING TOILET PARTITIONS TO REMAIN.
13	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
14	EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL/LANDSCAPE PLANS.
15	EXISTING EXTERIOR STORFRONT FRAMING AND GLAZING TO REMAIN. CLEAN EXISTING FRAMING AND GLAZING.
16	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
17	EXISITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
18	SELECTIVE DEMOLITION - EXISTING BASE CABINET CASEWORK TO BE REMOVED.
19	SELECTIVE DEMOLITION - EXISTING WALL CABINET CASEWORK TO BE REMOVED.
20	SELECTIVE DEMOLITION - EXISTING COUNTERTOP CASEWORK TO BE REMOVED.
21	EXISTING WATER CLOSET TO REMAIN. SEE PLUMBING PLANS.
22	REMOVE EXISTING DRINKING FOUNTAIN.PREPARE FOR NEW DRINKING FOUNTAIN.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION - AREA B
SCALE: 1/8" = 1'-0"

JAMES R. PFEIFER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - DEMOLITION - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AD402 01

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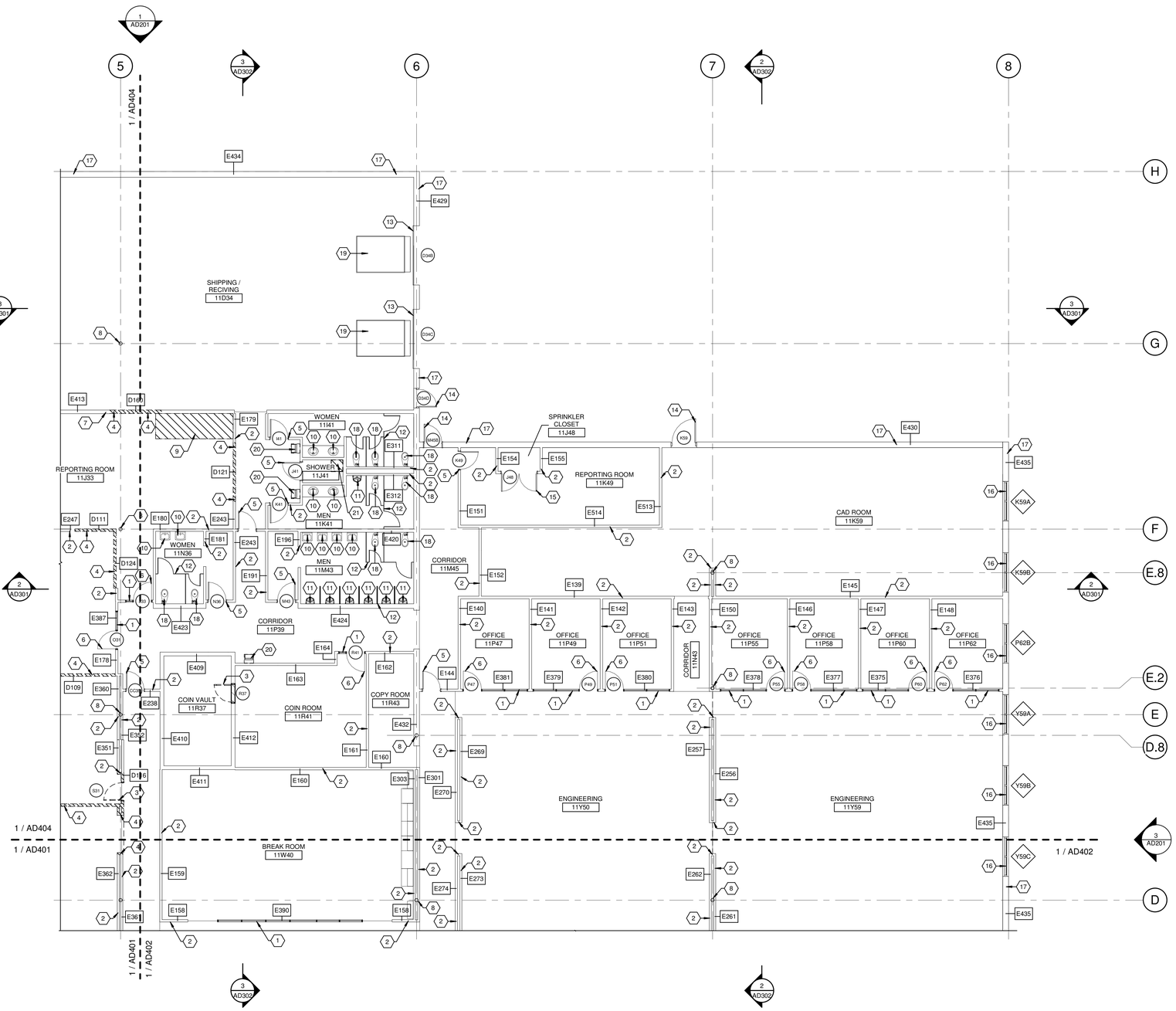


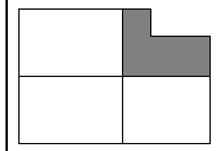
GENERAL NOTES:

1. SEE WALL SCHEDULE - EXISTING TO REMAIN FOR EXISTING WALL MARKS INDICATED ON THIS SHEET. (E000)
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE ROOM FINISH SCHEDULE - DEMOLITION FOR ADDITIONAL REQUIREMENTS.
4. SEE WALL SCHEDULE - DEMOLITION FOR DEMOLITION WALL MARKS INDICATED ON THIS SHEET. (D000)
5. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
8. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
9. SEE FLOOR PLANS AND DOOR AND FRAME SCHEDULE FOR NEW DOORS INSTALLED IN EXISTING WALLS.

SHEET KEYNOTES:

1	EXISTING STORFRONT FRAMING AND GLAZING TO REMAIN. PREPARE FOR NEW PAINT FINISH.
2	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
3	SELECTIVE DEMOLITION - EXISTING HOLLOW METAL DOOR FRAME AND DOOR TO BE REMOVED.
4	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
5	EXISTING HOLLOW METAL DOOR FRAME AND SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
6	EXISTING SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
7	EXISITNG NOM. 8" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
8	EXISTING STRUCTURAL COLUMN TO REMAIN.
9	SELECTIVE DEMOLITION - REMOVE EXISTING CONCRETE SLAB ON GRADE. PREPARE AREA FOR NEW RECESSED CAST IN PLACE CONCRETE SLAB ON GRADE.
10	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
11	EXISTING URINAL TO REMAIN. SEE PLUMBING PLANS.
12	EXISTING TOILET PARTITIONS TO REMAIN.
13	SELECTIVE DEMOLITION - EXISTING OVERHEAD DOOR TO BE REMOVED.
14	EXISTING EXTERIOR HOLLOW METAL DOOR FRAME AND DOOR TO REMAIN. PREPARE FOR NEW PAINT FINISH.
15	EXISTING HOLLOW METAL DOOR FRAME AND DOUBLE DOORS TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
16	EXISTING EXTERIOR STORFRONT FRAMING AND GLAZING TO REMAIN. CLEAN EXISTING FRAMING AND GLAZING.
17	EXISITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
18	EXISTING WATER CLOSET TO REMAIN. SEE PLUMBING PLANS.
19	EXISTING SCISSOR DOCK LEVELER TO REMAIN. RECONDITION FOR SMOOTH OPERATION.
20	REMOVE EXISTING DRINKING FOUNTAIN.PREPARE FOR NEW DRINKING FOUNTAIN.
21	SELECTIVE DEMOLITION - EXISTING PRE-FABRICATED SHOWER STALL TO BE REMOVED. PREPARE FOR NEW MOP SINK.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION - AREA C
SCALE: 1/8" = 1'-0"

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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FIRST LEVEL - DEMOLITION - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DATE	BY
1	PER COMMENTS FROM DSG DEPT DWG	

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE: GRAPHIC

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO. AD403 01

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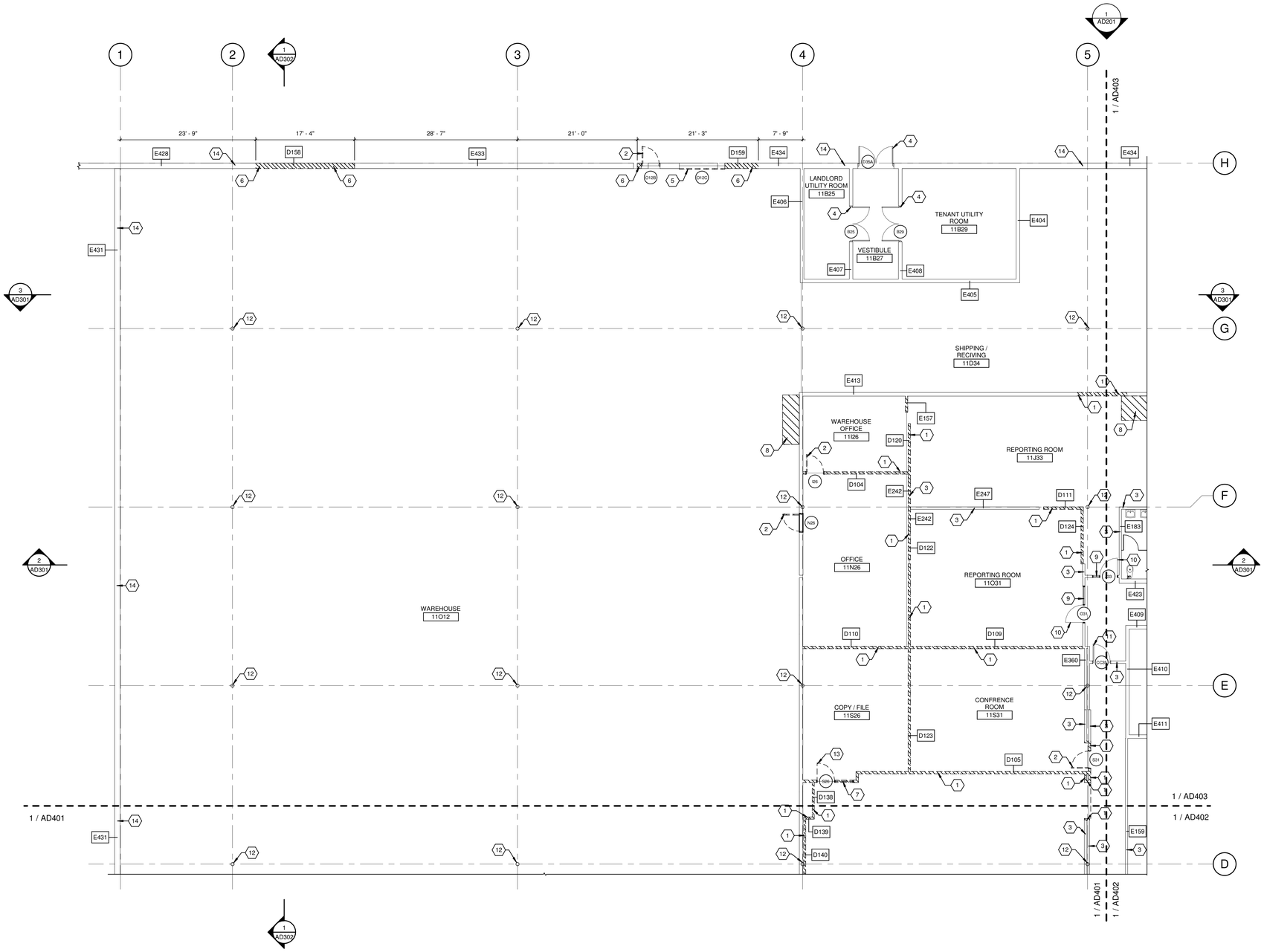


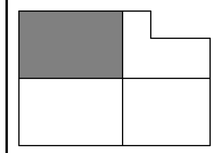
GENERAL NOTES:

1. SEE WALL SCHEDULE - EXISTING TO REMAIN FOR EXISTING WALL MARKS INDICATED ON THIS SHEET. (E000)
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE ROOM FINISH SCHEDULE - DEMOLITION FOR ADDITIONAL REQUIREMENTS.
4. SEE WALL SCHEDULE - DEMOLITION FOR DEMOLITION WALL MARKS INDICATED ON THIS SHEET. (D000)
5. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
8. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
9. SEE FLOOR PLANS AND DOOR AND FRAME SCHEDULE FOR NEW DOORS INSTALLED IN EXISTING WALLS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
2	SELECTIVE DEMOLITION - EXISTING HOLLOW METAL DOOR FRAME AND DOOR TO BE REMOVED.
3	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
4	EXISTING HOLLOW METAL DOOR FRAME AND DOUBLE DOORS TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
5	SELECTIVE DEMOLITION - EXISTING OVERHEAD DOOR TO BE REMOVED.
6	SELECTIVE DEMOLITION - EXISTING CMU WALL TO BE REMOVED. PREPARE OPENING FOR NEW OVERHEAD DOOR. SEE STRUCTURAL PLANS.
7	EXISTING STORFRONT FRAMING AND GLAZING TO BE REMOVED.
8	SELECTIVE DEMOLITION - REMOVE EXISTING CONCRETE SLAB ON GRADE. PREPARE AREA FOR NEW RECESSED CAST IN PLACE CONCRETE SLAB ON GRADE.
9	EXISTING STORFRONT FRAMING AND GLAZING TO REMAIN. PREPARE FOR NEW PAINT FINISH.
10	EXISTING SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
11	EXISTING HOLLOW METAL DOOR FRAME AND SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
12	EXISTING STRUCTURAL COLUMN TO REMAIN.
13	EXISTING SOLID CORE WOOD DOOR TO BE REMOVED.
14	EXSITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION - AREA D
SCALE: 1/8" = 1'-0"

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH OF KENTUCKY 8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - DEMOLITION - AREA D
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AD404 01

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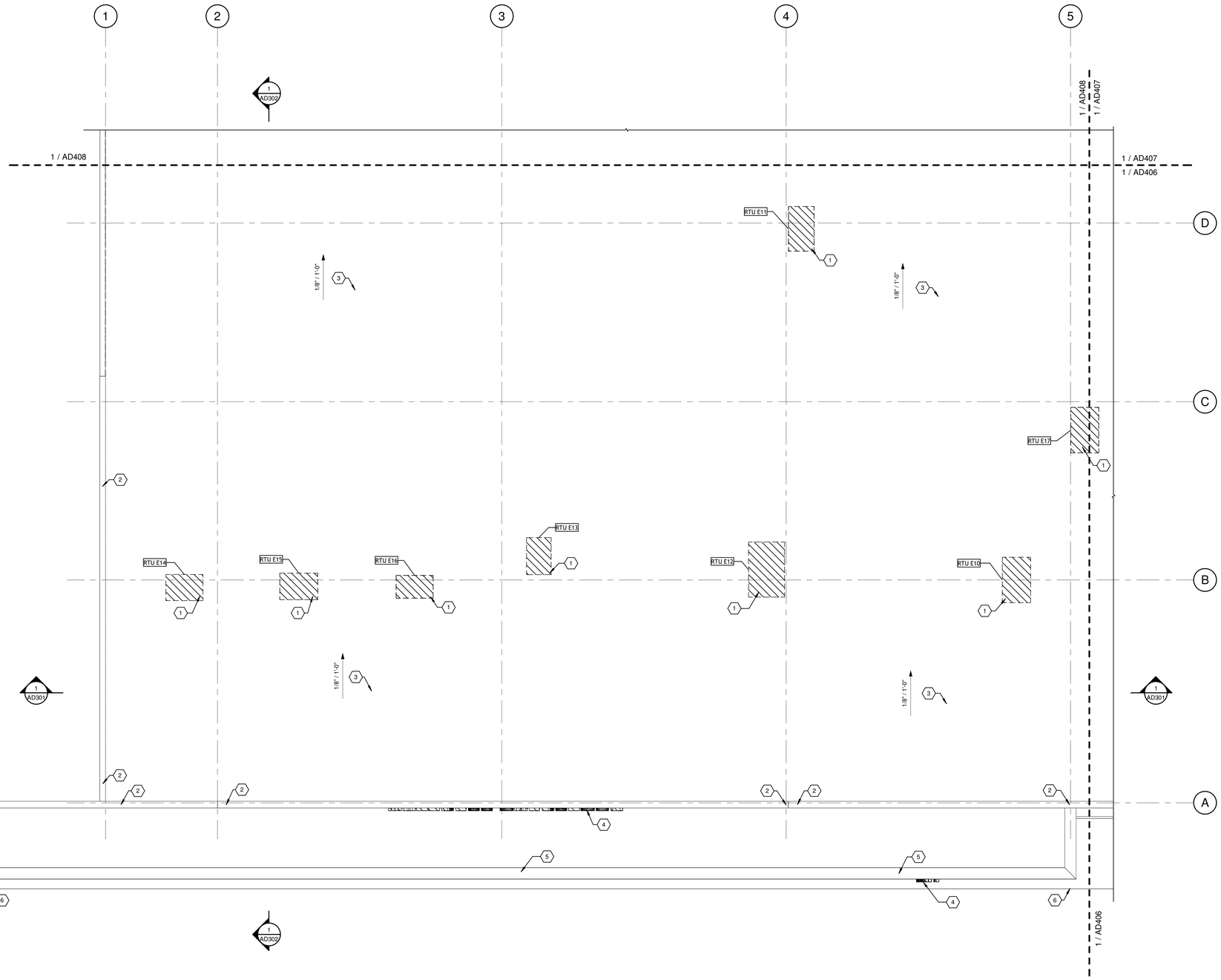

GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
7. REMOVE ALL EXISTING ROOFTOP EQUIPMENT, CURBS, MECHANICAL CURBS RAILS SATELLITE DISHES NOT SCHEDULED TO BE REUSED. SEE MECHANICAL PLANS FOR ADDITIONAL COORDINATION / REQUIREMENTS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXSTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
2	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
3	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
4	SELECTIVE DEMOLITION - EXISTING SIGNAGE TO BE REMOVED. PREAPRE AREA FOR NEW SIGNAGE.
5	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
6	EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL/LANDSCAPE PLANS.

JAMES K. PIPER JR.
REGISTERED NO. 4447 COMMONWEALTH
08/15/25

GRN PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - DEMOLITION - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

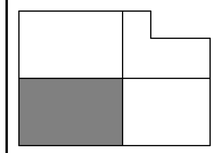
REVISIONS

NO.	DESCRIPTION	DATE	BY

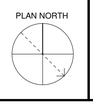
SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AD405 01

AREA KEY PLAN



PLAN NORTH



1 ROOF LEVEL - DEMOLITION - AREA A
SCALE: 1/8" = 1'-0"

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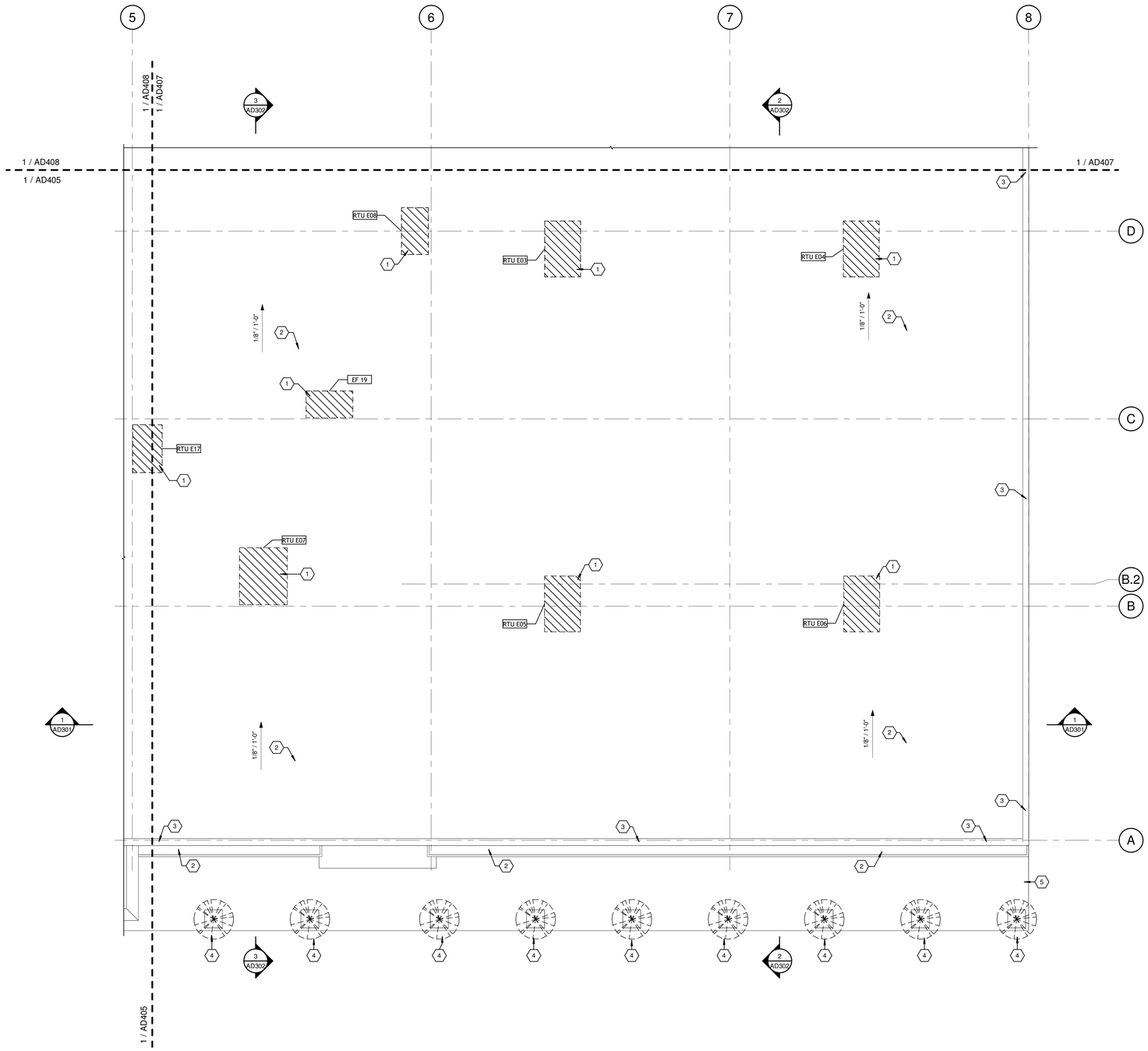

1 ROOF LEVEL - DEMOLITION - AREA B
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
7. REMOVE ALL EXISTING ROOFTOP EQUIPMENT, CURBS, MECHANICAL CURBS RAILS SATELLITE DISHES NOT SCHEDULED TO BE REUSED. SEE MECHANICAL PLANS FOR ADDITIONAL COORDINATION / REQUIREMENTS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXSTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
2	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
3	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
4	EXISTING TREE TO BE REMOVED. SEE SITE LANDSCAPE PLAN.
5	EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL/LANDSCAPE PLANS.

AREA KEY PLAN

PLAN NORTH

JAMES R. FISHER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - DEMOLITION - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AD406 01

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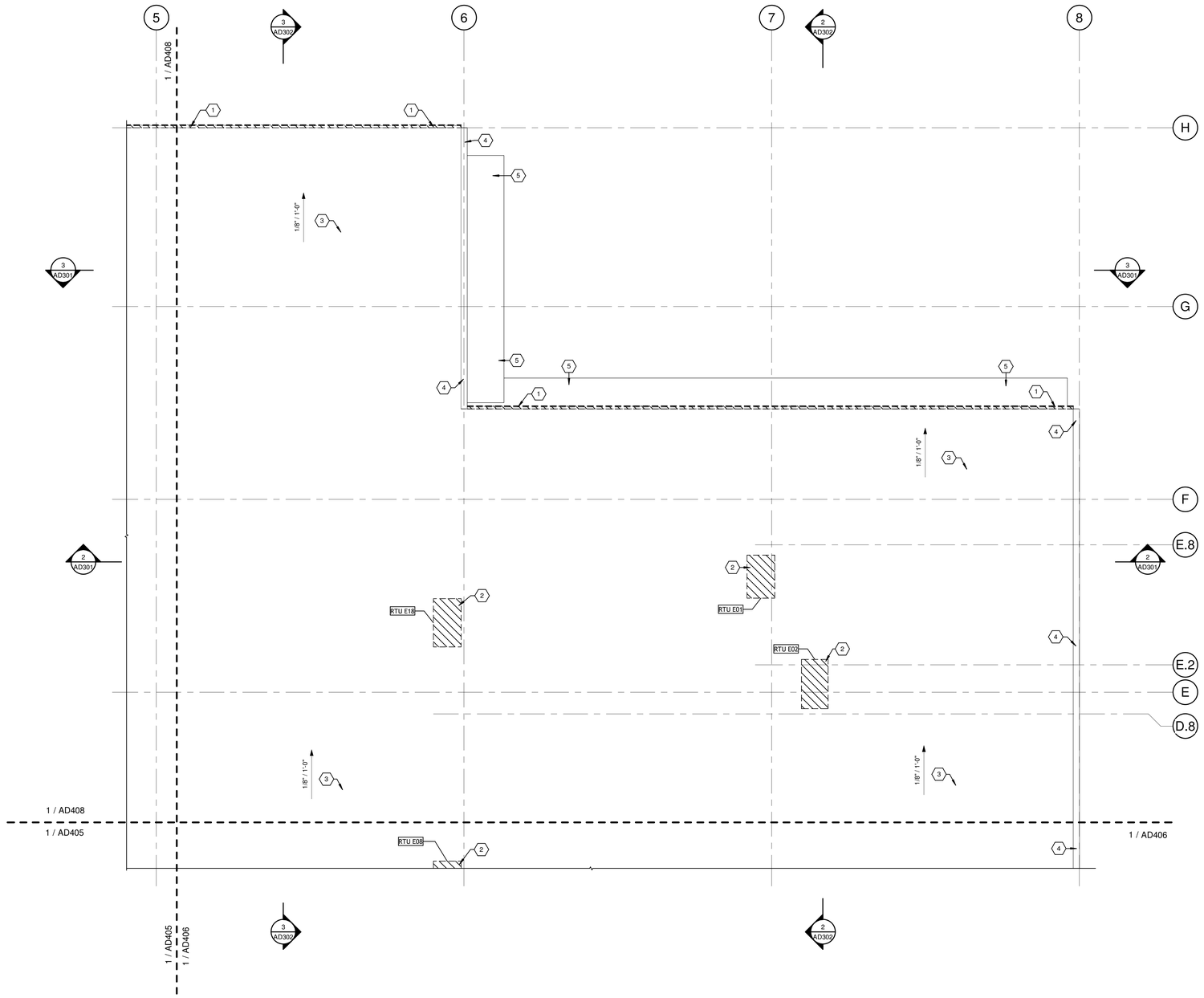

1 ROOF LEVEL - DEMOLITION - AREA C
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
7. REMOVE ALL EXISTING ROOFTOP EQUIPMENT, CURBS, MECHANICAL CURBS RAILS SATELLITE DISHES NOT SCHEDULED TO BE REUSED. SEE MECHANICAL PLANS FOR ADDITIONAL COORDINATION / REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING GUTTER TO BE REMOVED. PREPARE FOR NEW GUTTER.
2	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXSTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
3	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
4	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
5	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.

AREA KEY PLAN

PLAN NORTH

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH OF KENTUCKY

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - DEMOLITION - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AD407 01

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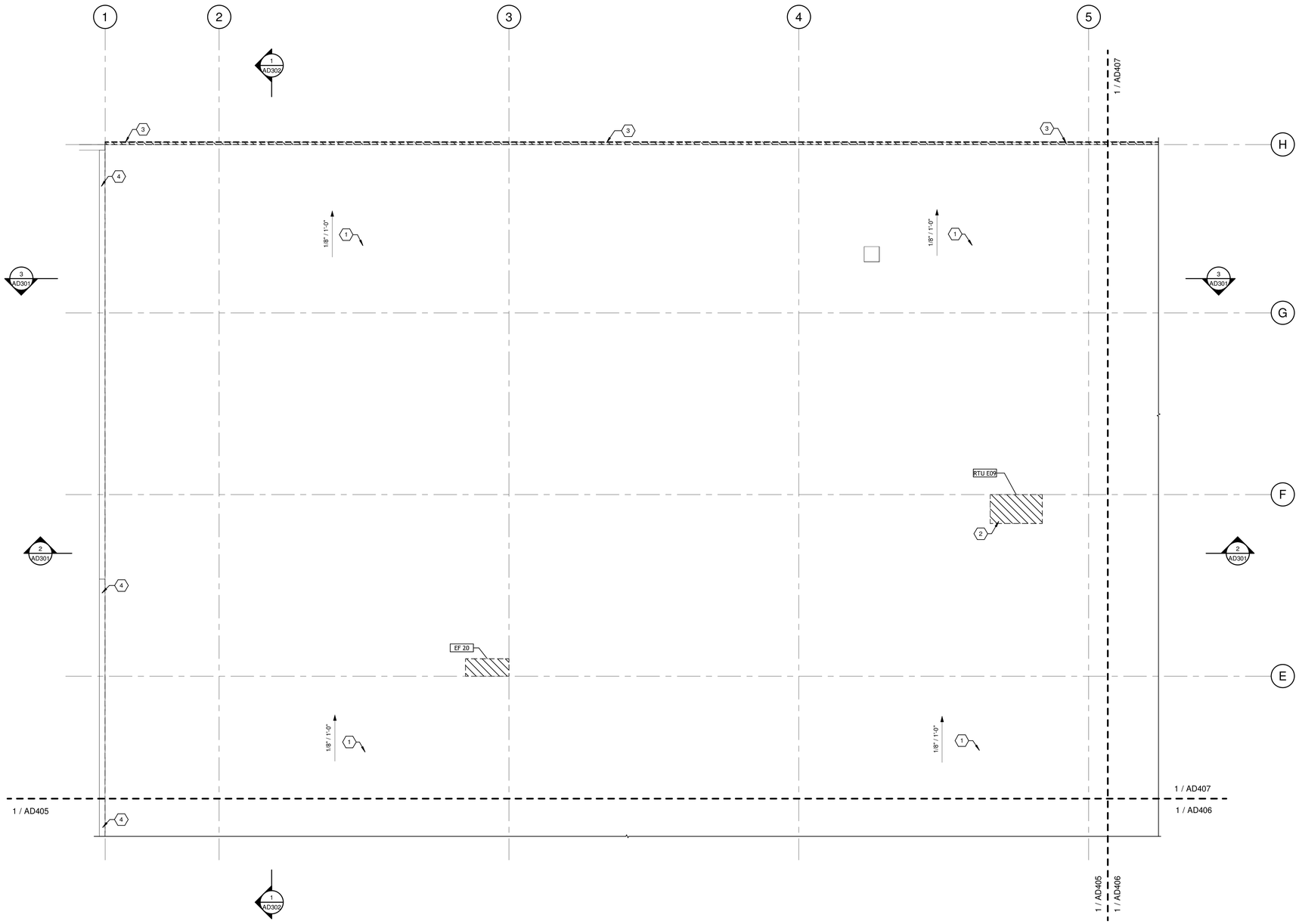


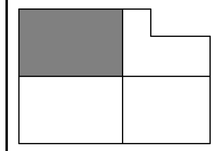
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
7. REMOVE ALL EXISTING ROOFTOP EQUIPMENT, CURBS, MECHANICAL CURBS RAILS SATELLITE DISHES NOT SCHEDULED TO BE REUSED. SEE MECHANICAL PLANS FOR ADDITIONAL COORDINATION / REQUIREMENTS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
2	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXSTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
3	EXISTING GUTTER TO BE REMOVED. PREPARE FOR NEW GUTTER.
4	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.

AREA KEY PLAN



PLAN NORTH

1 ROOF LEVEL - DEMOLITION - AREA D
SCALE: 1/8" = 1'-0"

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - DEMOLITION - AREA D
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AD408 01

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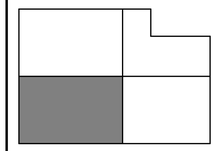
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.
7. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING 2X4 ACOUSTICAL PANEL CEILING TO BE REMOVED.
2	SELECTIVE DEMOLITION - EXISTING LIGHT FIXTURE TO BE REMOVED. SEE ELECTRICAL PLANS.
3	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
4	SALVAGE - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE SALVAGED. USE EXISTING 2X2 CEILING TILES TO REPLACE EXISTING DAMAGED CEILING TILES SCHEDUELD TO REMAIN.
5	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
6	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
7	EXISTING STRUCTURAL COLUMN TO REMAIN.
8	EXISTING STORFRONT FRAMING AND GLAZING TO REMAIN. PREPARE FOR NEW PAINT FINISH.
9	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
10	EXISTING ALUMINUM SOFFIT TO REMAIN. REMOVE DIRT AND CLEAN.
11	SELECTIVE DEMOLITION - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE REMOVED.
12	SELECTIVE DEMOLITION - EXISTING GYPSUM BOARD ON METAL STUD TO BE REMOVED.
13	EXISTING STORFRONT FRAMING AND GLAZING TO BE REMOVED.
14	EXISTING GYPSUM BOARD ON METAL STUD TO REMAIN.
15	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
16	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2. REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION - AREA A

SCALE: 1/8" = 1'-0"

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL CEILING - DEMOLITION - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AD409 01

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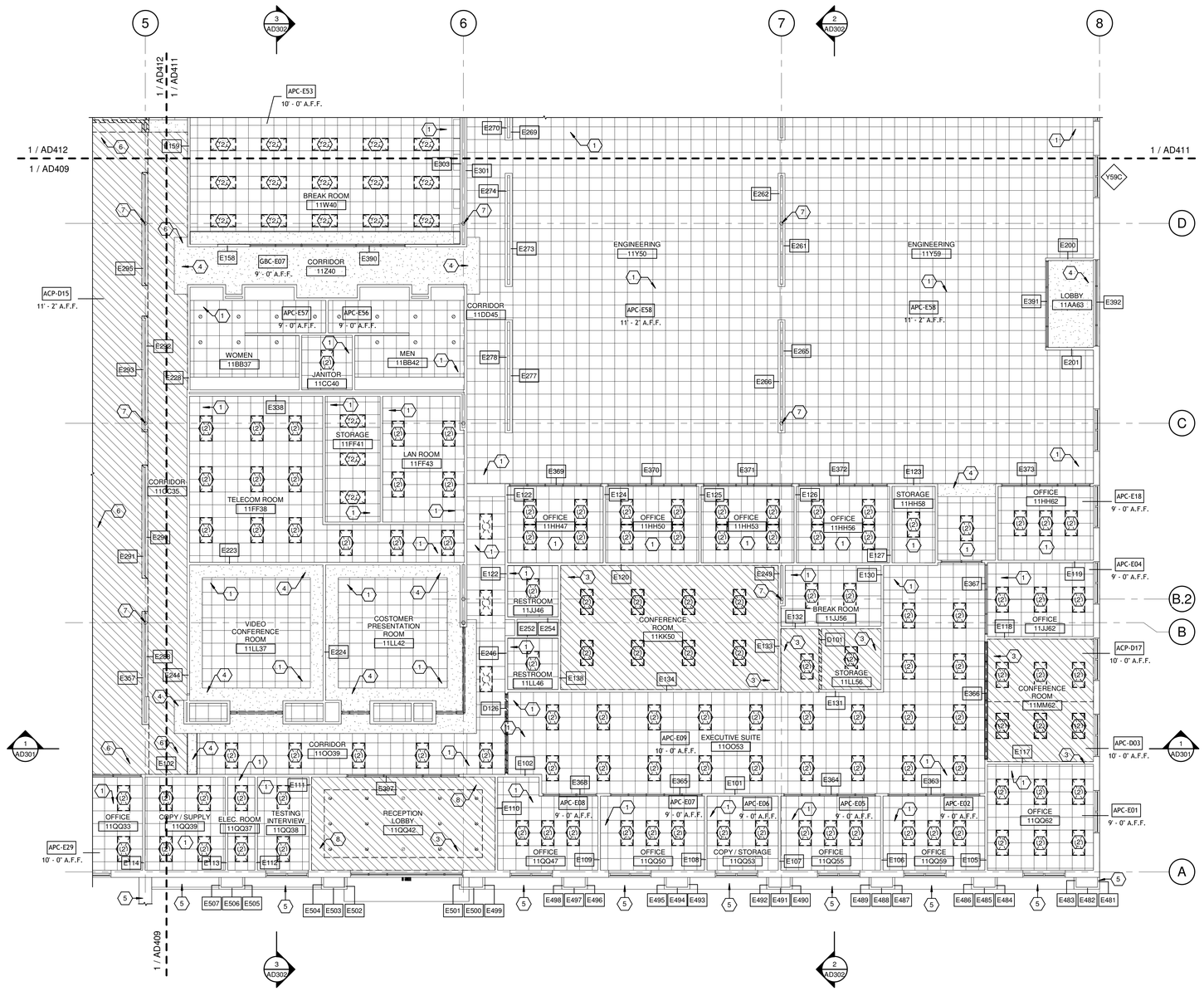

1 FIRST LEVEL - DEMOLITION - AREA B

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.

SHEET KEYNOTES:

1	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
2	SELECTIVE DEMOLITION - EXISTING LIGHT FIXTURE TO BE REMOVED. SEE ELECTRICAL PLANS.
3	SELECTIVE DEMOLITION - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE REMOVED.
4	EXISTING GYPSUM BOARD ON METAL STUD TO REMAIN.
5	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
6	SALVAGE - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE SALVAGED. USE EXISTING 2X2 CEILING TILES TO REPLACE EXISTING DAMAGED CEILING TILES SCHEDUELD TO REMAIN.
7	EXISTING STRUCTURAL COLUMN TO REMAIN.
8	SELECTIVE DEMOLITION - EXISTING GYPSUM BOARD ON METAL STUD TO BE REMOVED.

AREA KEY PLAN

PLAN NORTH

JAMES K. PIPER JR. REGISTERED NO. 4447 CHRISTCHURCH, NZ 8/15/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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www.grwinc.com

FIRST LEVEL CEILING - DEMOLITION - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DATE:	BY:
	REVISION DESCRIPTION	

SCALE ORIGINAL | THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AD410 01

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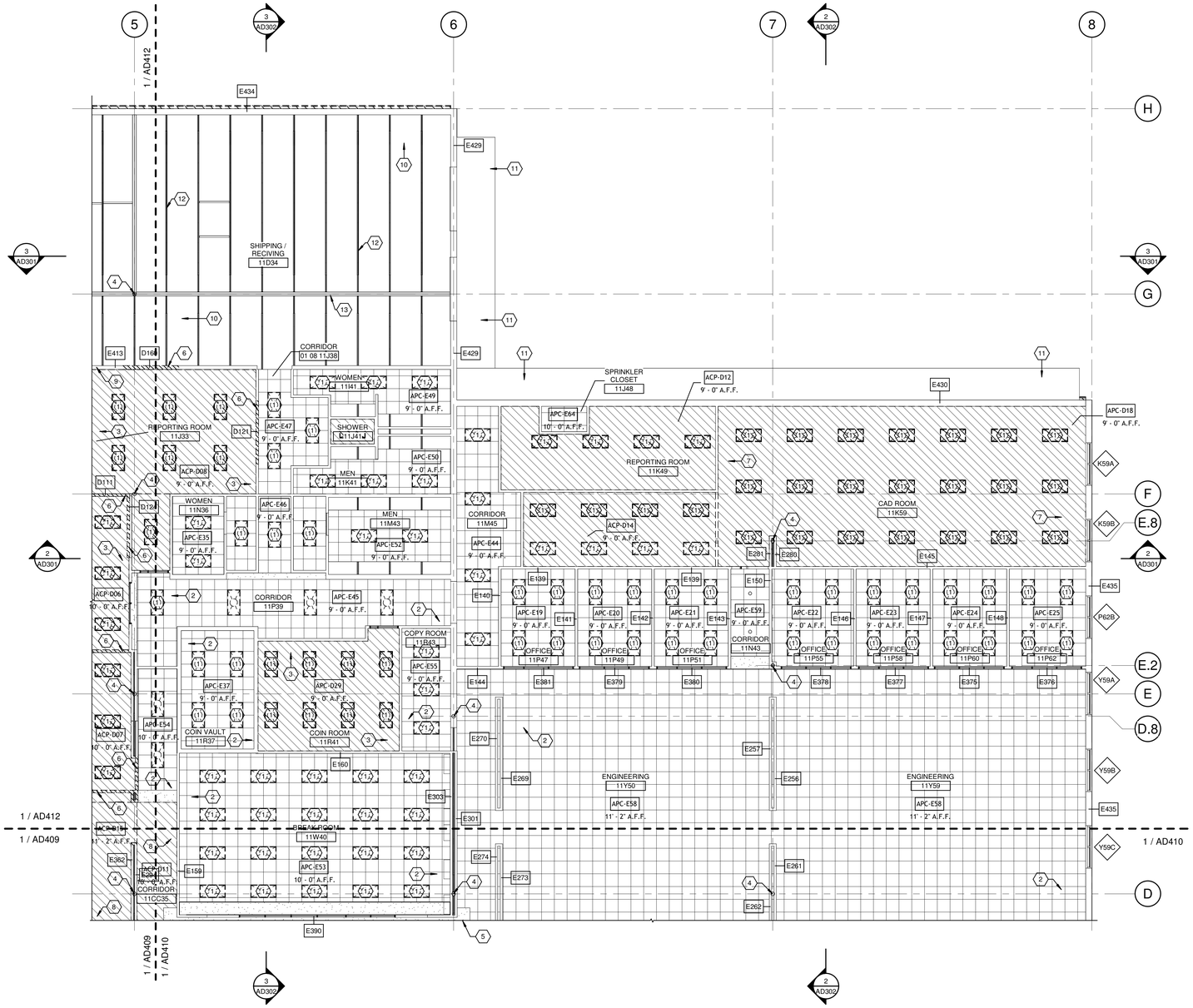


1 FIRST LEVEL - DEMOLITION - AREA C

SCALE: 1/8" = 1'-0"

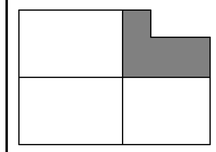
GENERAL NOTES:

1. SEE BUILDING SECTION CALLOUTS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.
7. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING LIGHT FIXTURE TO BE REMOVED. SEE ELECTRICAL PLANS.
2	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
3	SELECTIVE DEMOLITION - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE REMOVED.
4	EXISTING STRUCTURAL COLUMN TO REMAIN.
5	EXISTING GYPSUM BOARD ON METAL STUD TO REMAIN.
6	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
7	SELECTIVE DEMOLITION - EXISTING 2X4 ACOUSTICAL PANEL CEILING TO BE REMOVED.
8	SALVAGE - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE SALVAGED. USE EXISTING 2X2 CEILINE TILES TO REPLACE EXISTING DAMAGED CEILING TILES SCHEDULED TO REMAIN.
9	EXISITNG NOM. 8" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
10	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2, REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.
11	EXISTING ALUMINUM AWNING TO REMAIN, REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
12	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
13	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.

AREA KEY PLAN



PLAN NORTH

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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www.grwinc.com

FIRST LEVEL CEILING - DEMOLITION - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	REVISION DESCRIPTION	DATE:	BY

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. AD411 01

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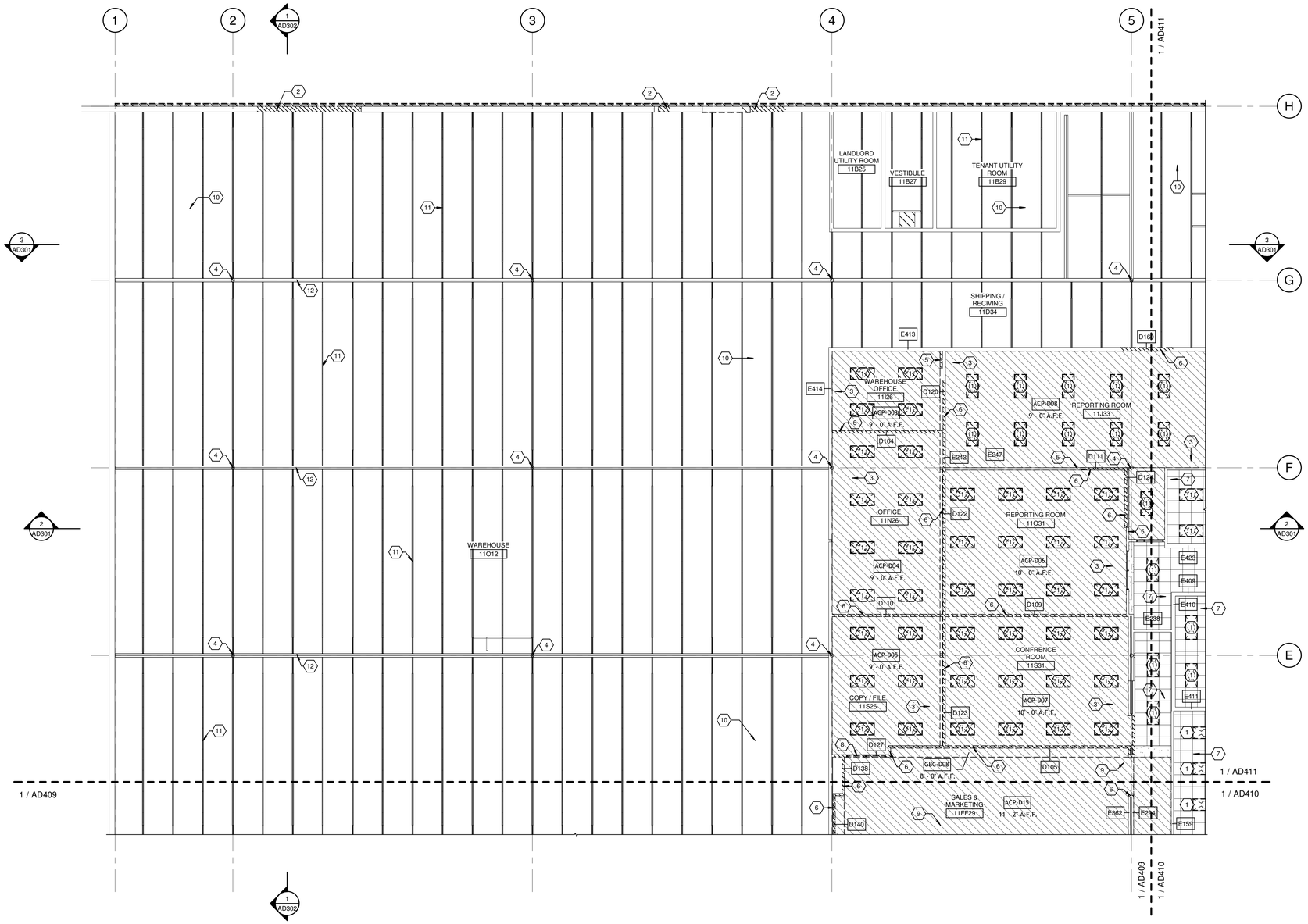

1 FIRST LEVEL - DEMOLITION - AREA D

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.
7. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING LIGHT FIXTURE TO BE REMOVED. SEE ELECTRICAL PLANS.
2	SELECTIVE DEMOLITION - EXISTING CMU WALL TO BE REMOVED. PREPARE OPENING FOR NEW OVERHEAD DOOR. SEE STRUCTURAL PLANS.
3	SELECTIVE DEMOLITION - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE REMOVED.
4	EXISTING STRUCTURAL COLUMN TO REMAIN.
5	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
6	SELECTIVE DEMOLITION - REMOVE EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL.
7	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
8	EXISTING STORFRONT FRAMING AND GLAZING TO BE REMOVED.
9	SALVAGE - EXISTING 2X2 ACOUSTICAL PANEL CEILING TO BE SALVAGED. USE EXISTING 2X2 CEILING TILES TO REPLACE EXISTING DAMAGED CEILING TILES SCHEDULED TO REMAIN.
10	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2, REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.
11	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
12	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.

AREA KEY PLAN

PLAN NORTH

JAMES R. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

GRW ENGINEERING - ARCHITECTURE - GEOSPATIAL
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FIRST LEVEL CEILING - DEMOLITION - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	BY	DATE

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AD412 01

8/13/2025 11:39:11 AM G:\05247-01\CU\DWG\ARCH\Working Drawings\Revit Arch\Central Model\05247-ARCHBIM.rvt

ROOM FINISH SCHEDULE - DEMOLITION

ROOM NUMBER	ROOM NAME	LEVEL	AREA ACTUAL AREA	PERIMETER	FLOOR FINISH	BASE FINISH	WALLS								CEILING			COMMENTS
							BUILDING ORIENTATION INDICATES PLAN NORTH											
							NORTH		SOUTH		EAST		WEST					
							MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT (A.F.F.)	
EXISTING DATA FLOOR TO REMAIN																		
11FF38	TELECOM ROOM	FIRST LEVEL	678.01 SF	139'	EXISTING DATA FLOOR TO REMAIN	EXISTING VINYL BASE TO REMAIN	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	SEE DEMOLITION PLANS
EXISTING DATA FLOOR TO REMAIN: 1			678.01 SF	139'														
EXISTING FLOORING TO REMAIN																		
11W40	BREAK ROOM	FIRST LEVEL	1080.36 SF	136'	EXISTING FLOORING TO REMAIN	EXISTING VINYL BASE TO REMAIN	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	NEW PAINT	9' - 0"	
EXISTING FLOORING TO REMAIN: 1			1080.36 SF	136'														
EXISTING SEALED CONCRETE																		
11B25	LANDLORD UTILITY ROOM	FIRST LEVEL	154.38 SF	55'	EXISTING SEALED CONCRETE	NONE	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXPOSED STRUCTURE	PREPARE FOR NEW PAINT FINISH	18' - 6"	
11B27	VESTIBULE	FIRST LEVEL	155.17 SF	55'	EXISTING SEALED CONCRETE	NONE	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXPOSED STRUCTURE	PREPARE FOR NEW PAINT FINISH	18' - 6"	
11B29	TENANT UTILITY ROOM	FIRST LEVEL	387.96 SF	79'	EXISTING SEALED CONCRETE	NONE	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXPOSED STRUCTURE	PREPARE FOR NEW PAINT FINISH	18' - 6"	
11CC40	JANITOR	FIRST LEVEL	67.96 SF	33'	EXISTING SEALED CONCRETE	NONE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
11O34	SHIPPING / RECIVING	FIRST LEVEL	3157.87 SF	279'	EXISTING SEALED CONCRETE	NONE	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXPOSED STRUCTURE	PREPARE FOR NEW PAINT FINISH	18' - 6"	
11O12	WAREHOUSE	FIRST LEVEL	18248.53 SF	545'	EXISTING SEALED CONCRETE	NONE	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXPOSED STRUCTURE	PREPARE FOR NEW PAINT FINISH	18' - 6"	SEE DEMOLITION PLANS
11QQ37	ELEC. ROOM	FIRST LEVEL	62.40 SF	38'	EXISTING SEALED CONCRETE	NONE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	NONE	NONE	9' - 0"	
EXISTING SEALED CONCRETE: 7			22234.27 SF	1084'														
EXISTING TILE TO REMAIN																		
11BB37	WOMEN	FIRST LEVEL	285.87 SF	96'	EXISTING TILE TO REMAIN	EXISTING TILE TO REMAIN	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
11BB42	MEN	FIRST LEVEL	287.09 SF	96'	EXISTING TILE TO REMAIN	EXISTING TILE TO REMAIN	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
11I41	WOMEN	FIRST LEVEL	178.87 SF	74'	EXISTING TILE TO REMAIN	EXISTING TILE TO REMAIN	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
11J46	RESTROOM	FIRST LEVEL	64.20 SF	32'	EXISTING TILE TO REMAIN	EXISTING TILE TO REMAIN	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
11K41	MEN	FIRST LEVEL	179.86 SF	71'	EXISTING TILE TO REMAIN	EXISTING TILE TO REMAIN	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
11LL46	RESTROOM	FIRST LEVEL	64.12 SF	32'	EXISTING TILE TO REMAIN	EXISTING TILE TO REMAIN	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
11M43	MEN	FIRST LEVEL	291.30 SF	90'	EXISTING TILE TO REMAIN	EXISTING TILE TO REMAIN	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
11N36	WOMEN	FIRST LEVEL	153.53 SF	67'	EXISTING TILE TO REMAIN	EXISTING TILE TO REMAIN	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING GYPSUM BOARD	TILE WAINSCOT / PREPARE NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
EXISTING TILE TO REMAIN: 8			1504.85 SF	558'														
REMOVE EXISTING VCT																		
11FF41	STORAGE	FIRST LEVEL	169.80 SF	57'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
11HH58	STORAGE	FIRST LEVEL	81.20 SF	38'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
11J33	REPORTING ROOM	FIRST LEVEL	1070.55 SF	166'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	DEMOLITION	DEMOLITION	9' - 0"	SEE DEMOLITION PLANS
11J38	CORRIDOR	FIRST LEVEL	164.52 SF	62'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	SEE DEMOLITION PLANS
11J48	SPRINKLER CLOSET	FIRST LEVEL	28.23 SF	22'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD / CMU	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	
11K49	REPORTING ROOM	FIRST LEVEL	405.20 SF	102'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	9' - 0"	SEE DEMOLITION PLANS
11LL23	STORAGE	FIRST LEVEL	100.73 SF	47'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
11LL56	STORAGE	FIRST LEVEL	91.09 SF	38'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	DEMOLITION	DEMOLITION	9' - 0"	SEE DEMOLITION PLANS
11M45	CORRIDOR	FIRST LEVEL	306.79 SF	102'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
11O31	REPORTING ROOM	FIRST LEVEL	739.84 SF	110'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	DEMOLITION	DEMOLITION	10' - 0"	SEE DEMOLITION PLANS
11P39	CORRIDOR	FIRST LEVEL	530.47 SF	161'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	REPLACE DAMAGED / MISSING APC TILE
11P43	BREAK ROOM	FIRST LEVEL	182.59 SF	55'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	9' - 9"	
11P44	RESTROOM	FIRST LEVEL	147.01 SF	49'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW TILE WAINSCOT / PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW TILE WAINSCOT / PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW TILE WAINSCOT / PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW TILE WAINSCOT /PAINT FINISH	DEMOLITION	DEMOLITION	9' - 9"	SEE DEMOLITION PLANS
11P45	RESTROOM	FIRST LEVEL	135.16 SF	47'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW TILE WAINSCOT / PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW TILE WAINSCOT / PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW TILE WAINSCOT / PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW TILE WAINSCOT / PAINT FINISH	DEMOLITION	DEMOLITION	9' - 7"	SEE DEMOLITION PLANS
11P46	ELECTRICAL CLOSET	FIRST LEVEL	60.42 SF	34'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	NONE	NONE	9' - 0"	SEE DEMOLITION PLANS
11R37	COIN VAULT	FIRST LEVEL	211.56 SF	60'	REMOVE EXISTING VCT	REMOVE VINYL BASE	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING CMU	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
REMOVE EXISTING VCT: 16			4425.15 SF	1148'														
REMOVE RESILIENT SHEET FLOORING																		
11J41	SHOWER	FIRST LEVEL	26.52 SF	21'	REMOVE RESILIENT SHEET FLOORING	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	8' - 0"	
11J56	BREAK ROOM	FIRST LEVEL	146.27 SF	51'	REMOVE RESILIENT SHEET FLOORING	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
11QQ39	COPY / SUPPLY	FIRST LEVEL	184.44 SF	54'	REMOVE RESILIENT SHEET FLOORING	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	SEE DEMOLITION PLANS
11QQ53	COPY / STORAGE	FIRST LEVEL	130.23 SF	46'	REMOVE RESILIENT SHEET FLOORING	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINSH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINSH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	SEE DEMOLITION PLANS
11R43	COPY ROOM	FIRST LEVEL	150.35 SF	56'	REMOVE RESILIENT SHEET FLOORING	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
11S26	COPY / FILE	FIRST LEVEL	424.66 SF	84'	REMOVE RESILIENT SHEET FLOORING	REMOVE VINYL BASE	DEMOLITION	DEMOLITION	DEMOLITION	DEMOLITION	DEMOLITION	DEMOLITION	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	9' - 0"	SEE DEMOLITION PLANS
REMOVE RESILIENT SHEET FLOORING: 6			1062.46 SF	312'														
REMOVE TILE CARPET																		
11AA63	LOBBY	FIRST LEVEL	97.09 SF	42'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	NEW PAINT	10' - 0"	
11CC35	CORRIDOR	FIRST LEVEL	706.62 SF	241'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	10' - 0"	SEE DEMOLITION PLANS
11DD45	CORRIDOR	FIRST LEVEL	684.30 SF	241'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	
11FF22	OFFICE	FIRST LEVEL	124.29 SF	45'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	11' - 8"	
11FF29	SALES & MARKETING	FIRST LEVEL	5051.80 SF	318'	REMOVE TILE CARPET	REMOVE VINYL BASE	DEMOLITION	DEMOLITION	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	SALVAGE	DEMOLITION	11' - 2"	REPLACE EXISTING DAMAGED W/ SALVAGED
11FF43	LAN ROOM	FIRST LEVEL	250.31 SF	65'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	SEE DEMOLITION PLANS
11GG18	TRAINING ROOM	FIRST LEVEL	832.06 SF	124'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PRE-FINISHED	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 6"	REMOVE TACK BOARD OVER BASE CABINETS
11HH47	OFFICE	FIRST LEVEL	180.28 SF	54'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	
11HH50	OFFICE	FIRST LEVEL	175.28 SF	53'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	
11HH53	OFFICE	FIRST LEVEL	175.28 SF	53'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	
11HH56	OFFICE	FIRST LEVEL	175.28 SF	53'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	
11HH62	OFFICE	FIRST LEVEL	173.79 SF	53'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	
11I26	WAREHOUSE OFFICE	FIRST LEVEL	245.29 SF	63'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	DEMOLITION	DEMOLITION	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	9' - 0"	SEE DEMOLITION PLANS
11J22	COPY	FIRST LEVEL	63.62 SF	33'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	11' - 8"	
11JJ62	OFFICE	FIRST LEVEL	193.11 SF	57'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINSH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
11KK50	CONFERENCE ROOM	FIRST LEVEL	666.81 SF	107'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINSH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	10' - 0"	SEE DEMOLITION PLANS
11LL18	TRAINING ROOM	FIRST LEVEL	819.85 SF	123'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	PRE-FINISHED	10' - 0"	REMOVE TACK BOARD OVER BASE CABINETS
11LL37	VIDEO CONFERENCE ROOM	FIRST LEVEL	463.33 SF	88'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	NEW PAINT	10' - 0"	SEE REFLECTED CEILING PLAN
11LL42	COSTOMER PRESENTATION ROOM	FIRST LEVEL	502.96 SF	105'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE MARKER BOARD / PREPARE FOR NEW PAINT FINISH	EXISTING TO REMAIN	NEW PAINT	10' - 0"	REMOVE MARKER BOARD. PREPARE FOR NEW PAINT FINISH.
11MM62	CONFERENCE ROOM	FIRST LEVEL	320.81 SF	72'	REMOVE TILE CARPET	REMOVE VINYL BASE	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	EXISTING GYPSUM BOARD	REMOVE WALL PAPER / PREPARE FOR NEW PAINT FINISH	DEMOLITION	DEMOLITION	10' - 0"	SEE DEMOLITION PLANS
11N26	OFFICE	FIRST LEVEL	557.34 SF	98'	REMOVE TILE CARPET	REMO

WALL SCHEDULE - EXISTING TO REMAIN

MARK	TYPE MARK	Family and Type	WIDTH	LENGTH	AREA	STRUCTURAL USAGE	FUNCTION	FIRE RATING	PHASE CREATED	PHASE DEMOLISHED	COMMENTS	Unconnected Height
EXISTING												
JJ62B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
MM63B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
MM62C	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ62A	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ62B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ59B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ55B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ53B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ50B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ47	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ38	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ33B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		13' - 4"	100 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
QQ28B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		13' - 4"	100 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
HH62B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
Y59D	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
Y59C	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
Y59B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
Y59A	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
P62B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
K59B	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
K59A	P06	Curtain Wall: EXTERIOR WINDOW - EXISTING		6' - 8"	50 SF	Non-bearing	Exterior		EXISTING	None		7' - 6"
P06: 21					1150 SF							
E405	P07	Basic Wall: INTERIOR - NOM. 8" CMU	7 5/8"	37' - 10"	699 SF	Bearing	Interior		EXISTING	None		18' - 5 1/2"
P07: 1					699 SF							
E399	P12	Curtain Wall: Storefront A		19' - 4"	188 SF	Non-bearing	Exterior	0HR	EXISTING	NEW CONSTRUCTION		9' - 9"
E400	P12	Curtain Wall: Storefront A		24' - 3"	236 SF	Non-bearing	Exterior	0HR	EXISTING	NEW CONSTRUCTION		9' - 9"
E401	P12	Curtain Wall: Storefront A		24' - 3"	236 SF	Non-bearing	Exterior	0HR	EXISTING	NEW CONSTRUCTION		9' - 9"
E402	P12	Curtain Wall: Storefront A		24' - 3"	236 SF	Non-bearing	Exterior	0HR	EXISTING	None		9' - 9"
E403	P12	Curtain Wall: Storefront A		24' - 3"	236 SF	Non-bearing	Exterior	0HR	EXISTING	None		9' - 9"
P12: 5					1132 SF							
E363	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		14' - 6"	125 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E364	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		14' - 6"	125 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E365	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		14' - 6"	125 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E367	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 0"	95 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E368	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		8' - 6"	74 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E369	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		14' - 6"	126 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E370	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		14' - 0"	121 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E371	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		14' - 0"	121 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E372	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		14' - 0"	121 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E373	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		14' - 0"	121 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E374	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		6' - 6"	56 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E375	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 0"	95 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E376	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 0"	95 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E377	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 0"	95 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E378	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 0"	95 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E379	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 0"	95 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E380	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 0"	95 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E381	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 0"	95 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E382	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 6"	100 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E383	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 6"	100 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E384	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		11' - 6"	100 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E385	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		8' - 7"	74 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E386	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		10' - 0"	87 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E387	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		6' - 6"	56 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E388	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		4' - 6"	39 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E389	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		4' - 6"	39 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E390	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		24' - 6"	221 SF	Non-bearing	Interior	0HR	EXISTING	None		9' - 0"
E391	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		13' - 8"	118 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E392	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		13' - 8"	118 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E393	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		4' - 6"	41 SF	Non-bearing	Interior	0HR	EXISTING	None		9' - 0"
E394	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		4' - 5"	39 SF	Non-bearing	Interior	0HR	EXISTING	None		9' - 0"
E395	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		13' - 6"	121 SF	Non-bearing	Interior	0HR	EXISTING	None		9' - 0"
E396	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		8' - 4"	75 SF	Non-bearing	Interior	0HR	EXISTING	None		9' - 0"
E397	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		17' - 8"	153 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
E398	P13	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - EXISTING		17' - 8"	153 SF	Non-bearing	Interior	0HR	EXISTING	None		8' - 8"
P13: 35					3513 SF							
E413	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING TILE	7 1/2"	48' - 5"	899 SF	Non-bearing	Interior		EXISTING	None		18' - 5 1/2"
E414	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING	7 1/4"	107' - 1"	2032 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E415	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING	7 1/4"	36' - 6"	608 SF	Non-bearing	Interior		EXISTING	None		17' - 6 1/2"
E416	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING	7 1/4"	47' - 0"	514 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E418	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING	7 1/4"	15' - 2"	175 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING	7 1/4"	55' - 3"	961 SF	Non-bearing	Interior		EXISTING	None		17' - 6 1/2"
	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING TILE	7 1/2"	15' - 10"	281 SF	Non-bearing	Interior		EXISTING	None		17' - 6 1/2"
	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING TILE	7 1/2"	11' - 8"	205 SF	Non-bearing	Interior		EXISTING	None		17' - 6 1/2"
	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD - EXISTING	6 5/8"	4"	6 SF	Non-bearing	Interior		EXISTING	None		17' - 6 1/2"
	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING TILE	7 1/2"	32' - 1"	557 SF	Non-bearing	Interior		EXISTING	None		18' - 5 1/2"
	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - EXISTING	7 1/4"	43' - 1"	703 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
P403: 11					6941 SF							
E101	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	70' - 1"	368 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E102	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	111' - 9"	692 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E103	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	3' - 0"	31 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E104	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 5"	176 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E105	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	49' - 1"	301 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E106	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	140 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E107	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	140 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E108	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	140 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E109	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	140 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E110	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 5"	176 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E111	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 5"	176 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E112	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 5"	176 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E113	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 5"	176 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E114	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 5"	176 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E115	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 5"	176 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E116	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 5"	176 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E117	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	17' - 4"	200 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E118	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	17' - 4"	200 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E119	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	25' - 2"	238 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E120	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	67' - 7"	811 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E121	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	126 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E122	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	20' - 11"	233 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E123	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	67' - 7"	316 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E124	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	144 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E125	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	144 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E126	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	144 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E127	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 5"	144 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E128	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 0"	139 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E129	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 8"	63 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E130	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	19' - 11"	97 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E131	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	9' - 9"	117 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E132	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	16' - 2"	166 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E133	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	13' - 6"	140 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E134	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	42' - 11"	469 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E135	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	8' - 6"	97 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E136	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	1' - 6"	13 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E137	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	1' - 6"	13 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E138	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	8' - 6"	97 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E139	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	42' - 5"	440 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E140	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 8"	183 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E141	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 8"	183 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E142	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 8"	183 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E143	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 8"	188 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E144	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	43' - 3"	202 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E145	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	49' - 2"	582 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E146	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 8"	183 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E147	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 8"	183 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E148	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	15' - 8"	183 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E149	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	49' - 2"	200 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E150	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	14' - 11"	179 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E151	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	13' - 9"	139 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E152	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 0"	121 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E153	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	3' - 6"	37 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E154	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	4' - 8"	53 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E155	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	4' - 8"	48 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E156	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	7' - 6"	46 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E513	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	13' - 9"	162 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E158	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	42' - 10"	207 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E159	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	25' - 10"	304 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E160	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	30' - 7"	361 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E161	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	19' - 7"	230 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E162	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	13' - 8"	121 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E163	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	17' - 4"	184 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E164	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	2' - 0"	19 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E165	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	31' - 9"	364 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E166	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	9' - 0"	34 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E167	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	5' - 0"	32 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E168	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	14' - 2"	166 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E169	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	1' - 1"	18 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E170	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	1' - 9"	12 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E171	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	20' - 7"	247 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E172	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	5' - 4"	66 SF	Non-bearing	Interior		EXISTING	None		12' - 0"

WALL SCHEDULE - EXISTING TO REMAIN

MARK	TYPE MARK	Family and Type	WIDTH	LENGTH	AREA	STRUCTURAL USAGE	FUNCTION	FIRE RATING	PHASE CREATED	PHASE DEMOLISHED	COMMENTS	Unconnected Height
E173	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	5' - 4"	48 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E174	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	21' - 1"	247 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E175	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 11"	126 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E176	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	6' - 5"	76 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E177	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	1' - 8"	18 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E178	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	12' - 6"	95 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E179	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	4' - 10"	58 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E180	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	13' - 6"	162 SF	Non-bearing	Interior		E

WALL SCHEDULE - EXISTING TO REMAIN

MARK	TYPE MARK	Family and Type	WIDTH	LENGTH	AREA	STRUCTURAL USAGE	FUNCTION	FIRE RATING	PHASE CREATED	PHASE DEMOLISHED	COMMENTS	Unconnected Height
E311	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	12' - 2"	137 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E312	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	12' - 2"	137 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E313	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3' - 4"	40 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E314	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	7"	7 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E315	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3' - 4"	36 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E316	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	7"	11 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E317	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	2' - 6"	34 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E318	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3' - 4"	40 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E319	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	2' - 6"	30 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E320	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3' - 4"	36 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E321	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3' - 1"	41 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E322	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	8"	8 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E323	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3' - 1"	32 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E324	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	8"	8 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E325	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3' - 1"	32 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E326	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	8"	12 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E327	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3' - 1"	37 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E328	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	8"	8 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E329	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	5' - 5"	63 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E330	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	5' - 4"	64 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E331	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	9"	13 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E332	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	9' - 10"	113 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E333	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	9"	13 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E334	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	9' - 10"	113 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E335	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	9"	13 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E336	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	21' - 6"	254 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E337	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	43' - 7"	519 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E338	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	21' - 4"	252 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E339	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	8"	10 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E340	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	17' - 8"	211 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E341	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	1' - 3"	13 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E342	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	1' - 5"	21 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E343	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	1' - 6"	12 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E344	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	1' - 6"	14 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E345	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	9"	13 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E346	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	2' - 2"	27 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E347	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	2"	5 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E348	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	9"	9 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E349	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	1' - 4"	17 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E350	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	5"	5 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E351	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	5' - 8"	66 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E352	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	11' - 2"	134 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E353	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	10"	6 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E354	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING TILE	4 1/2"	12' - 7"	145 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E355	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING TILE	4 1/2"	12' - 7"	146 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E356	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	4' - 2"	48 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E357	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	17' - 5"	205 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E358	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	3"	3 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E359	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	5' - 8"	66 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E360	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	11' - 2"	129 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E361	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	12' - 2"	144 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E362	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	5' - 3"	61 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	9"	9 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
P922: 115					9583 SF							
E442	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E443	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E444	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E445	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E446	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E447	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E448	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E449	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E450	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E451	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E452	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E453	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E454	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E455	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E456	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E457	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E458	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E459	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E460	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E461	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E462	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E463	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E464	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E465	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E466	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E467	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E468	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E469	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E470	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E471	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E472	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E473	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E474	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	18 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E475	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E476	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	15 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E477	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	12 SF	Non-bearing	Exterior		EXISTING	None		9' - 0"
E478	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	10' - 10"	32 SF	Non-bearing	Exterior		EXISTING	None		2' - 11"
E479	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	198' - 4"	578 SF	Non-bearing	Exterior		EXISTING	None		3' - 0"
E480	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	10' - 10"	31 SF	Non-bearing	Exterior		EXISTING	None		3' - 0"
E481	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E482	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E483	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E484	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E485	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E486	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E487	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E488	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E489	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E490	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E491	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E492	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E493	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E494	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E495	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E496	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E497	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E498	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E499	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E500	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E501	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E502	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E503	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E504	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E505	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E506	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	3' - 8"	37 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E507	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 8"	21 SF	Non-bearing	Exterior		EXISTING	None		11' - 0"
E508	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	30' - 9"	229 SF	Non-bearing	Exterior		EXISTING	None		7' - 5 1/2"
E509	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	2' - 3"	11 SF	Non-bearing	Exterior		EXISTING	None		7' - 5 1/2"
E510	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	100' - 4"	739 SF	Non-bearing	Exterior		EXISTING	None		7' - 4 1/8"
E511	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 10"	13 SF	Non-bearing	Exterior		EXISTING	None		7' - 5 1/2"
E512	P923	Basic Wall: EXTERIOR - EIFS - EXISTING	4"	1' - 10"	13 SF	Non-bearing	Exterior		EXISTING	None		7' - 5 1/2"
P923: 71					2889 SF							
E428	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU GUTTER	11 5/8"	55' - 2"	1018 SF	Bearing	Exterior		EXISTING	None		18' - 5 1/2"
E429	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU	11 5/8"	45' - 8"	626 SF	Bearing	Exterior		EXISTING	None		20' - 5 1/2"
E430	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU	11 5/8"	99' - 0"	1794 SF	Bearing	Exterior		EXISTING	None		18' - 9 1/4"
E435	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU	11 5/8"	179' - 7"	3058 SF	Bearing	Exterior		EXISTING	None		20' - 11 1/2"
E431	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU - FIRE RATED	11 5/8"	224' - 9"	5174 SF	Bearing	Exterior		EXISTING	None		23' - 9 1/2"
E432	P924	Basic Wall: INTERIOR = EXISTING NOM. 12" CMU	11 5/8"	50' - 10"	895 SF	Bearing	Exterior		EXISTING	None		18' - 5 1/2"
E433	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU	11 5/8"	48' - 11"	903 SF	Bearing	Exterior		EXISTING	None		18' - 5 1/2"
E434	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU GUTTER	11 5/8"	107' - 9"	1934 SF	Bearing	Exterior		EXISTING	None		18' - 5 1/2"
E434.1	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU - DEMOLITION	11 5/8"	21' - 3"	24 SF	Bearing	Exterior		EXISTING	None		1' - 1 1/2"
E433.1	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU - DEMOLITION	11 5/8"	14' - 8"	7 SF	Bearing	Exterior		EXISTING	None		5 1/2"
P924: 10					15433 SF							
E436	P925	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU - EFIS	1' - 1 5/8"	199' - 6"	3461 SF	Bearing	Exterior		EXISTING	None		20' - 11 1/2"
E437	P925	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU - EFIS	1' - 1 5/8"	57' - 3"	1008 SF	Bearing	Exterior		EXISTING	None		20' - 11 1/2"
P925: 2					4468 SF							
E438	P926	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU - EFIS 2	1' - 1 5/8"	96' - 3"	1830 SF	Bearing	Exterior		EXISTING	None		28' - 5 1/2"
P926: 1					1830 SF							
E439	P927	Basic Wall: EXTERIOR - EFIS - EXISTING 2	4"	201' - 8"	606 SF	Non-bearing	Exterior		EXISTING	None		3' - 0"
E440	P927	Basic Wall: EXTERIOR - EFIS - EXISTING 2	4"	12' - 6"	36 SF	Non-bearing	Exterior		EXISTING	None		2' - 11"
E441	P927	Basic Wall: EXTERIOR - EFIS - EXISTING 2	4"	12' - 6"	37 SF	Non-bearing	Exterior		EXISTING	None		3' - 0"
P927: 3					679 SF							
E419	P928	Basic Wall: INTERIOR - GYPSUM - 5 5/8 METAL FRAMING - GYPSUM - EXISTING	6 7/8"	4' - 3"	47 SF	Non-bearing	Interior		EXISTING	None		12' - 0"

WALL SCHEDULE - EXISTING TO REMAIN

MARK	TYPE MARK	Family and Type	WIDTH	LENGTH	AREA	STRUCTURAL USAGE	FUNCTION	FIRE RATING	PHASE CREATED	PHASE DEMOLISHED	COMMENTS	Unconnected Height
E420	P928	Basic Wall: INTERIOR - GYPSUM - 5 5/8 METAL FRAMING - GYPSUM - EXISTING	6 7/8"	19' - 10"	234 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E421	P928	Basic Wall: INTERIOR - GYPSUM - 5 5/8 METAL FRAMING - GYPSUM - EXISTING	6 7/8"	3' - 3"	44 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E422	P928	Basic Wall: INTERIOR - GYPSUM - 5 5/8 METAL FRAMING - GYPSUM - EXISTING	6 7/8"	3' - 3"	39 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
P928: 4					364 SF							
E423	P929	Basic Wall: INTERIOR - GYPSUM - 8 METAL FRAMING - GYPSUM EXISTING	9 1/4"	8' - 6"	102 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E424	P929	Basic Wall: INTERIOR - GYPSUM - 8 METAL FRAMING - GYPSUM EXISTING	9 1/4"	19' - 10"	235 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E425	P929	Basic Wall: INTERIOR - GYPSUM - 8 METAL FRAMING - GYPSUM EXISTING	9 1/4"	5' - 4"	59 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
P929: 3					395 SF							
E426	P930	Basic Wall: INTERIOR - GYPSUM - 5 5/8 METAL FRAMING - EXISTING	6 1/4"	4' - 9"	55 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
E427	P930	Basic Wall: INTERIOR - GYPSUM - 5 5/8 METAL FRAMING - EXISTING	6 1/4"	13' - 3"	161 SF	Non-bearing	Interior		EXISTING	None		12' - 0"
P930: 2					216 SF							
EXISTING: 446					73360 SF							
Grand total: 446					73360 SF							

CEILING SCHEDULE - EXISTING TO REMAIN

MARK	TYPE MARK	FAMILY AND TYPE	PERIMETER	AREA	PHASE CREATED	PHASE DEMOLISHED
APC-E01	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	66' - 7"	229 SF	EXISTING	None
APC-E02	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	55' - 4"	162 SF	EXISTING	None
APC-E04	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	56' - 6"	169 SF	EXISTING	None
APC-E05	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	54' - 8"	159 SF	EXISTING	None
APC-E06	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	45' - 8"	114 SF	EXISTING	None
APC-E07	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	56' - 0"	166 SF	EXISTING	None
APC-E08	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	60' - 10"	179 SF	EXISTING	None
APC-E09	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	223' - 4"	1328 SF	EXISTING	None
APC-E10	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	50' - 8"	130 SF	EXISTING	None
APC-E11	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	32' - 0"	56 SF	EXISTING	None
APC-E12	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	32' - 1"	56 SF	EXISTING	None
APC-E13	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	54' - 0"	148 SF	EXISTING	None
APC-E14	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	53' - 2"	143 SF	EXISTING	None
APC-E15	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	53' - 2"	143 SF	EXISTING	None
APC-E16	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	53' - 2"	143 SF	EXISTING	None
APC-E17	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	37' - 6"	73 SF	EXISTING	None
APC-E18	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	53' - 2"	150 SF	EXISTING	None
APC-E19	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	53' - 9"	145 SF	EXISTING	None
APC-E20	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	53' - 9"	145 SF	EXISTING	None
APC-E21	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	53' - 9"	145 SF	EXISTING	None
APC-E22	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	56' - 1"	163 SF	EXISTING	None
APC-E23	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	53

WALL SCHEDULE - DEMOLITION

MARK	TYPE MARK	Family and Type	WIDTH	AREA	LENGTH	STRUCTURAL USAGE	FUNCTION	FIRE RATING	PHASE CREATED	PHASE DEMOLISHED
D160	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM- DEMOLITION	7 1/4"	166 SF	8' - 9"	Non-bearing	Interior		EXISTING	DEMOLITION
D161	P403	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM- DEMOLITION	7 1/4"	103 SF	8' - 10"	Non-bearing	Interior		EXISTING	DEMOLITION
P403: 2				270 SF						
D101	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	92 SF	9' - 11"	Non-bearing	Interior		EXISTING	DEMOLITION
D102	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	47 SF	13' - 4"	Non-bearing	Interior		EXISTING	DEMOLITION
E157	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	34 SF	3' - 2"	Non-bearing	Interior		EXISTING	DEMOLITION
D104	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	199 SF	19' - 0"	Non-bearing	Interior		EXISTING	DEMOLITION
D105	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	490 SF	40' - 9"	Non-bearing	Interior		EXISTING	DEMOLITION
D106	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	61 SF	9' - 10"	Non-bearing	Interior		EXISTING	DEMOLITION
D107	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	13 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D108	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	96 SF	8' - 0"	Non-bearing	Interior		EXISTING	DEMOLITION
D109	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	363 SF	30' - 11"	Non-bearing	Interior		EXISTING	DEMOLITION
D110	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	222 SF	19' - 0"	Non-bearing	Interior		EXISTING	DEMOLITION
D111	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	84 SF	6' - 9"	Non-bearing	Interior		EXISTING	DEMOLITION
D112	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	25 SF	8' - 9"	Non-bearing	Interior		EXISTING	DEMOLITION
D113	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	14 SF	5' - 0"	Non-bearing	Interior		EXISTING	DEMOLITION
D114	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	40 SF	13' - 8"	Non-bearing	Interior		EXISTING	DEMOLITION
D115	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	13 SF	4' - 8"	Non-bearing	Interior		EXISTING	DEMOLITION
D116	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	37 SF	5' - 5"	Non-bearing	Interior		EXISTING	DEMOLITION
D117	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	305 SF	31' - 2"	Non-bearing	Interior		EXISTING	DEMOLITION
D118	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	144 SF	12' - 2"	Non-bearing	Interior		EXISTING	DEMOLITION
D120	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	120 SF	10' - 0"	Non-bearing	Interior		EXISTING	DEMOLITION
E242	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - EXISTING	4 7/8"	103 SF	8' - 7"	Non-bearing	Interior		EXISTING	DEMOLITION
D121	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	120 SF	10' - 0"	Non-bearing	Interior		EXISTING	DEMOLITION
D122	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	64 SF	5' - 4"	Non-bearing	Interior		EXISTING	DEMOLITION
D123	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	437 SF	36' - 8"	Non-bearing	Interior		EXISTING	DEMOLITION
D124	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	115 SF	9' - 10"	Non-bearing	Interior		EXISTING	DEMOLITION
D125	P901	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM - DEMOLITION	4 7/8"	32 SF	5' - 0"	Non-bearing	Interior		EXISTING	DEMOLITION
P901: 25				3268 SF						
E366	P902	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - DEMOLITION		160 SF	18' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D126	P902	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - DEMOLITION		108 SF	12' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D127	P902	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2" - DEMOLITION		56 SF	6' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
P902: 3				325 SF						
D128	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	11 SF	7"	Non-bearing	Interior		EXISTING	DEMOLITION
D129	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	11 SF	7"	Non-bearing	Interior		EXISTING	DEMOLITION
D130	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	11 SF	7"	Non-bearing	Interior		EXISTING	DEMOLITION
D131	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	11 SF	7"	Non-bearing	Interior		EXISTING	DEMOLITION
D132	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	7 SF	7"	Non-bearing	Interior		EXISTING	DEMOLITION
D133	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	11 SF	7"	Non-bearing	Interior		EXISTING	DEMOLITION
D134	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	11 SF	7"	Non-bearing	Interior		EXISTING	DEMOLITION
D135	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	13 SF	9"	Non-bearing	Interior		EXISTING	DEMOLITION
D136	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	19 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D137	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	14 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D138	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	77 SF	6' - 5"	Non-bearing	Interior		EXISTING	DEMOLITION
D139	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	18 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D140	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	211 SF	17' - 7"	Non-bearing	Interior		EXISTING	DEMOLITION
D141	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	18 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D142	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	65 SF	5' - 5"	Non-bearing	Interior		EXISTING	DEMOLITION
D143	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	16 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D144	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	18 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D145	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	61 SF	5' - 1"	Non-bearing	Interior		EXISTING	DEMOLITION
D146	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	18 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D147	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	14 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D148	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	13 SF	9"	Non-bearing	Interior		EXISTING	DEMOLITION
D149	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	23 SF	2' - 2"	Non-bearing	Interior		EXISTING	DEMOLITION
D150	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	14 SF	1' - 6"	Non-bearing	Interior		EXISTING	DEMOLITION
D151	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	13 SF	9"	Non-bearing	Interior		EXISTING	DEMOLITION
D152	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	26 SF	2' - 5"	Non-bearing	Interior		EXISTING	DEMOLITION
D153	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - EXISTING	4 1/4"	13 SF	9"	Non-bearing	Interior		EXISTING	DEMOLITION
D154	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	21 SF	1' - 9"	Non-bearing	Interior		EXISTING	DEMOLITION
D155	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	21 SF	1' - 9"	Non-bearing	Interior		EXISTING	DEMOLITION
D156	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	21 SF	1' - 9"	Non-bearing	Interior		EXISTING	DEMOLITION
D157	P922	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - DEMOLITION	4 1/4"	21 SF	1' - 9"	Non-bearing	Interior		EXISTING	DEMOLITION
P922: 30				822 SF						
D158	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU - DEMOLITION	11 5/8"	300 SF	17' - 4"	Bearing	Exterior		EXISTING	DEMOLITION
D159	P924	Basic Wall: EXTERIOR = EXISTING NOM. 12" CMU - DEMOLITION	11 5/8"	182 SF	21' - 3"	Bearing	Exterior		EXISTING	DEMOLITION
P924: 2				482 SF						
Grand total: 62				5167 SF						

CEILING SCHEDULE - DEMOLITION

MARK	TYPE MARK	FAMILY AND TYPE	PERIMETER	AREA	HEIGHT A.F.F.	PHASE CREATED	PHASE DEMOLISHED	COMMENTS
DEMOLITION								
APC-D03	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	52' - 2"	133 SF	10' - 0"	EXISTING	DEMOLITION	
APC-D01	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	107' - 4"	603 SF	10' - 0"	EXISTING	DEMOLITION	
APC-D02	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	37' - 9"	81 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D03	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	62' - 7"	207 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D04	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	96' - 6"	480 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D05	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	82' - 2"	354 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D06	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	109' - 6"	642 SF	10' - 0"	EXISTING	DEMOLITION	
ACP-D07	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	106' - 6"	576 SF	10' - 0"	EXISTING	DEMOLITION	
ACP-D08	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	139' - 1"	879 SF	9' - 0"	EXISTING	DEMOLITION	
APC-D29	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	82' - 8"	327 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D09	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	96' - 11"	239 SF	10' - 0"	EXISTING	DEMOLITION	
ACP-D12	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	102' - 2"	373 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D14	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	83' - 5"	317 SF	9' - 0"	EXISTING	DEMOLITION	
GBC-D10	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	87' - 0"	422 SF	10' - 10"	EXISTING	DEMOLITION	
ACP-D16	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	31' - 11"	60 SF	10' - 0"	EXISTING	DEMOLITION	
ACP-D17	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION	53' - 0"	164 SF	10' - 0"	EXISTING	DEMOLITION	
Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - DEMOLITION: 16				5858 SF				
APC-E48	APC-E1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING	21' - 5"	19 SF	8' - 0"	EXISTING	DEMOLITION	
Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - EXISTING: 1				19 SF				
ACP-D11	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - SALVAGE	215' - 6"	626 SF	10' - 0"	EXISTING	DEMOLITION	
ACP-D15	APC-D1	Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - SALVAGE	306' - 8"	4814 SF	11' - 2"	EXISTING	DEMOLITION	
Compound Ceiling: 2' x 2' ACOUSTICAL PANEL CEILING - SALVAGE: 2				5441 SF				
APC-D18	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	174' - 11"	1272 SF	9' - 0"	EXISTING	DEMOLITION	
APC-D19	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	118' - 10"	735 SF	10' - 0"	EXISTING	DEMOLITION	
ACP-D20	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	35' - 11"	64 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D21	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	47' - 1"	85 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D22	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	47' - 6"	125 SF	9' - 9"	EXISTING	DEMOLITION	
ACP-D23	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	47' - 4"	124 SF	9' - 9"	EXISTING	DEMOLITION	
ACP-D24	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	48' - 7"	140 SF	9' - 9"	EXISTING	DEMOLITION	
ACP-D25	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	46' - 8"	128 SF	9' - 7"	EXISTING	DEMOLITION	
ACP-D26	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	34' - 2"	52 SF	9' - 0"	EXISTING	DEMOLITION	
ACP-D27	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	254' - 0"	3494 SF	9' - 8"	EXISTING	DEMOLITION	
ACP-D28	APC-D2	Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION	54' - 2"	165 SF	9' - 9"	EXISTING	DEMOLITION	
Compound Ceiling: 2' x 4' ACOUSTICAL PANEL CEILING - DEMOLITION: 11				6384 SF				
GBC-D01	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	25' - 2"	38 SF	10' - 0"	EXISTING	DEMOLITION	
GBC-D02	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	24' - 6"	37 SF	10' - 0"	EXISTING	DEMOLITION	
GBC-D03	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	14' - 5"	13 SF	10' - 0"	EXISTING	DEMOLITION	
GBC-D04	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	38' - 2"	26 SF	8' - 0"	EXISTING	DEMOLITION	
GBC-D05	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	38' - 2"	26 SF	8' - 0"	EXISTING	DEMOLITION	
GBC-D06	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	38' - 2"	26 SF	8' - 0"	EXISTING	DEMOLITION	
GBC-D07	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	37' - 6"	26 SF	8' - 0"	EXISTING	DEMOLITION	
GBC-D08	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	82' - 4"	60 SF	8' - 0"	EXISTING	DEMOLITION	
GBC-D09	GBC-D1	Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION	158' - 0"	158 SF	9' - 0"	EXISTING	DEMOLITION	
Compound Ceiling: GYPSUM BOARD ON METAL STUD - DEMOLITION: 9				411 SF				

DOOR AND FRAME SCHEDULE - DEMOLITION

BUILDING IDENTIFICATION	DOOR IDENTIFICATION			DOOR						FRAME						FIRE RATING LABLE	HARDWARE		PHASE CREATED	PHASE DEMOLISHED	COMMENTS
	DOOR MARK	FROM ROOM	TO ROOM	SIZE WIDTH	SIZE HEIGHT	SIZE THICKNESS	DOOR MATERIAL	TYPE MARK	DOOR GLAZING	FRAME MATERIAL	FRAME TYPE	FRAME GLAZING	DETAIL HEAD DETAIL	DETAIL JAMB DETAIL	DETAIL SILL DETAIL		SET NUMBER	KEYSIDE ROOM NUMBER			
DEMOLITION																					
01	104A	RETAIL STORE	RESTROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11P40	EXISTING	DEMOLITION	
01	I26	OFFICE	WAREHOUSE OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11N26	EXISTING	DEMOLITION	
01	JJ56	EXECUTIVE SUITE	BREAK ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11OO53	EXISTING	DEMOLITION	
01	KK50A	EXECUTIVE SUITE	CONFERENCE ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11OO53	EXISTING	DEMOLITION	
01	KK50B	EXECUTIVE SUITE	CONFERENCE ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11OO53	EXISTING	DEMOLITION	
01	LL18	TRAINING ROOM		3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11LL18	EXISTING	DEMOLITION	
01	LL56	EXECUTIVE SUITE	STORAGE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11OO53	EXISTING	DEMOLITION	
01	MM62	CONFERENCE ROOM	EXECUTIVE SUITE	3' - 0 3/4"	7' - 0 3/4"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	ALUMINUM	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	N/A	11MM62	EXISTING	DEMOLITION	
01	N26	OFFICE	WAREHOUSE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11N26	EXISTING	DEMOLITION	
01	O12B	WAREHOUSE		3' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11O12	EXISTING	DEMOLITION	
01	O12C		WAREHOUSE	8' - 0"	8' - 0"	1 1/2"	STEEL	EXST.	N/A	STEEL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A		EXISTING	DEMOLITION	
01	OO53A	EXECUTIVE SUITE	CORRIDOR	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11OO53	EXISTING	DEMOLITION	
01	P41	RETAIL STORE	OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11P40	EXISTING	DEMOLITION	
01	P42	RETAIL STORE	OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11P40	EXISTING	DEMOLITION	
01	P43	RETAIL STORE	BREAK ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11P40	EXISTING	DEMOLITION	
01	P46	RETAIL STORE	ELECTRICAL CLOSET	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11P40	EXISTING	DEMOLITION	
01	PP18	TRAINING ROOM		3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11PP18	EXISTING	DEMOLITION	
01	R37	COIN ROOM	COIN VAULT	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11R41	EXISTING	DEMOLITION	
01	S26	SALES & MARKETING	COPY / FILE	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	EXST.	N/A	ALUMINUM	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11FF29	EXISTING	DEMOLITION	
01	S31	CORRIDOR	CONFRENCE ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	0HR	N/A	11CC35	EXISTING	DEMOLITION	
DEMOLITION: 20																					

JAMES K. PIPER JR.
REGISTERED
No.
4447
CIVIL
ENGINEERING
GRW PROJECT NO. 052A7-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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SCHEDULE - DEMOLITION WALL / CEILING / DOOR FRAME

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

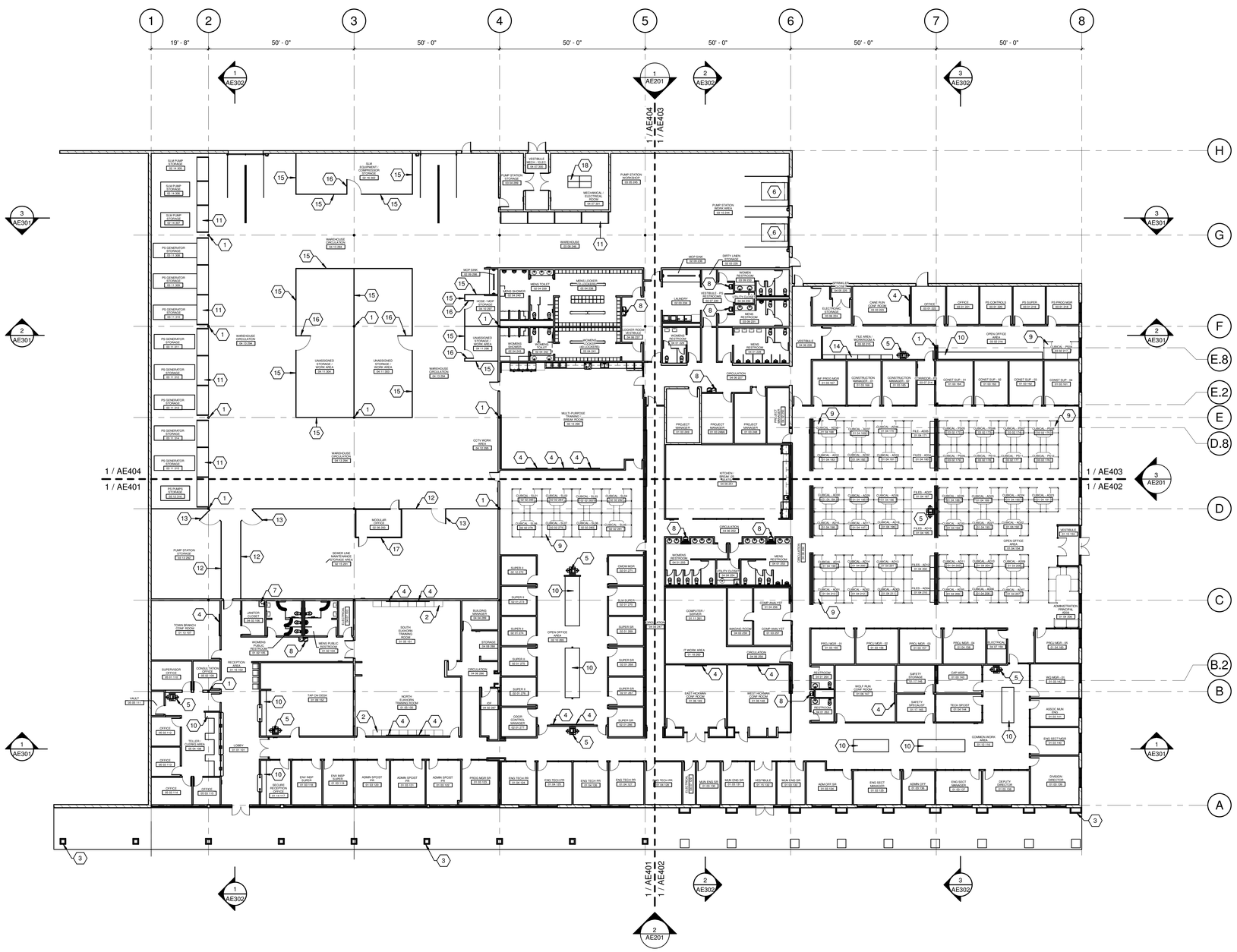
SCALE CHECK: 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE:

SHEET NO.: AD604 01

R:\152025-11.06.#R_AM - (LEAVE LEVEL) (DWG's NOT Working Drawings)\Revit Auto Cache Model\SA7-HLS3@001.rvt


1
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19' - 8"
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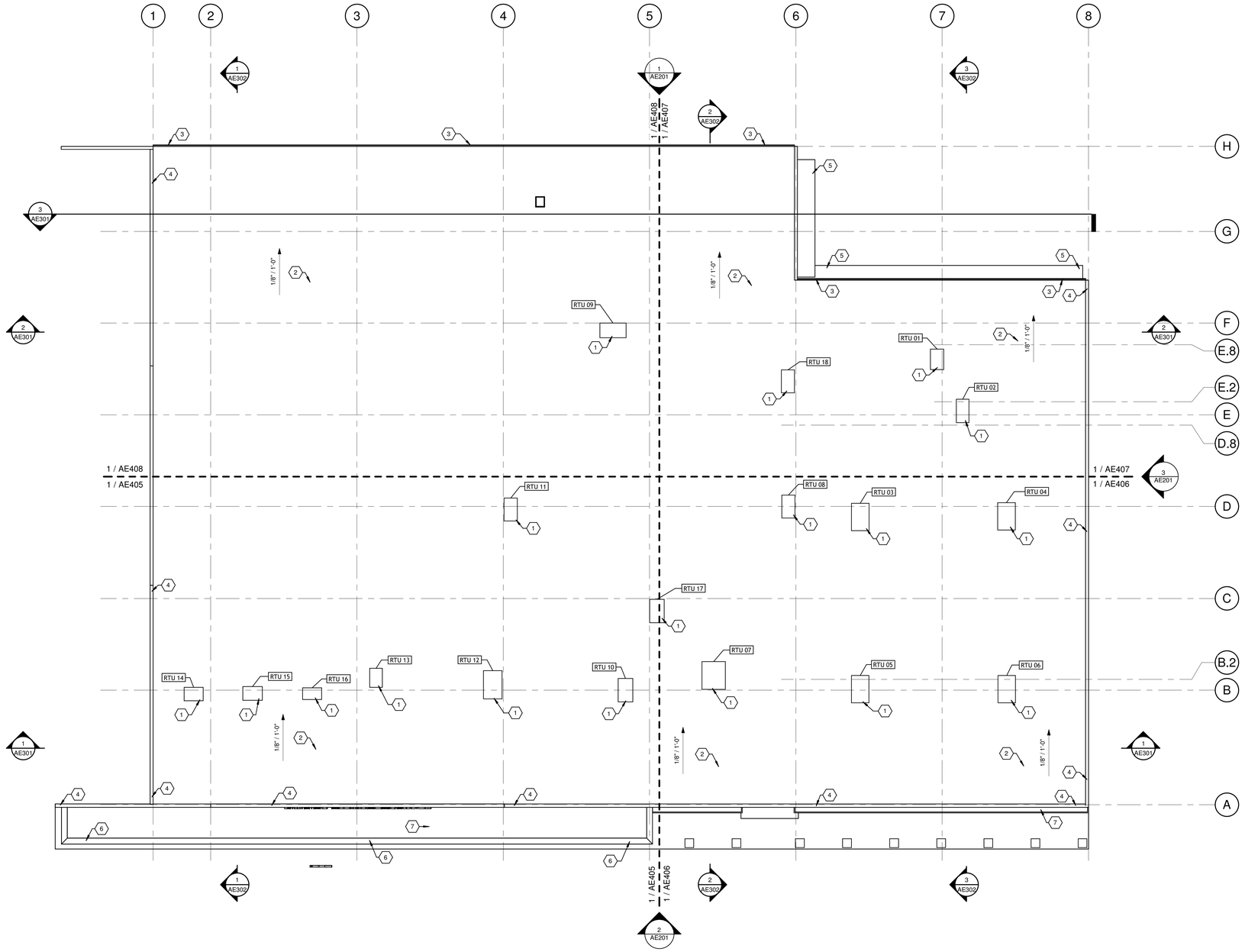
1 / AE404
1 / AE401
1 / AE403
1 / AE402
1 / AE201
2 / AE201
1 / AE301
2 / AE301
3 / AE301
1 / AE302
2 / AE302
3 / AE302
WAREHOUSE CIRCULATION
UNASSIGNED STORAGE
MEN'S LOCKER CIRCULATION
MEN'S TOILET
WOMEN'S TOILET
MEN'S RESTROOM
WOMEN'S RESTROOM
MULTI-PURPOSE TRAINING ROOM
CONFERENCE / CLASSROOM
CLASSROOM
PROJECT MANAGER
KITCHEN
OPEN OFFICE AREA
CONSTRUCTION MANAGER
CONST SUP
CLERICAL
FILES
PROJ MGR
ADMIN OFF
ENG SECT MANAGER
DEPUTY DIRECTOR
DIVISION DIRECTOR
ADMINISTRATION PRINCIPAL
OFFICE
CONFERENCE
SUPERVISOR OFFICE
CONSULTATION
RECEPTION
TELLER / CLERICAL AREA
LOBBY
VAULT
TAX CN DESK
SECURE RECEIVING / STORAGE
SOUTH ELEVATOR / MECHANICAL ROOM
NORTH ELEVATOR / MECHANICAL ROOM
SEWER LINE MAINTENANCE / WORK AREA
MODULAR OFFICE
JANITOR CLOSET
BUILDING MANAGER
STORAGE
CIRCULATION
SUPER
SUPERINTENDENT
DOOR WINDOW SUPERVISOR
ENG TECH PR
ENG INSP SUPR
ADMIN EPCOST PR
ENG MGR SUPR
ENG SECT MGR
ASSOC MUN ENG
ENG SECT MGR
ADMIN ASST
ELECTRICAL
SAFETY SPECIALIST
TECH SPCST
COMMON WORK AREA
COMPUTER / SERVER
COMP ANALYST
PUBLIC AFFAIRS SPECIALIST
PUBLIC AFFAIRS MANAGER
PUBLIC INFO OFFICER
ASSISTANT DIRECTOR
SUM PUMP STORAGE
PS GENERATOR STORAGE
PS PUMPS STORAGE
PUMP STATION WORKSHOP
PUMP STATION STORAGE
SUM EQUIPMENT / COMPRESSOR STORAGE
VESTIBULE
MECHANICAL ROOM
PUMP STATION OPERATIONS
MOP SINK
HOSE / MOP CHASE
WOMEN'S LOCKER CIRCULATION
LAUNDRY
DIRTY LINEN STORAGE
VEST/BULE - PR
HOUSEKEEPING
FILE AREA / WORKROOM
OPEN OFFICE
CAME RUN ZONE ROOM
PS CONTROLS
PS SURES
PS PROG MGR
RP PROG MGR
CONSTRUCTION MANAGER - PR
CONST SUP - PR
CONST SUP - IS
CONST SUP - JP
CONST SUP - NP
CLERICAL - PR/IS
CLERICAL - JP/NP
CLERICAL - ADM
FILES - ADM



1 ROOF LEVEL
SCALE: 1/16" = 1'-0"

GENERAL NOTES:

1. SEE AREA OF DETAIL ROOF LEVEL PLANS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS. SHEETS AE405, AE406, AE407, AE408.
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE STANDARD ROOFING DETAILS FOR ADDITIONAL REQUIREMENTS.
8. ADD ALTERNATE #1 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
2	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.
3	CONTINUOUS PRE-FINISHED METAL GUTTER AND DOWNSPOUTS.
4	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
5	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
6	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
7	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.

AREA KEY PLAN

PLAN NORTH

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

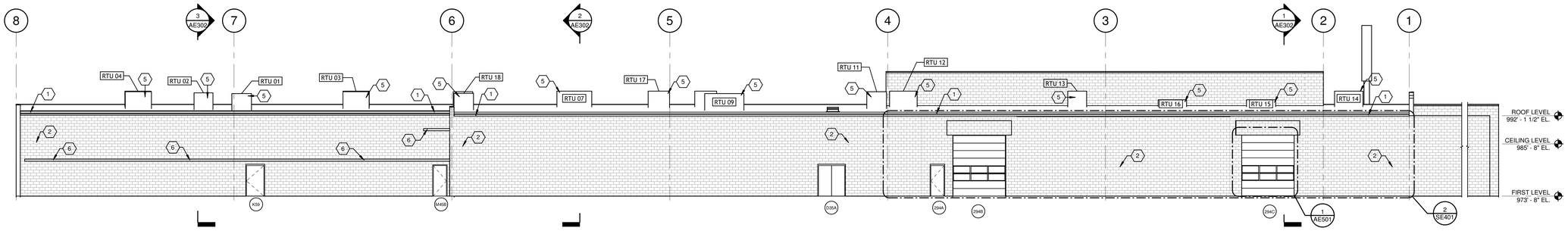
REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

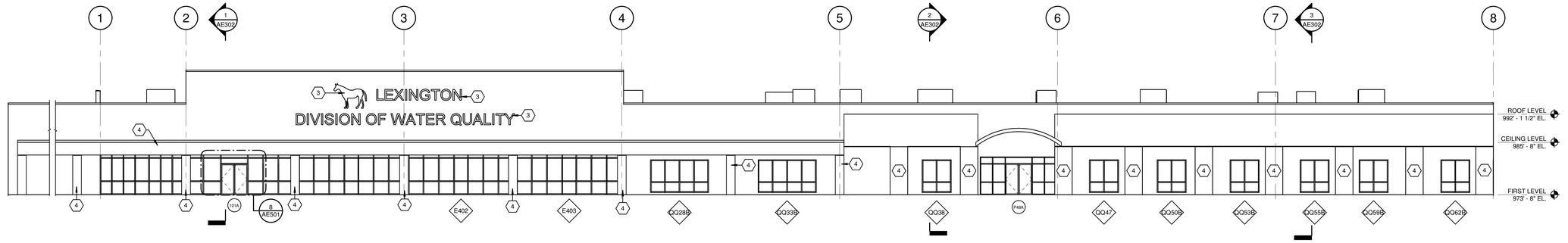
DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO.: AE102 01

8/13/2025 11:43:32 AM G:\05247-01\FLCG DWQ HQ\Working Drawings\Revit Arch\Central Model\05247-AE30B001.rvt



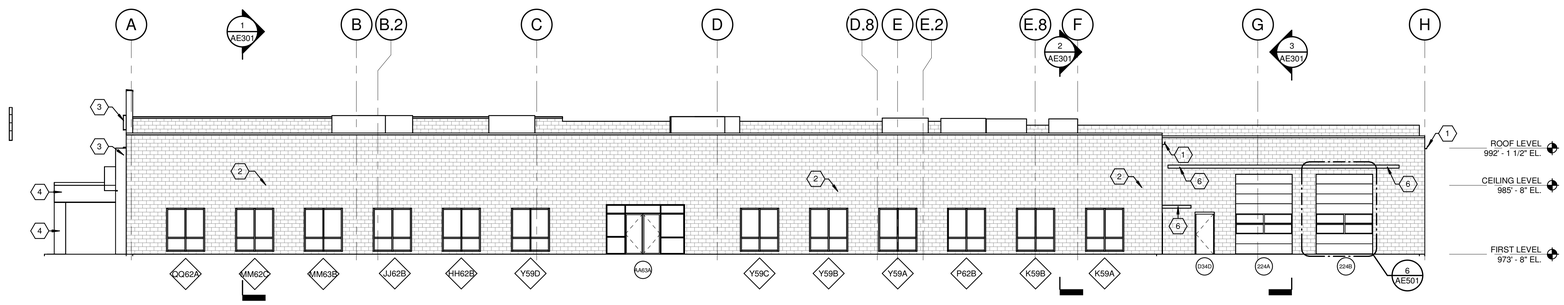
1 EXTERIOR NORTH ELEVATION - NEW CONSTRUCTION

SCALE: 3/32" = 1'-0"



2 EXTERIOR SOUTH ELEVATION - NEW CONSTRUCTION

SCALE: 3/32" = 1'-0"



3 EXTERIOR EAST ELEVATION - NEW CONSTRUCTION

SCALE: 3/32" = 1'-0"

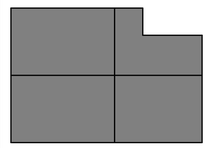
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	CONTINUOUS PRE-FINISHED METAL GUTTER AND DOWNSPOUTS.
2	EXISTING NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
3	DIMENSIONAL LETTER SIGNAGE - 30" HIGH.
4	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
5	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
6	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.

AREA KEY PLAN



JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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EXTERIOR ELEVATIONS
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

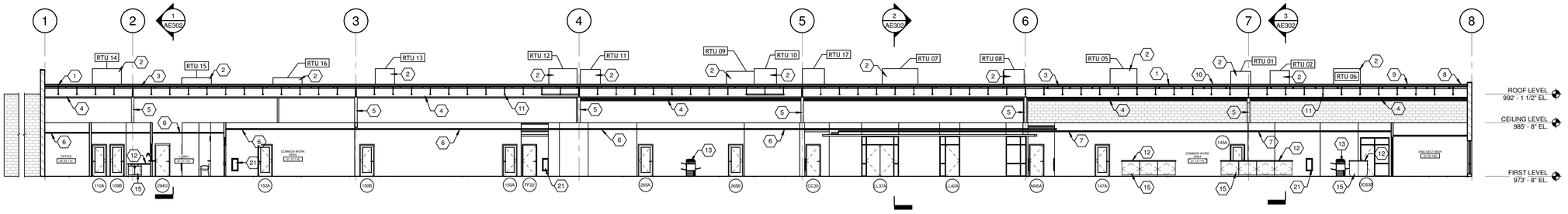
REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

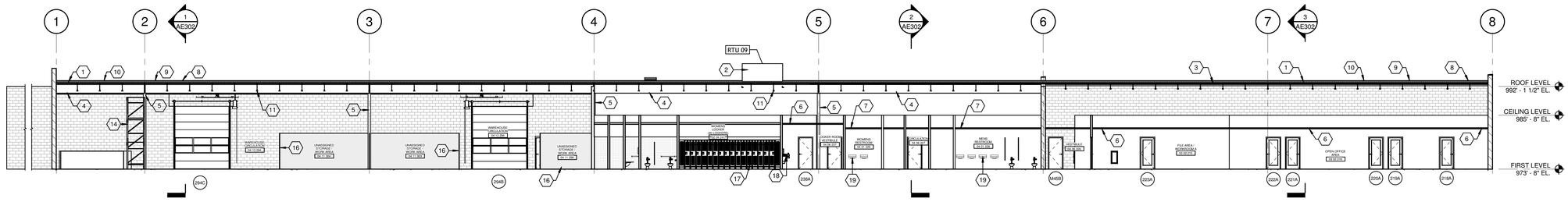
DATE: AUGUST 15, 2025
SCALE: 3/32" = 1'-0"
SHEET NO.: AE201 01

8/13/2025 11:43:34 AM G:\05247-01\PLCD\DWG\ARCH\Working Drawings\Base Arch\Current Model\05247-AE2R001.rvt



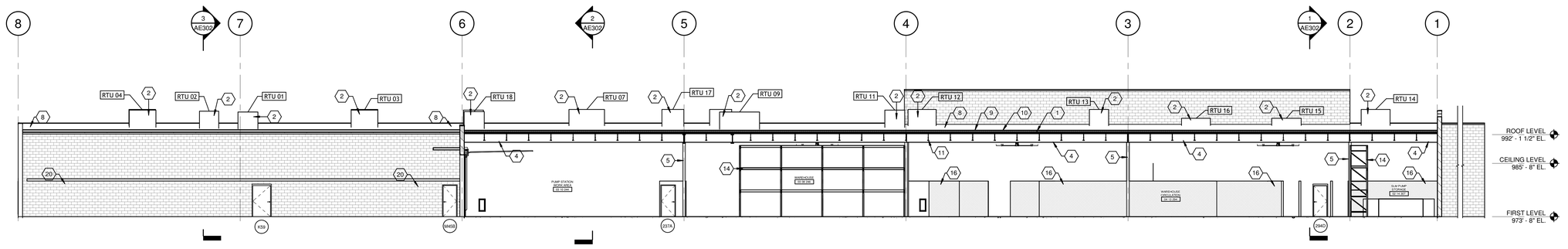
1 LONGITUDINAL BUILDING SECTION 01

SCALE: 3/32" = 1'-0"



2 LONGITUDINAL BUILDING SECTION 02

SCALE: 3/32" = 1'-0"



3 LONGITUDINAL BUILDING SECTION 03

SCALE: 3/32" = 1'-0"

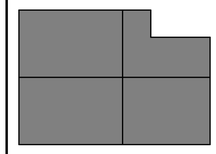
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE CORRESPONDING WALL SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	4" BASE POLYISOCYANURATE RIGID INSULATION.
2	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
3	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2, REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.
4	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.
5	EXISTING STRUCTURAL COLUMN TO REMAIN.
6	NEW ACOUSTICAL PANEL CEILING.
7	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
8	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.
9	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - BASE PLY.
10	1/2" PROTECTION BOARD.
11	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
12	SOLID SURFACE COUNTERTOPS.
13	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
14	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
15	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
16	<varies>
17	METAL LOCKERS
18	ADA COMPLIANT DRINKING FOUNTAIN.
19	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
20	EXISITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
21	FIRE EXTINGUISHER CABINET. FIRE EXTINGUISHER IS (OFOI). COORDINATE CABINET SIZE WITH OWNER PROVIDED FIRE EXTINGUISHERS.

AREA KEY PLAN



JAMES R. PFEIFER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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LONGITUDINAL BUILDING SECTIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 3/32" = 1'-0"

SHEET NO.: AE301 01

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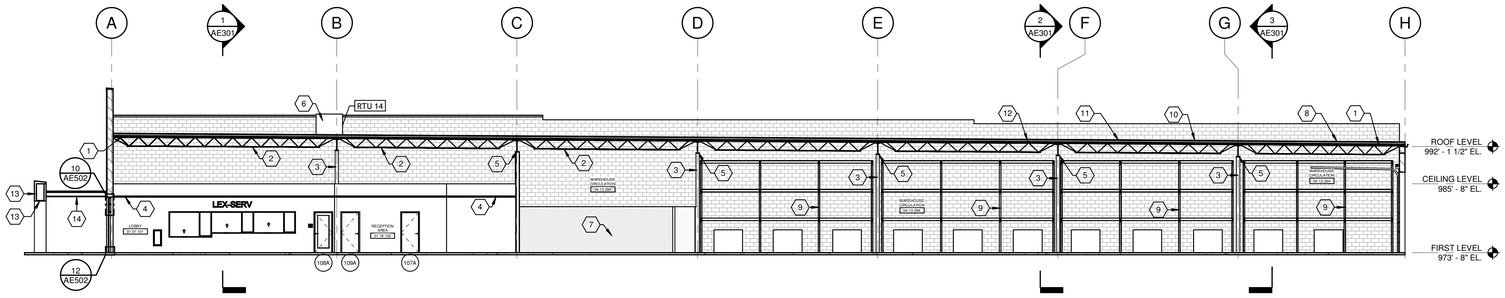
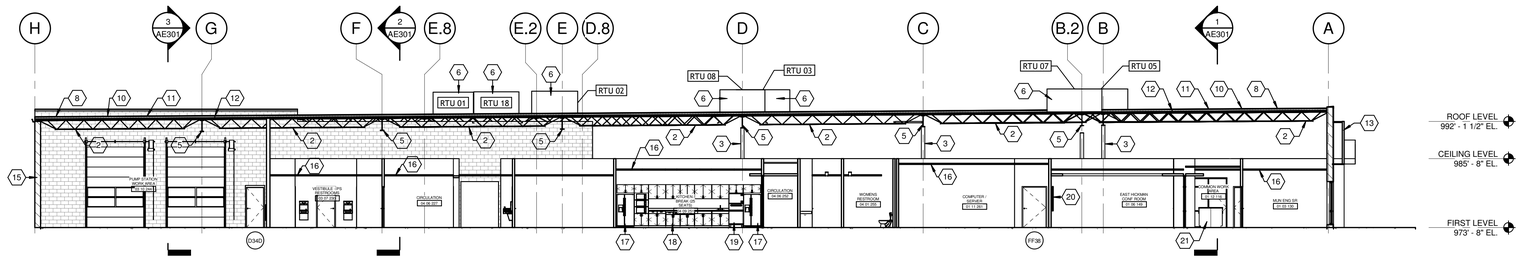


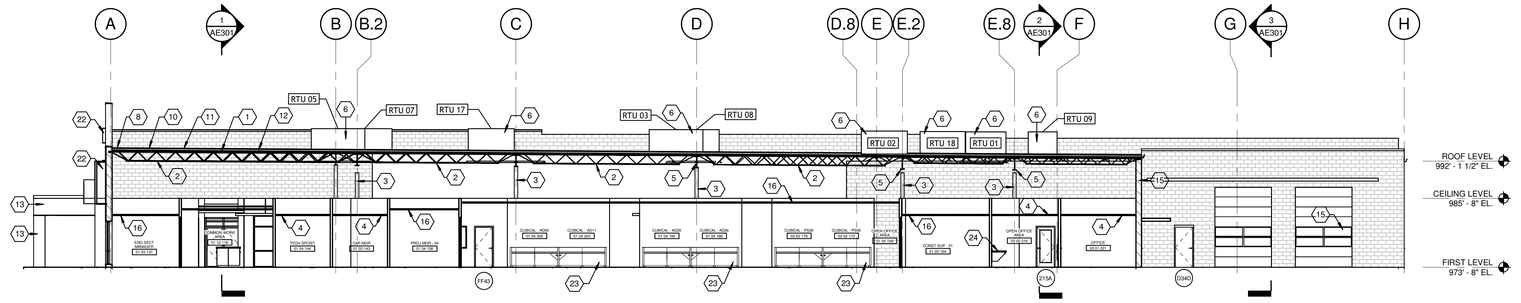
1 TRANSVERSE BUILDING SECTION 01

SCALE: 3/32" = 1'-0"



2 TRANSVERSE BUILDING SECTION 02

SCALE: 3/32" = 1'-0"



3 TRANSVERSE BUILDING SECTION 03

SCALE: 3/32" = 1'-0"

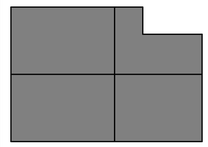
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE CORRESPONDING WALL SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
2	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
3	EXISTING STRUCTURAL COLUMN TO REMAIN.
4	NEW ACOUSTICAL PANEL CEILING.
5	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.
6	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
7	CHAIN LINK FENCE PARTITION. 8'-0" HIGH.
8	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.
9	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
10	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - BASE PLY.
11	1/2" PROTECTION BOARD.
12	4" BASE POLYISOCYANURATE RIGID INSULATION.
13	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
14	EXISTING ALUMINUM SOFFIT TO REMAIN. REMOVE DIRT AND CLEAN.
15	EXISITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
16	EXISTING 2X2 ACOUSTICAL PANEL CEILING TO REMAIN.
17	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
18	EXISTING PLASTIC LAMINATE CABINET TO REMAIN.
19	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
20	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
21	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
22	DIMENSIONAL LETTER SIGNAGE - 30" HIGH.
23	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
24	SOLID SURFACE COUNTERTOPS.

AREA KEY PLAN



JAMES R. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRN PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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TRANSVERSE BUILDING SECTION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
DRV	DRV	DRV	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 3/32" = 1'-0"

SHEET NO.: AE302 01

8/13/2025 11:44:45 AM G:\GRW\1-EXCLUSIVE\LFUCG\Working Drawings\Revit Arch\Central Model\05247-AE302R01.rvt

GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING STRUCTURAL COLUMN TO REMAIN.
2	EXISTING BASE CABINETS TO REMAIN.
3	EQUIPMENT - COPY MACHINE (OFCI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
5	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
6	EQUIPMENT - WALL MOUNTED TELEVISION. (OFCI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7	SOLID SURFACE COUNTERTOPS.
8	RECESSED DEAL TRAY.
9	AMPLIFIED SPEAK-THRU INTERCOM SYSTEM.
10	24" X 24" MOP SINK.
11	ADA COMPLIANT DRINKING FOUNTAIN.
12	PROVIDE NEW ADA COMPLIANT URINAL.
13	PROVIDE NEW ADA COMPLIANT WATER CLOSET.
14	PROVIDE NEW ADA COMPLIANT LAVATORY.
15	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
16	PRE-FABRICATED MODULAR OFFICE. (OFCI) SEE MECHANICAL AND ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
17	CHAIN LINK FENCE PARTITION. 8'-0" HIGH.
18	CHAIN LINK FENCE GATE. 8'-0" HIGH.

AREA KEY PLAN

JAMES K. PIPER JR.
REGISTERED NO. 4447
COMMONWEALTH
8/15/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AE401 01

PLAN NORTH

1 FIRST LEVEL - AREA A
SCALE: 1/8" = 1'-0"

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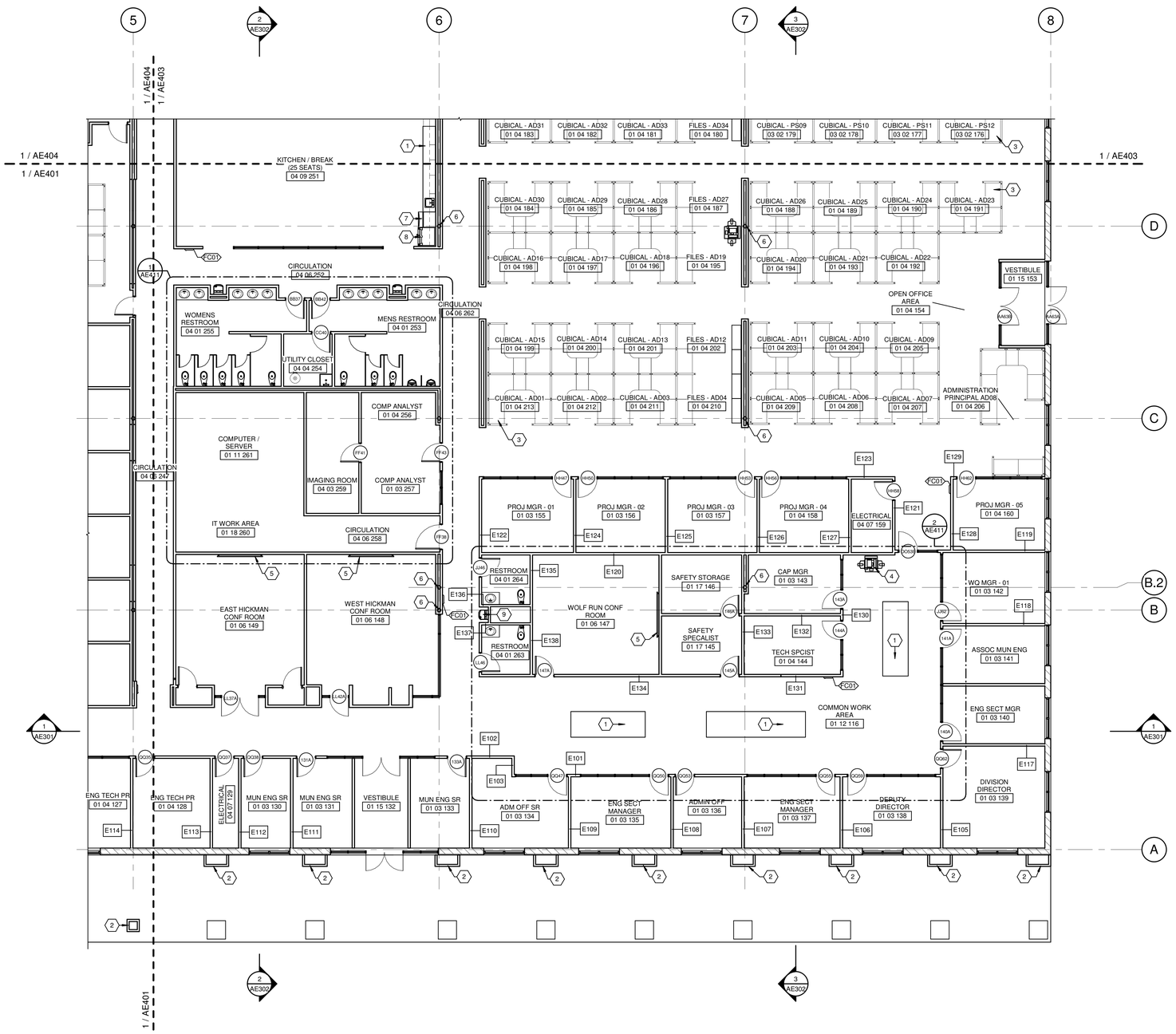
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

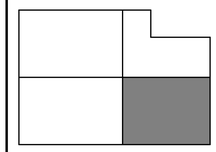
1	SOLID SURFACE COUNTERTOPS.
2	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
3	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
4	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6	EXISTING STRUCTURAL COLUMN TO REMAIN.
7	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
9	ADA COMPLIANT DRINKING FOUNTAIN.



1 FIRST LEVEL - AREA B
SCALE: 1/8" = 1'-0"

PLAN NORTH

AREA KEY PLAN



JAMES K. PYER JR. REGISTERED NO. 40447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

FIRST LEVEL - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO. AE402 01

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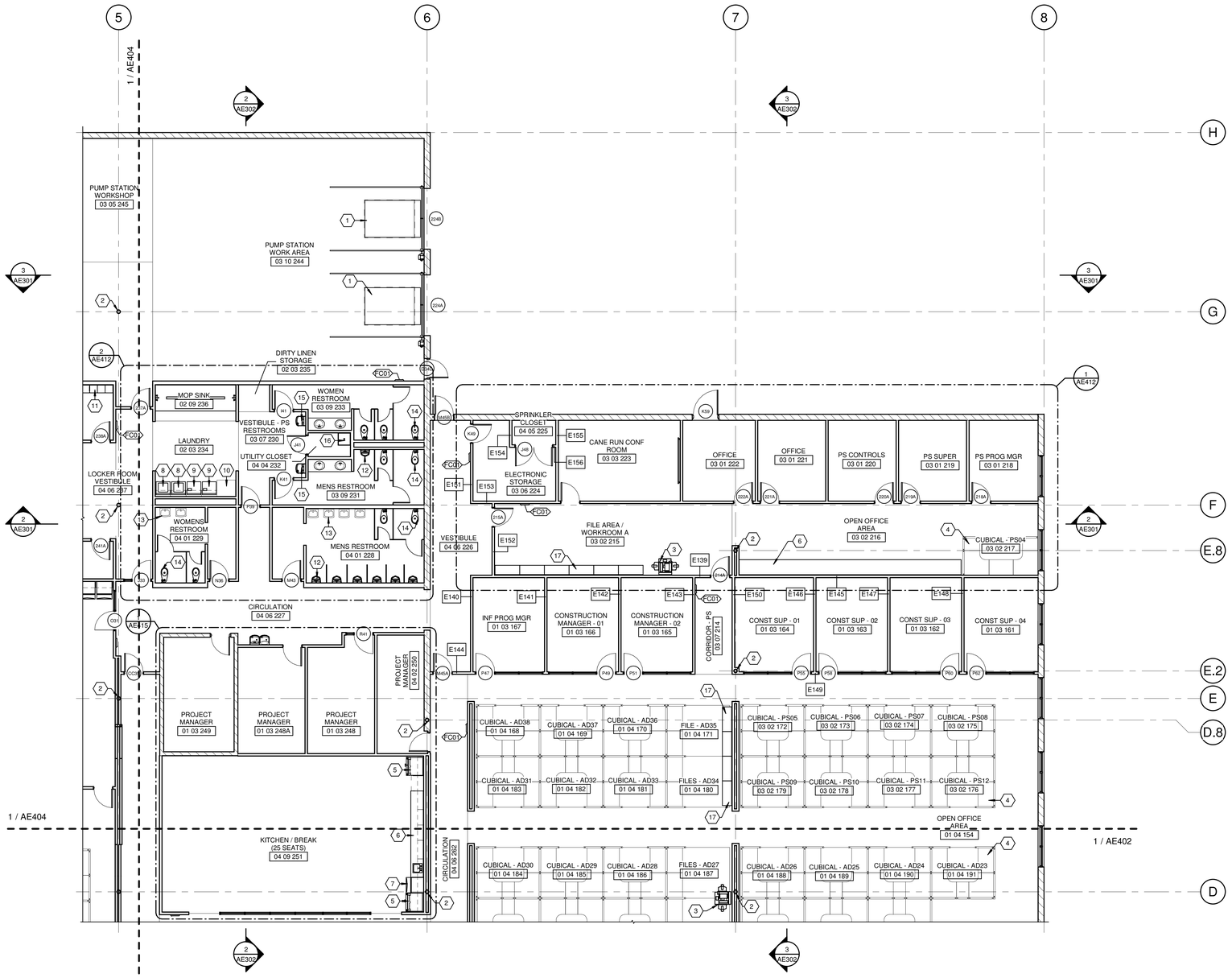


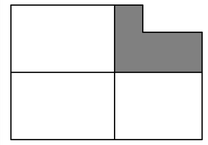
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING SCISSOR DOCK LEVELER TO REMAIN. RECONDITION FOR SMOOTH OPERATION.
2	EXISTING STRUCTURAL COLUMN TO REMAIN.
3	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
5	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6	SOLID SURFACE COUNTERTOPS.
7	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8	EQUIPMENT - RESIDENTIAL GRADE WASHER (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
9	EQUIPMENT - RESIDENTIAL GRADE DRYER (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
10	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
11	METAL LOCKERS
12	EXISTING URINAL TO REMAIN. SEE PLUMBING PLANS.
13	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
14	EXISTING WATER CLOSET TO REMAIN. SEE PLUMBING PLANS.
15	ADA COMPLIANT DRINKING FOUNTAIN.
16	24" X 24" MOP SINK.
17	FILING CABINETS. (OFOI)

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - AREA C
SCALE: 1/8" = 1'-0"

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

FIRST LEVEL - AREA C
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AE403 01

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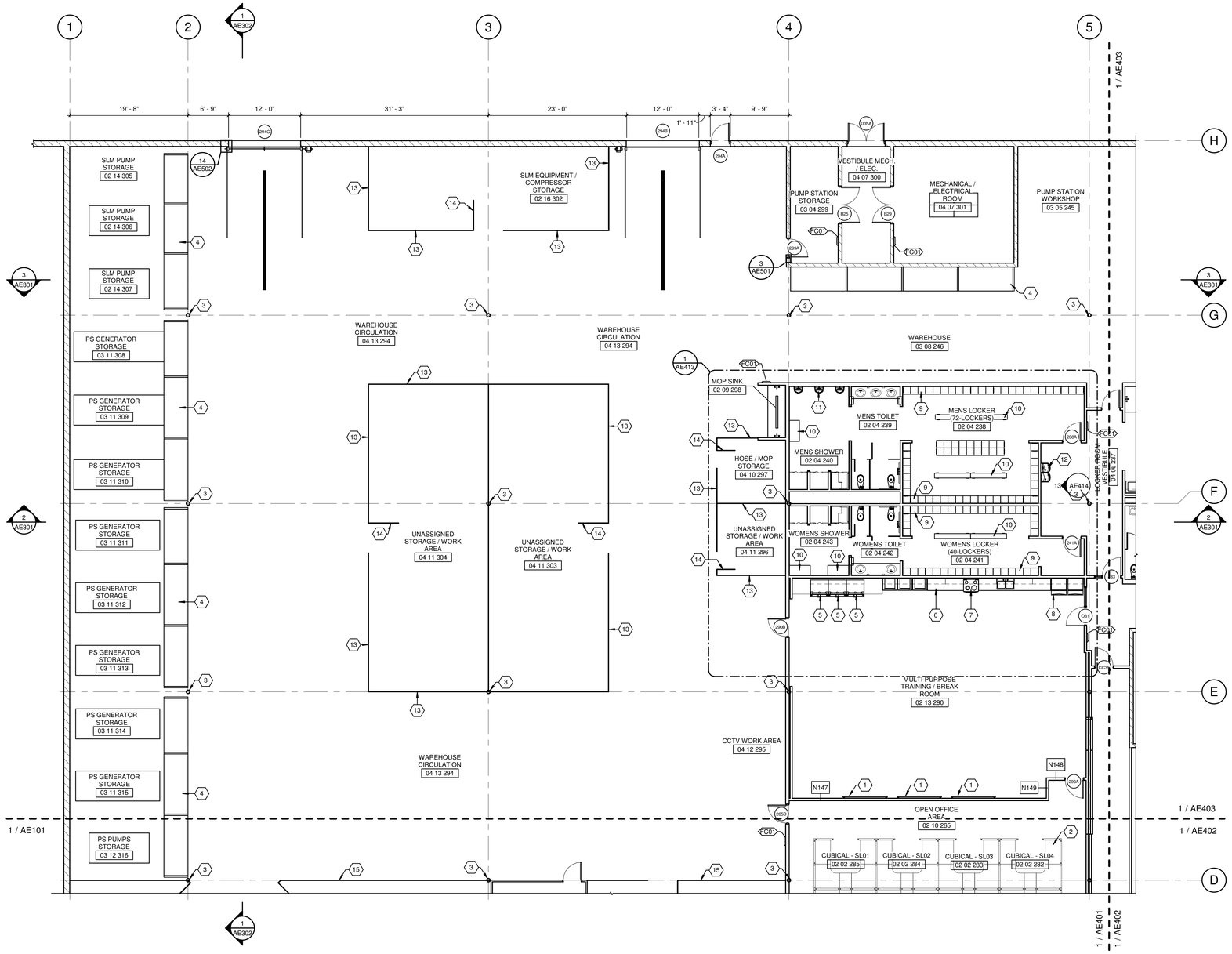


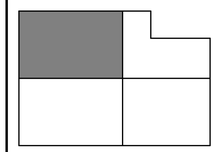
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
2	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
3	EXISTING STRUCTURAL COLUMN TO REMAIN.
4	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
5	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6	SOLID SURFACE COUNTERTOPS.
7	ELECTRIC STOVE - (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
9	METAL LOCKERS
10	LOCKER BENCHES
11	PROVIDE NEW ADA COMPLIANT URINAL.
12	ADA COMPLIANT DRINKING FOUNTAIN.
13	CHAIN LINK FENCE PARTITION. 8'-0" HIGH. (OFOI)
14	CHAIN LINK FENCE GATE. 8'-0" HIGH. (OFOI)
15	CHAIN LINK FENCE PARTITION. 8'-0" HIGH.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - AREA D
SCALE: 1/8" = 1'-0"

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH 8/15/25

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CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - AREA D
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AE404 01

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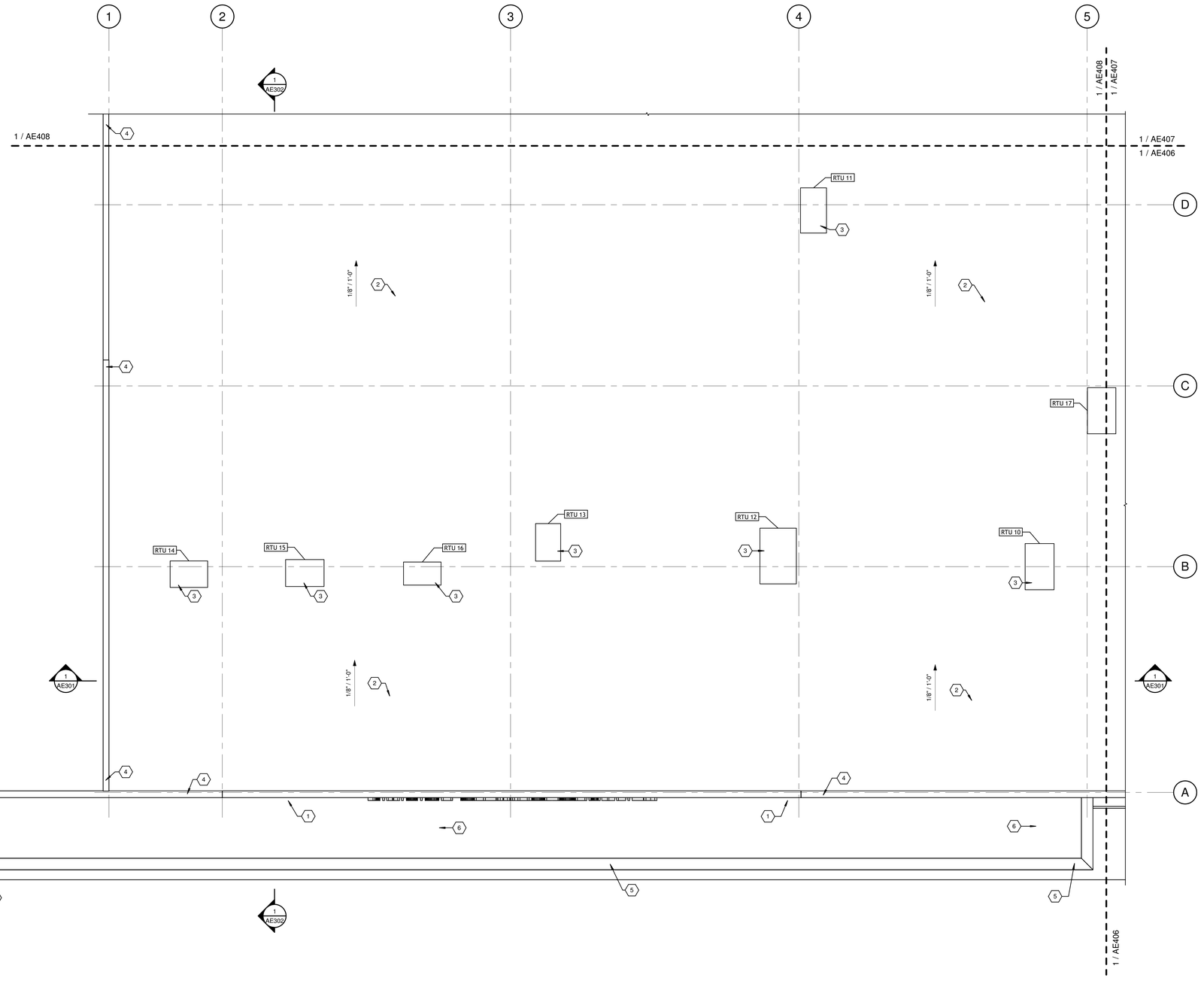


1 ROOF LEVEL - AREA A
SCALE: 1/8" = 1'-0"

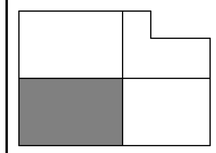
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE STANDARD ROOFING DETAILS FOR ADDITIONAL REQUIREMENTS.
7. ADD ALTERNATE #1 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	DIMENSIONAL LETTER SIGNAGE - 30" HIGH.
2	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.
3	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
4	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
5	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
6	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.

AREA KEY PLAN



PLAN NORTH

JAMES R. PFEIFER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY

REVISION DESCRIPTION

SCALE CHECK: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AE405 01

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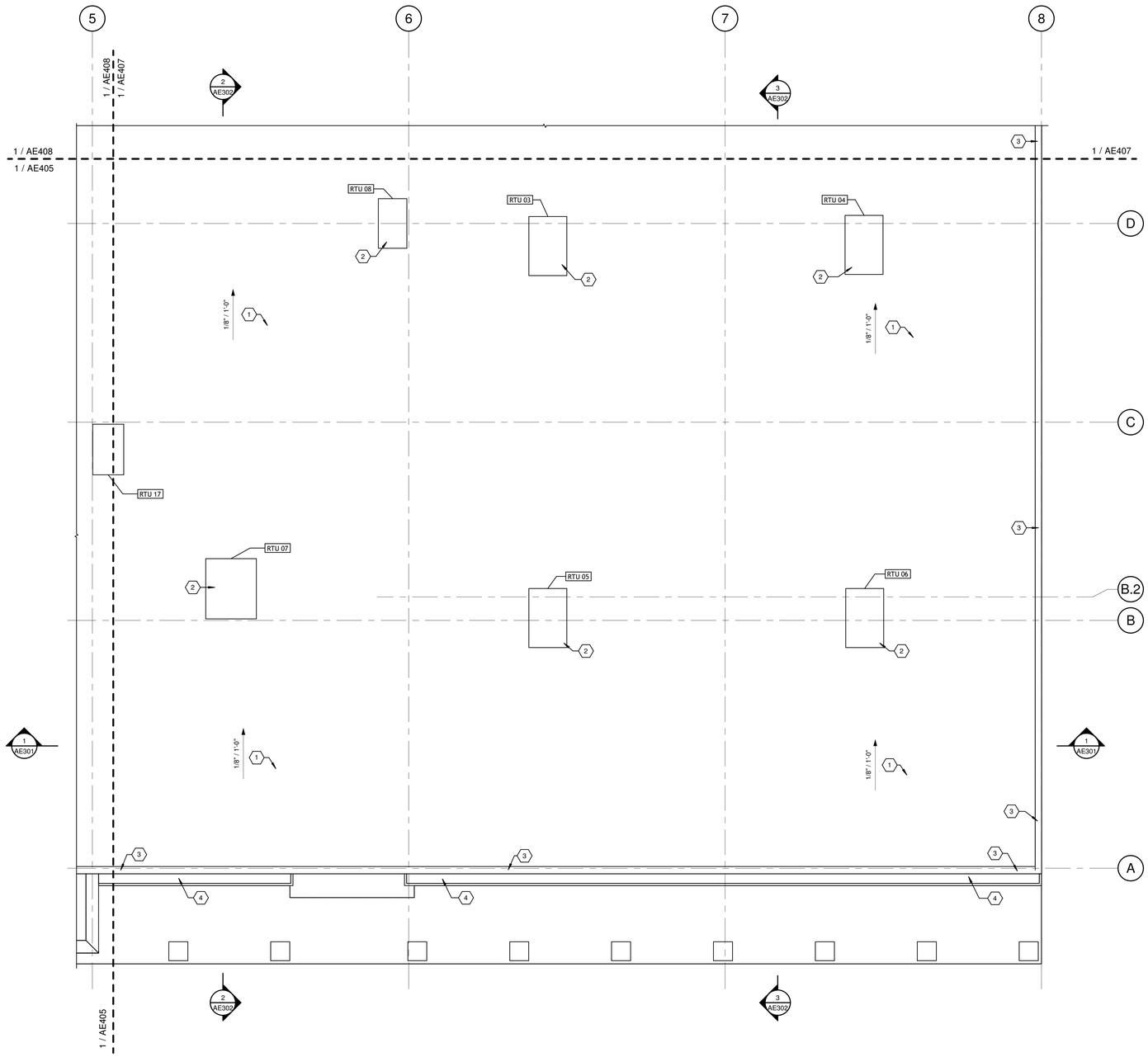


1 ROOF LEVEL - AREA B
SCALE: 1/8" = 1'-0"

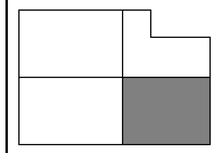
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE STANDARD ROOFING DETAILS FOR ADDITIONAL REQUIREMENTS.
7. ADD ALTERNATE #1 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.
2	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
3	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
4	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.

AREA KEY PLAN



PLAN NORTH

JAMES R. PYLES JR. REGISTERED NO. 4647 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - AREA B
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY
REVISION DESCRIPTION		

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE: (CHECK)

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

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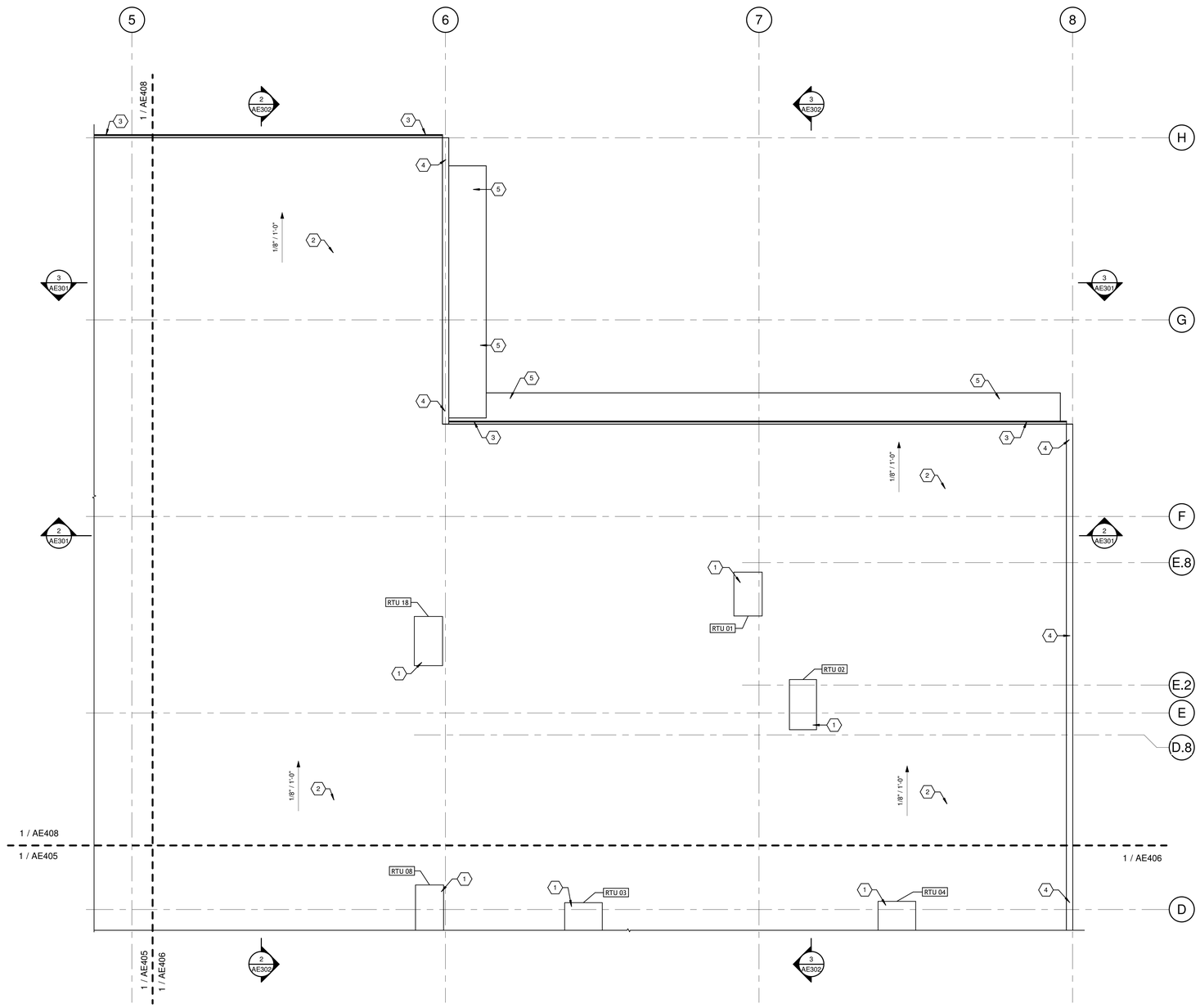

1 ROOF LEVEL - AREA C
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE STANDARD ROOFING DETAILS FOR ADDITIONAL REQUIREMENTS.
7. ADD ALTERNATE #1 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
2	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.
3	CONTINUOUS PRE-FINISHED METAL GUTTER AND DOWNSPOUTS.
4	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
5	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.

AREA KEY PLAN

PLAN NORTH

JAMES R. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AE407 01

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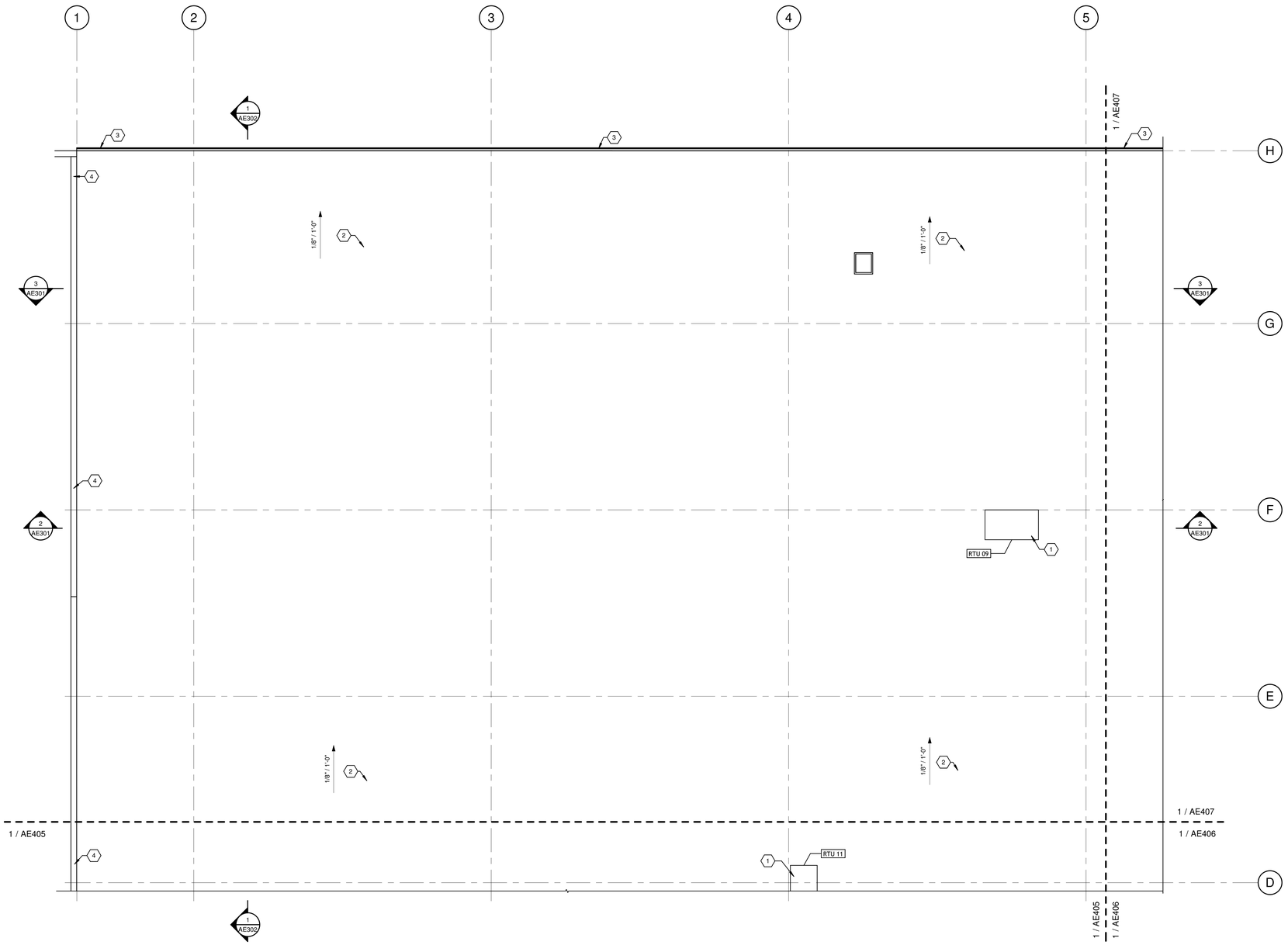


1 ROOF LEVEL - AREA D
SCALE: 1/8" = 1'-0"

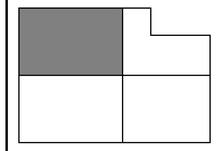
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE STANDARD ROOFING DETAILS FOR ADDITIONAL REQUIREMENTS.
7. ADD ALTERNATE #1 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.

SHEET KEYNOTES:

1	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
2	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.
3	CONTINUOUS PRE-FINISHED METAL GUTTER AND DOWNSPOUTS.
4	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.

AREA KEY PLAN



PLAN NORTH

JAMES R. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH
8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
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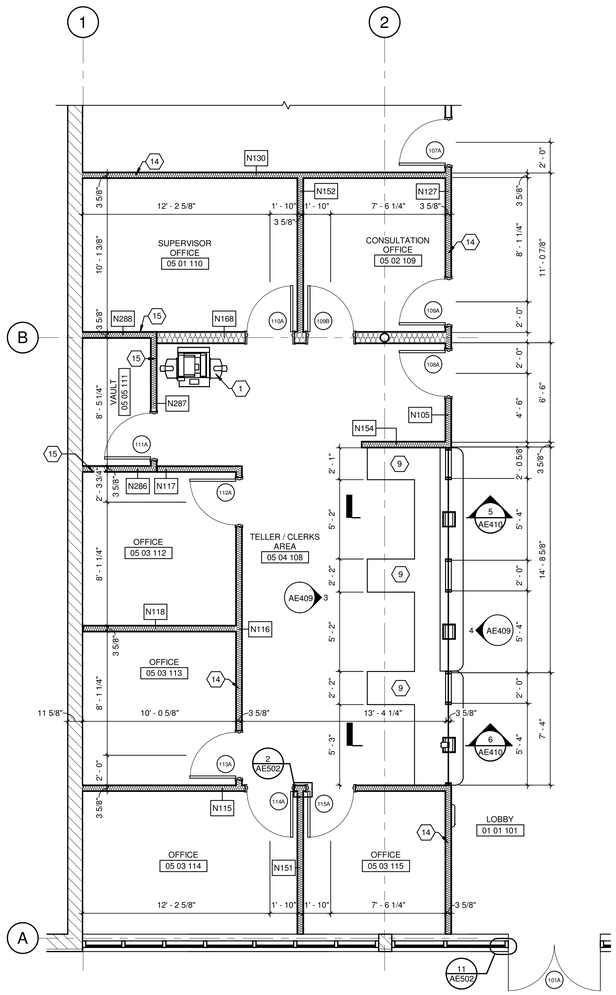
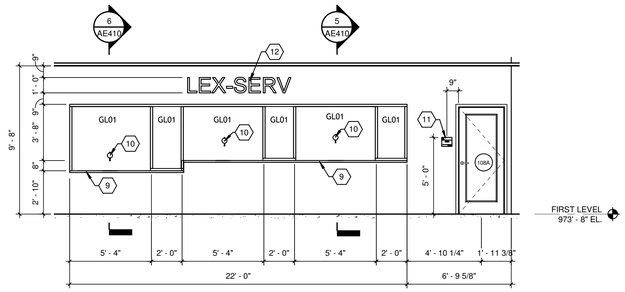
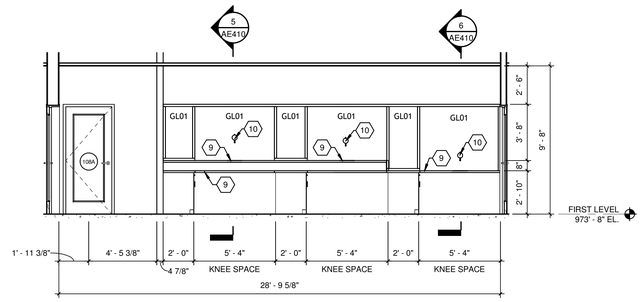


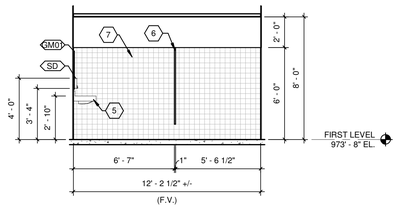
1 ENLARGED PLAN - LEX-SERV AREA
SCALE: 1/4" = 1'-0"



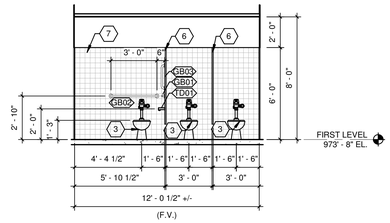
4 WEST ELEVATION - LOBBY
SCALE: 1/4" = 1'-0"



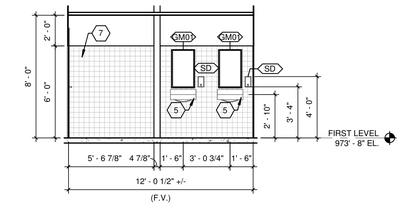
3 WEST ELEVATION - TELLER / CLERKS AREA
SCALE: 1/4" = 1'-0"



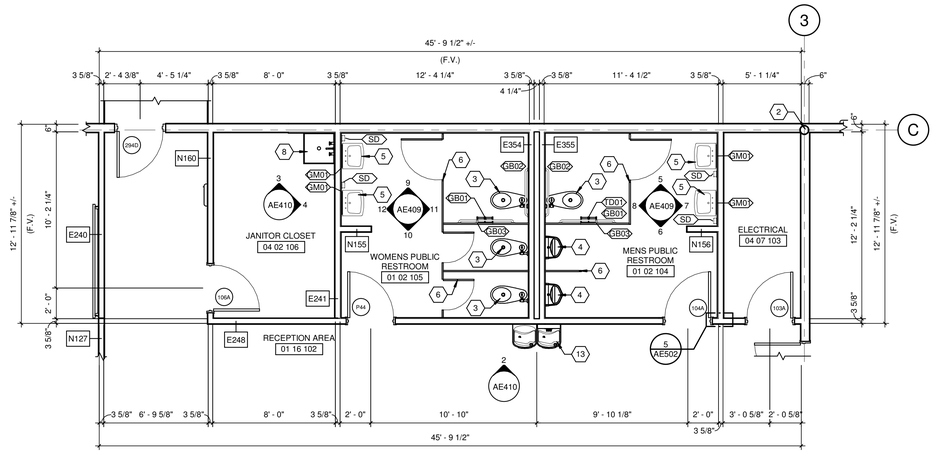
9 NORTH ELEVATION - WOMENS PUBLIC RESTROOM
SCALE: 1/4" = 1'-0"



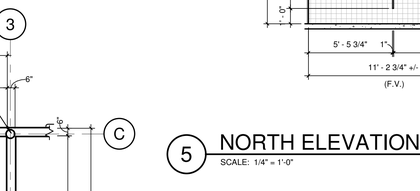
11 EAST ELEVATION - WOMENS PUBLIC RESTROOM
SCALE: 1/4" = 1'-0"



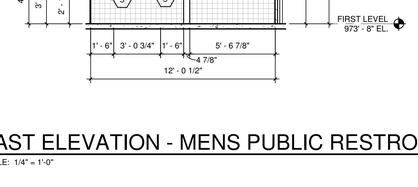
10 SOUTH ELEVATION - WOMENS PUBLIC RESTROOM
SCALE: 1/4" = 1'-0"



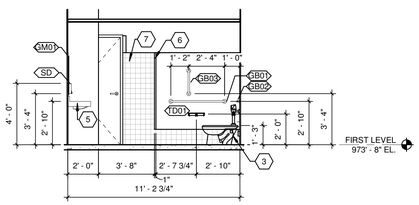
2 ENLARGED PLAN - PUBLIC RESTROOM
SCALE: 1/4" = 1'-0"



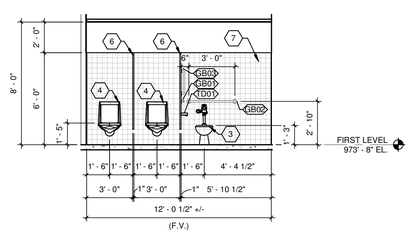
5 NORTH ELEVATION - MENS PUBLIC RESTROOM
SCALE: 1/4" = 1'-0"



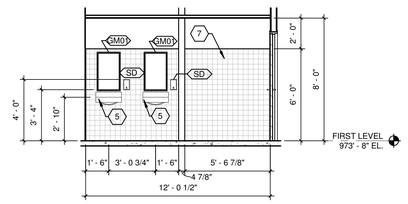
7 EAST ELEVATION - MENS PUBLIC RESTROOM
SCALE: 1/4" = 1'-0"



6 SOUTH ELEVATION - MENS PUBLIC RESTROOM
SCALE: 1/4" = 1'-0"



8 WEST ELEVATION - MENS PUBLIC RESTROOM
SCALE: 1/4" = 1'-0"



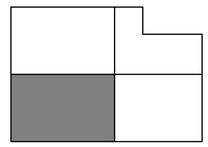
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
6. EXISTING DIMENSIONS ARE FROM RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITION DIMENSIONS. ADVISE ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITION AND CONSTRUCTION DOCUMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
2	EXISTING STRUCTURAL COLUMN TO REMAIN.
3	PROVIDE NEW ADA COMPLIANT WATER CLOSET.
4	PROVIDE NEW ADA COMPLIANT URINAL.
5	PROVIDE NEW ADA COMPLIANT LAVATORY.
6	PLASTIC TOILET COMPARTMENTS
7	CERAMIC TILE WAINSCOT.
8	24" X 24" MOP SINK.
9	SOLID SURFACE COUNTERTOPS.
10	AMPLIFIED SPEAK-THRU INTERCOM SYSTEM.
11	ROOM-IDENTIFICATION PANEL SIGNAGE. TYPICAL AT EACH DOOR INTO EACH ROOM. PROVIDE ADA RESTROOM SIGNAGE AT EACH RESTROOM / LOCKER ROOM DOOR.
12	DIMENSIONAL LETTER SIGNAGE - 12" HIGH.
13	ADA COMPLIANT DRINKING FOUNTAIN.
14	THERMAL INSULATION - SOUND BATT INSULATION.
15	FLATTENED EXPANDED METAL SHEET.

AREA KEY PLAN



JAMES R. PEER JR. REGISTERED NO. 4447 COMMONWEALTH 8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DATE	
1	8/15/25	PER COMMENTS FROM GRW

SCALE CHECK: 1" THICK MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/4" = 1'-0"
SHEET NO.: AE409 01

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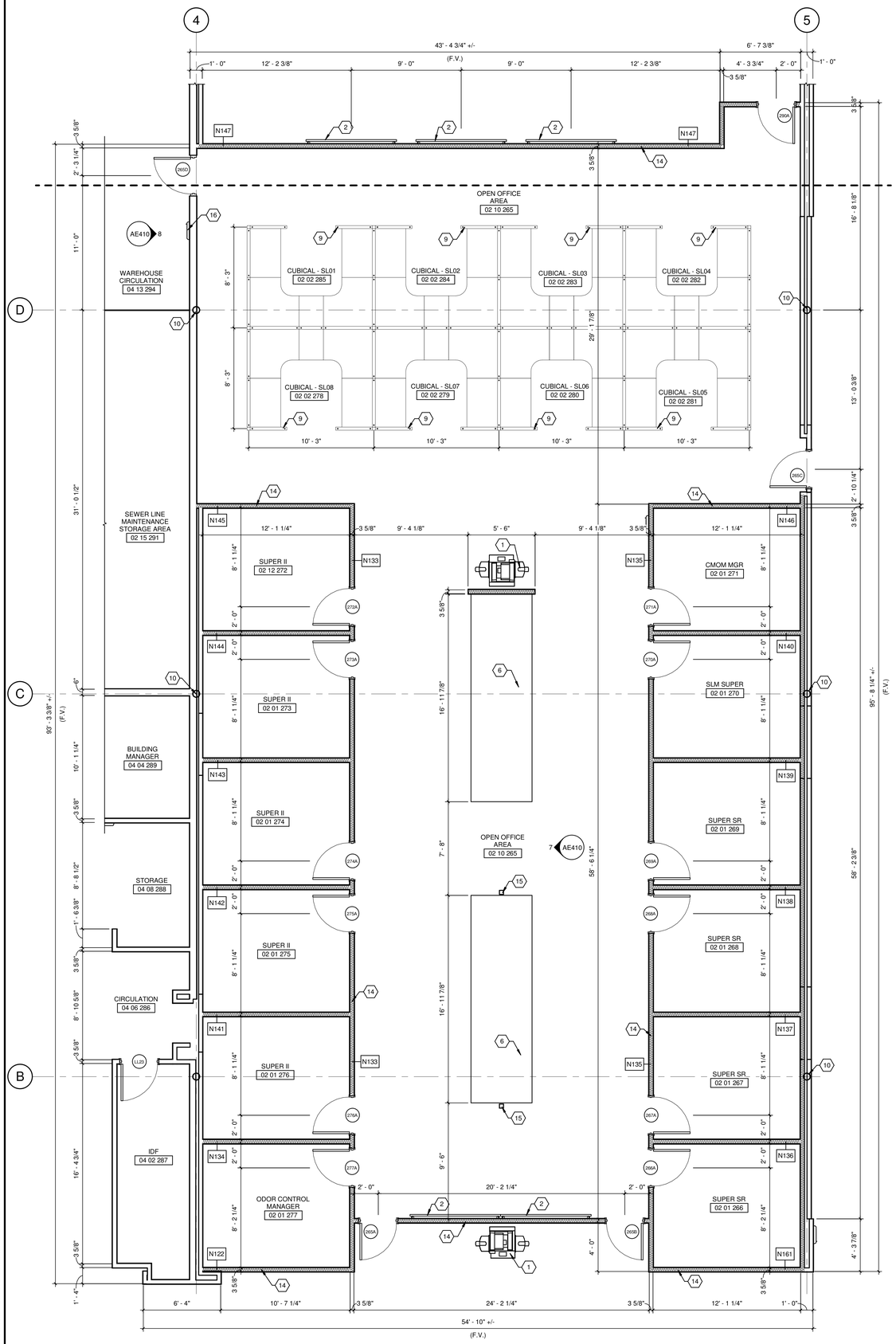
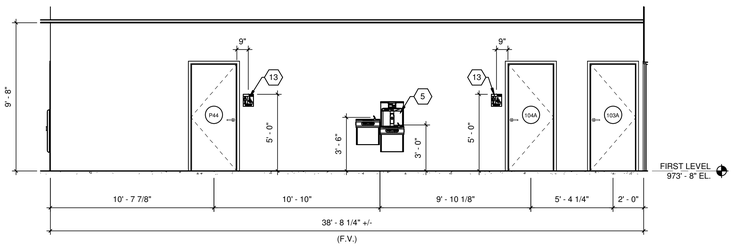


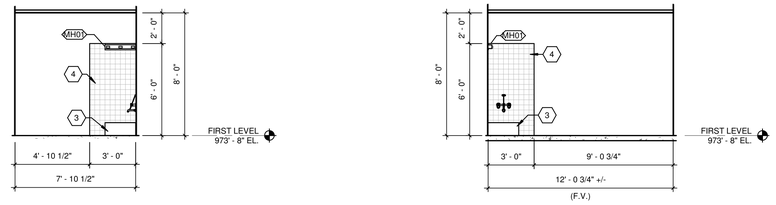
1 ENLARGED PLAN - SEWER LINE MAINTENANCE

SCALE: 1/4" = 1'-0"



2 NORTH ELEVATION - RECEPTION AREA

SCALE: 1/4" = 1'-0"

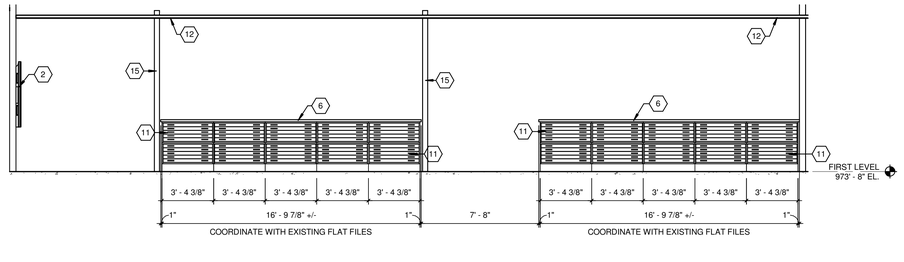


3 NORTH ELEVATION - JANITOR CLOSET

SCALE: 1/4" = 1'-0"

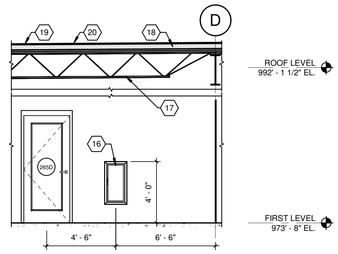
4 EAST ELEVATION - JANITOR CLOSET

SCALE: 1/4" = 1'-0"



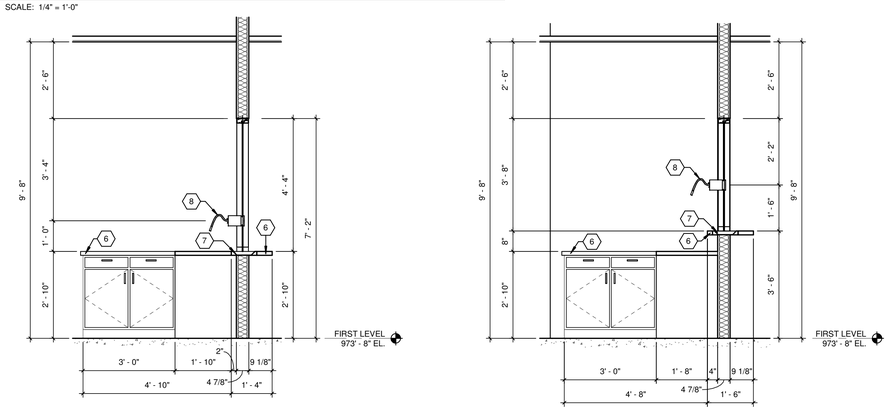
7 WEST ELEVATION - OPEN OFFICE AREA

SCALE: 1/4" = 1'-0"



8 EAST ELEVATION - WAREHOUSE CIRCULATION

SCALE: 1/4" = 1'-0"



6 TELLER / CLERK WALL SECTION ADA

SCALE: 1/2" = 1'-0"

5 TELLER / CLERK WALL SECTION

SCALE: 1/2" = 1'-0"

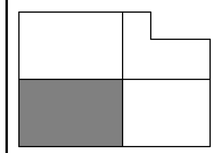
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
6. EXISTING DIMENSIONS ARE FROM RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITION DIMENSIONS. ADVISE ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITION AND CONSTRUCTION DOCUMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
2	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
3	24" X 24" MOP SINK.
4	CERAMIC TILE WAINSCOT.
5	ADA COMPLIANT DRINKING FOUNTAIN.
6	SOLID SURFACE COUNTERTOPS.
7	RECESSED DEAL TRAY.
8	AMPLIFIED SPEAK-THRU INTERCOM SYSTEM.
9	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
10	EXISTING STRUCTURAL COLUMN TO REMAIN.
11	EXISTING FLAT FILES. (OFOI)
12	NEW ACOUSTICAL PANEL CEILING.
13	ROOM IDENTIFICATION PANEL SIGNAGE. TYPICAL AT EACH DOOR INTO EACH ROOM. PROVIDE ADA RESTROOM SIGNAGE AT EACH RESTROOM / LOCKER ROOM DOOR.
14	THERMAL INSULATION - SOUND BATT INSULATION.
15	PROVIDE POWER AND DATA POLE DROP. SEE ELECTRICAL PLANS.
16	FIRE EXTINGUISHER CABINET. FIRE EXTINGUISHER IS (OFOI). COORDINATE CABINET SIZE WITH OWNER PROVIDED FIRE EXTINGUISHERS.
17	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
18	4" BASE POLYISOCYANURATE RIGID INSULATION.
19	1/2" PROTECTION BOARD.
20	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.

AREA KEY PLAN



JAMES R. FISHER JR.
REGISTERED
NO.
6447
COMMONWEALTH
ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
DRV	DRV	DRV	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE: 0=BDA

DATE: AUGUST 15, 2025

SCALE: As indicated

SHEET NO.: AE410 01

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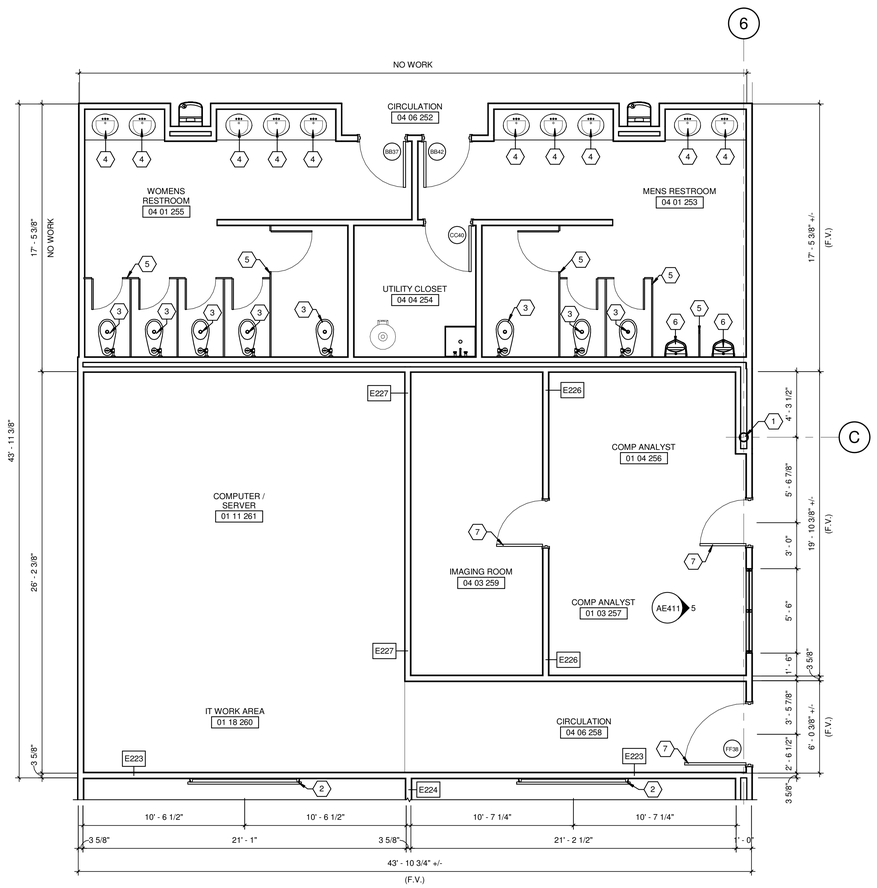
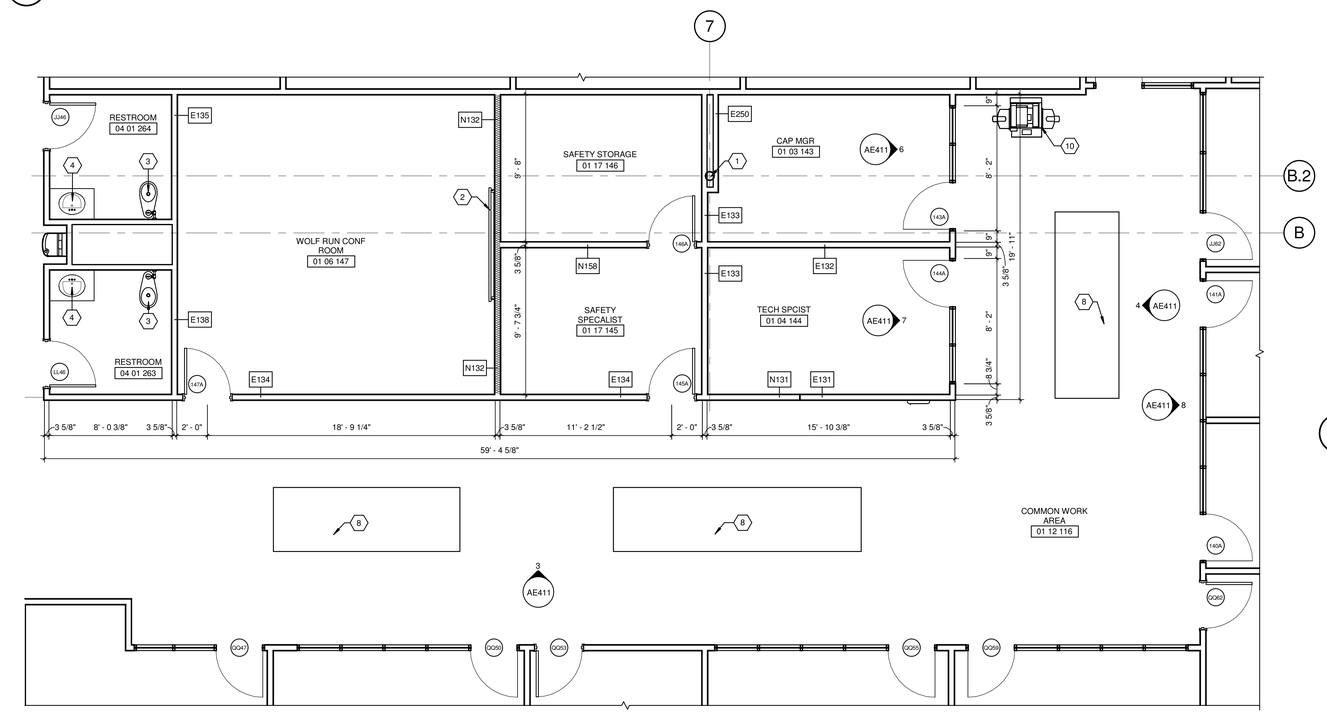


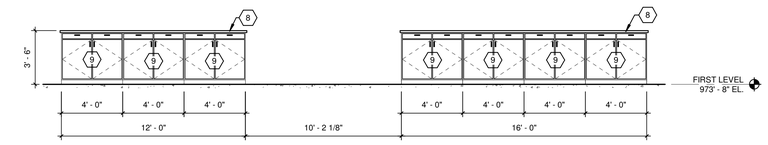
1 ENLARGED PLAN - EXISTING RESTROOMS / IT

SCALE: 1/4" = 1'-0"



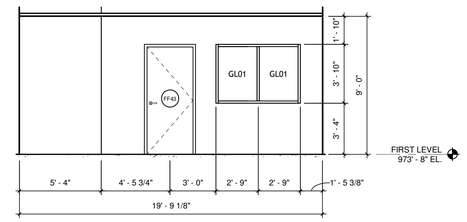
2 ENLARGED PLAN - ADMINISTRATIVE AREA

SCALE: 1/4" = 1'-0"



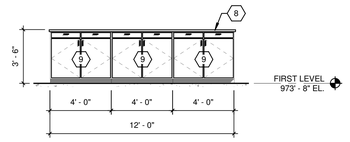
3 NORTH ELEVATION - COMMON WORK AREA

SCALE: 1/4" = 1'-0"



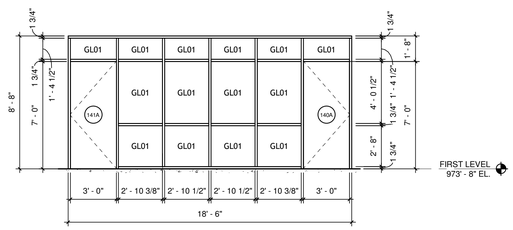
5 WEST ELEVATION - COMP. ANALYST

SCALE: 1/4" = 1'-0"



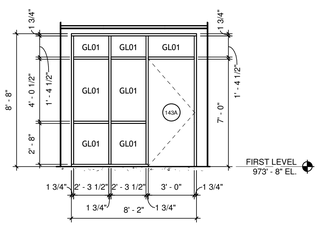
4 WEST ELEVATION - COMMON WORK AREA

SCALE: 1/4" = 1'-0"



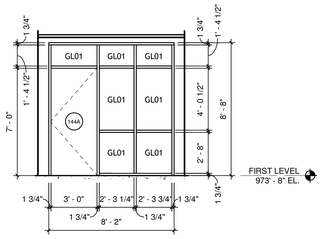
8 EAST ELEVATION - COMMON WORK AREA

SCALE: 1/4" = 1'-0"



6 EAST ELEVATION - CAP MGR

SCALE: 1/4" = 1'-0"



7 EAST ELEVATION - TECH SPCIST

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
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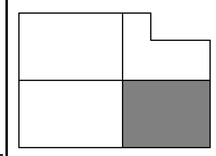
SHEET KEYNOTES:

1	EXISTING STRUCTURAL COLUMN TO REMAIN.
2	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
3	EXISTING WATER CLOSET TO REMAIN. SEE PLUMBING PLANS.
4	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
5	EXISTING TOILET PARTITIONS TO REMAIN.
6	EXISTING URINAL TO REMAIN. SEE PLUMBING PLANS.
7	EXISTING HOLLOW METAL DOOR FRAME AND SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
8	SOLID SURFACE COUNTERTOPS.
9	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
10	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

AREA KEY PLAN



JAMES K. FISHER JR. REGISTERED NO. 4447 COMMONWEALTH OF PENNSYLVANIA

GRN PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

SCALE (CHECK) — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: AE411 01

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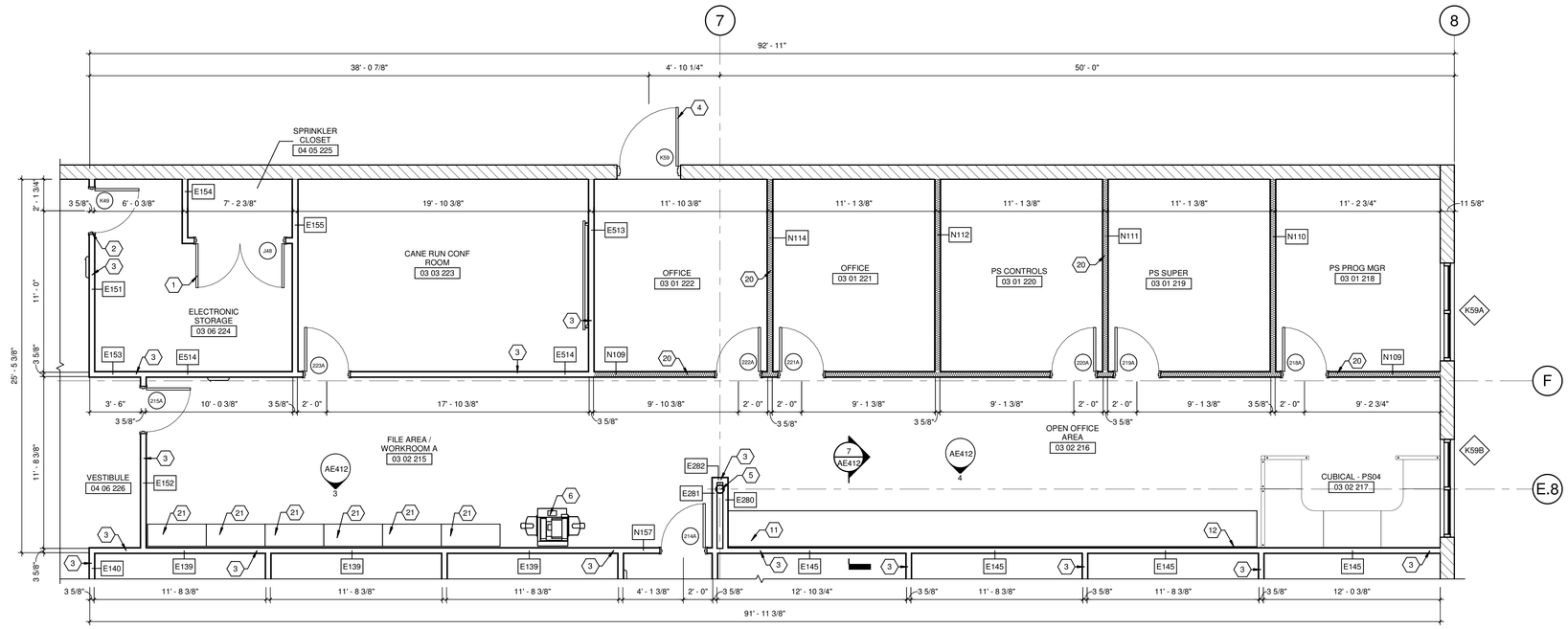
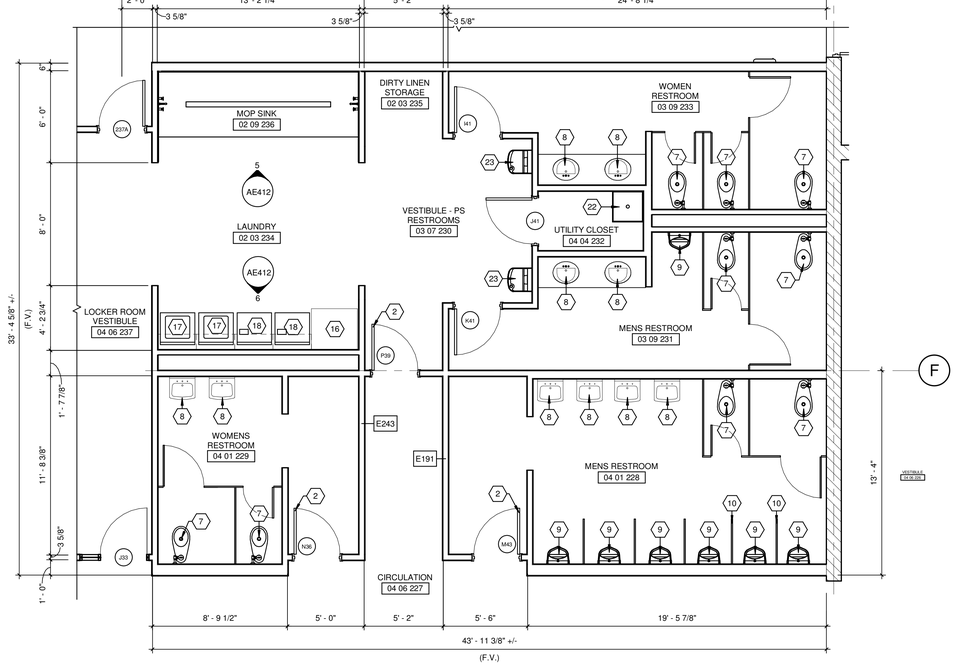


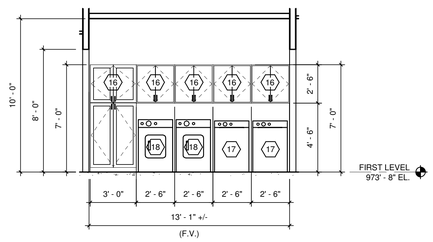
1 ENLARGED PLAN - PUMP STATION MAINTENANCE

SCALE: 1/4" = 1'-0"



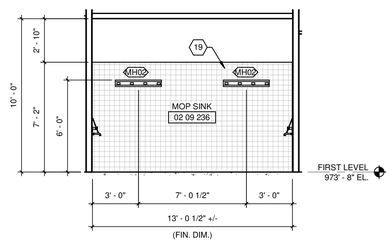
2 ENLARGED PLAN - RESTROOMS / LAUNDRY

SCALE: 1/4" = 1'-0"



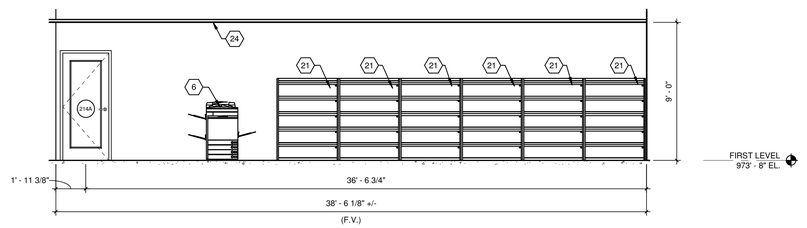
6 SOUTH ELEVATION - LAUNDRY

SCALE: 1/4" = 1'-0"



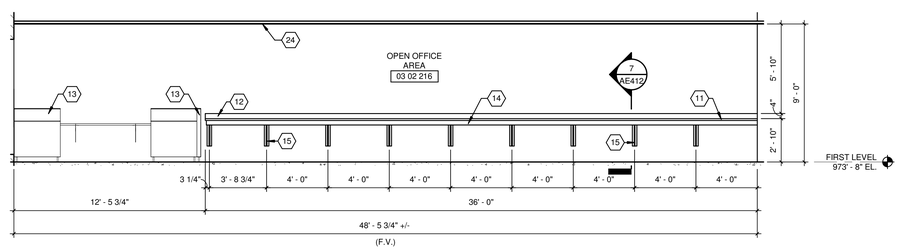
5 NORTH ELEVATION - MOP SINK

SCALE: 1/4" = 1'-0"



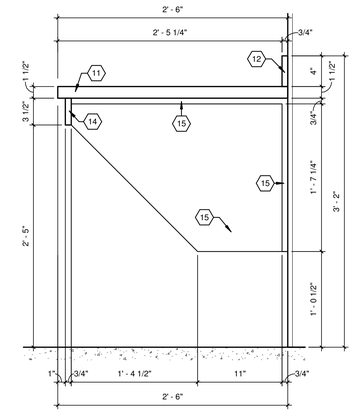
3 SOUTH ELEVATION - FILE AREA / WORKROOM A

SCALE: 1/4" = 1'-0"



4 SOUTH ELEVATION - OPEN OFFICE AREA

SCALE: 1/4" = 1'-0"



7 COUNTER TOP SECTION

SCALE: 1 1/2" = 1'-0"

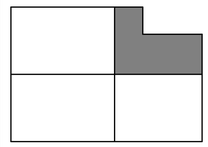
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
6. EXISTING DIMENSIONS ARE FROM RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITION DIMENSIONS. ADVISE ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITION AND CONSTRUCTION DOCUMENTS.

SHEET KEYNOTES:

1	EXISTING HOLLOW METAL DOOR FRAME AND DOUBLE DOORS TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
2	EXISTING HOLLOW METAL DOOR FRAME AND SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
3	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
4	EXISTING EXTERIOR HOLLOW METAL DOOR FRAME AND DOOR TO REMAIN. PREPARE FOR NEW PAINT FINISH.
5	EXISTING STRUCTURAL COLUMN TO REMAIN.
6	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7	EXISTING WATER CLOSET TO REMAIN. SEE PLUMBING PLANS.
8	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
9	EXISTING URINAL TO REMAIN. SEE PLUMBING PLANS.
10	EXISTING TOILET PARTITIONS TO REMAIN.
11	SOLID SURFACE COUNTERTOPS.
12	SOLID SURFACE BACKSPLASH.
13	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
14	SOLID SURFACE APRON.
15	PLASTIC LAMINATE CLAD ARCHITECTURAL SUPPORT BRACKET
16	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
17	EQUIPMENT - RESIDENTIAL GRADE WASHER (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
18	EQUIPMENT - RESIDENTIAL GRADE DRYER (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
19	CERAMIC TILE WAINSCOT.
20	THERMAL INSULATION - SOUND BATT INSULATION.
21	FILING CABINETS. (OFOI)
22	24" X 24" MOP SINK.
23	ADA COMPLIANT DRINKING FOUNTAIN.
24	NEW ACOUSTICAL PANEL CEILING.

AREA KEY PLAN



JAMES R. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: As indicated
SHEET NO.: AE412 01

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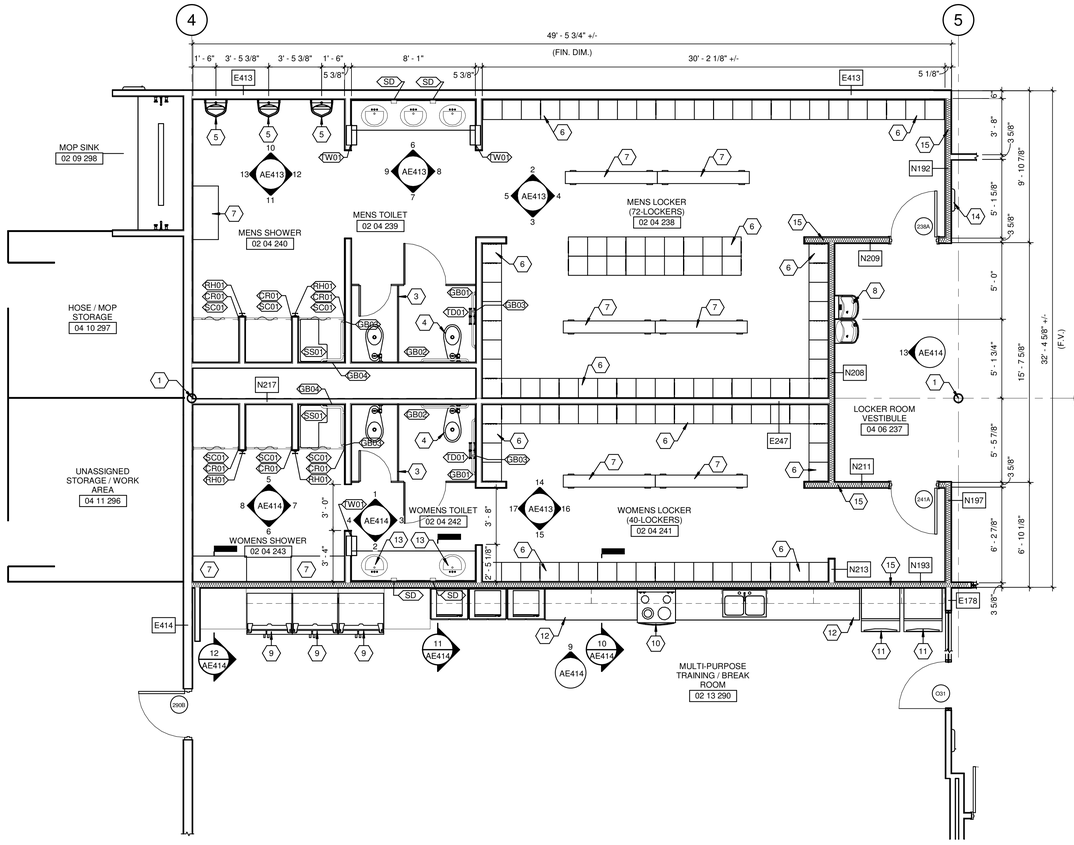

1 ENLARGED PLAN - LOCKER ROOMS
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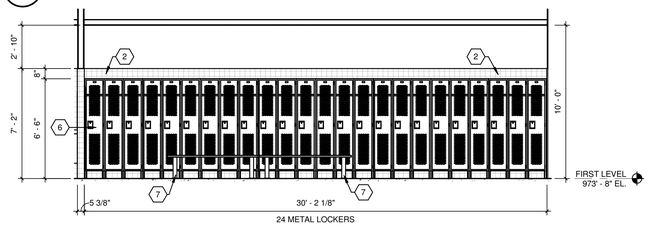
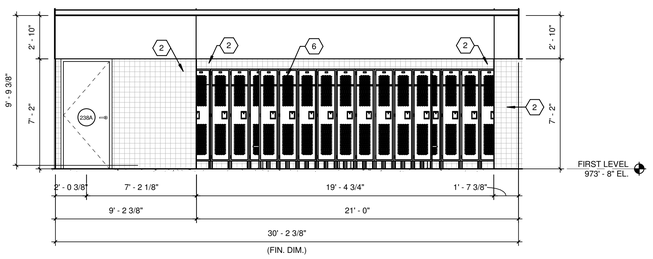
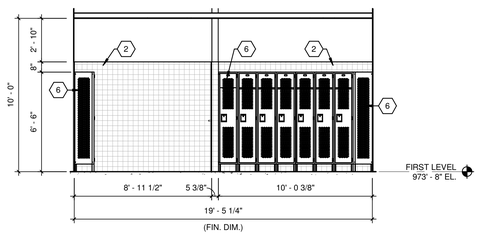


2 NORTH ELEVATION - MENS LOCKER
SCALE: 1/4" = 1'-0"



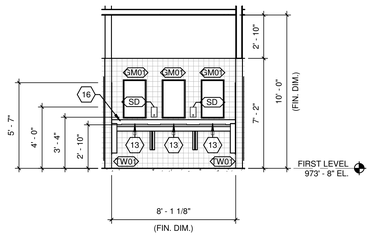
3 SOUTH ELEVATION - MENS LOCKER
SCALE: 1/4" = 1'-0"



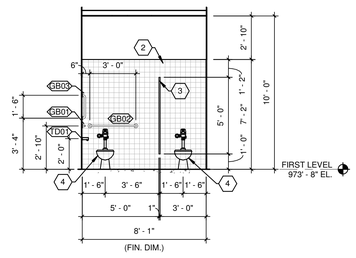
4 EAST ELEVATION - MENS LOCKER
SCALE: 1/4" = 1'-0"

5 WEST ELEVATON - MENS LOCKER
SCALE: 1/4" = 1'-0"

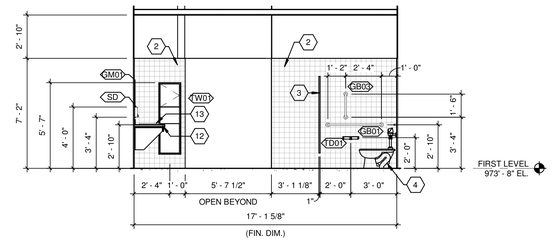
6 NORTH ELEVATON - MENS TOILET
SCALE: 1/4" = 1'-0"



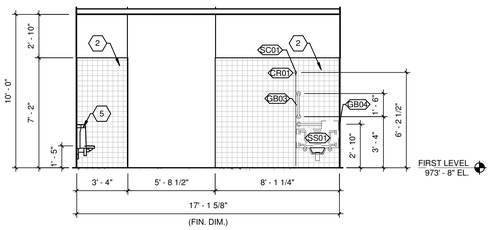
7 SOUTH ELEVATON - MENS TOILET
SCALE: 1/4" = 1'-0"



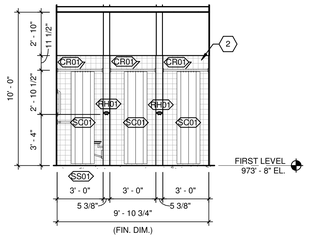
8 EAST ELEVATION - MENS TOILET
SCALE: 1/4" = 1'-0"



9 WEST ELEVATION - MENS TOILET
SCALE: 1/4" = 1'-0"



10 NORTH ELEVATION - MENS SHOWER
SCALE: 1/4" = 1'-0"



11 SOUTH ELEVATION - MENS SHOWER
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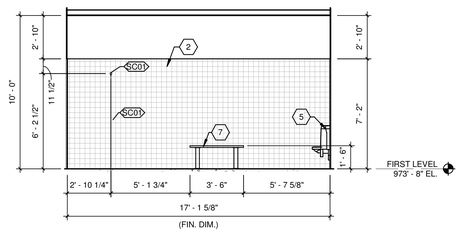
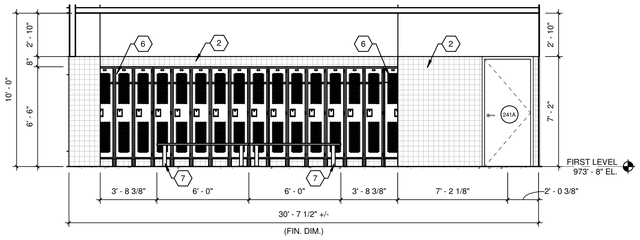
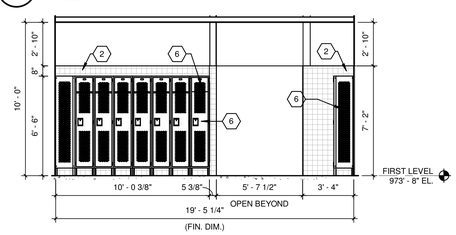


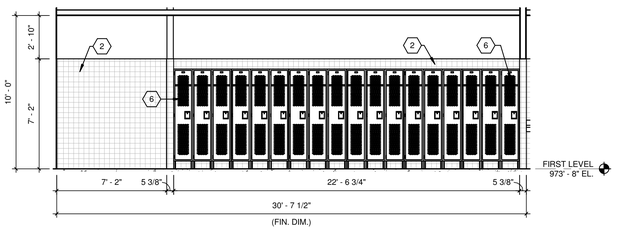
12 EAST ELEVATION - MENS SHOWER
SCALE: 1/4" = 1'-0"



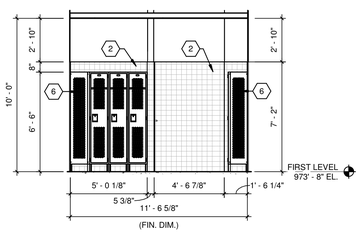
13 WEST ELEVATION - MENS SHOWER
SCALE: 1/4" = 1'-0"



14 NORTH ELEVATION - WOMENS LOCKER
SCALE: 1/4" = 1'-0"

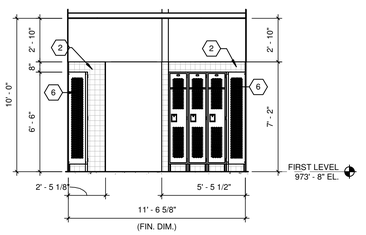


15 SOUTH ELEVATION - WOMENS LOCKER
SCALE: 1/4" = 1'-0"



16 EAST ELEVATION - WOMENS LOCKER
SCALE: 1/4" = 1'-0"

17 WEST ELEVATION - WOMENS LOCKER
SCALE: 1/4" = 1'-0"



GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
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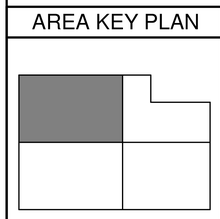
SHEET KEYNOTES:

1	EXISTING STRUCTURAL COLUMN TO REMAIN.
2	CERAMIC TILE WAINSCOT.
3	PLASTIC TOILET COMPARTMENTS
4	PROVIDE NEW ADA COMPLIANT WATER CLOSET.
5	PROVIDE NEW ADA COMPLIANT URINAL.
6	METAL LOCKERS
7	LOCKER BENCHES
8	ADA COMPLIANT DRINKING FOUNTAIN.
9	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
10	ELECTRIC STOVE - (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
11	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
12	SOLID SURFACE COUNTERTOPS.
13	PROVIDE NEW ADA COMPLIANT LAVATORY.
14	FIRE EXTINGUISHER CABINET. FIRE EXTINGUISHER IS (OFOI). COORDINATE CABINET SIZE WITH OWNER PROVIDED FIRE EXTINGUISHERS.
15	THERMAL INSULATION - SOUND BATT INSULATION.
16	SOLID SURFACE BACKSPLASH.

AREA KEY PLAN



JAMES R. FISTER JR.
REGISTERED
No.
4447
COMMONWEALTH
OF KENTUCKY
8/15/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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www.grwinc.com

ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE:	BY:	REVISION DESCRIPTION

IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: AE413 01

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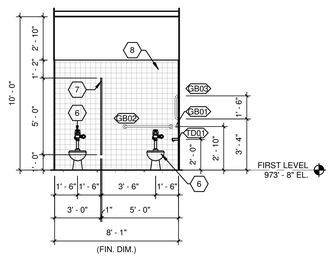

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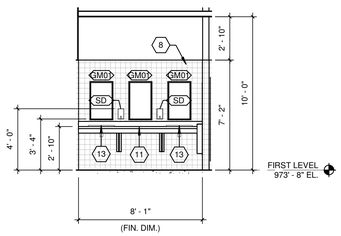
1 NORTH ELEVATION - WOMENS TOILET

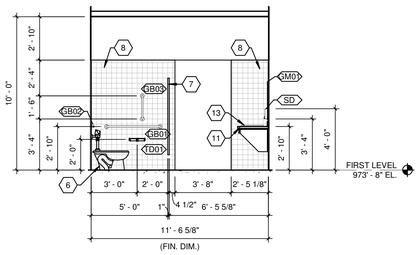
SCALE: 1/4" = 1'-0"



(FIN. DIM.)

2 SOUTH ELEVATION - WOMENS TOILET

SCALE: 1/4" = 1'-0"



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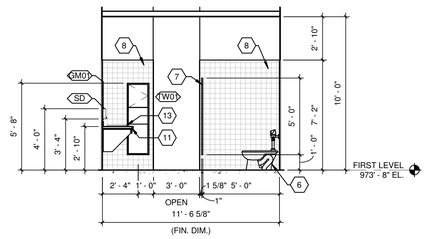
3 EAST ELEVATION - WOMENS TOILET

SCALE: 1/4" = 1'-0"



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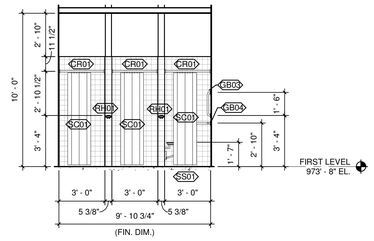
4 WEST ELEVATION - WOMENS TOILET

SCALE: 1/4" = 1'-0"



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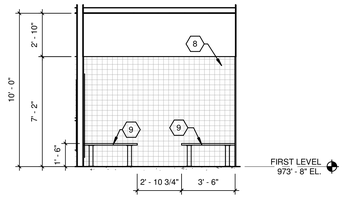
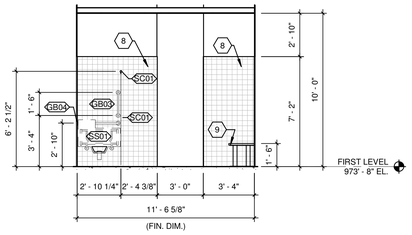
5 NORTH ELEVATION - WOMENS SHOWER

SCALE: 1/4" = 1'-0"



6 SOUTH ELEVATION - WOMENS SHOWER

SCALE: 1/4" = 1'-0"



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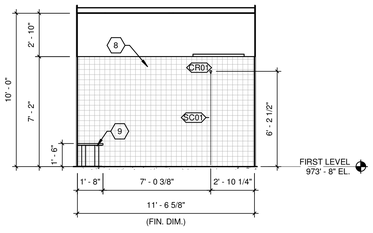
7 EAST ELEVATION - WOMENS SHOWER

SCALE: 1/4" = 1'-0"



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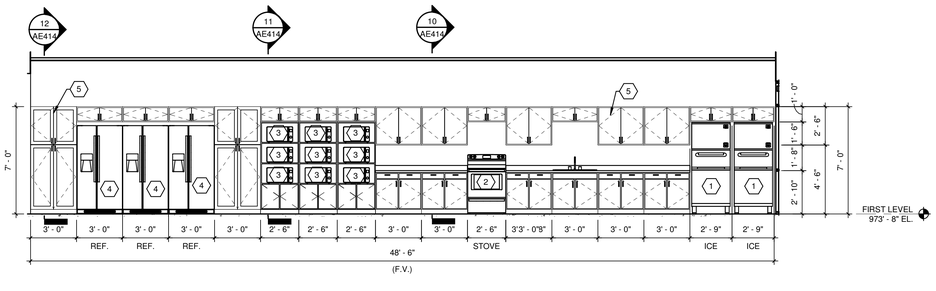
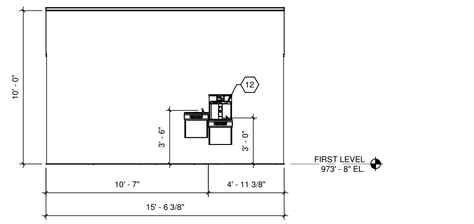
8 WEST ELEVATION - WOMENS SHOWER

SCALE: 1/4" = 1'-0"



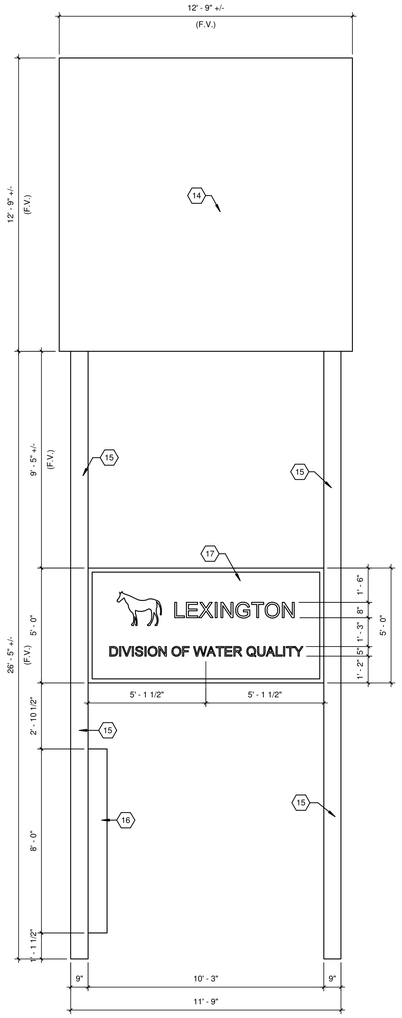
9 NORTH ELEVATION - MULTI-PURPOSE TRAINING / BREAK ROOM

SCALE: 1/4" = 1'-0"



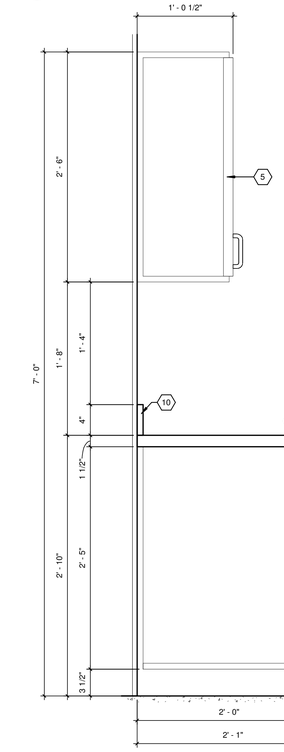
13 NORTH ELEVATION - LOCKER ROOM VESTIBULE

SCALE: 1/4" = 1'-0"



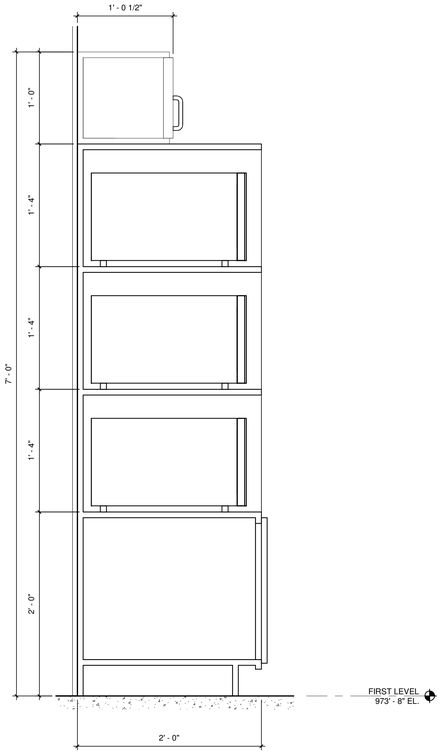
14 EXTERIOR EAST ELEVATION - PYLON SIGN

SCALE: 3/8" = 1'-0"



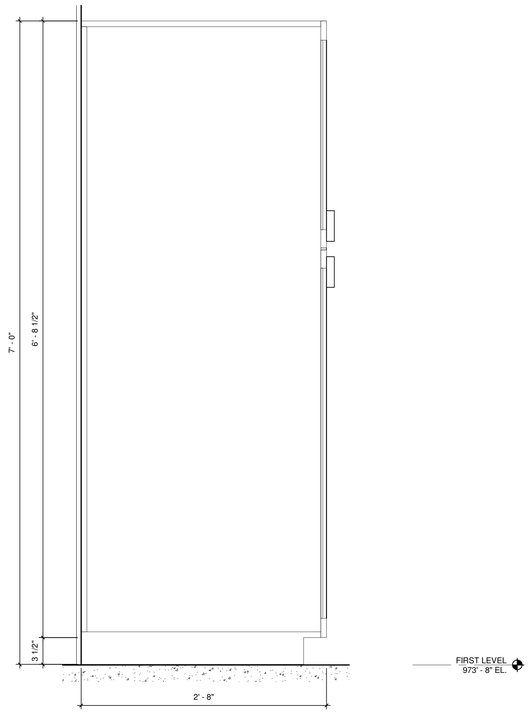
10 CASEWORK SECTION - TYPICAL

SCALE: 1 1/2" = 1'-0"



11 CASEWORK SECTION - MICROWAVE

SCALE: 1 1/2" = 1'-0"



12 CASEWORK - PANTRY

SCALE: 1 1/2" = 1'-0"

GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
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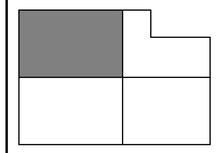
SHEET KEYNOTES:

1	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
2	ELECTRIC STOVE - (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
3	MICROWAVE - (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
6	PROVIDE NEW ADA COMPLIANT WATER CLOSET.
7	PLASTIC TOILET COMPARTMENTS
8	CERAMIC TILE WAINSCOT.
9	LOCKER BENCHES.
10	SOLID SURFACE BACKSPLASH.
11	SOLID SURFACE COUNTERTOPS.
12	ADA COMPLIANT DRINKING FOUNTAIN.
13	PROVIDE NEW ADA COMPLIANT LAVATORY.
14	EXISTING PYLON SIGN TO REMAIN.
15	EXISTING 9" X 15" PYLON TO REMAIN. PREPARE FOR NEW PAINT FINISH. PROVIDE NEW PAINT FINISH.
16	EXISTING ELECTRICAL ACCESS PANEL AND DOOR TO REMAIN. REWORK FOR SMOOTH OPERATION. PREPARE FOR NEW PAINT FINISH. PROVIDE NEW PAINT FINISH.
17	REMOVE EXISTING MATTRESS OVERSTOCK PYLON SIGN. PREPARE PYLON FOR NEW ILLUMINATED PYLON SIGN AS INDICATED. COLORS SHALL MATCH LFUCG CORPORATE COLORS AS SELECTED BY ARCHITECT. TYPICAL EACH SIDE. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

AREA KEY PLAN



JAMES R. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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www.grwinc.com

ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
DRV	DRV	DRV	DRV

REVISIONS

NO.	DATE:	BY:
	REVISION DESCRIPTION	

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: As indicated

SHEET NO.: AE414 01

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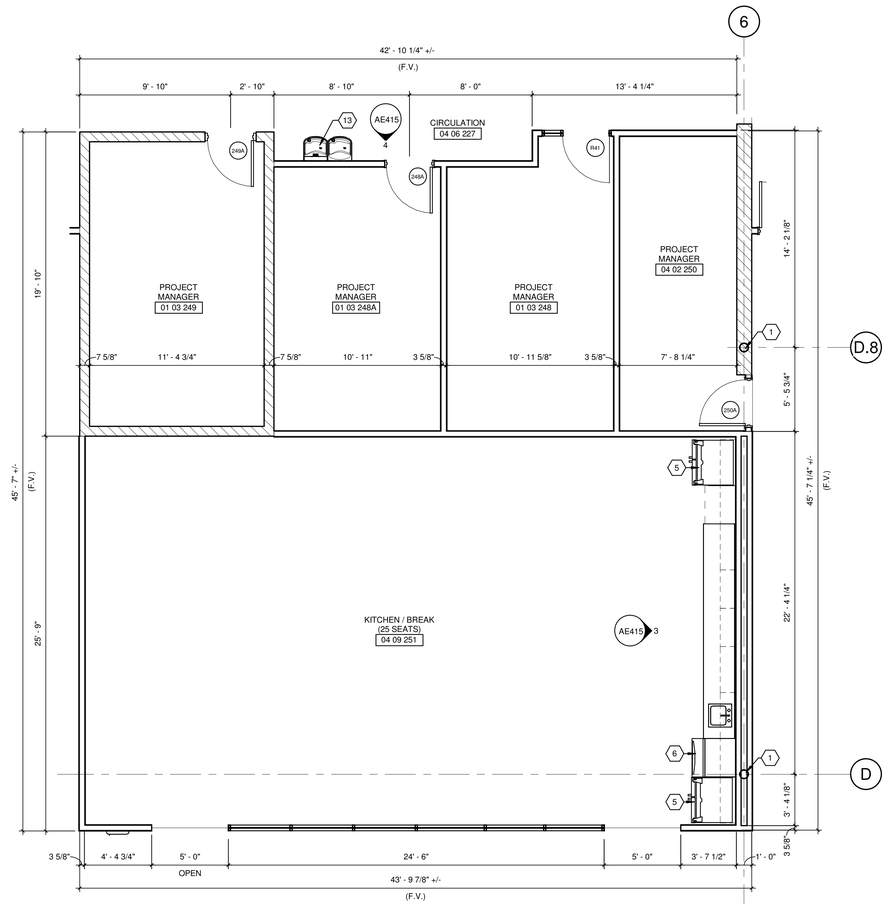
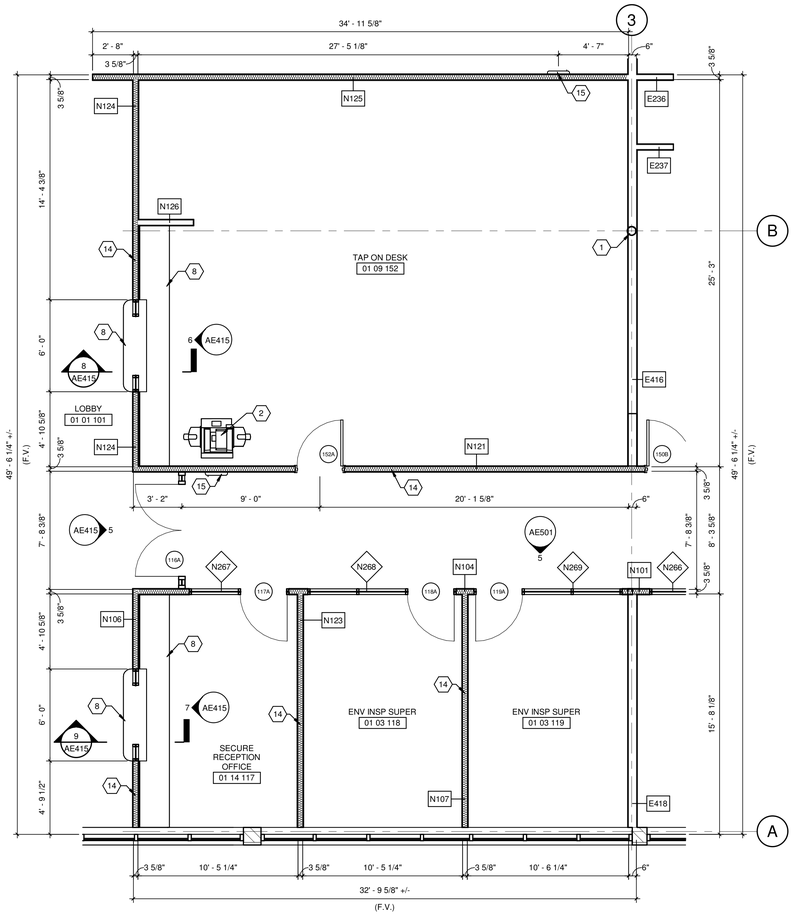


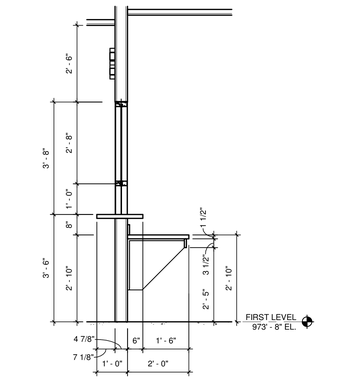
1 ENLARGED PLAN - KITCHEN / BREAK AREA

SCALE: 1/4" = 1'-0"



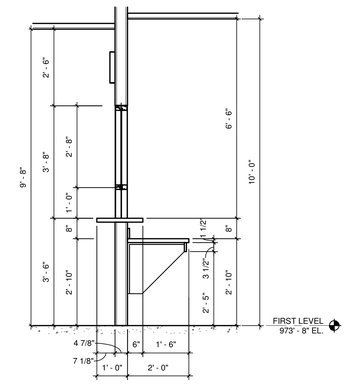
2 ENLARGED PLAN - TAP ON DESK

SCALE: 1/4" = 1'-0"



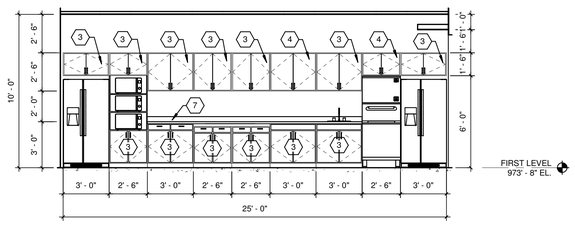
8 TAB DESK SECTION

SCALE: 1/2" = 1'-0"



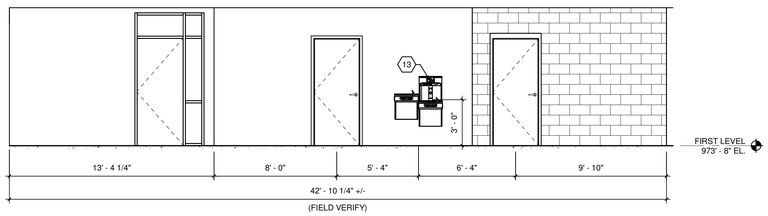
9 SECURE DESK SECTION

SCALE: 1/2" = 1'-0"



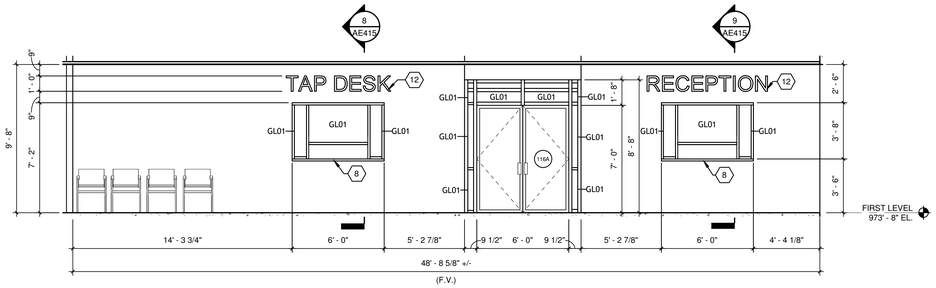
3 EAST ELEVATION - KITCHEN / BREAK

SCALE: 1/4" = 1'-0"



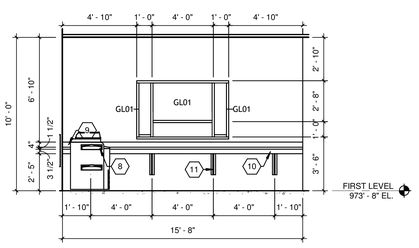
4 SOUTH ELEVATION - CIRCULATION

SCALE: 1/4" = 1'-0"



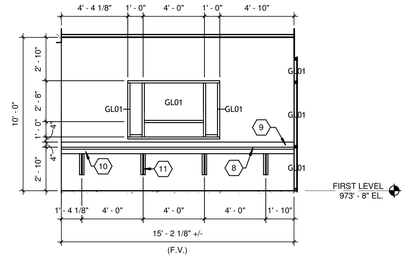
5 EAST ELEVATION - LOBBY

SCALE: 1/4" = 1'-0"



6 WEST ELEVATION - TAP ON DESK

SCALE: 1/4" = 1'-0"



7 WEST ELEVATION - SECURE RECEPTION OFFICE

SCALE: 1/4" = 1'-0"

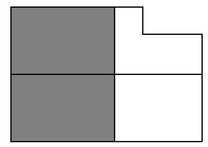
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
6. EXISTING DIMENSIONS ARE FROM RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITION DIMENSIONS. ADVISE ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITION AND CONSTRUCTION DOCUMENTS.

SHEET KEYNOTES:

1	EXISTING STRUCTURAL COLUMN TO REMAIN.
2	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
3	EXISTING PLASTIC LAMINATE CABINET TO REMAIN.
4	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
5	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7	EXISTING PLASTIC LAMINATE COUNTERTOP AND BACKSPLASH TO REMAIN.
8	SOLID SURFACE COUNTERTOPS.
9	SOLID SURFACE BACKSPLASH.
10	SOLID SURFACE APRON.
11	PLASTIC LAMINATE CLAD ARCHITECTURAL SUPPORT BRACKET.
12	DIMENSIONAL LETTER SIGNAGE - 12" HIGH.
13	ADA COMPLIANT DRINKING FOUNTAIN.
14	THERMAL INSULATION - SOUND BATT INSULATION.
15	FIRE EXTINGUISHER CABINET. FIRE EXTINGUISHER IS (OFOI). COORDINATE CABINET SIZE WITH OWNER PROVIDED FIRE EXTINGUISHERS.

AREA KEY PLAN



JAMES E. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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www.grwinc.com

ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY

SCALE (1=DEC) — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: As indicated
SHEET NO.: AE415 01

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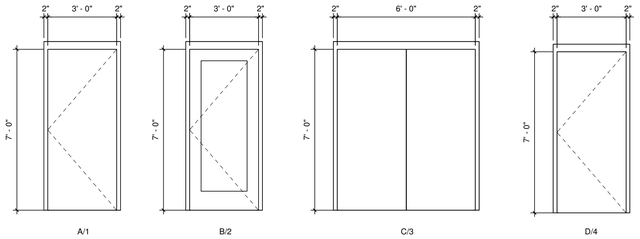
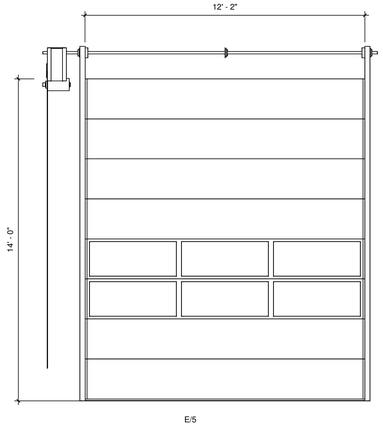
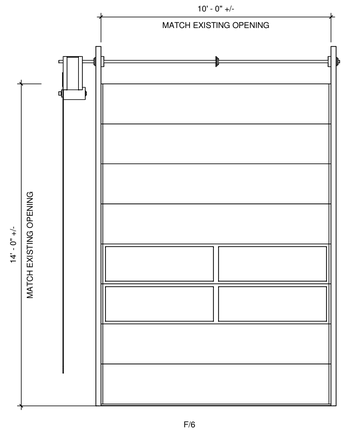
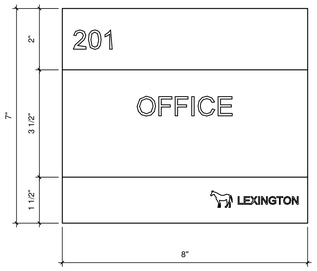


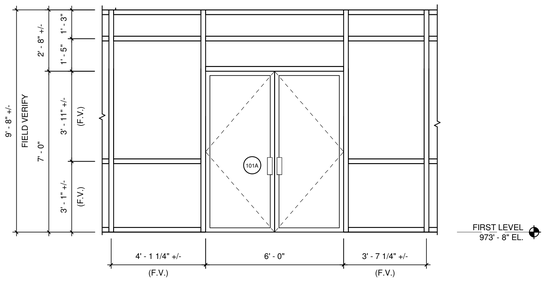




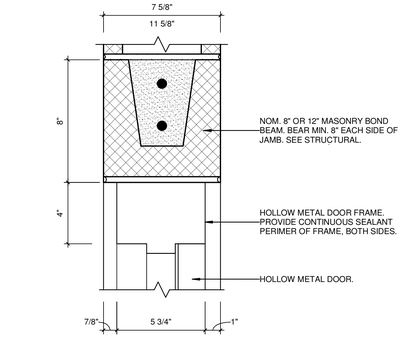
DOOR TYPES
SCALE: 3/8" = 1'-0"



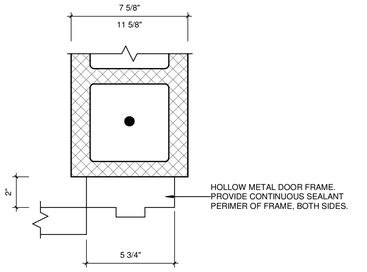
ROOM SIGNAGE
SCALE: 6" = 1'-0"



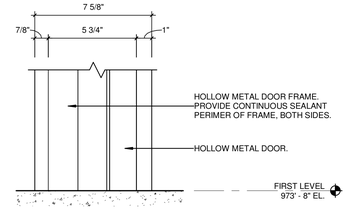
DOOR FRAME TYPE 101A
SCALE: 3/8" = 1'-0"



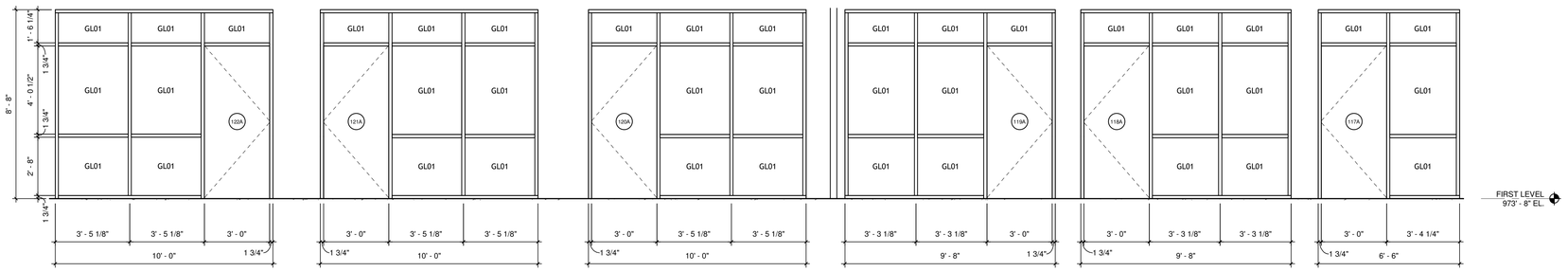
2 DOOR DETAIL - HEAD 06
SCALE: 3" = 1'-0"



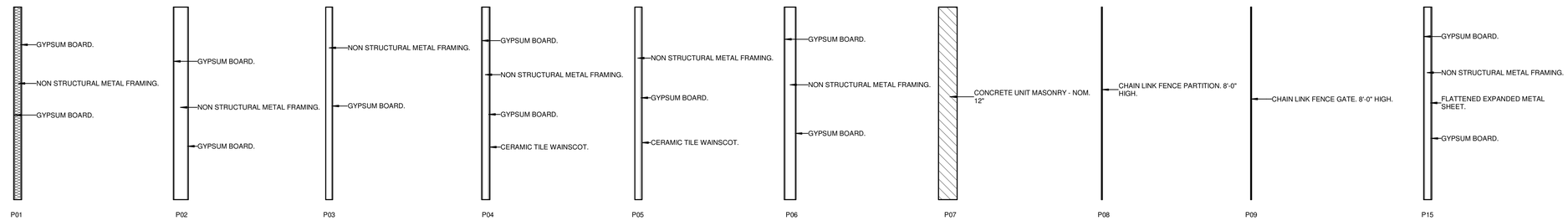
3 DOOR DETAIL - JAMB 06
SCALE: 3" = 1'-0"



4 DOOR DETAIL - SILL 06
SCALE: 3" = 1'-0"



5 DOOR FRAME TYPES 117A, 118A, 119A, 120A, 121A, 122A
SCALE: 3/8" = 1'-0"



WALL TYPES
SCALE: 3/8" = 1'-0"

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JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 052417-01
CLIENT PROJECT NO. RFB 70-2025

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DOOR / WINDOW / WALL TYPES

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

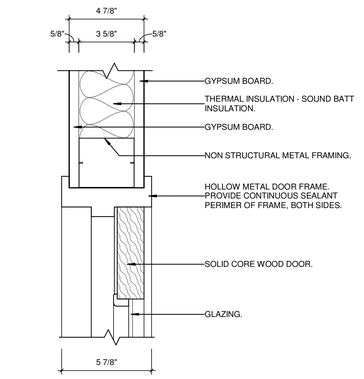
DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: As indicated
SHEET NO.: AE501 01



1 DOOR DETAIL - HEAD 01

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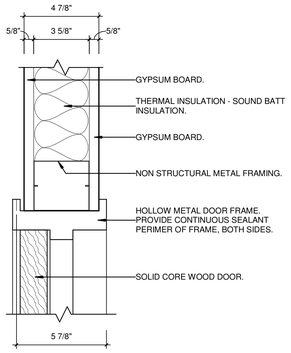
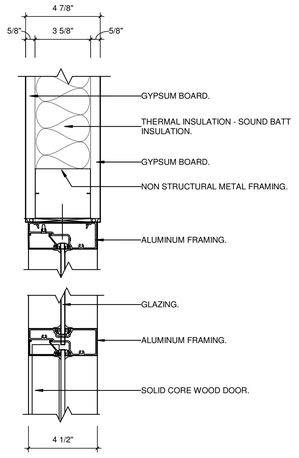


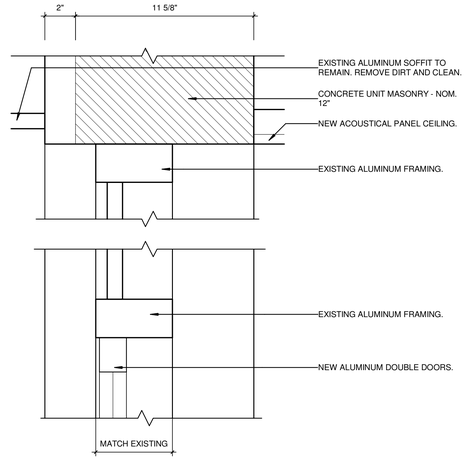
4 DOOR DETAIL - HEAD 02

SCALE: 3" = 1'-0"



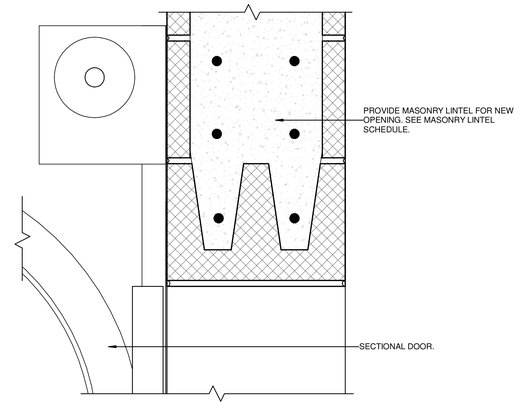
7 DOOR DETAIL - HEAD 03

SCALE: 3" = 1'-0"



10 DOOR DETAIL - HEAD 04

SCALE: 3" = 1'-0"



13 DOOR DETAIL - HEAD 05

SCALE: 3" = 1'-0"

2 DOOR DETAIL - JAMB 01

SCALE: 3" = 1'-0"

5 DOOR DETAIL - JAMB 02

SCALE: 3" = 1'-0"

8 DOOR DETAIL - JAMB 03

SCALE: 3" = 1'-0"

11 DOOR DETAIL - JAMB 04

SCALE: 3" = 1'-0"

14 DOOR DETAIL - JAMB 05

SCALE: 3" = 1'-0"

3 DOOR DETAIL - SILL 01

SCALE: 3" = 1'-0"

6 DOOR DETAIL - SILL 02

SCALE: 3" = 1'-0"

9 DOOR DETAIL - SILL 03

SCALE: 3" = 1'-0"

12 DOOR DETAIL - SILL 04

SCALE: 3" = 1'-0"

15 DOOR DETAIL - SILL 05

SCALE: 3" = 1'-0"

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JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH OF PENNSYLVANIA

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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DOOR DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

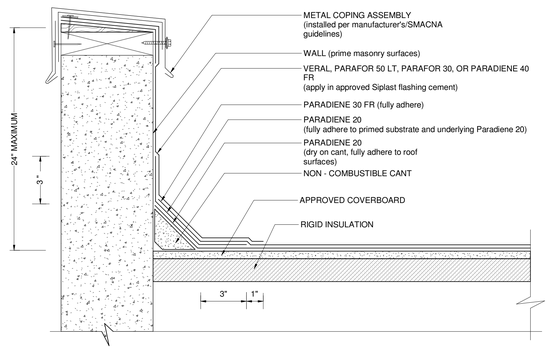
DATE: AUGUST 15, 2025

SCALE: 3" = 1'-0"

SHEET NO.: AE502 01

PARAPET with COPING and ADHESIVE-APPLIED FLASHING

PARADIENE 20/30 FR - RIGID INSULATION



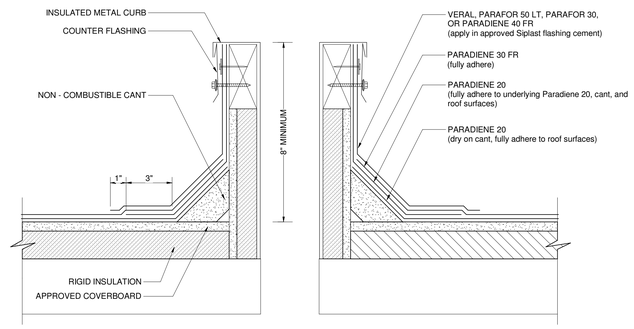
NOTES:
1. APPLY GRANULE SURFACED FLASHING SHEETS IN PA-828 FLASHING CEMENT OR SFT CEMENT. SFT CEMENT IS REQUIRED FOR VERAL FLASHING SHEETS .
2. THE CARPENTRY AND METAL WORK SHOWN DEPICTS SHOP FABRICATION AND JOB-SITE ASSEMBLY. THESE COMPONENTS SHOULD BE DESIGNED/FABRICATED/INSTALLED ACCORDING TO GENERALLY ACCEPTED INDUSTRY PRACTICES, STANDARDS, AND APPROVALS.
3. DISSIMILAR METAL TYPES SUBJECT TO ELECTROLYTIC REACTION SHOULD BE PHYSICALLY SEPARATED.
4. A NAILER AND TREATED WOOD CANT MAY BE REQUIRED FOR COMPLIANCE WITH SPECIFIC BUILDING CODES OR APPROVALS.
5. WHERE PRIMER IS INDICATED TO MAINTAIN PROPER ADHESION, TA-119 PRIMER IS REQUIRED FOR ALL PARADIENE 20 SA FLASHING REINFORCING AND STRIPPING PLY APPLICATIONS. USE PA-1125 OR PA-917 LS PRIMER FOR ALL OTHER PARADIENE 20 SERIES PRODUCTS THAT ARE NOT SELF-ADHESIVE SHEETS. CONTACT SIPLAST FOR SPECIFIC REQUIREMENTS.
6. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN CURRENT SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

1 PARAPET COPING - 2030 RIGID

SCALE: 3" = 1'-0"

INSULATED CURB with ADHESIVE-APPLIED FLASHING

PARADIENE 20/30 FR - RIGID INSULATION



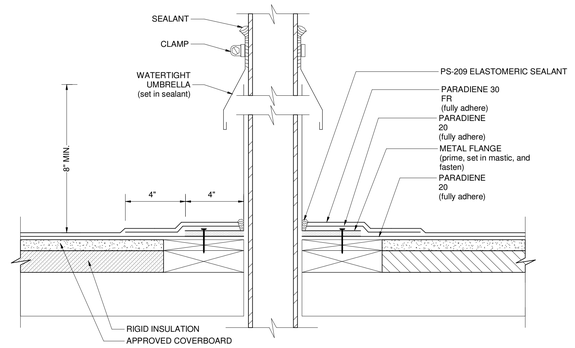
NOTES:
1. APPLY GRANULE SURFACED FLASHING SHEETS IN PA-828 FLASHING CEMENT OR SFT CEMENT. SFT CEMENT IS REQUIRED FOR VERAL FLASHING SHEETS .
2. THE CARPENTRY AND METAL WORK SHOWN DEPICTS SHOP FABRICATION AND JOB-SITE ASSEMBLY. THESE COMPONENTS SHOULD BE DESIGNED/FABRICATED/INSTALLED ACCORDING TO GENERALLY ACCEPTED INDUSTRY PRACTICES, STANDARDS, AND APPROVALS.
3. DISSIMILAR METAL TYPES SUBJECT TO ELECTROLYTIC REACTION SHOULD BE PHYSICALLY SEPARATED.
4. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN CURRENT SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

4 INSULATED CURB - 2030 - RIGID

SCALE: 3" = 1'-0"

EQUIPMENT FRAME

PARADIENE 20/30 FR - RIGID INSULATION



NOTES:
1. WHERE PRIMER IS INDICATED TO MAINTAIN PROPER ADHESION, USE PA-1125 OR PA-917 LS PRIMER. CONTACT SIPLAST FOR SPECIFIC REQUIREMENTS.
2. THE CARPENTRY AND METAL WORK SHOWN DEPICT SHOP FABRICATION AND JOB-SITE ASSEMBLY. THESE COMPONENTS SHOULD BE DESIGNED/FABRICATED/INSTALLED ACCORDING TO GENERALLY ACCEPTED INDUSTRY PRACTICES, STANDARDS, AND APPROVALS.
3. DISSIMILAR METAL TYPES SUBJECT TO ELECTROLYTIC REACTION SHOULD BE PHYSICALLY SEPARATED.
4. PA-1021 PLASTIC CEMENT, PA-828 FLASHING CEMENT, SFT CEMENT, OR PS-715 NS ELASTOMERIC SEALANT IS REQUIRED WHERE MASTIC IS INDICATED.
5. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN CURRENT SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

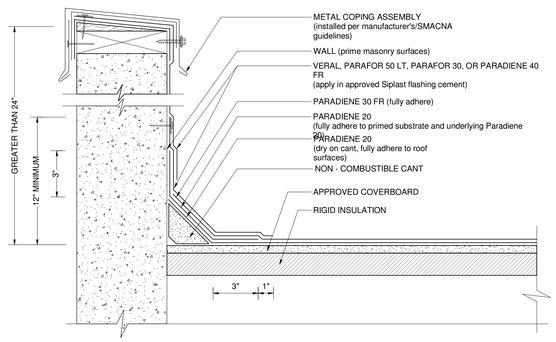
CAUTION: SIPLAST RECOMMENDS THAT ALL PRACTICES PERTAINING TO NRCA CERTA GUIDELINES BE FOLLOWED WHEN TORCHING METHODS ARE EMPLOYED. THIS INCLUDES PERFORMING A FIRE WATCH FOLLOWING ANY TORCH APPLICATIONS. ALWAYS HAVE APPROVED FIRE-EXTINGUISHING EQUIPMENT NEARBY.

7 EQUIPMENT FRAME - 2030 - RIGID

SCALE: 3" = 1'-0"

HIGH PARAPET with ADHESIVE-APPLIED FLASHING

PARADIENE 20/30 FR - RIGID INSULATION



NOTES:
1. APPLY GRANULE SURFACED FLASHING SHEETS IN PA-828 FLASHING CEMENT OR SFT CEMENT. SFT CEMENT IS REQUIRED FOR VERAL FLASHING SHEETS.
2. WHERE PRIMER IS INDICATED TO MAINTAIN PROPER ADHESION, USE PA-1125 OR PA-917 LS PRIMER. CONTACT SIPLAST FOR SPECIFIC REQUIREMENTS.
3. PREPARE GRANULE SURFACES UNDER FLASHING BY TORCH PREPARATION.
4. THE CARPENTRY SHOWN DEPICTS JOB-SITE ASSEMBLY AND SHOULD BE CONSTRUCTED ACCORDING TO GENERALLY ACCEPTED PRACTICES, STANDARDS, AND APPROVALS.
5. PA-1021 PLASTIC CEMENT, PA-828 FLASHING CEMENT, SFT CEMENT, OR PS-715 NS ELASTOMERIC SEALANT IS REQUIRED WHERE MASTIC IS INDICATED.
6. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN CURRENT SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

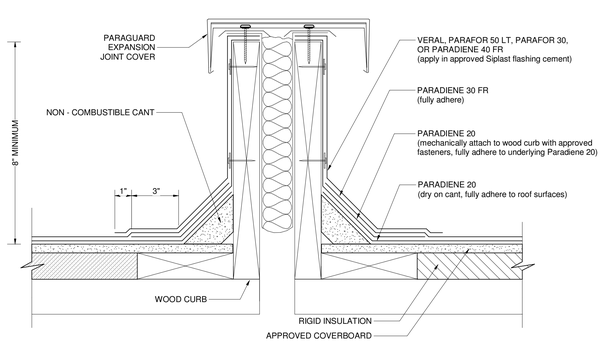
CAUTION: SIPLAST RECOMMENDS THAT ALL PRACTICES PERTAINING TO NRCA CERTA GUIDELINES BE FOLLOWED WHEN TORCHING METHODS ARE EMPLOYED. THIS INCLUDES PERFORMING A FIRE WATCH FOLLOWING ANY TORCH APPLICATIONS. ALWAYS HAVE APPROVED FIRE-EXTINGUISHING EQUIPMENT NEARBY.

2 HIGH PARAPET - 2030 - RIGID

SCALE: 3" = 1'-0"

PARAGUARD EXPANSION JOINT (ROOF-TO-ROOF) with ADHESIVE-APPLIED FLASHING

PARADIENE 20/30 FR - RIGID INSULATION



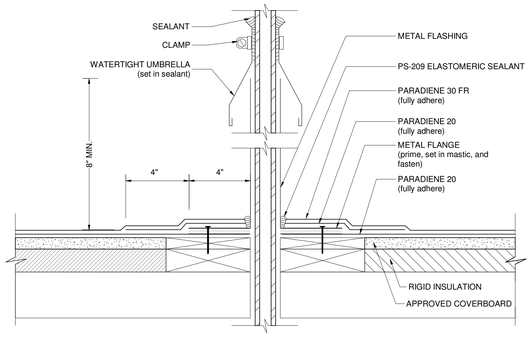
NOTES:
1. APPLY GRANULE SURFACED FLASHING SHEETS IN PA-828 FLASHING CEMENT OR SFT CEMENT. SFT CEMENT IS REQUIRED FOR VERAL FLASHING SHEETS .
2. THE CARPENTRY AND METAL WORK SHOWN DEPICTS SHOP FABRICATION AND JOB-SITE ASSEMBLY. THESE COMPONENTS SHOULD BE DESIGNED/FABRICATED/INSTALLED ACCORDING TO GENERALLY ACCEPTED INDUSTRY PRACTICES, STANDARDS, AND APPROVALS.
3. DISSIMILAR METAL TYPES SUBJECT TO ELECTROLYTIC REACTION SHOULD BE PHYSICALLY SEPARATED.
4. REFER TO THE PARAGUARD ROOF PERIMETER SYSTEM INSTALLER'S GUIDE FOR INFORMATION ON PRODUCTS, SIZING, AND INSTALLATION OF THE PARAGUARD SYSTEM.
5. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN CURRENT SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

5 PGUARD EXPANSION JOINT - 2030 - RIGID

SCALE: 3" = 1'-0"

SMALL PIPE PENETRATION

PARADIENE 20/30 FR - RIGID INSULATION



NOTES:
1. WHERE PRIMER IS INDICATED TO MAINTAIN PROPER ADHESION, USE PA-1125 OR PA-917 LS PRIMER. CONTACT SIPLAST FOR SPECIFIC REQUIREMENTS.
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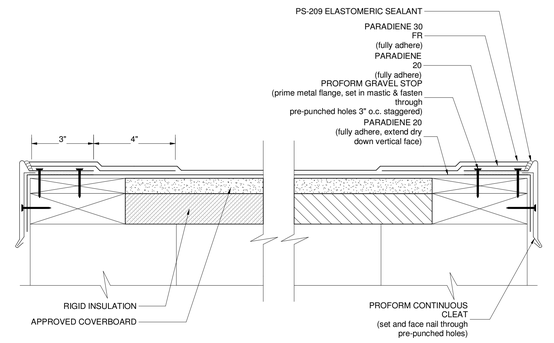
8 SMALL PIPE PENETRATION - 2030 - RIGID

SCALE: 3" = 1'-0"

PROFORM GRAVEL STOP

PARADIENE 20/30 FR - RIGID INSULATION



NOTES:
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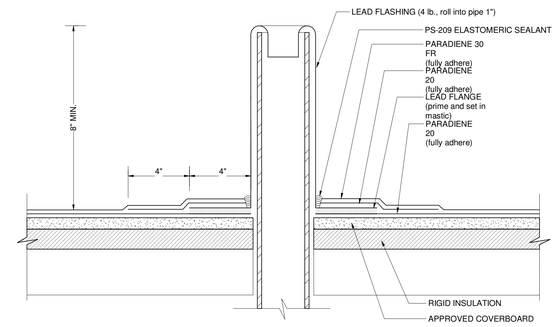
3 PFORM GRAVEL STOP - 2030 - RIGID

SCALE: 1 : 3

WASTE STACK

PARADIENE 20/30 FR - RIGID INSULATION



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6 WASTE STACK - 2030 - RIGID

SCALE: 3" = 1'-0"

JAMES K. PETER JR.
REGISTERED
NO.
4447
COMMONWEALTH

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
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STANDARD ROOFING DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: As indicated

SHEET NO.: AE503 01

8/13/2025 11:47:26 AM G:\DATA\1-EXCL\DWG\HDR\Working Drawings\Sheet Aes\Central Master\SAT-MD\SMD01.mt

ROOM FINISH SCHEDULE - NEW CONSTRUCTION

ROOM IDENTIFICATION					AREA				FLOOR		WALLS								CEILING			
											BUILDING ORIENTATION INDICATES PLAN NORTH											
											NORTH		SOUTH		EAST		WEST					
DEPARTMENT NUMBER	DEPARTMENT TYPE	ROOM NUMBER	ROOM NAME	LEVEL	PROGRAMMED AREA	ACTUAL AREA	DELTA	AREA PERIMETER	FLOOR FINISH	BASE FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT (A.F.F.)	COMMENTS
ADMINISTRATIVE																						
01	01	101	LOBBY	FIRST LEVEL	250.00 SF	531.80 SF	212.72%	110'	PORCELAIN TILE	PORCELAIN COVE	N/A	N/A	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 8"	
01	02	104	MENS PUBLIC RESTROOM	FIRST LEVEL	300.00 SF	134.34 SF	44.78%	51'	CERAMIC TILE	CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
01	02	105	WOMENS PUBLIC RESTROOM	FIRST LEVEL	300.00 SF	146.20 SF	48.73%	52'	CERAMIC TILE	CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
01	03	118	ENV INSP SUPER	FIRST LEVEL	120.00 SF	156.83 SF	130.69%	51'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	119	ENV INSP SUPER	FIRST LEVEL	120.00 SF	158.09 SF	131.75%	51'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	120	ADMIN SPCIST PR	FIRST LEVEL	120.00 SF	178.78 SF	148.98%	54'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	121	ADMIN SPCIST PR	FIRST LEVEL	120.00 SF	179.60 SF	149.66%	54'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	122	ADMIN SPCIST PR	FIRST LEVEL	120.00 SF	178.13 SF	148.45%	54'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	123	PROG MGR SR	FIRST LEVEL	120.00 SF	188.96 SF	157.47%	59'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	130	MUN ENG SR	FIRST LEVEL	120.00 SF	118.54 SF	98.78%	45'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	131	MUN ENG SR	FIRST LEVEL	120.00 SF	141.58 SF	117.98%	49'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	133	MUN ENG SR	FIRST LEVEL	120.00 SF	141.58 SF	117.98%	49'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	134	ADM OFF SR	FIRST LEVEL	144.00 SF	203.09 SF	141.03%	61'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	135	ENG SECT MANAGER	FIRST LEVEL	144.00 SF	190.34 SF	132.18%	56'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	136	ADMIN OFF	FIRST LEVEL	120.00 SF	130.23 SF	108.52%	46'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	137	ENG SECT MANAGER	FIRST LEVEL	144.00 SF	182.57 SF	126.79%	55'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	138	DEPUTY DIRECTOR	FIRST LEVEL	144.00 SF	186.39 SF	129.44%	55'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	139	DIVISION DIRECTOR	FIRST LEVEL	196.00 SF	277.26 SF	141.46%	67'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	140	ENG SECT MGR	FIRST LEVEL	196.00 SF	157.02 SF	80.11%	52'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	141	ASSOC MUN ENG	FIRST LEVEL	120.00 SF	157.02 SF	130.85%	52'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	142	WQ MGR - 01	FIRST LEVEL	120.00 SF	193.11 SF	160.92%	57'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	143	CAP MGR	FIRST LEVEL	120.00 SF	146.27 SF	121.89%	51'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	155	PROJ MGR - 01	FIRST LEVEL	120.00 SF	180.28 SF	150.23%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	156	PROJ MGR - 02	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	157	PROJ MGR - 03	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	161	CONST SUP - 04	FIRST LEVEL	120.00 SF	182.81 SF	152.34%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	162	CONST SUP - 03	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	163	CONST SUP - 02	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	164	CONST SUP - 01	FIRST LEVEL	120.00 SF	194.72 SF	162.27%	56'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	165	CONSTRUCTION MANAGER - 02	FIRST LEVEL	169.00 SF	176.93 SF	104.69%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	166	CONSTRUCTION MANAGER - 01	FIRST LEVEL	169.00 SF	176.93 SF	104.69%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	167	INF PROG MGR	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	248	PROJECT MANAGER	FIRST LEVEL	400.00 SF	196.76 SF	49.19%	60'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	248A	PROJECT MANAGER	FIRST LEVEL	120.00 SF	186.95 SF	155.79%	56'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	249	PROJECT MANAGER	FIRST LEVEL	200.00 SF	211.56 SF	105.78%	60'	TILE CARPETING	RUBBER COVE BASE	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	257	COMP ANALYST	FIRST LEVEL	120.00 SF	127.02 SF	105.85%	45'	TILE CARPETING	RUBBER COVE BASE	N/A	N/A	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING TO REMAIN	PRE-FINISHED	9' - 0"	
01	04	124	ENG TECH PR	FIRST LEVEL	100.00 SF	174.91 SF	174.91%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	125	ENG TECH PR	FIRST LEVEL	100.00 SF	174.92 SF	174.92%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	126	ENG TECH PR	FIRST LEVEL	100.00 SF	175.06 SF	175.06%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	127	ENG TECH PR	FIRST LEVEL	100.00 SF	174.92 SF	174.92%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	128	ENG TECH PR	FIRST LEVEL	100.00 SF	184.44 SF	184.44%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	04	144	TECH SPCIST	FIRST LEVEL	144.00 SF	150.38 SF	104.43%	51'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	04	154	OPEN OFFICE AREA	FIRST LEVEL	2900.00 SF	2844.38 SF	98.08%	861'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	11' - 2"	
01	04	158	PROJ MGR - 04	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	160	PROJ MGR - 05	FIRST LEVEL	120.00 SF	173.79 SF	144.82%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	04	168	CUBICAL - AD38	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	169	CUBICAL - AD37	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	170	CUBICAL - AD36	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	171	FILE - AD35	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	180	FILES - AD34	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	181	CUBICAL - AD33	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	182	CUBICAL - AD32	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	183	CUBICAL - AD31	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	184	CUBICAL - AD30	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	185	CUBICAL - AD29	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	186	CUBICAL - AD28	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	187	FILES - AD27	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	188	CUBICAL - AD26	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	189	CUBICAL - AD25	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	190	CUBICAL - AD24	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	191	CUBICAL - AD23	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	192	CUBICAL - AD22	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	193	CUBICAL - AD21	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	194	CUBICAL - AD20	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	195	FILES - AD19	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	196	CUBICAL - AD18	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	197	CUBICAL - AD17	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	198	CUBICAL - AD16	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	199	CUBICAL - AD15	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	200	CUBICAL - AD14	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	201	CUBICAL - AD13	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	202	FILES - AD12	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	203	CUBICAL - AD11	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	204	CUBICAL - AD10	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	205	CUBICAL - AD09	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	206	ADMINISTRATION PRINCIPAL AD08	FIRST LEVEL	80.00 SF	211.35 SF	264.19%	62'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED

ROOM FINISH SCHEDULE - NEW CONSTRUCTION

ROOM IDENTIFICATION					AREA				FLOOR		WALLS										CEILING			
											BUILDING ORIENTATION INDICATES PLAN NORTH													
											NORTH		SOUTH		EAST		WEST							
DEPARTMENT NUMBER	DEPARTMENT TYPE	ROOM NUMBER	ROOM NAME	LEVEL	PROGRAMMED AREA	ACTUAL AREA	DELTA	AREA PERIMETER	FLOOR FINISH	BASE FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT (A.F.F.)	COMMENTS
SEWER LINE MAINTENANCE																						
02	01	266	SUPER SR	FIRST LEVEL	100.00 SF	121.00 SF	121.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	267	SUPER SR	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	268	SUPER SR	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	269	SUPER SR	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	270	SLM SUPER	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	271	CMOM MGR	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	273	SUPER II	FIRST LEVEL	100.00 SF	120.09 SF	120.09%	45'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	274	SUPER II	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	275	SUPER II	FIRST LEVEL	100.00 SF	120.09 SF	120.09%	45'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	276	SUPER II	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	277	ODOR CONTROL MANAGER	FIRST LEVEL	120.00 SF	121.00 SF	100.83%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	02	278	CUBICAL - SL08	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	279	CUBICAL - SL07	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	280	CUBICAL - SL06	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	281	CUBICAL - SL05	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	282	CUBICAL - SL04	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	283	CUBICAL - SL03	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	284	CUBICAL - SL02	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	285	CUBICAL - SL01	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	03	234	LAUNDRY	FIRST LEVEL	144.00 SF	166.87 SF	115.88%	51'	SEALED CONCRETE	RUBBER COVE BASE	N/A	N/A	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	235	DIRTY LINEN STORAGE	FIRST LEVEL	20.00 SF	22.20 SF	111.01%	19'	SEALED CONCRETE	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	N/A	N/A	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
02	04	238	MENS LOCKER (72-LOCKERS)	FIRST LEVEL	500.00 SF	506.68 SF	101.34%	106'	CERAMIC TILE	CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	239	MENS TOILET	FIRST LEVEL	140.00 SF	141.30 SF	100.93%	52'	CERAMIC TILE	CERAMIC COVE	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	240	MENS SHOWER	FIRST LEVEL	160.00 SF	167.93 SF	104.96%	67'	CERAMIC TILE	CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXIST. GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	241	WOMENS LOCKER (40-LOCKERS)	FIRST LEVEL	300.00 SF	305.81 SF	101.94%	93'	CERAMIC TILE	CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	242	WOMENS TOILET	FIRST LEVEL	90.00 SF	94.89 SF	105.43%	40'	CERAMIC TILE	CERAMIC COVE	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	243	WOMENS SHOWER	FIRST LEVEL	100.00 SF	112.31 SF	112.31%	55'	CERAMIC TILE	CERAMIC COVE	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	08	293	MODULAR OFFICE	FIRST LEVEL	145.00 SF	147.25 SF	101.55%	50'	TILE CARPETING	RUBBER COVE BASE	EXISTING PANEL	PRE-FINISHED	EXISTING PANEL	PRE-FINISHED	EXISTING PANEL	PRE-FINISHED	EXISTING PANEL	PRE-FINISHED	EXISTING PANEL	PRE-FINISHED	8' - 0"	
02	09	236	MOP SINK	FIRST LEVEL	0.00 SF	76.28 SF		38'	SEALED CONCRETE	NONE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	N/A	N/A	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	09	298	NEW JANI	FIRST LEVEL	37.00 SF	39.96 SF	107.99%	27'	SEALED CONCRETE	NONE	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	N/A	N/A	EXPOSED STRUCTURE	NEW PAINT	10' - 0"	REPAIR DAMAGED GYP BOARD
02	10	265	OPEN OFFICE AREA	FIRST LEVEL	220.00 SF	2189.03 SF	995.01%	282'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	12	272	SUPER II	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	13	290	MULTI-PURPOSE TRAINING / BREAK ROOM	FIRST LEVEL	1500.00 SF	1773.48 SF	118.23%	172'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	14	305	SLM PUMP STORAGE	FIRST LEVEL	139.00 SF	139.32 SF	100.23%	54'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
02	14	306	SLM PUMP STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
02	14	307	SLM PUMP STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
02	15	291	SEWER LINE MAINTENANCE STORAGE AREA	FIRST LEVEL	2252.00 SF	2565.42 SF	113.92%	273'	SEALED CONCRETE	NONE	CHAIN LINK FENCING	PRE-FINISHED	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	CHAIN LINK FENCING	PRE-FINISHED	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	REPAIR DAMAGED GYP BOARD
02	16	302	SLM EQUIPMENT / COMPRESSOR STORAGE	FIRST LEVEL	557.00 SF	557.65 SF	100.12%	117'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	CHAIN LINK FENCING	PRE-FINISHED	CHAIN LINK FENCING	PRE-FINISHED	CHAIN LINK FENCING	PRE-FINISHED	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
SEWER LINE MAINTENANCE: 38					8636.00 SF	11538.70 SF																
PUMP STATION MAINTENANCE																						
03	01	218	PS PROG MGR	FIRST LEVEL	120.00 SF	146.35 SF	121.96%	49'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	01	219	PS SUPER	FIRST LEVEL	120.00 SF	144.17 SF	120.14%	48'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	01	220	PS CONTROLS	FIRST LEVEL	120.00 SF	144.17 SF	120.14%	48'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	01	221	OFFICE	FIRST LEVEL	100.00 SF	144.17 SF	144.17%	48'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	01	222	OFFICE	FIRST LEVEL	100.00 SF	153.99 SF	153.99%	50'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	02	172	CUBICAL - PS05	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	173	CUBICAL - PS06	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	174	CUBICAL - PS07	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	175	CUBICAL - PS08	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	176	CUBICAL - PS12	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	177	CUBICAL - PS11	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	178	CUBICAL - PS10	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	179	CUBICAL - PS09	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	215	FILE AREA / WORKROOM A	FIRST LEVEL	400.00 SF	446.48 SF	111.62%	100'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	02	216	OPEN OFFICE AREA	FIRST LEVEL	270.00 SF	495.69 SF	183.59%	122'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	02	217	CUBICAL - PS04	FIRST LEVEL	70.00 SF	73.76 SF	105.36%	36'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
03	03	223	CANE RUN CONF ROOM	FIRST LEVEL	200.00 SF	258.74 SF	129.37%	66'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	04	299	PUMP STATION STORAGE	FIRST LEVEL	100.00 SF	154.38 SF	154.38%	55'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	05	245	PUMP STATION WORKSHOP	FIRST LEVEL	150.00 SF	349.04 SF	232.69%	75'	SEALED CONCRETE	RUBBER COVE BASE	EXISTING CMU	NEW PAINT	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	06	224	ELECTRONIC STORAGE	FIRST LEVEL	100.00 SF	142.92 SF	142.92%	53'	SEALED CONCRETE	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	07	214	CORRIDOR - PS	FIRST LEVEL	0.00 SF	94.16 SF		43'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	N/A	N/A	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	07	230	VESTIBULE - PS RESTROOMS	FIRST LEVEL	0.00 SF	138.76 SF		52'	SEALED CONCRETE	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
03	08	246	WAREHOUSE	FIRST LEVEL	1116.00 SF	1099.66 SF	98.54%	158'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	N/A	N/A	N/A	N/A	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	REPAIR DAMAGED GYP BOARD
03	09	231	MENS RESTROOM	FIRST LEVEL	0.00 SF	179.86 SF		71'	EXISTING TILE TO REMAIN	EX. CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	EXISTING TILE TO REMAIN, CLEAN.
03	09	233	WOMEN RESTROOM	FIRST LEVEL	0.00 SF	178.87 SF		74'	EXISTING TILE TO REMAIN	EX. CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	EXISTING TILE TO REMAIN, CLEAN.
03	10	244	PUMP STATION WORK AREA	FIRST LEVEL	0.00 SF	1729.29 SF		167'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING CMU	NEW PAINT	N/A	N/A	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	REPAIR DAMAGED GYP BOARD
03	11	308	PS GENERATOR STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	309	PS GENERATOR STORAGE	FIRST LEVEL	203.00 SF	203.54 SF	100.27%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	310	PS GENERATOR STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	311	PS GENERATOR STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	312	PS GENERATOR STORAGE	FIRST LEVEL	203.00 SF	203.54 SF	100.27%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	313	PS GENERATOR STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	314	PS GENERATOR STORAGE	FIRST LEVEL	196.00 SF	207.03 SF	105.63%	61'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	315	PS GENERATOR STORAGE	FIRST LEVEL	196.00 SF	196.98 SF	100.50%	59'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	12	316	PS PUMPS STORAGE	FIRST LEVEL	210.00 SF	210.11 SF	100.05%	61'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	13	292	PUMP STATION STORAGE	FIRST LEVEL	735.00 SF	734.20 SF	99.89%	115'	SEALED CONCRETE	NONE	CHAIN LINK FENCING	PRE-FINISHED	EXISTING GYPSUM BOARD	NEW PAINT	CHAIN LINK FENCING	PRE-FINISHED	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	REPAIR DAMAGED GYP BOARD
PUMP STATION MAINTENANCE: 36					6173.00 SF	9333.67 SF																
UTILITY AND EQUIPMENT																						
04	01	228	MENS RESTROOM	FIRST LEVEL	0.00 SF	291.30 SF		90'	EXISTING TILE TO REMAIN	EX. CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	EXISTING TILE TO REMAIN, CLEAN.
04	01	229	WOMENS RESTROOM	FIRST LEVEL	0.00 SF	153.53 SF		67'	EXISTING TILE TO REMAIN	EX. CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXIST

DOOR AND FRAME SCHEDULE - NEW CONSTRUCTION

BUILDING IDENTIFICATION	DOOR IDENTIFICATION			DOOR						FRAME						FIRE RATING LABLE	HARDWARE		PHASE CREATED	PHASE DEMOLISHED	COMMENTS
	DOOR MARK	FROM ROOM	TO ROOM	SIZE			DOOR MATERIAL	TYPE MARK	DOOR GLAZING	FRAME MATERIAL	FRAME TYPE	FRAME GLAZING	DETAIL				SET NUMBER	KEYSIDE ROOM NUMBER			
				WIDTH	HEIGHT	THICKNESS							HEAD DETAIL	JAMB DETAIL	SILL DETAIL						
01	101A	LOBBY		6' - 0"	7' - 0"		ALUMINUM	H	GL-3		8/AE501	GL-3	10/AE502	11/AE502	12/AE502	0HR	AC-03	101	NEW CONSTRUCTION	None	
01	103A	RECEPTION AREA	ELECTRICAL	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	03	102	NEW CONSTRUCTION	None	
01	104A	RECEPTION AREA	MENS PUBLIC RESTROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	04	102	NEW CONSTRUCTION	None	
01	106A	RECEPTION AREA	JANITOR CLOSET	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	05	102	NEW CONSTRUCTION	None	
01	107A	RECEPTION AREA	TOWN BRANCH CONF ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	06	102	NEW CONSTRUCTION	None	
01	108A	LOBBY	TELLER / CLERKS AREA	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-04	101	NEW CONSTRUCTION	None	
01	109A	RECEPTION AREA	CONSULTATION OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	AC-04	102	NEW CONSTRUCTION	None	
01	109B	TELLER / CLERKS AREA	CONSULTATION OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	108	NEW CONSTRUCTION	None	
01	110A	TELLER / CLERKS AREA	SUPERVISOR OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	108	NEW CONSTRUCTION	None	
01	111A	TELLER / CLERKS AREA	VAULT	3' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	AC-05	108	NEW CONSTRUCTION	None	
01	112A	TELLER / CLERKS AREA	OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	108	NEW CONSTRUCTION	None	
01	113A	TELLER / CLERKS AREA	OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	108	NEW CONSTRUCTION	None	
01	114A	OFFICE	TELLER / CLERKS AREA	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	114	NEW CONSTRUCTION	None	
01	115A	TELLER / CLERKS AREA	OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	108	NEW CONSTRUCTION	None	
01	116A	LOBBY	COMMON WORK AREA	6' - 0"	7' - 0"		ALUMINUM	H	GL-3	ALUMINUM	5/AE415	GL-3	10/AE502	11/AE502	12/AE502	0HR	AC-06	101	NEW CONSTRUCTION	None	
01	117A	COMMON WORK AREA	SECURE RECEPTION OFFICE	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	5/AE501	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	118A	COMMON WORK AREA	ENV INSP SUPER	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	5/AE501	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	119A	ENV INSP SUPER	COMMON WORK AREA	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	5/AE501	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	119	NEW CONSTRUCTION	None	
01	120A	COMMON WORK AREA	ADMIN SPCIST PR	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	5/AE501	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	121A	COMMON WORK AREA	ADMIN SPCIST PR	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	5/AE501	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	122A	ADMIN SPCIST PR	COMMON WORK AREA	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	5/AE501	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	122	NEW CONSTRUCTION	None	
01	131A	COMMON WORK AREA	MUN ENG SR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	133A	COMMON WORK AREA	MUN ENG SR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	140A	ENG SECT MGR	COMMON WORK AREA	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	8/AE411	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	140	NEW CONSTRUCTION	None	
01	141A	ASSOC MUN ENG	COMMON WORK AREA	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	8/AE411	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	141	NEW CONSTRUCTION	None	
01	143A	COMMON WORK AREA	CAP MGR	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	6/AE411	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	144A	TECH SPCIST	COMMON WORK AREA	3' - 0 3/4"	7' - 0 3/4"		WOOD - SOLID CORE	G	N/A	ALUMINUM	7/AE411	GL-3	7/AE502	8/AE502	9/AE502	0HR	07	144	NEW CONSTRUCTION	None	
01	145A	COMMON WORK AREA	SAFETY SPECALIST	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	1	N/A	1/AE502	2/AE502	3/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	146A	SAFETY STORAGE	SAFETY SPECALIST	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	05	146	NEW CONSTRUCTION	None	
01	147A	COMMON WORK AREA	WOLF RUN CONF ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	06	116	NEW CONSTRUCTION	None	
01	150A	COMMON WORK AREA	NORTH ELKHORN TRANING ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	06	116	NEW CONSTRUCTION	None	
01	150B	COMMON WORK AREA	NORTH ELKHORN TRANING ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	06	116	NEW CONSTRUCTION	None	
01	151A	SOUTH ELKHORN TRAINING ROOM	RECEPTION AREA	6' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	C	N/A	HOLLOW METAL	3	N/A	4/AE502	5/AE502	6/AE502	0HR	AC-07	151	NEW CONSTRUCTION	None	
01	152A	COMMON WORK AREA	TAP ON DESK	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	116	NEW CONSTRUCTION	None	
01	214A	FILE AREA / WORKROOM A	CORRIDOR - PS	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-04	215	NEW CONSTRUCTION	None	
01	215A	VESTIBULE	FILE AREA / WORKROOM A	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-04	226	NEW CONSTRUCTION	None	
01	218A	OPEN OFFICE AREA	PS PROG MGR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	216	NEW CONSTRUCTION	None	
01	219A	OPEN OFFICE AREA	PS SUPER	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	216	NEW CONSTRUCTION	None	
01	220A	OPEN OFFICE AREA	PS CONTROLS	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	216	NEW CONSTRUCTION	None	
01	221A	OPEN OFFICE AREA	OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	216	NEW CONSTRUCTION	None	
01	222A	OPEN OFFICE AREA	OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	216	NEW CONSTRUCTION	None	
01	223A	FILE AREA / WORKROOM A	CANE RUN CONF ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	06	215	NEW CONSTRUCTION	None	
01	224A	PUMP STATION WORK AREA				2"	GALVANIZED STEEL	F	1/2" INSULATED	N/A	6	N/A	13/AE502	14/AE502	15.AE502	0HR	RU.2	244	NEW CONSTRUCTION	None	
01	224B	PUMP STATION WORK AREA				2"	GALVANIZED STEEL	F	1/2" INSULATED	N/A	6	N/A	13/AE502	14/AE502	15.AE502	0HR	RU.2	244	NEW CONSTRUCTION	None	
01	237A	LOCKER ROOM VESTIBULE	WAREHOUSE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	AC-04	237	NEW CONSTRUCTION	None	
01	238A	LOCKER ROOM VESTIBULE	MENS LOCKER (72-LOCKERS)	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	04	237	NEW CONSTRUCTION	None	
01	241A	LOCKER ROOM VESTIBULE	WOMENS LOCKER (40-LOCKERS)	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	04	237	NEW CONSTRUCTION	None	
01	248A	CIRCULATION	PROJECT MANAGER	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	07	227	NEW CONSTRUCTION	None	
01	249A	CIRCULATION	PROJECT MANAGER	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	07	227	NEW CONSTRUCTION	None	
01	250A	CIRCULATION	PROJECT MANAGER	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	07	262	NEW CONSTRUCTION	None	
01	265A	COMMON WORK AREA	OPEN OFFICE AREA	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-05	116	NEW CONSTRUCTION	None	
01	265B	COMMON WORK AREA	OPEN OFFICE AREA	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-05	116	NEW CONSTRUCTION	None	
01	265C	OPEN OFFICE AREA	CIRCULATION	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-08	265	NEW CONSTRUCTION	None	
01	265D	OPEN OFFICE AREA	WAREHOUSE CIRCULATION	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-08	265	NEW CONSTRUCTION	None	
01	266A	SUPER SR	OPEN OFFICE AREA	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	266	NEW CONSTRUCTION	None	
01	267A	OPEN OFFICE AREA	SUPER SR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	268A	OPEN OFFICE AREA	SUPER SR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	269A	OPEN OFFICE AREA	SUPER SR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	270A	OPEN OFFICE AREA	SLM SUPER	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	271A	OPEN OFFICE AREA	CMOM MGR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	272A	OPEN OFFICE AREA	SUPER II	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	273A	OPEN OFFICE AREA	SUPER II	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	274A	OPEN OFFICE AREA	SUPER II	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	275A	OPEN OFFICE AREA	SUPER II	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	276A	OPEN OFFICE AREA	SUPER II	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	277A	OPEN OFFICE AREA	ODOR CONTROL MANAGER	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	07	265	NEW CONSTRUCTION	None	
01	290A	MULTI-PURPOSE TRAINING / BREAK ROOM	OPEN OFFICE AREA	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-05	290	NEW CONSTRUCTION	None	
01	290B	MULTI-PURPOSE TRAINING / BREAK ROOM	WAREHOUSE CIRCULATION	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	B	GL-2	HOLLOW METAL	2	N/A	1/AE502	2/AE502	3/AE502	0HR	AC-08	290	NEW CONSTRUCTION	None	
01	293A	WAREHOUSE CIRCULATION	MODULAR OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	EXST.	294	NEW CONSTRUCTION	None	
01	293B	MODULAR OFFICE	SEWER LINE MAINTENANCE STORAGE AREA	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	EXST.	293	NEW CONSTRUCTION	None	
01	294A		WAREHOUSE CIRCULATION	3' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	D	N/A	HOLLOW METAL	4	N/A	16/AE502	17/AE502	18/AE502	0HR	AC-11		NEW CONSTRUCTION	None	
01	294B	WAREHOUSE CIRCULATION				2"	GALVANIZED STEEL	E	1/2" INSULATED	N/A	5	N/A	13/AE502	14/AE502	15.AE502		RU.2	294	NEW CONSTRUCTION	None	
01	294C	WAREHOUSE CIRCULATION				2"	GALVANIZED STEEL	E	1/2" INSULATED	N/A	5	N/A	13/AE502	14/AE502	15.AE502		RU.2	294	NEW CONSTRUCTION	None	
01	294D	WAREHOUSE CIRCULATION	RECEPTION AREA	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	A	N/A	HOLLOW METAL	1	N/A	4/AE502	5/AE502	6/AE502	0HR	AC-12	294	NEW CONSTRUCTION	None	
01	299A	PUMP STATION STORAGE	WAREHOUSE CIRCULATION	3' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	D	N/A	HOLLOW METAL	4	N/A	16/AE502	17/AE502	18/AE502	0HR	03	299	NEW CONSTRUCTION	None	

Grand total: 75

DOOR AND FRAME SCHEDULE - EXISTING TO REMAIN

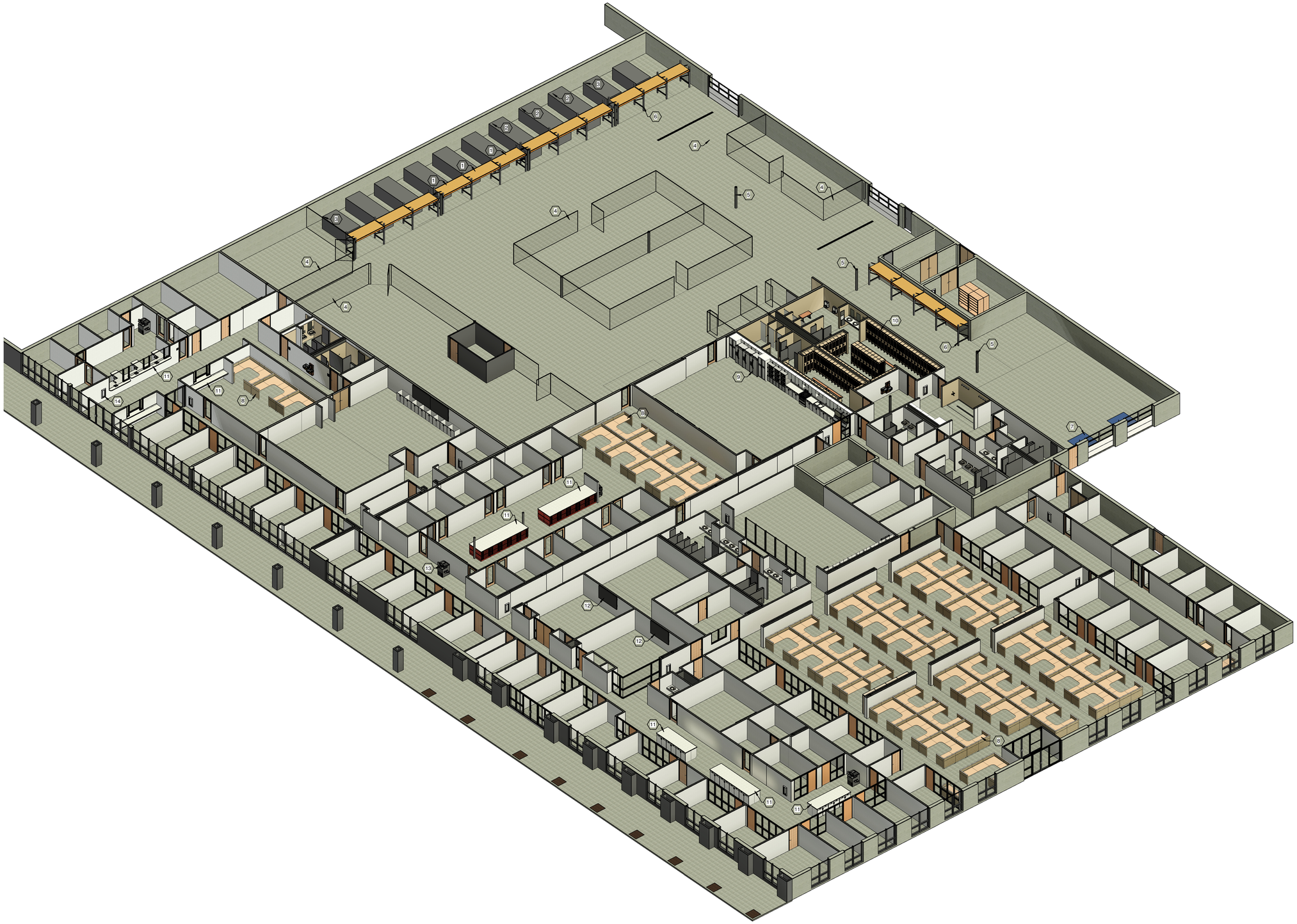
BUILDING IDENTIFICATION	DOOR IDENTIFICATION			DOOR						FRAME						FIRE RATING LABLE	HARDWARE		PHASE CREATED	PHASE DEMOLISHED	COMMENTS
	DOOR MARK	FROM ROOM	TO ROOM	SIZE			DOOR MATERIAL	TYPE MARK	DOOR GLAZING	FRAME MATERIAL	FRAME TYPE	FRAME GLAZING	DETAIL				SET NUMBER	KEYSIDE ROOM NUMBER			
				WIDTH	HEIGHT	THICKNESS							HEAD DETAIL	JAMB DETAIL	SILL DETAIL						
NEW CONSTRUCTION																					
01	D34B	SHIPPING / RECIVING		10' - 0"	14' - 0"	1 1/2"	STEEL	EXST	N/A	STEEL	EXST.	N/A	EXST.	EXST.	EXST.	0HR		11D34	EXISTING	NEW CONSTRUCTION	
01	D34C	SHIPPING / RECIVING		10' - 0"	14' - 0"	1 1/2"	STEEL	EXST	N/A	STEEL	EXST.	N/A	EXST.	EXST.	EXST.	0HR		11D34	EXISTING	NEW CONSTRUCTION	
NEW CONSTRUCTION: 2																					
None																					
01	AA63A		LOBBY	6' - 0 3/4"	7' - 0 3/4"	1 3/4"	ALUMINUM	EXST.	EXST.	ALUMINUM	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	AC-03		EXISTING	None	
01	AA63B	LOBBY	ENGINEERING	6' - 0 3/4"	7' - 0 3/4"	1 3/4"	ALUMINUM	EXST.	EXST.	ALUMINUM	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	08	11AA63	EXISTING	None	
01	B25	LANDLORD UTILITY ROOM	VESTIBULE	6' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	09	11B25	EXISTING	None	
01	B29	TENANT UTILITY ROOM	VESTIBULE	6' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	09	11B29	EXISTING	None	
01	BB37	CORRIDOR	WOMEN	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	10	11Z40	EXISTING	None	
01	BB42	CORRIDOR	MEN	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	10	11Z40	EXISTING	None	
01	CC35	CORRIDOR	CORRIDOR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	11	11CC35	EXISTING	None	
01	CC40	MEN	JANITOR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	12	11BB42	EXISTING	None	
01	D34D	SHIPPING / RECIVING		3' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	AC-13	11D34	EXISTING	None	
01	D35A	VESTIBULE		6' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	AC-14	11B27	EXISTING	None	
01	FF22		OFFICE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	13		EXISTING	None	
01	FF38	CORRIDOR	TELECOM ROOM	4' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	AC-15	11DD45	EXISTING	None	
01	FF41	LAN ROOM	STORAGE	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	12	11FF43	EXISTING	None	
01	FF43	CORRIDOR	LAN ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	13	11DD45	EXISTING	None	
01	GG18	TRAINING ROOM		3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	11	11GG18	EXISTING	None	
01	HH47	ENGINEERING	OFFICE	3' - 0 3/4"	7' - 0 3/4"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	13	11Y50	EXISTING	None	
01	HH50	OFFICE	ENGINEERING	3' - 0 3/4"	7' - 0 3/4"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	13	11HH50	EXISTING	None	
01	HH53	ENGINEERING	OFFICE	3' - 0 3/4"	7' - 0 3/4"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	13	11Y59	EXISTING	None	
01	HH56	OFFICE	ENGINEERING	3' - 0 3/4"	7' - 0 3/4"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	13	11HH56	EXISTING	None	
01	HH58	STORAGE	ENGINEERING	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	14	11HH58	EXISTING	None	
01	HH62	OFFICE	ENGINEERING	3' - 0 3/4"	7' - 0 3/4"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	13	11HH62	EXISTING	None	
01	I41	CORRIDOR	WOMEN	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	10	11J38	EXISTING	None	
01	J33	REPORTING ROOM	CORRIDOR	3' - 0 3/4"	7' - 0 3/4"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	15	11J33	EXISTING	None	
01	J41	SHOWER	CORRIDOR	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	12	11J41	EXISTING	None	
01	J48	SPRINKLER CLOSET	REPORTING ROOM	6' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	16	11J48	EXISTING	None	
01	JJ46	CORRIDOR	RESTROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	17	11DD45	EXISTING	None	
01	JJ62	OFFICE	EXECUTIVE SUITE	3' - 0 3/4"	7' - 0 3/4"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	ALUMINUM	EXST.	EXST.	EXST.	EXST.	EXST.	N/A	13	11JJ62	EXISTING	None	
01	K41	CORRIDOR	MEN	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	10	11J38	EXISTING	None	
01	K49	CORRIDOR	REPORTING ROOM	3' - 0"	7' - 0"	1 3/4"	WOOD - SOLID CORE	EXST.	N/A	HOLLOW METAL	EXST.	N/A	EXST.	EXST.	EXST.	N/A	14	11M45	EXISTING	None	
01	K59	CAD ROOM		4' - 0

WALL SCHEDULE - NEW CONSTRUCTION

MARK	TYPE MARK	Family and Type	WIDTH	AREA	LENGTH	STRUCTURAL USAGE	FUNCTION	FIRE RATING	PHASED DEMOLISHED	PHASE CREATED	COMMENTS
N101	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	182 SF	36' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N102	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	182 SF	15' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N103	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	182 SF	15' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N104	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	167 SF	32' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N105	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	351 SF	39' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N106	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	159 SF	15' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N107	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	182 SF	15' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N108	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	170 SF	20' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N109	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	577 SF	58' - 3"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N110	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	157 SF	13' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N111	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	157 SF	13' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N112	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	157 SF	13' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N113	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	105 SF	9' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N114	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	157 SF	13' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N115	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	238 SF	24' - 4"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N116	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	204 SF	20' - 10"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N117	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	62 SF	5' - 4"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N118	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	120 SF	10' - 2"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N119	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	56 SF	10' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N120	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	49 SF	6' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N121	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	365 SF	32' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N122	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	153 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N123	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	182 SF	15' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N124	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	279 SF	25' - 7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N125	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	419 SF	35' - 3"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N126	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	43 SF	3' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N127	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	179 SF	19' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N128	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	176 SF	15' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N129	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	176 SF	15' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N130	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	284 SF	24' - 4"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N131	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	72 SF	6' - 3"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N132	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	234 SF	19' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N133	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	609 SF	62' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N134	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N135	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	613 SF	62' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N136	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N137	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N138	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N139	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N140	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N141	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N142	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N143	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N144	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N145	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	155 SF	13' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N146	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	149 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N147	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	518 SF	43' - 4"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N148	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	57 SF	6' - 7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N149	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	36 SF	3' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N150	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	31 SF	4' - 8"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N151	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	112 SF	10' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N152	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	120 SF	10' - 7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N153	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	200 SF	17' - 4"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N154	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	66 SF	5' - 8"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N155	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	24 SF	2' - 2"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N156	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	24 SF	2' - 3"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N157	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	46 SF	5' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N158	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	134 SF	13' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N160	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	127 SF	12' - 7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N161	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	144 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N162	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	243 SF	24' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N164	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	25 SF	8' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N165	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	22 SF	4' - 10"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N166	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	30 SF	6' - 4"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N167	P01	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM	4 7/8"	66 SF	5' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
P01: 65				11167 SF							
N168	P02	Basic Wall: INTERIOR - GYPSUM - 8 METAL FRAMING - GYPSUM	9 1/4"	185 SF	19' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
P02: 1				185 SF							
N169	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	157 SF	13' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N170	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	306 SF	37' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N171	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	13 SF	11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N172	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	9 SF	11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N173	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	11 SF	7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N174	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	57 SF	4' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N175	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	61 SF	5' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N176	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	71 SF	5' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N177	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	71 SF	5' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N178	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	167 SF	13' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N179	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	167 SF	13' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N180	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	7 SF	7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N181	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	7 SF	7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N182	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	71 SF	5' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N183	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	71 SF	5' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N184	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	5 SF	2' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N185	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	4 SF	2' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N186	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	5 SF	2' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N187	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	4 SF	1' - 8"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N188	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	4 SF	2' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N189	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	5 SF	2' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N190	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	4 SF	1' - 8"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N191	P03	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING	4 1/4"	4 SF	2' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
P03: 23				1286 SF							
N192	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	111 SF	9' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N193	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	368 SF	30' - 7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N194	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	229 SF	19' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N195	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	169 SF	14' - 3"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N196	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	17 SF	1' - 8"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N197	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	54 SF	4' - 4"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N198	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	36 SF	3' - 2"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N199	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	36 SF	3' - 2"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N200	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	62 SF	5' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N201	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	40 SF	3' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N202	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	97 SF	8' - 3"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N203	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	36 SF	3' - 2"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N204	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	36 SF	3' - 2"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N205	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	40 SF	3' - 7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N206	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	35 SF	4' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N207	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	37 SF	4' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N208	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	186 SF	16' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N209	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	87 SF	9' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N210	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	24 SF	1' - 10"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N211	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	87 SF	9' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N212	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	24 SF	1' - 10"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N213	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	18 SF	1' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N214	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	25 SF	2' - 7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N215	P04	Basic Wall: INTERIOR - GYPSUM - METAL FRAMING - GYPSUM TILE	5 1/8"	40 SF	3' - 7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
P04: 24				1895 SF							
N216	P05	Basic Wall: INTERIOR - TILE - GYPSUM - METAL FRAMING	4 1/2"	221 SF	19' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N217	P05	Basic Wall: INTERIOR - TILE - GYPSUM - METAL FRAMING	4 1/2"	221 SF	19' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
P05: 2				443 SF							
N218	P06	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - NEW	7 1/4"	119 SF	8' - 9"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N219	P06	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - NEW	7 1/4"	56 SF	12' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N220	P06	Basic Wall: INTERIOR - GYPSUM 6" STUD GYPSUM - NEW	7 1/4"	104 SF	5' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
P06: 3				279 SF							
N221	P07	Basic Wall: EXTERIOR = NEW NOM. 12" CMU	11 5/8"	96 SF	17' - 4"	Bearing	Exterior	0HR	None	NEW CONSTRUCTION	
N222	P07	Basic Wall: EXTERIOR = NEW NOM. 12" CMU	11 5/8"	136 SF	21' - 11"	Bearing	Exterior	0HR	None	NEW CONSTRUCTION	
P07: 2				232 SF							
N223	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	280 SF	35' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N224	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	213 SF	26' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N225	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	213 SF	26' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N226	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	5 SF	7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N227	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	158 SF	19' - 8"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N228	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	4 SF	7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N229	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	320 SF	39' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N230	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	185 SF	23' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N231	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	185 SF	23' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N232	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	16 SF	2' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N233	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	319 SF	39' - 11"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N234	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	54 SF	6' - 10"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N235	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	91 SF	11' - 5"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N238	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	92 SF	11' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N240	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	81 SF	10' - 3"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N241	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	112 SF	14' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N242	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	112 SF	14' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N243	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	140 SF	17' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N244	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	409 SF	51' - 2"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N245	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	4 SF	7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N246	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	4 SF	7"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	

WALL SCHEDULE - NEW CONSTRUCTION

MARK	TYPE MARK	Family and Type	WIDTH	AREA	LENGTH	STRUCTURAL USAGE	FUNCTION	FIRE RATING	PHASED DEMOLISHED	PHASE CREATED	COMMENTS
N247	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	144 SF	18' - 3"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N248	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	111 SF	13' - 10"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N249	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING	1/2"	8 SF	1' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N251	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	140 SF	17' - 6"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N252	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	185 SF	23' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N253	P08	Basic Wall: INTERIOR - CHAIN LINK FENCING OFOI	1/2"	185 SF	23' - 1"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
P08: 27				3771 SF							
N254	P09	Basic Wall: INTERIOR - CHAIN LINK GATE	1/2"	40 SF	5' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N255	P09	Basic Wall: INTERIOR - CHAIN LINK GATE	1/2"	40 SF	5' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N256	P09	Basic Wall: INTERIOR - CHAIN LINK GATE	1/2"	40 SF	5' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N257	P09	Basic Wall: INTERIOR - CHAIN LINK GATE OFOI	1/2"	24 SF	3' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N258	P09	Basic Wall: INTERIOR - CHAIN LINK GATE OFOI	1/2"	24 SF	3' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N260	P09	Basic Wall: INTERIOR - CHAIN LINK GATE OFOI	1/2"	40 SF	5' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N261	P09	Basic Wall: INTERIOR - CHAIN LINK GATE OFOI	1/2"	40 SF	5' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
N262	P09	Basic Wall: INTERIOR - CHAIN LINK GATE OFOI	1/2"	40 SF	5' - 0"	Non-bearing	Interior	0HR	None	NEW CONSTRUCTION	
P09: 8				288 SF							
N263	P10	Curtain Wall: Storefront		66 SF	7' - 7"	Non-bearing	Exterior	0HR	None	NEW CONSTRUCTION	
P10: 1				66 SF							
N264	P11	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2"		87 SF	10' - 0"	Non-bearing	Exterior	0HR	None	NEW CONSTRUCTION	
N265	P11	Curtain Wall: Kawneer-TRIFAB_VG_450_Center_SS 1-3/4" x 4-1/2"		87 SF	10' - 0"	Non-bearing	Exterior	0HR	None	NEW CONSTRUCTION	
N266	P11	Curt



1 ISOMETRIC VIEW
SCALE:

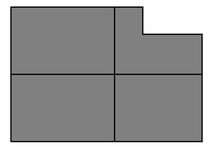
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE AREA OF DETAIL PLANS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS. SHEETS AE401, AE402, AE403, AE404.
3. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - PS GENERATOR (5' X 14') (OFOI)
2	EQUIPMENT - PS GENERATOR (5' X 16') (OFOI)
3	EQUIPMENT - PUMPS (5' X 10') (OFOI)
4	<varies>
5	EXISTING STRUCTURAL COLUMN TO REMAIN.
6	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
7	EXISTING SCISSOR DOCK LEVELER TO REMAIN. RECONDITION FOR SMOOTH OPERATION.
8	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
9	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
10	METAL LOCKERS
11	SOLID SURFACE COUNTERTOPS.
12	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
13	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
14	FIRE EXTINGUISHER CABINET. FIRE EXTINGUISHER IS (OFOI). COORDINATE CABINET SIZE WITH OWNER PROVIDED FIRE EXTINGUISHERS.

AREA KEY PLAN



JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH
8/15/25

GRN PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ISOMETRIC VIEWS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE: CHECK 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE:
SHEET NO.: AE901 01

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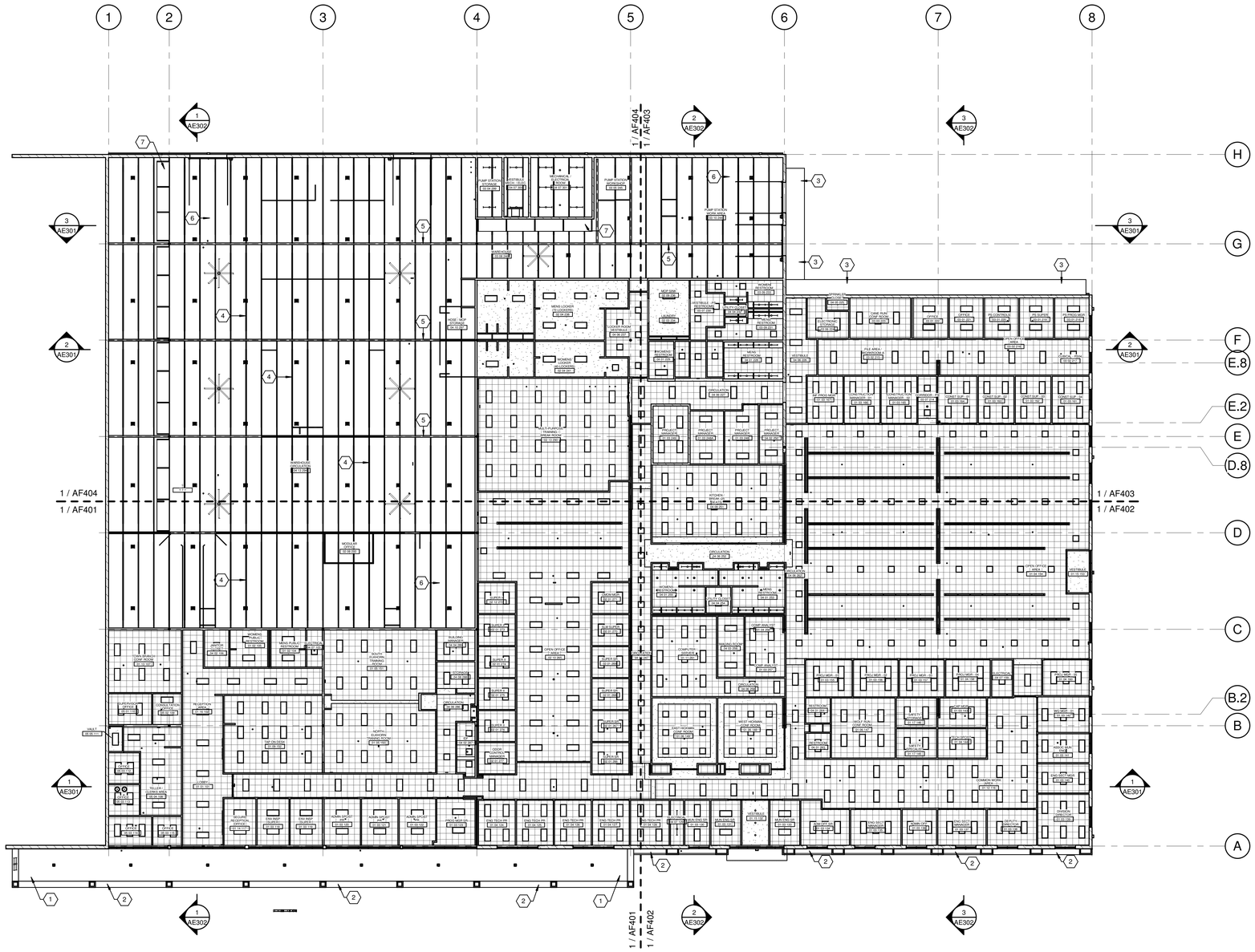


1 FIRST LEVEL
SCALE: 1/16" = 1'-0"

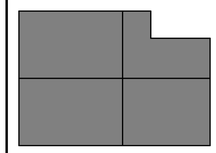
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE AREA OF DETAIL FIRST LEVEL REFLECTED CEILING PLANS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS. SHEETS AF401, AF402, AF403, AF404.
3. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.

SHEET KEYNOTES:

1	EXISTING ALUMINUM SOFFIT TO REMAIN. REMOVE DIRT AND CLEAN.
2	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
3	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
4	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
5	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.
6	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2. REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.
7	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.

AREA KEY PLAN



PLAN NORTH

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - REFLECTED CEILING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DATE
00	RFI #3/RDA 1/ESSOP #3/5

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO. AF101 01

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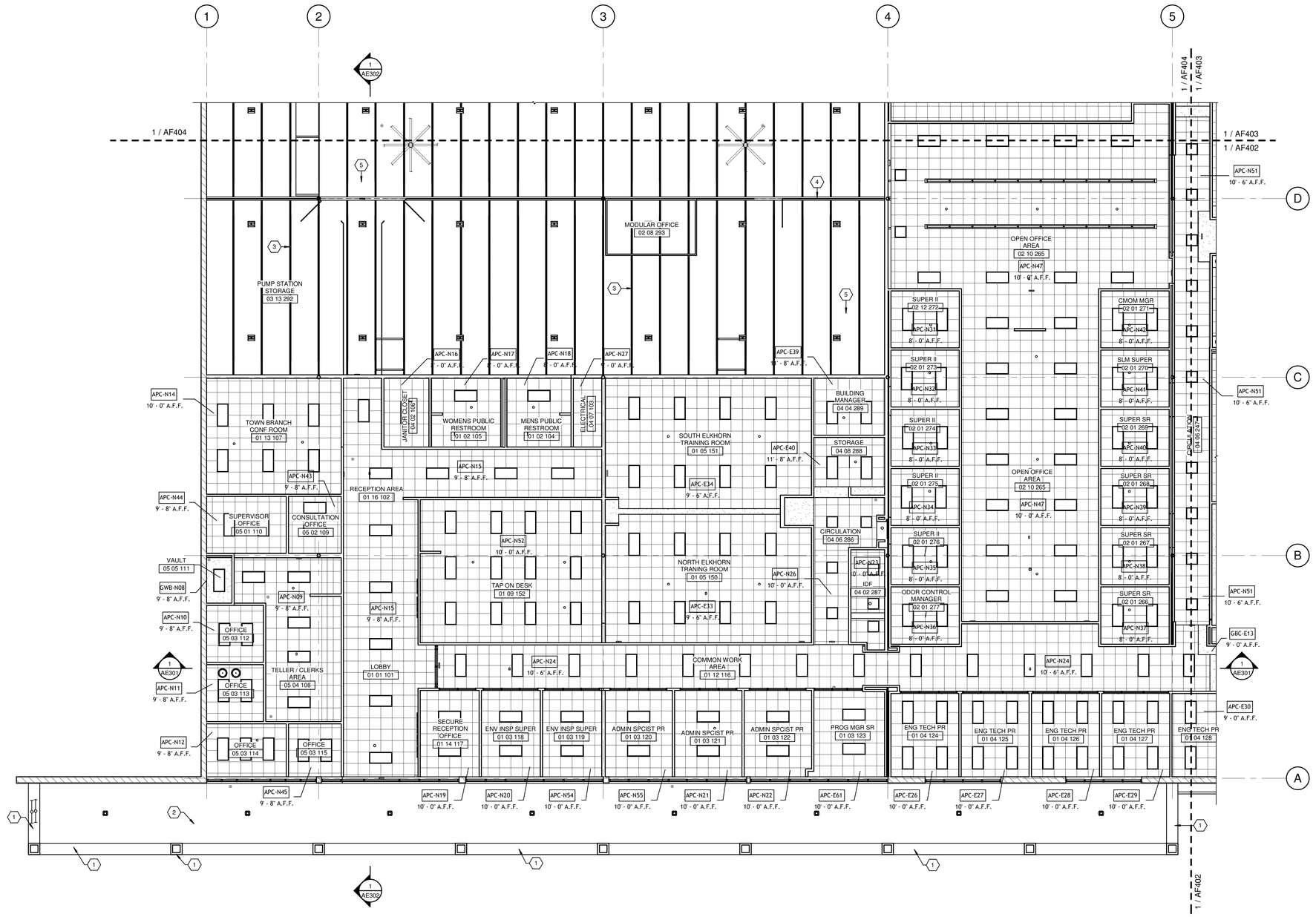
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE CEILING SCHEDULE - NEW CONSTRUCTION FOR CEILING MARKS INDICATED ON THIS SHEET.
4. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
5. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
9. LIGHT FIXTURES INDICATED ON THIS SHEET ARE FOR GENERAL COORDINATION ONLY. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
10. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.

SHEET KEYNOTES:

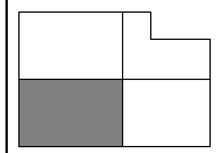
1	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
2	EXISTING ALUMINUM SOFFIT TO REMAIN. REMOVE DIRT AND CLEAN.
3	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
4	CHAIN LINK FENCE PARTITION, 8'-0" HIGH.
5	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2, REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.



1 FIRST LEVEL - AREA A
SCALE: 1/8" = 1'-0"

PLAN NORTH

AREA KEY PLAN



JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH OF KENTUCKY 08/15/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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FIRST LEVEL - REFLECTED CEILING PLAN - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	REVISION DESCRIPTION	DATE
1		8/15/25

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AF401 01

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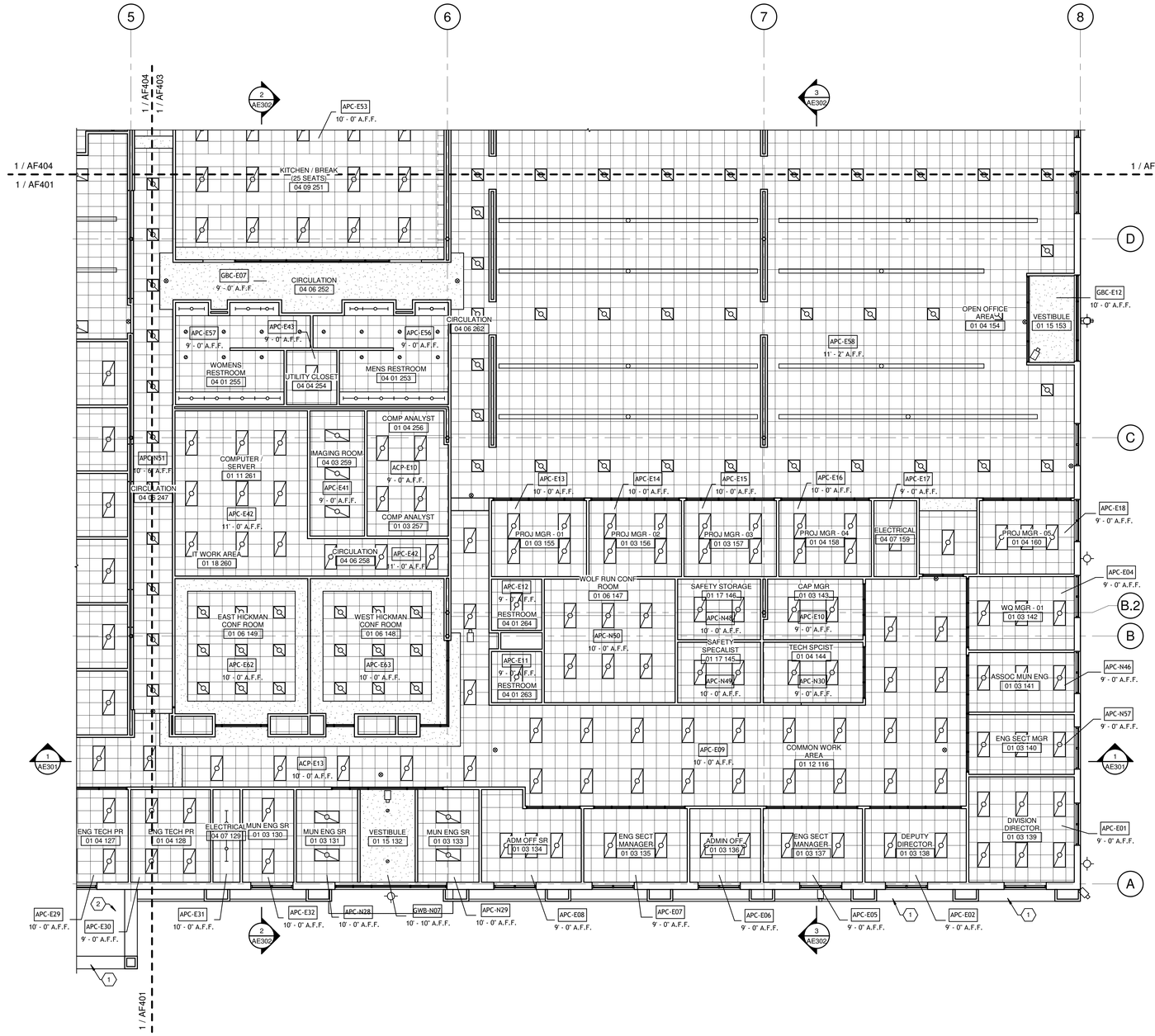


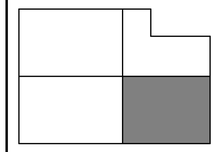
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE CEILING SCHEDULE - NEW CONSTRUCTION FOR CEILING MARKS INDICATED ON THIS SHEET.
4. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
5. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
9. LIGHT FIXTURES INDICATED ON THIS SHEET ARE FOR GENERAL COORDINATION ONLY. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
10. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.

SHEET KEYNOTES:

1	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
2	EXISTING ALUMINUM SOFFIT TO REMAIN. REMOVE DIRT AND CLEAN.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - AREA B
SCALE: 1/8" = 1'-0"

JAMES F. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

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FIRST LEVEL - REFLECTED CEILING PLAN - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: 1 TIME MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AF402 01

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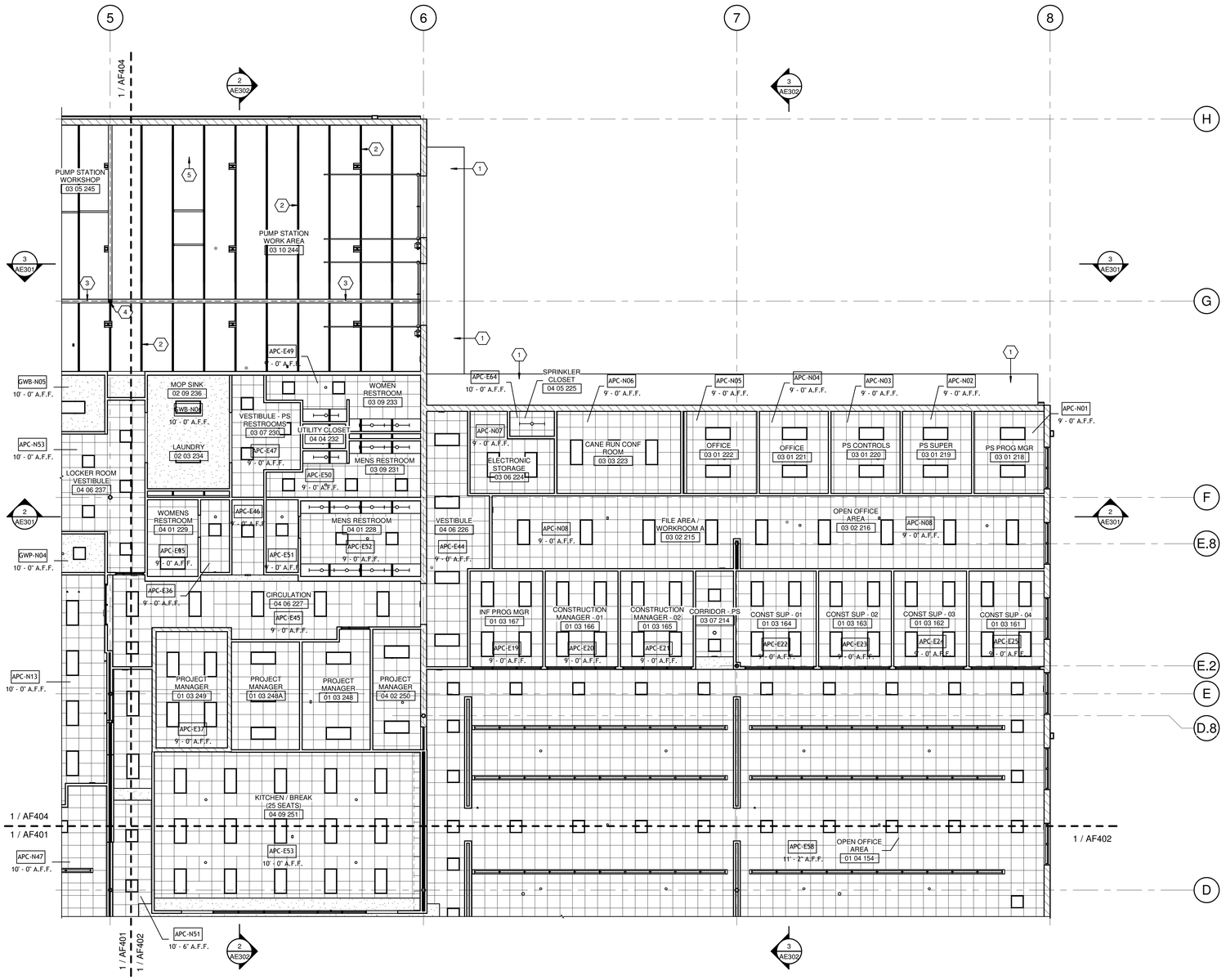


1 FIRST LEVEL - AREA C
SCALE: 1/8" = 1'-0"

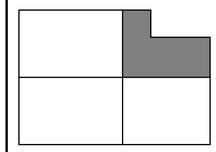
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE CEILING SCHEDULE - NEW CONSTRUCTION FOR CEILING MARKS INDICATED ON THIS SHEET.
4. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
5. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
9. LIGHT FIXTURES INDICATED ON THIS SHEET ARE FOR GENERAL COORDINATION ONLY. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
10. EXISTING CEILINGS SCHEDULED TO REMAIN MAY HAVE TO BE REMOVED AND REINSTALLED IN COORDINATION WITH NEW DUCTWORK. SEE MECHANICAL PLANS FOR COORDINATION.

SHEET KEYNOTES:

1	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
2	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
3	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.
4	EXISTING STRUCTURAL COLUMN TO REMAIN.
5	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2. REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.

AREA KEY PLAN



PLAN NORTH

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH
8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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FIRST LEVEL - REFLECTED CEILING PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AF403 01

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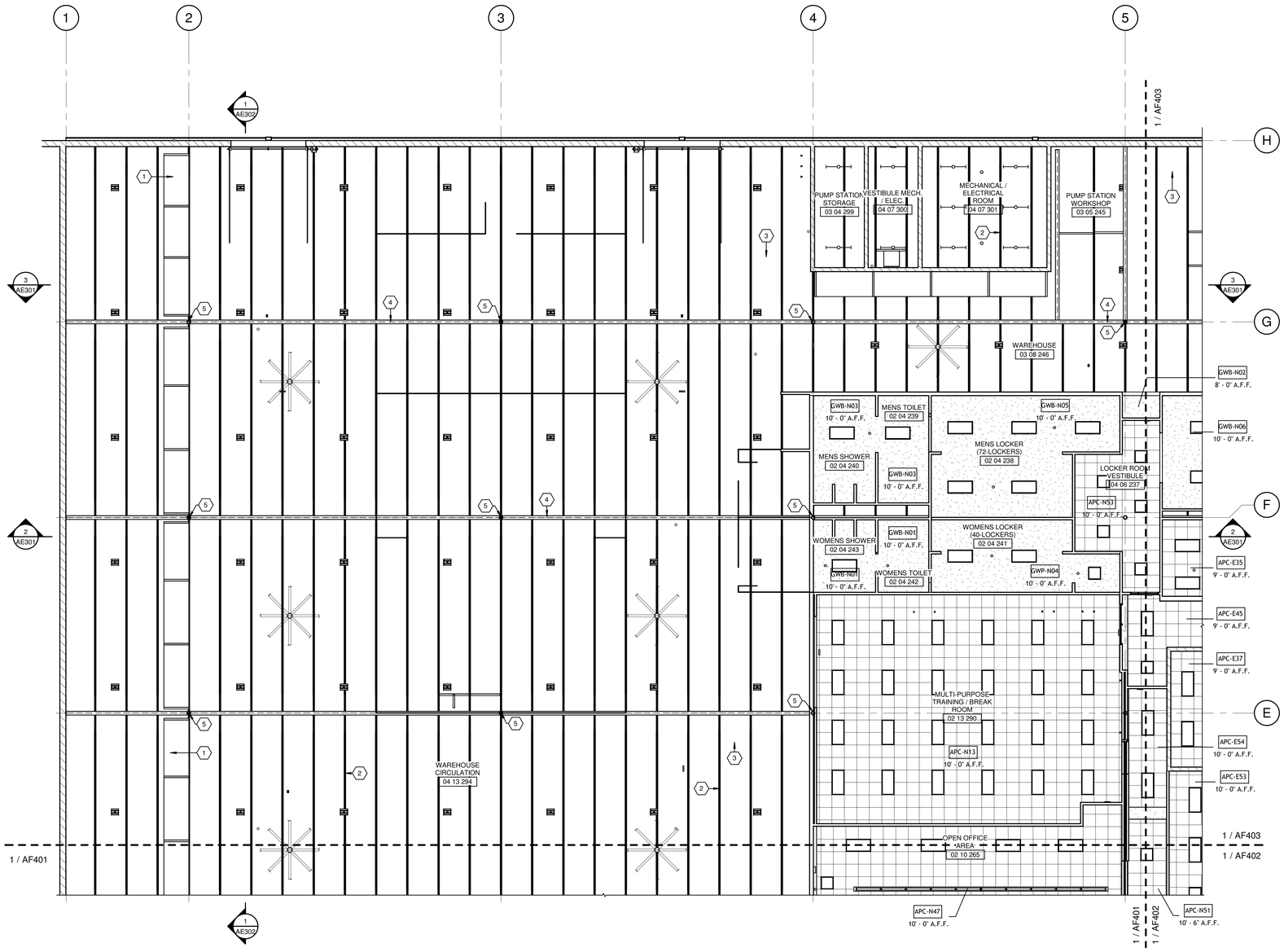

1 FIRST LEVEL - AREA D

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE CEILING SCHEDULE - NEW CONSTRUCTION FOR CEILING MARKS INDICATED ON THIS SHEET.
4. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
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SHEET KEYNOTES:

1	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
2	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
3	EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE TO REMAIN. REPAIR / REPLACE DAMAGED INSULATION BOARD WHERE EXPOSED TO VIEW. PROVIDE NEW PAINT FINISH. ADD ALTERNATE #2. REMOVE EXISTING ROOF STRUCTURE PREPARE EXISTING JOIST FOR NEW METAL DECK.
4	EXISTING W SHAPE BEAM. PREPARE FOR NEW PAINT FINISH.
5	EXISTING STRUCTURAL COLUMN TO REMAIN.

AREA KEY PLAN

PLAN NORTH

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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FIRST LEVEL - REFLECTED CEILING PLAN - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	DATE	BY	REVISION DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. AF404 01

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GENERAL LEGEND

B / E3.1 — B / M-4	APPEARS ON SHEET WHERE SECTION IS CUT SECTION IDENTIFICATION LETTER SHEET WHERE SECTION IS DRAWN
B / E3.1 — B / M-4	APPEARS ON THE SHEET WHERE SECTION IS DRAWN SECTION OR DETAIL IDENTIFICATION LETTER SHEET WHERE DRAWN
A	PLAN MATCH LINE SYMBOL
123	ROOM NUMBER
9'-6"	CEILING HEIGHT
AFF	ABOVE FINISHED FLOOR
TOP, BOP	TOP OF PIPE, BOTTOM

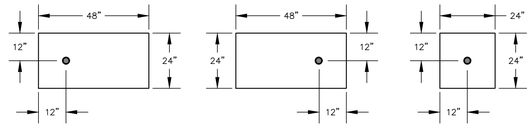
FIRE PROTECTION LEGEND

	VALVE IN PIT
	FIRE RISER
	FIRE HYDRANT (FH)
	FIRE DEPT. CONNECTION (FDC) (SIAMESE: WALL, POST)
	FIRE DEPT. CONNECTION (FDC) (SINGLE: WALL, POST)
ZV	ZONE CONTROL VALVE SET (SEE DETAILS)
	TEST VALVE HEADER
	POST INDICATOR VALVE (PIV)
	WATER MOTOR ALARM (GONG)
	ALARM CHECK VALVE
	ANGLE HOSE (HV) OR DRAIN VALVE
1	LIGHT HAZARD
2	ORDINARY HAZARD (GROUP 1)
3	ORDINARY HAZARD (GROUP 2)
F	FIRE PROTECTION PIPE
	SPRINKLER HAZARD CLASSIFICATION AREA
AD	ACCESS DOOR

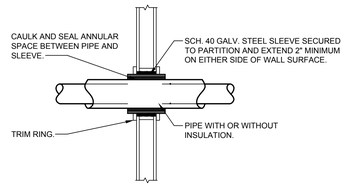
NOTE: LEGENDS ALSO APPEAR ON INDIVIDUAL PLANS, SCHEDULES AND DETAILS.

FIRE PROTECTION GENERAL NOTES:

1. PROVIDE ALL WORK NECESSARY FOR THE COMPLETE FIRE PROTECTION SYSTEM AS INDICATED AND NOTED, INCLUDING ALL CONNECTIONS TO EXISTING WORK, NEW PIPING AND ACCESSORIES AND FINAL FINISH MOUNTING OF SPRINKLERS IN LOCATIONS INDICATED AND TESTING, ALL AS REQUIRED TO MEET ALL PROVISIONS OF NFPA-13 AND THE KY BUILDING CODE. WORK SHALL BE PERFORMED BY A LICENSED SPRINKLER CONTRACTOR AND SHALL BE ACCOMPANIED BY CERTIFICATIONS OF INSPECTION AND APPROVAL BY THE DEPT. OF HOUSING, BUILDINGS AND CONSTRUCTION. ALL SCREWED PIPING SHALL BE MINIMUM SCH 40 STEEL. ALL VICTAULIC TYPE PIPING SHALL BE MINIMUM SCH 10 STEEL.
2. FIRE PROTECTION COMPONENTS, INCLUDING BUT NOT LIMITED TO PUMPS, VALVES, PIPE & FITTINGS, CONTROL SYSTEMS AND TRIM SHALL BE UL AND/OR FM LISTED FOR FIRE SERVICE, WHERE SUCH LISTING EXISTS.
3. PROVIDE LISTED AIR RELEASE FOR ALL TRAPPED RUNS OF FIRE PROTECTION PIPING.
4. ALL FERROUS FIRE PROTECTION PIPING SHALL BE PAINTED RED WHERE EXPOSED TO VIEW; SHADE TO BE APPROVED BY ENGINEER.
5. ALL FIRE PROTECTION SHUTOFF VALVES SHALL BE SUPERVISED BY THE ALARM SYSTEM EXCEPT ON JOCKEY PUMP AND BYPASS.
6. FIRE PROTECTION PIPING CONNECTIONS MAY BE WELDED, FLANGED, SCREWED OR GROOVE-JOINT TYPE PER NFPA-13, 14, 20 AND THE SPECIFICATIONS FOR THIS PROJECT. NO SCREWED PIPING LARGER THAN 2 INCHES. PITCH ALL PIPING TO DRAIN.
7. SPRINKLERS SHALL BE CENTERED IN 2' x 2' SPACE IN EITHER 2' x 2' OR 2' x 4' GRID LAYOUT.
8. COORDINATE ALL WORK. COORDINATE ALL PIPING AND ACCESSORIES WITH BOTH NEW AND EXISTING MECHANICAL AND ELECTRICAL WORK INCLUDING HVAC, PLUMBING, ELECTRICAL, FIRE ALARM AND COMMUNICATIONS. DO NOT MOUNT SPRINKLERS OR HANG PIPING SUCH AS TO BLOCK ACCESS TO HVAC OR ELECTRICAL EQUIPMENT OR THE CHANGEOUT OF EQUIPMENT WHEN NECESSARY.
9. PROVIDE SPECIAL SPRINKLERS AS REQUIRED FOR COMPLETE DESIGN. PROVIDE HIGH TEMPERATURE HEADS FOR AREAS NEAR SPACE HEATING OUTLETS AND EQUIPMENT.
10. HAZARD CLASSIFICATION IS BASED ON INFORMATION KNOWN AT THE TIME OF DESIGN. HAZARD CLASSIFICATION MAY CHANGE AS BUILDING PROGRESSES.
11. FIRE SYSTEM EXTERIOR APPURTENANCES SHALL BE FINISHED IN EITHER BRASS OR FACTORY FINISH RED (SIAMESE, WATER GONG, TRIM RING, ETC.) PER THE BASE STANDARD FINISH STYLE.
12. A TEST VALVE (INSPECTORS TEST STATION) SHALL BE INSTALLED FOR EACH WET PIPE SYSTEM AND DRY PIPE SYSTEM. PROVIDE SMOOTH BORE STEEL ORIFICE GIVING A FLOW RATE EQUIVALENT TO ONE SPRINKLER.
13. PROVIDE HEAVY GAUGE GALVANIZED STEEL HOODS AND SHIELDS (OR STAINLESS STEEL) THAT ARE SHOP FABRICATED FOR ELECTRICAL ROOMS AND COMMUNICATION ROOMS TO PROTECT ELECTRICAL EQUIPMENT FROM WATER SPRAY WHERE A SPRINKLER SYSTEM IS INSTALLED. DRAINAGE FROM THESE HOODS SHALL BE DIRECTED TO FLOOR DRAINS.
14. ANY AND ALL DAMAGE DUE TO DEMOLITION OR CONSTRUCTION IS TO BE REPAIRED OR REPLACED AS APPROPRIATE, SUBJECT TO ENGINEER'S APPROVAL, AND AT NO ADDITIONAL COST TO THE OWNER.
15. SEE ALSO DIAGRAMS, DETAILS OR SECTIONS FOR SIZES NOT SHOWN ON PLANS.
16. ALL EXISTING EQUIPMENT SHUTDOWNS OR INTERRUPTIONS OF UTILITY SERVICE REQUIRED FOR COMPLETION OF THE WORK SHALL BE SCHEDULED IN ADVANCE, AS REQUIRED BY THE OWNER.
17. CONTRACTOR IS RESPONSIBLE FOR MAKING ALL REQUIRED CONNECTIONS FOR A COMPLETE SYSTEM. SYMBOLS MISSING FROM THE DRAWINGS DO NOT EXCUSE THE CONTRACTOR FROM PROVIDING THE WORK.
18. ALL FIRE PROTECTION PIPING, FITTINGS, RESTRAINTS, HANGERS AND FASTENERS SHALL BE INSTALLED FOR SEISMIC PROTECTION IN ACCORDANCE WITH NFPA-13 AS REQUIRED.
19. EXAMINE THE CONTRACT DOCUMENTS AND IMMEDIATELY REPORT ANY ERROR, DISCREPANCY OR OMISSION. THE ENGINEER WILL DETERMINE WHICH INTERPRETATION TAKES PRECEDENCE WHERE TWO OR MORE CONFLICTING STATEMENTS OCCUR. OTHERWISE, THE CONTRACTOR IS RESPONSIBLE FOR THE MORE STRINGENT (OR EXPENSIVE) INTERPRETATION. IN GENERAL, SCHEDULES, WHEREVER THEY APPEAR, SUPERSEDE SPECIFICATIONS AND SPECIFICATIONS SUPERSEDE PLANS.
20. GENERAL NOTES, WHEREVER THEY ARE FOUND, APPLY TO ALL WORK IN THE PROJECT, UNLESS OTHERWISE INDICATED. SHEET NOTES, UTILIZING NOTE SYMBOLS, APPLY ONLY TO THE SHEET ON WHICH THEY ARE FOUND, UNLESS OTHERWISE STATED. THE MEANING OF NOTE SYMBOLS AND NUMBERS VARIES FROM SHEET TO SHEET.
21. CONTRACTOR SHALL UTILIZE ALL INFORMATION IN THE CONTRACT DOCUMENTS FOR PROVIDING THE WORK. CONTRACTOR SHALL UTILIZE DETAILS AND FLOW DIAGRAMS FOR THE WORK WHERE APPROPRIATE, WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED ON THE PLANS OR SUPPORTING DRAWINGS.
22. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK RELATING TO THOSE CONDITIONS IS PERFORMED.
23. LEGENDS OR LISTS OF SYMBOLS AND ABBREVIATIONS ARE GENERAL IN NATURE AND MAY CONTAIN ITEMS NOT USED IN THE CONTRACT DOCUMENTS. IF ANY SUCH ITEMS ARE FOUND WHICH ARE NOT DEFINED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER SHALL BE CONTACTED FOR CLARIFICATION BEFORE THE BID.
24. CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS.
25. PROVIDE ALL MISCELLANEOUS STEEL, AS REQUIRED, TO SUPPORT ALL PIPING SYSTEMS AND EQUIPMENT. DO NOT HANG ANYTHING FROM STEEL, COMPOSITION OR WOODEN DECKS. NON-ROOF CONCRETE DECKS MAY BE USED ONLY WITH PERMISSION OF THE ENGINEER. DO NOT HANG ANYTHING FROM MECHANICAL OR ELECTRICAL ITEMS.
26. NO STEEL STRUCTURAL MEMBERS SHALL BE CUT, BURNED, WELDED OR DRILLED WITHOUT SPECIFIC PERMISSION OF THE ENGINEER.
27. ALL EQUIPMENT, ACCESSORIES, PIPING, WIRING, AND OTHER WORK, WHICH IS INSTALLED IN FINISHED SPACES SHALL BE CONCEALED IN WALLS, FLOORS, FURRED CHASES OR SUSPENDED CEILINGS, EXCEPT WHERE OTHERWISE INDICATED.
28. PROVIDE ALL ACCESS DOORS AS SHOWN, EXCEPT THOSE SPECIFIED UNDER OTHER DIVISIONS. IN ADDITION, PROVIDE ANY OTHER ACCESS DOORS WHETHER OR NOT SHOWN ON PLANS, NECESSARY FOR ACCESS TO CONCEALED EQUIPMENT, VALVES, ALARM ACTUATORS, JUNCTION BOXES, CONTROLS OR OTHER OPERATIONAL OR SERVICEABLE ITEMS, UNLESS ITEM IS REASONABLY ACCESSIBLE THROUGH LAY-IN CEILING PANELS.

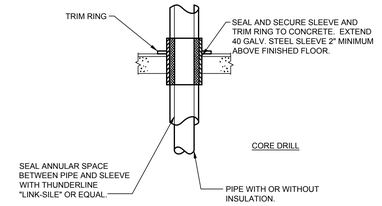


1 HEAD PLACEMENT IN ACOUSTICAL TILE DETAIL
NOT TO SCALE



NOTES:
1. TYPICAL FOR NON-INSULATED PIPE AND CONDUIT.
2. ALL CAULKING AND SEALANT SHALL BE FIRE RATED (SEE SPECIFICATIONS).

2 TYPICAL PIPE PENETRATION THRU INTERIOR WALLS
NOT TO SCALE



NOTES:
1. TYPICAL FOR NON-INSULATED PIPE AND CONDUIT.
2. FOR FLOOR PENETRATIONS WITH FIRE RATING GREATER THAN (1) HOUR, USE THUNDERLINE "PYPRO-PAC" SEALS OR EQUAL.

3 TYPICAL PIPE PENETRATION THRU CONCRETE SLAB
NOT TO SCALE

COMMONWEALTH OF KENTUCKY
CHRISTOPHER V. SHERIDAN
LICENSED PROFESSIONAL ENGINEER
8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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FIRE PROTECTION LEGEND AND GENERAL NOTES

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

NO.	DESCRIPTION	DATE	BY

IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

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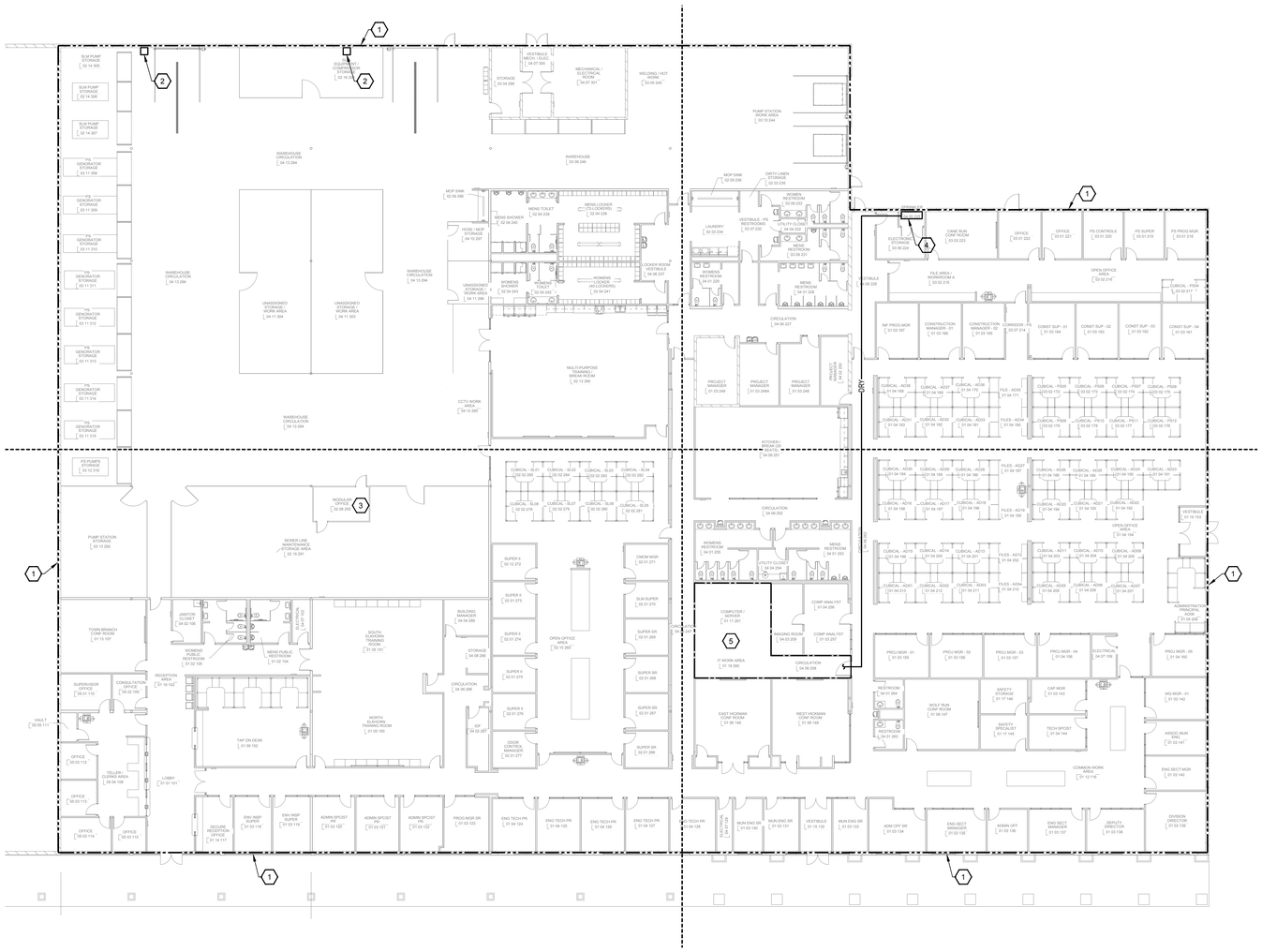

GENERAL NOTES:

1. PROVIDE ALL WORK NECESSARY FOR THE COMPLETE FIRE PROTECTION SYSTEM AS INDICATED AND NOTED, INCLUDING ALL CONNECTIONS TO EXISTING WORK. NEW PIPING AND ACCESSORIES AND FINAL FINISH MOUNTING OF SPRINKLERS IN LOCATIONS INDICATED AND TESTING, ALL AS REQUIRED TO MEET ALL PROVISIONS OF NFPA-13 AND THE KY BUILDING CODE. WORK SHALL BE PERFORMED BY A LICENSED SPRINKLER CONTRACTOR AND SHALL BE ACCOMPANIED BY CERTIFICATIONS OF INSPECTION AND APPROVAL BY THE DEPT. OF HOUSING, BUILDINGS AND CONSTRUCTION. ALL SCREWED PIPING SHALL BE MINIMUM SCH 40 STEEL. ALL VICTAULIC TYPE PIPING SHALL BE MINIMUM SCH 10 STEEL.
2. THE FIRE SUPPRESSION CONTRACTOR SHALL CONDUCT HIS OWN FLOW TEST FOR USE IN SHOP DRAWING/HYDRAULIC CALCULATIONS. THE TEST SHALL BE FULLY COORDINATED WITH THE OWNER AND WITNESSED BY THE UTILITY COMPANY REPRESENTATIVE.
3. ALL FIRE PROTECTION COMPONENTS, INCLUDING BUT NOT LIMITED TO PUMPS, VALVES, PIPE & FITTINGS, CONTROL SYSTEMS AND TRIM SHALL BE UL AND/OR FM LISTED FOR FIRE SERVICE, WHERE SUCH LISTING EXISTS.
4. PROVIDE LISTED AIR RELEASE FOR ALL TRAPPED RUNS OF FIRE PROTECTION PIPING.
5. ALL FERROUS FIRE PROTECTION PIPING SHALL BE PAINTED RED WHERE EXPOSED TO VIEW; SHADE TO BE APPROVED BY ENGINEER.
6. ALL FIRE PROTECTION SHUTOFF VALVES SHALL BE SUPERVISED BY THE ALARM SYSTEM EXCEPT ON JOCKEY PUMP AND BYPASS.
7. FIRE PROTECTION PIPING CONNECTIONS MAY BE WELDED, FLANGED, SCREWED OR GROOVE-JOINT TYPE PER NFPA-13, 14, 20 AND THE SPECIFICATIONS FOR THIS PROJECT. NO SCREWED PIPING LARGER THAN 2 INCHES. PITCH ALL PIPING TO DRAIN.
8. CONSULT ARCHITECTURAL REFLECTED CEILING PLAN FOR PLACEMENT OF SPRINKLER HEADS IN FINISHED CEILINGS AND CEILING GRIDS. CONTRACTOR SHALL PROVIDE HYDRAULICALLY-DESIGNED PIPING SYSTEM.
9. SPRINKLERS SHALL BE CENTERED IN 2' x 2' SPACE IN EITHER 2' x 2' OR 2' x 4' GRID LAYOUT.
10. COORDINATE ALL WORK. DO NOT MOUNT SPRINKLERS OR HANG PIPING SUCH AS TO BLOCK ACCESS TO HVAC OR ELECTRICAL EQUIPMENT OR THE CHANGEOUT OF EQUIPMENT WHEN NECESSARY.
11. PROVIDE SPECIAL SPRINKLERS AS REQUIRED FOR COMPLETE DESIGN. PROVIDE HIGH TEMPERATURE HEADS FOR AREAS NEAR SPACE HEATING OUTLETS AND EQUIPMENT.
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14. PROVIDE HEAVY GAUGE GALVANIZED STEEL HOODS AND SHIELDS (OR STAINLESS STEEL) THAT ARE SHOP FABRICATED FOR ELECTRICAL ROOMS AND COMMUNICATION ROOMS TO PROTECT ELECTRICAL EQUIPMENT FROM WATER SPRAY WHERE A SPRINKLER SYSTEM IS INSTALLED. DIRECT DRAIN TO NEAREST RECEPTOR.
15. ANY AND ALL DAMAGE DUE TO DEMOLITION OR CONSTRUCTION IS TO BE REPAIRED OR REPLACED AS APPROPRIATE, SUBJECT TO ENGINEER'S APPROVAL, AND AT NO ADDITIONAL COST TO THE OWNER.

⬡ SHEET KEYNOTES:

1. REWORK EXISTING FIRE PROTECTION PIPING IN OUTLINED AREA TO MATCH NEW CEILING GRID LAYOUT. SPRINKLER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13.
2. EXISTING FIRE PROTECTION ENTRANCE RISER FOR WET SYSTEM SHALL REMAIN IN PLACE AND BE REUSED. REPAIR/REPLACE ANY COMPONENTS AS NEEDED.
3. SPRINKLER ABOVE AND BELOW MODULAR OFFICE CEILING AS REQUIRED.
4. EXISTING FIRE PROTECTION ENTRANCE RISER FOR DRY SYSTEM SHALL REMAIN IN PLACE AND BE REUSED. REPAIR/REPLACE ANY COMPONENTS AS NEEDED.
5. DRY SPRINKLER SYSTEM FOR COMPUTER/SERVER ROOM SHALL REMAIN IN PLACE AND BE REUSED. REPAIR/REPLACE ANY COMPONENTS AS NEEDED.

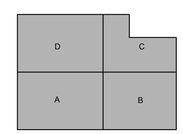
1 FIRST LEVEL -FIRE PROTECTION PLAN

SCALE: 1/16"=1'-0"

0 8' 16' 32'

PLAN NORTH

AREA KEY PLAN



CORY V. SHADDIX
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - FIRE RPROTECTION PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	CVS
DRAWN:	SPB
REVIEWED:	CVS
APPROVED:	CVS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
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GENERAL LEGEND

B / E3.1 — B / M-4 — APPEARS ON SHEET WHERE SECTION IS CUT; SECTION IDENTIFICATION LETTER; SHEET WHERE SECTION IS DRAWN

B / E3.1 — B / M-4 — APPEARS ON THE SHEET WHERE SECTION IS DRAWN; SECTION OR DETAIL IDENTIFICATION LETTER; SHEET WHERE DRAWN

M1.2 / M2.1 — B — B / M1.2 / M2.1 — SECTION SYMBOL ON SHEET WHERE CUT; SHEET WHERE SECTION IS CUT; SHEET WHERE SECTION IS DRAWN

C / H1.1 / H2.2 — D / H1.1 / H2.2 — ELEVATION SYMBOL ON SHEET WHERE INDICATED; SHEET WHERE INDICATED; SHEET WHERE DRAWN

B / M1.2 / M2.1 — SECTION, ELEVATION OR DETAIL IDENTIFICATION ON SHEET WHERE DRAWN; SHEET WHERE INDICATED OR CUT; SHEET WHERE DRAWN

B / P3.2 — ENLARGED AREA OR PARTIAL PLAN SYMBOL (ON SHEET WHERE INDICATED AND SHEET WHERE DRAWN); IDENTIFICATION LETTER; SHEET WHERE DRAWN

A — PLAN MATCH LINE SYMBOL

CONNECTION OF NEW WORK TO EXISTING

LINE OR EQUIPMENT TO BE REMOVED

123 — ROOM NUMBER

9'-6" — CEILING HEIGHT

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
TOS, BOS	TOP OF STEEL, BOTTOM
TOB, BOB	TOP OF BEAM, BOTTOM
TOJ, BOJ	TOP OF JOIST, BOTTOM
TOC, BOC	TOP OF CONCRETE, BOTTOM
TOP, BOP	TOP OF PIPE, BOTTOM
BOD	BOTTOM OF

NOTE: LEGENDS ALSO APPEAR ON INDIVIDUAL PLANS, SCHEDULES AND DETAILS.

PLUMBING LEGEND

- A DIRECTION OF PIPE FLOW
- DIRECTION OF PIPE PITCH
- D — EQUIPMENT OR SYSTEM DRAIN PIPING
- E — EXPANSION LINE
- R — SAFETY OR RELIEF VALVE DISCHARGE PIPING
- CD — CONDENSATE DRAIN PIPING
- S — EXISTING SANITARY SEWER PIPING (SITE)
- SS — EXISTING STORM SEWER PIPING (SITE)
- S — SANITARY SEWER PIPING (SITE)
- SS — STORM SEWER PIPING (SITE)
- SOIL & WASTE PIPING
- DWV VENT PIPING
- RL — ROOF LEADER PIPING
- FD — FOUNDATION DRAIN PIPING
- DCW — DOMESTIC COLD WATER PIPING
- DHW — DOMESTIC HOT WATER (140°F) PIPING
- DRW — DOMESTIC RECIRCULATING HOT WATER PIPING
- 105 — DOMESTIC HOT WATER (105°F) PIPING
- HOT WATER PIPING (FOR EXAMPLE) HEAT TRACED
- W — WATER SERVICE PIPING (EXTERIOR)
- V — VENT PIPING
- VAC — VACUUM PIPING
- A — COMPRESSED AIR PIPING
- G — NATURAL GAS PIPING

- VALVE (IN GENERAL - SEE SPECS)
- GATE VALVES (GV)
- GLOBE VALVES
- CHECK VALVE
- BALANCING VALVE (WITH READ OUT)
- BALANCING COCK ONLY (NON-SHUTOFF)
- HOSE CONNECTION, BOILER DRAIN
- BALL VALVES (BV)
- PLUG COCKS, BALANCING COCKS
- SILENT CHECK VALVE
- BUTTERFLY VALVES (BFV)
- SOLENOID OR QUICK-OPENING VALVE
- SELF REGULATING FLOW CONTROL VALVE
- RELIEF VALVE; PLAN, ELEVATION
- PRESSURE REDUCING VALVE (PRV)
- STRAINER; STRAINER WITH BLOW DOWN.
- FLEXIBLE CONNECTOR
- BACKFLOW PREVENTER, REDUCED PRESSURE (STRAINER NOT SHOWN) (BFP - RPZ)
- DOUBLE CK. VALVE ASSEMBLY (DCA)
- REDUCING BUSHING
- COUPLING, JOINT
- CAP
- PLUG
- 90° ELBOW
- 90° ELBOW TURNED UP
- 90° ELBOW TURNED DOWN
- 45° ELBOW
- TEE OR SIDE CONNECTION
- TEE OUTLET UP
- TEE OUTLET DOWN
- CROSS
- TOP / BOT. — UNCONNECTED CROSSING PIPES
- RISE OR DROP IN PIPE
- LPS — RISER ONLY, SERVICE (LPS) SHOWN
- BOTTOM CONNECTION TO LINE
- TOP CONNECTION TO LINE
- RISER IN SLEEVE
- UNION

- STRUCTURAL PIPE ANCHOR
- BUILDING ENTRANCE PIPE ANCHOR
- PIPE GUIDE
- EXPANSION JOINT
- THRUST BLOCK
- WALL SLEEVE
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- VTR — VENT THROUGH ROOF, PLAN & RISER
- THROUGH ROOF
- THROUGH FLOOR
- THROUGH WALL
- T — THERMOMETERS
- THERMOMETER WELL
- P — PRESSURE GAUGES
- V / C — VACUUM AND COMPOUND GAUGES
- P/T — PRESSURE/TEMPERATURE TEST PLUG
- M — METER: WATER, CONDENSATE OR GAS
- R — REGULATOR
- VACUUM BREAKER
- P — PUMP
- VALVE IN PIT
- WATER HAMMER ARRESTOR

WHA-A	WATER HAMMER ARRESTOR: PDI SIZE A
EWC-1	PLUMBING FIXTURE DESIGNATOR - ELECTRIC WATER COOLER
L-1	PLUMBING FIXTURE DESIGNATOR - LAVATORY
SH-1	PLUMBING FIXTURE DESIGNATOR - SHOWER
S-1	PLUMBING FIXTURE DESIGNATOR - SINK
UR-1	PLUMBING FIXTURE DESIGNATOR - URINAL
WB-1	PLUMBING FIXTURE DESIGNATOR - WASHER BOX
WC-1	PLUMBING FIXTURE DESIGNATOR - WATER CLOSET
FD-1	FLOOR DRAIN I.D. NUMBER; PLAN & RISER
OR	OPEN RECEPTACLE
HB	HOSE BIBB
WH	WALL HYDRANT
CO	CLEAN OUT
FCO	FLOOR CLEAN OUT
GCO	GRADE CLEAN OUT
PCO	PIPE CLEAN OUT
WCO	WALL CLEAN OUT
AD	ACCESS DOOR
VTR	VENT THRU ROOF; PLAN & RISER
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DRW	DOMESTIC RECIRCULATING HOT WATER

PLUMBING GENERAL NOTES:

1. GENERAL NOTES, WHEREVER THEY ARE FOUND, APPLY TO ALL WORK IN THE PROJECT, UNLESS OTHERWISE INDICATED. CONFLICTS BETWEEN GENERAL NOTES AND SPECIFICATIONS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER - THE MORE STRINGENT REQUIREMENT SHALL APPLY. SHEET KEYNOTES, UTILIZING NOTE SYMBOLS, APPLY ONLY TO THE SHEET ON WHICH THEY ARE FOUND, UNLESS OTHERWISE STATED. THE MEANING OF NOTE SYMBOLS AND NUMBERS VARIES FROM SHEET TO SHEET.
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3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK RELATING TO THOSE CONDITIONS IS PERFORMED.
4. LEGENDS OR LISTS OF SYMBOLS AND ABBREVIATIONS ARE GENERAL IN NATURE AND MAY CONTAIN ITEMS NOT USED IN THE CONTRACT DOCUMENTS. IF ANY SUCH ITEMS ARE FOUND WHICH ARE NOT DEFINED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER SHALL BE CONTACTED FOR CLARIFICATION BEFORE THE BID.
5. CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS.
6. PROVIDE ALL MISCELLANEOUS STEEL, AS REQUIRED, TO SUPPORT ALL PIPING SYSTEMS, FIXTURES AND EQUIPMENT. DO NOT HANG ANYTHING FROM MECHANICAL OR ELECTRICAL ITEMS.
7. NO STRUCTURAL MEMBERS SHALL BE CUT, BURNED, WELDED OR DRILLED WITHOUT SPECIFIC PERMISSION OF THE ENGINEER.
8. DO NOT CHANGE PATH OF PIPING, ADD TURNS OR OFFSETS OR PIPE SIZE WITHOUT FIRST CONSULTING THE ENGINEER. PIPE SIZES SHOWN ON DRAWINGS ARE NOMINAL UNLESS OTHERWISE INDICATED.
9. CONTRACTOR SHALL MAKE MINOR OFFSETS AND LOCATION CHANGES IN PIPE AS REQUIRED IN CONGESTED CEILING OR MECHANICAL SPACES. GENERALLY, THESE WILL BE AT NO COST TO THE OWNER AND APPROVED BY THE ENGINEER WITHOUT FORMAL DOCUMENTS. MAJOR REROUTING OF LINES OR MAJOR ADDITION OF FITTINGS WILL BE REVIEWED AND APPROVED AS A CHANGE ORDER OR A FORMAL DIRECTIVE. ENGINEER ALONE SHALL CLASSIFY CHANGES AS MAJOR OR MINOR.
10. ALL COPPER PIPING SHALL BE ASSEMBLED WITH WROUGHT COPPER OR CAST COPPER ALLOY FITTINGS AND 95/5 TIN ANTIMONY SOLDER OR SILVER BRAZING. NO SOLDER CONTAINING MORE THAN 0.2% LEAD SHALL BE USED IN MANUFACTURING OR IN FIELD ASSEMBLY OF POTABLE WATER SYSTEM COMPONENTS. ALL PIPING, FITTINGS, FIXTURES AND EQUIPMENT IN CONTACT WITH POTABLE WATER SHALL BE CERTIFIED BY THE SOURCE OF THE PRODUCT TO BE 'LEAD-FREE' (TO CONTAIN LESS THAN 0.25% LEAD) IN COMPLIANCE WITH THE EPA AND SDWA (SAFE DRINKING WATER ACT AND U.S. PUBLIC LAW 111-380).
11. ALL INTERRUPTIONS OF UTILITY SERVICE REQUIRED FOR COMPLETION OF THE WORK SHALL BE SCHEDULED 7 DAYS IN ADVANCE.
12. COORDINATE ALL PLUMBING WITH NEW MECHANICAL AND ELECTRICAL WORK, INCLUDING HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, FIRE ALARM AND COMMUNICATIONS.
13. DO NOT USE BULL-HEADED TEE FITTINGS ON PIPE, UNLESS SPECIFICALLY SHOWN.
14. PROVIDE ALL PLUMBING CONNECTIONS, PIPING, FIXTURES AND EQUIPMENT AS INDICATED, NOTED AND SCHEDULED, FOR A COMPLETE WORKING SYSTEM. WORK SHALL BE PROVIDED BY A LICENSED PLUMBING CONTRACTOR, IN ACCORDANCE WITH KENTUCKY PLUMBING CODE, AND SHALL BE ACCOMPANIED BY A CERTIFICATE OF INSPECTION AND APPROVAL.
15. ALL EQUIPMENT, ACCESSORIES, PIPING, AND OTHER WORK, WHICH IS INSTALLED IN FINISHED SPACES SHALL BE CONCEALED IN WALLS, FLOORS, CHASES OR SUSPENDED CEILINGS, UNLESS OTHERWISE INSTRUCTED ON PLANS.
16. PROVIDE ALL ACCESS DOORS AS SHOWN, EXCEPT THOSE SPECIFIED UNDER OTHER DIVISIONS. IN ADDITION, PROVIDE ANY OTHER ACCESS DOORS (WHETHER OR NOT SHOWN ON PLANS) NECESSARY FOR ACCESS TO CONCEALED EQUIPMENT, VALVES OR OTHER OPERATIONAL OR SERVICEABLE ITEMS, UNLESS ITEM IS REASONABLY ACCESSIBLE THROUGH LAY-IN CEILING PANELS.
17. SEE RISER DIAGRAMS FOR SIZES NOT SHOWN ON PLANS.
18. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY SUSPECTED HAZARDOUS MATERIALS, INCLUDING ASBESTOS-CONTAINING MATERIALS (ACM), LEAD-BASED PAINTS EXCEPT AS INSTRUCTED IN THIS CONTRACT. IF ANY MATERIAL NOT COVERED BY THE CONTRACT IS ENCOUNTERED, NOTIFY THE ENGINEER AT ONCE.
19. ALL DEMOLISHED OR REMOVED EQUIPMENT, PIPING, FIXTURES, SUPPORTS, AND THE LIKE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE NOTED.
20. REINSULATE ALL PIPE, VALVES AND FITTINGS WHERE EXISTING INSULATION HAS BEEN REMOVED OR DAMAGED DURING THE PROJECT.
21. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM CONFORMING TO ALL REQUIREMENTS OF THE CURRENT BUILDING CODES OF KENTUCKY. CONTRACTOR IS RESPONSIBLE FOR MAKING ALL REQUIRED CONNECTIONS FOR A COMPLETE SYSTEM.
22. EXAMINE THE CONTRACT DOCUMENTS AND IMMEDIATELY REPORT ANY ERROR, DISCREPANCY OR OMISSION. THE ENGINEER WILL DETERMINE WHICH INTERPRETATION TAKES PRECEDENCE WHERE TWO OR MORE CONFLICTING STATEMENTS OCCUR. OTHERWISE, THE CONTRACTOR IS RESPONSIBLE FOR THE MORE STRINGENT (OR EXPENSIVE) INTERPRETATION. IN GENERAL, SCHEDULES, WHEREVER THEY APPEAR, SUPERSEDE SPECIFICATIONS AND SPECIFICATIONS SUPERSEDE PLANS.
23. APPLICABLE KENTUCKY CODES ARE:
KENTUCKY STATE PLUMBING LAW, REGULATIONS & CODE (815 KAR CHAPTER 20)
STATE BOILER REGULATION
2018 KENTUCKY BUILDING CODE
2015 INTERNATIONAL EXISTING BUILDING CODE
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL FIRE CODE
2012 INTERNATIONAL ENERGY CONSERVATION CODE
2012 NFPA NATIONAL FUEL GAS CODE

STATE OF KENTUCKY — CORY V. SHADDIX — 32836 — LICENSED PROFESSIONAL ENGINEER — 8/15/25

CONSTRUCTION DOCUMENTS

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PLUMBING LEGEND AND GENERAL NOTES

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

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DATE: AUGUST 15, 2025
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SHEET NO.: P-001 01

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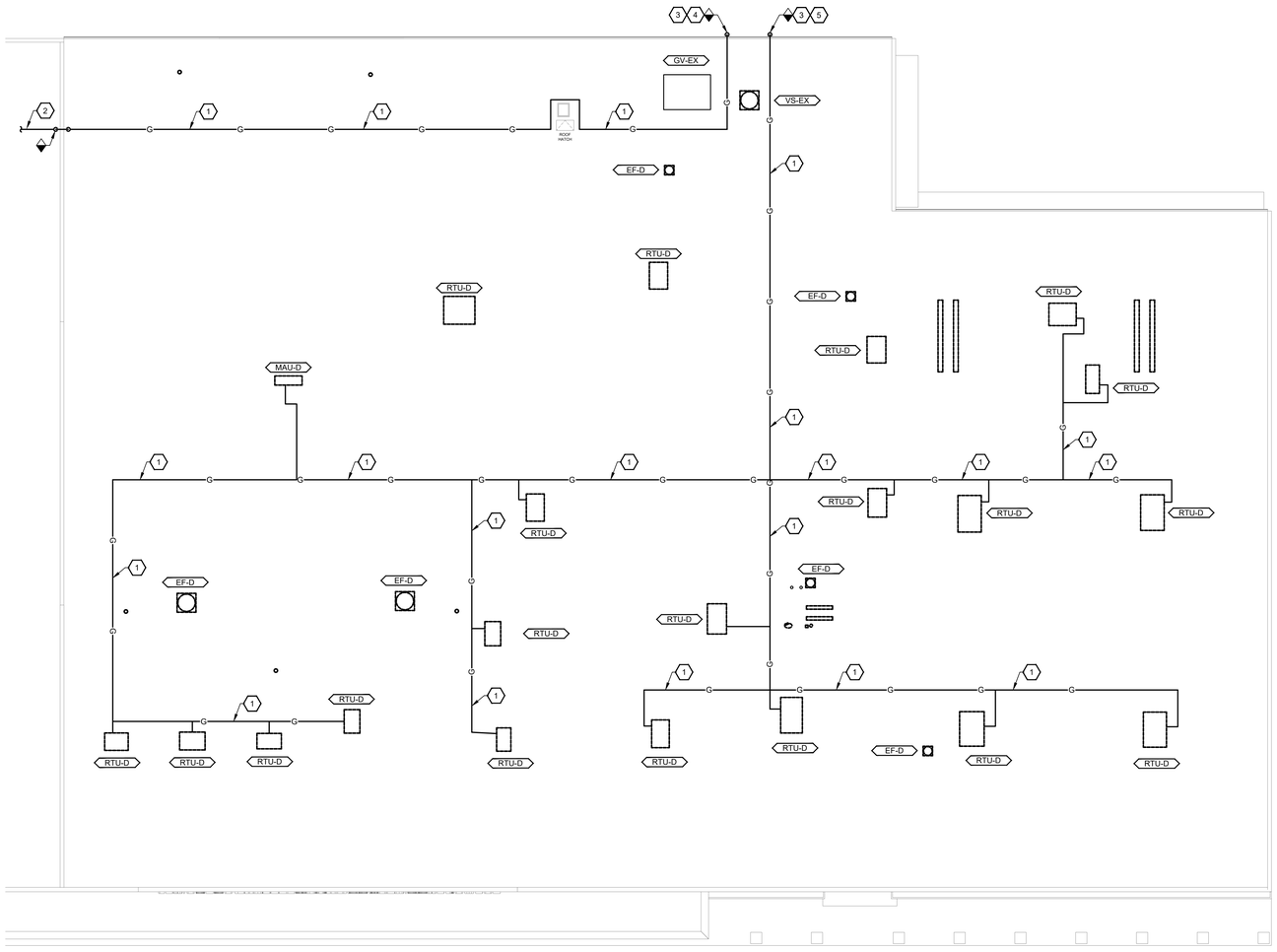


1 ROOF LEVEL - DEMOLITION - PLUMBING PLAN
SCALE: 1/16"=1'-0"

PLAN NORTH

0 8' 16' 32'

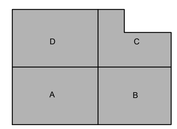
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. DEMOLISH ALL EXISTING GAS PIPING ON ROOF.
2. THIS SIDE OF THE PARAPET WALL DOES NOT BELONG TO LFUCG. IT BELONGS TO GOODWILL KENTUCKY. GAS PIPING ON THIS SIDE SERVING THE RTU'S OF GOODWILL KENTUCKY IS EXISTING TO REMAIN. COORDINATE ALL DEMOLITION AND NEW GAS PIPING MODIFICATIONS WITH GOODWILL KENTUCKY KEEPING SHUTDOWN OF GOODWILL KENTUCKY'S GAS SUPPLY TO A MINIMUM.
3. EXISTING GAS PIPING ON SIDE OF BUILDING TO REMAIN.
4. GAS PIPING MAIN TO GOODWILL KENTUCKY ROOF.
5. GAS PIPING MAIN TO LFUCG ROOF.

AREA KEY PLAN



STATE OF KENTUCKY
CORY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - DEMOLITION - PLUMBING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
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REVISIONS

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1 FIRST LEVEL - DEMOLITION - AREA A - PLUMBING PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

LINETYPE LEGEND

- - - - - - - - - - - - - - - -	DEMOLITION TO BE REMOVED
————————————	EXISTING TO REMAIN

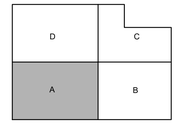
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. DEMOLISH EXISTING PLUMBING FIXTURE IN ITS ENTIRETY. REMOVE EXISTING COLD WATER PIPING BACK TO MAIN AND CAP - FIELD VERIFY EXACT LOCATION. REMOVE VENT PIPING TO POINT WHERE VENT PIPING TURNS UP THROUGH ROOF - FIELD VERIFY EXACT LOCATION. REMOVE SANITARY PIPING TO BELOW SLAB AND CAP PER DIVISION OF PLUMBING REQUIREMENTS.
2. DEMOLISH EXISTING SINK/LAVATORY IN ITS ENTIRETY. REMOVE EXISTING HOT WATER PIPING BACK TO EXISTING WATER HEATER - FIELD VERIFY EXACT LOCATION. REMOVE EXISTING COLD WATER PIPING BACK TO MAIN AND CAP - FIELD VERIFY EXACT LOCATION. REMOVE VENT PIPING TO POINT WHERE VENT PIPING TURNS UP THROUGH ROOF - FIELD VERIFY EXACT LOCATION. REMOVE SANITARY PIPING TO BELOW SLAB AND CAP PER DIVISION OF PLUMBING REQUIREMENTS.
3. DEMOLISH EXISTING WATER HEATER ABOVE CEILING - FIELD VERIFY EXACT LOCATION.

AREA KEY PLAN



COMMONWEALTH OF KENTUCKY
CORY V. SHADRICK
19355
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - DEMOLITION - AREA A - PLUMBING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

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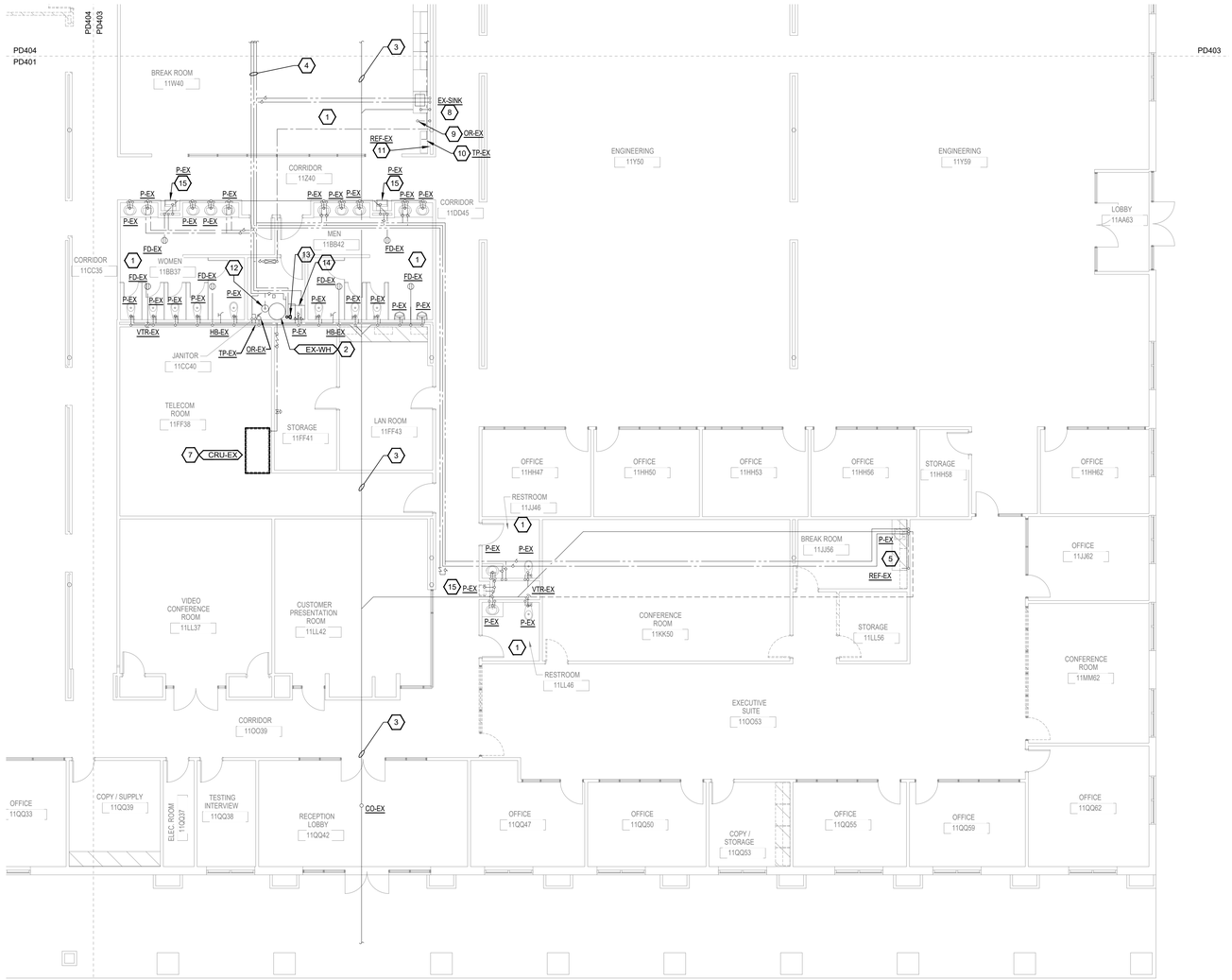


1 FIRST LEVEL - DEMOLITION - AREA B - PLUMBING PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

GENERAL NOTES:

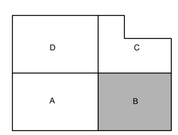
1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

LINETYPE LEGEND	
- - - - - - - - - - - - - - - -	DEMOLITION TO BE REMOVED
————————————	EXISTING TO REMAIN

SHEET KEYNOTES:

1. EXISTING PLUMBING FIXTURES IN THIS AREA SHALL REMAIN IN PLACE AND BE REUSED.
2. EXISTING GAS-FIRED WATER HEATER SHALL REMAIN IN PLACE AND BE REUSED.
3. EXISTING SANITARY SEWER PIPING BELOW SLAB SHALL REMAIN IN PLACE AND BE REUSED.
4. EXISTING DOMESTIC WATER PIPING SHALL REMAIN IN PLACE AND BE REUSED.
5. EXISTING PLUMBING FIXTURES IN THIS ROOM SHALL BE DEMOLISHED. CUT AND CAP DOMESTIC WATER PIPING ABOVE CEILING. CUT AND CAP SANITARY PIPING BELOW SLAB SO IT IS FLUSH WITH FINISH FLOOR.
6. NOTE NOT USED..
7. EXISTING COMPUTER ROOM UNIT HAS ALREADY BEEN REMOVED. DEMOLISH ANY WATER PIPING, VALVES, BACKFLOW PREVENTERS FEEDING THIS UNIT. CUT AND CAP PIPING IN MECHANICAL ROOM WHERE EXISTING WATER HEATER IS LOCATED.
8. EXISTING SINK SHALL REMAIN IN PLACE AND BE REUSED.
9. EXISTING OPEN RECEPTACLE SHALL REMAIN IN PLACE AND BE REUSED.
10. EXISTING TRAP PRIMER SHALL REMAIN IN PLACE AND BE REUSED.
11. EXISTING REFRIGERATOR ICE MAKER CONNECTION BOX SHALL REMAIN IN PLACE AND BE REUSED.
12. EXISTING EXPANSION TANK SHALL REMAIN IN PLACE AND BE REUSED.
13. EXISTING DOMESTIC HOT WATER RECIRCULATION PUMP SHALL REMAIN IN PLACE AND BE REUSED.
14. EXISTING MOP BASIN SHALL REMAIN IN PLACE AND BE REUSED.
15. EXISTING ELECTRIC WATER COOLER TO BE REMOVED AND REPLACED WITH NEW IN SAME LOCATION. CONNECT BACK TO EXISTING PIPING.

AREA KEY PLAN



COBY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - DEMOLITION - AREA B - PLUMBING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

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1 FIRST LEVEL - DEMOLITION - AREA C - PLUMBING PLAN

SCALE: 1/8"=1'-0"

0 4' 8' 16'

PLAN NORTH

LINETYPE LEGEND

– – – – – – – – – – – – – –	DEMOLITION TO BE REMOVED
———————————	EXISTING TO REMAIN

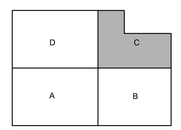
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. EXISTING PLUMBING FIXTURES IN THIS AREA SHALL REMAIN IN PLACE AND BE REUSED.
2. CAP & ABANDON EXISTING FLOOR DRAIN ACCORDING TO DIVISION OF PLUMBING REQUIREMENTS. FIELD VERIFY EXACT LOCATION. PATCH BACK EXISTING FLOOR TO MATCH ADJOINING SURFACES.
3. EXISTING SANITARY SEWER PIPING BELOW SLAB SHALL REMAIN IN PLACE AND BE REUSED.
4. EXISTING DOMESTIC WATER PIPING SHALL REMAIN IN PLACE AND BE REUSED.
5. EXISTING REFRIGERATOR ICE MAKER CONNECTION BOX SHALL REMAIN IN PLACE AND BE REUSED.
6. DEMOLISH EXISTING PLUMBING FIXTURE IN IT'S ENTIRETY. REMOVE EXISTING COLD WATER PIPING BACK TO MAIN AND CAP - FIELD VERIFY EXACT LOCATION. REMOVE VENT PIPING TO POINT WHERE VENT PIPING TURNS UP THROUGH ROOF - FIELD VERIFY EXACT LOCATION. REMOVE SANITARY PIPING TO BELOW SLAB AND CAP PER DIVISION OF PLUMBING REQUIREMENTS. NEW HI LOW ELECTRIC WATER COOLER WILL BE INSTALLED NEARBY - SEE NEW WORK PLANS.
7. EXISTING 1" COLD WATER SUPPLY PIPING TO STORAGE BUILDINGS SHALL REMAIN IN PLANCE AND BE REUSED - REFER TO CIVIL.
8. DEMOLISH EXISTING SHOWER IN ITS ENTIRETY. REMOVE EXISTING COLD WATER, HOT WATER, VENT AND SANTIARY PIPING AS REQUIRED - IN ORDER FOR INSTALLATION OF NEW JANITOR SINK. REFER TO NEW WORK PLANS FOR MORE INFORMATION.
9. EXISTING ELECTRIC WATER COOLER TO BE REMOVED AND REPLACED WITH NEW IN SAME LOCATION. CONNECT BACK TO EXISTING PIPING.

AREA KEY PLAN



STATE OF KENTUCKY
CORY V. SHADDIX
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - DEMOLITION - AREA C - PLUMBING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	CVS
DRAWN	SPB
REVIEWED	CVS
APPROVED	CVS

REVISIONS

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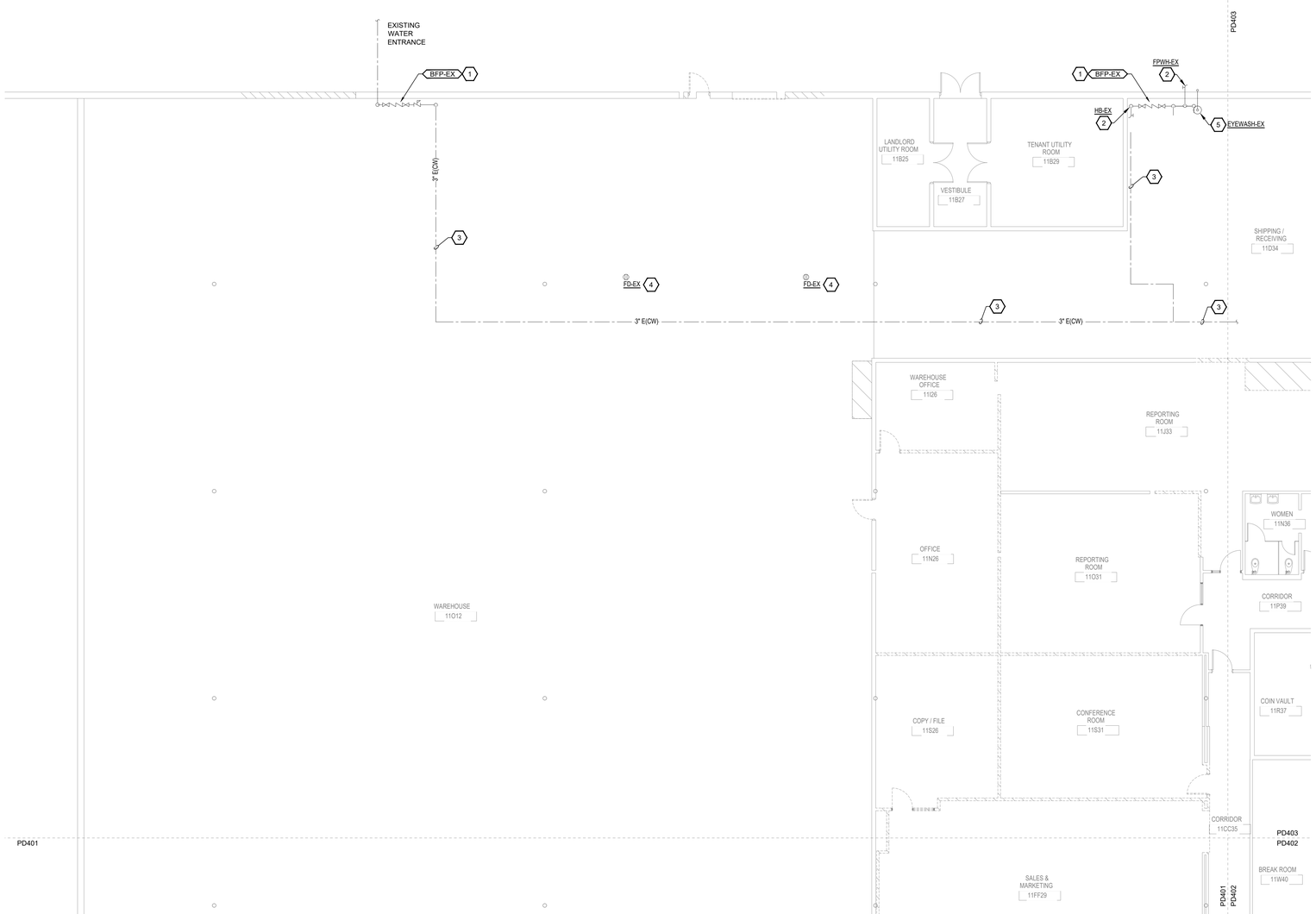

1 FIRST LEVEL - DEMOLITION - AREA D - PLUMBING PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

LINETYPE LEGEND	
- - - - - - - - - - - - - - -	DEMOLITION TO BE REMOVED
———————————	EXISTING TO REMAIN

SHEET KEYNOTES:

1. DOMESTIC WATER BACKFLOW PREVENTION DEVICE IS EXISTING TO REMAIN.
2. EXISTING PLUMBING FIXTURES IN THIS AREA SHALL REMAIN IN PLACE AND BE REUSED.
3. EXISTING DOMESTIC WATER PIPING SHALL REMAIN IN PLACE AND BE REUSED.
4. CAP & ABANDON EXISTING FLOOR DRAIN ACCORDING TO DIVISION OF PLUMBING REQUIREMENTS. FIELD VERIFY EXACT LOCATION. PATCH BACK EXISTING FLOOR TO MATCH ADJOINING SURFACES.
5. DEMOLISH EXISTING EMERGENCY EYE/FACEWASH IN ITS ENTIRETY INCLUDEING DRAIN THAT DISCHARGES OUT THROUGH WALL. PATCH WALL BACK TO MATCH ADJOINING SURFACES. CAP SUPPLY PIPING. NEARBY EXISTING HOSE BIBB, WALL HYDRANT, BACKFLOW DEVICE SHALL REMAIN IN PLACE AND BE REUSED.

AREA KEY PLAN

D | C
A | B

STATE OF KENTUCKY
CORY V. SHADDIX
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - DEMOLITION - AREA D - PLUMBING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

NO	DESCRIPTION:	DATE	BY

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SHEET NO. PD404 01

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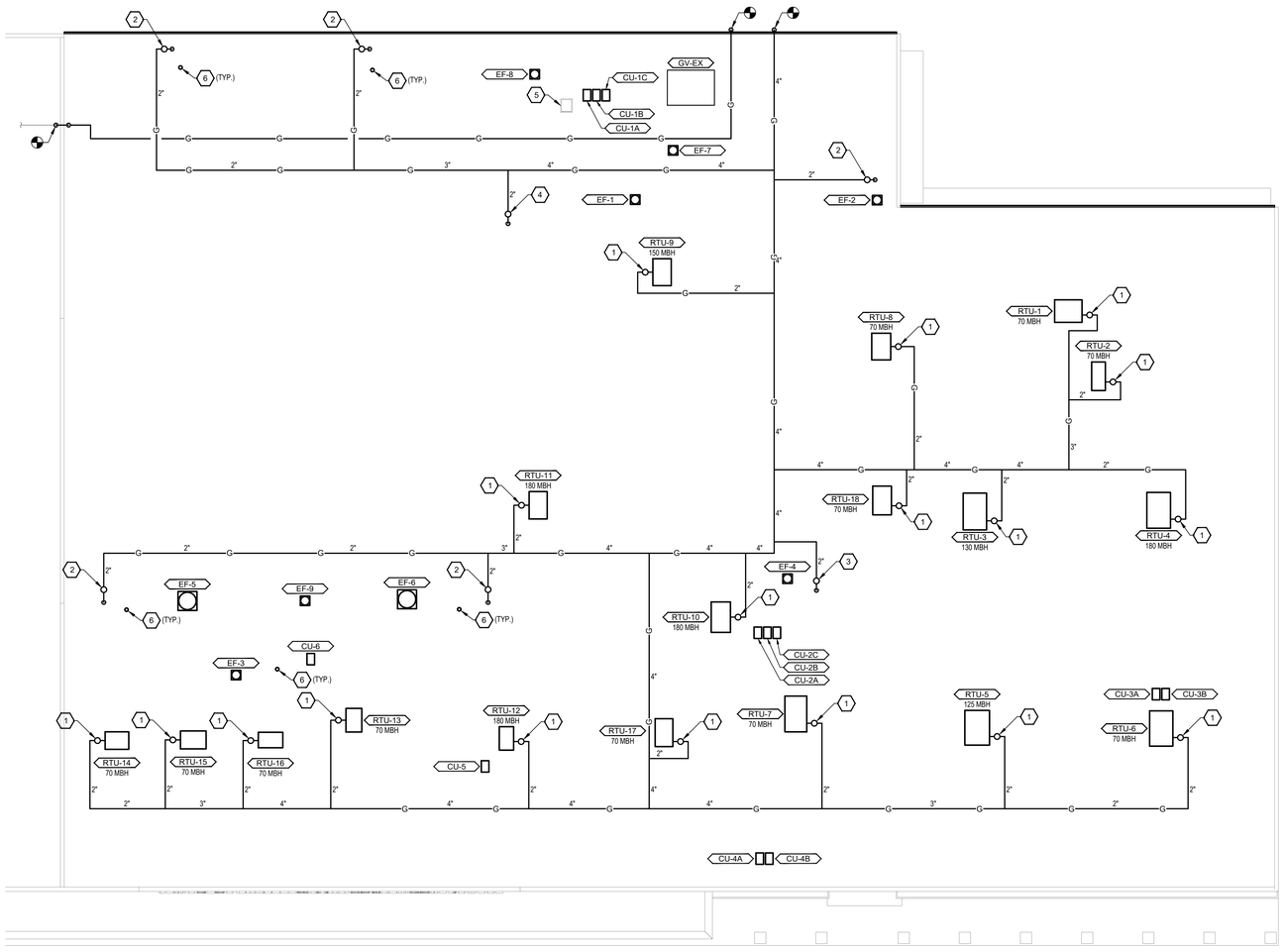
ADD ALTERNATE #2:

REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER DETAILS. ADD ALT #2 INCLUDES REPLACING THE EXISTING ROOF DECK. MECHANICAL CONTRACTOR SHALL INCLUDE IN ADD ALT #2 PRICING TO REMOVE ALL EXISTING RTU ROOF CURBS AND REPLACE WITH NEW CURBS FOR ALL NEW UNITS.



1 ROOF LEVEL - PLUMBING PLAN
SCALE: 1/16"=1'-0"

PLAN NORTH

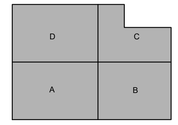
0 8' 16' 32'

GENERAL NOTES:

SHEET KEYNOTES:

1. PROVIDE PRESSURE REGULATOR, GAS COCK, DIRT LEG PER GAS PIPE EQUIPMENT DETAIL ON SHEET P-501 01 AND PER ROOFTOP UNIT MANUFACTURER RECOMMENDATIONS. REFER TO MECHANICAL SHEETS FOR MORE INFORMATION ON THE ROOFTOP UNIT.
2. PROVIDE PRESSURE REGULATOR BEFORE TURNING DOWN THROUGH ROOF. ROUTE GAS PIPING DOWN AND CONNECT TO EXISTING UNIT HEATER IN WAREHOUSE SPACE BELOW AND PER UNIT HEATER MANUFACTURER RECOMMENDATIONS. REFER TO MECHANICAL SHEETS FOR MORE INFORMATION ON THE EXISTING UNIT HEATER.
3. PROVIDE PRESSURE REGULATOR BEFORE TURNING DOWN THROUGH ROOF. ROUTE GAS PIPING DOWN AND CONNECT TO EXISTING WATER HEATER IN EXISTING UTILITY CLOSET-04 04 254 BELOW AND PER WATER HEATER MANUFACTURER RECOMMENDATIONS.
4. PROVIDE PRESSURE REGULATOR BEFORE TURNING DOWN THROUGH ROOF. ROUTE GAS PIPING DOWN AND CONNECT TO NEW WATER HEATER IN WAREHOUSE SPACE BELOW AND PER WATER HEATER MANUFACTURER RECOMMENDATIONS.
5. EXISTING ROOF HATCH.
6. EXISTING PLUMBING VENT THROUGH ROOF SHALL REMAIN IN PLACE AND BE REUSED. FIELD VERIFY EXACT LOCATIONS AND QUANTITIES.

AREA KEY PLAN



STATE OF KENTUCKY
CORY V. SHADDIX
LICENSED
PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - PLUMBING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED CVS
DRAWN SPB
REVIEWED CVS
APPROVED CVS

REVISIONS

NO.	DESCRIPTION	DATE	BY

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SCALE CHECK

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SCALE: 1/16" - 1'0"
SHEET NO.: P-101 01

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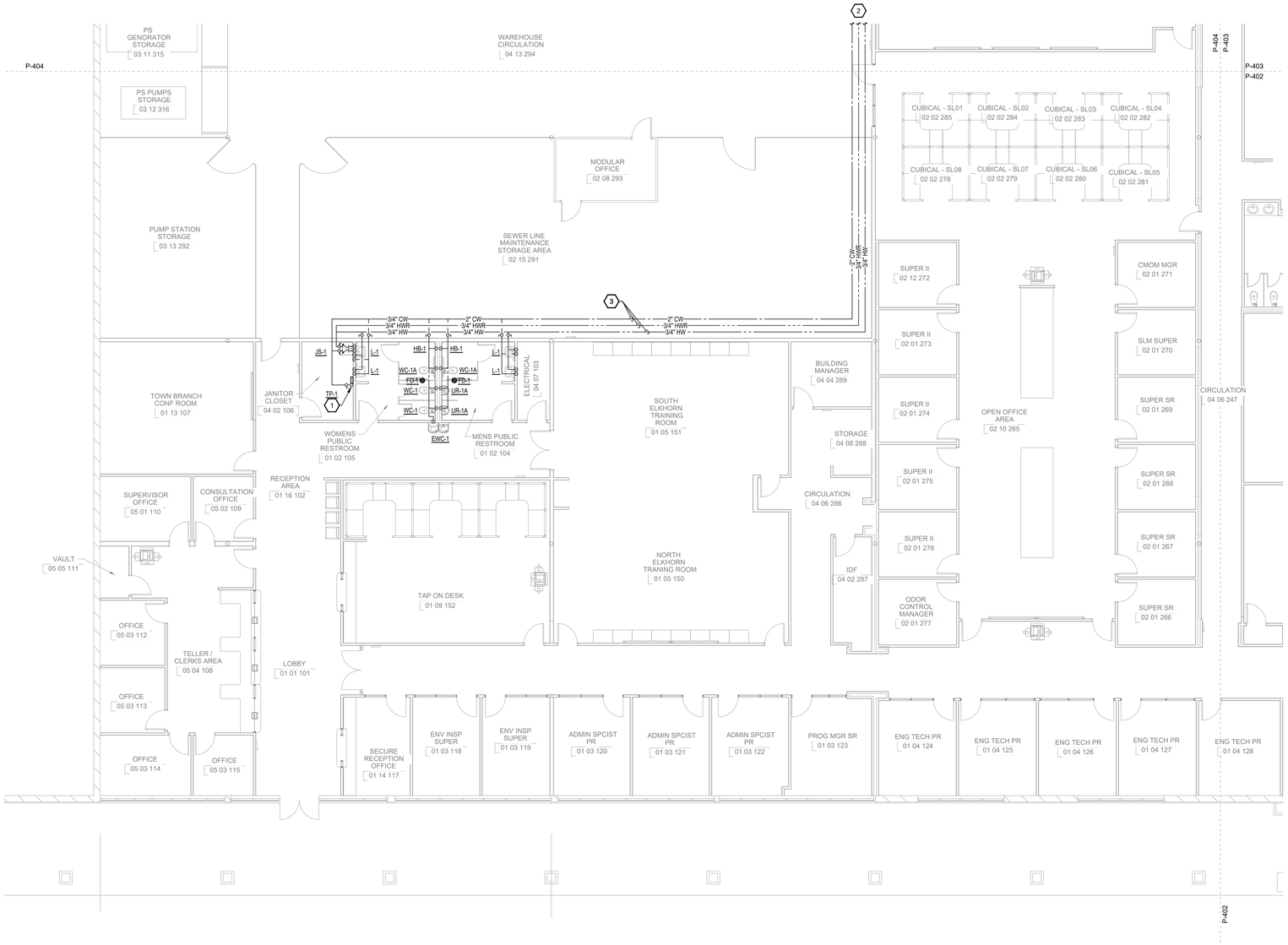


1 FIRST LEVEL - AREA A - DOMESTIC WATER PLAN

SCALE: 1/8"=1'-0"

0 4' 8' 16'

PLAN NORTH

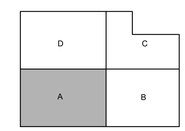
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. ELECTRONIC TRAP PRIMER MANIFOLD MOUNT TO WALL. PROVIDE MAKE-UP WATER SUPPLIES FROM MANIFOLD TO RESTROOM FLOOR DRAINS.
2. REFER TO SHEET P404 FOR CONTINUATION OF NEW COLD WATER, HOT WATER & RECIRCLUATING HOT WATER PIPING.
3. NEW WATER PIPING IN CEILING SPACE OF WAREHOUSE.

AREA KEY PLAN



COMMONWEALTH OF KENTUCKY
CORY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
8/15/25

GRW PROJECT NO. 05247-01
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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA A - DOMESTIC WATER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

REVISIONS

NO.	DESCRIPTION	DATE	BY

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DATE: AUGUST 15, 2025
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1 FIRST LEVEL - AREA B - DOMESTIC WATER PLAN

SCALE: 1/8"=1'-0"

0 4' 8' 16'

PLAN NORTH

GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. EXISTING PLUMBING FIXTURES IN THIS AREA SHALL REMAIN IN PLACE AND BE REUSED.
2. EXISTING GAS-FIRED WATER HEATER SHALL REMAIN IN PLACE AND BE REUSED.
3. NOTE NOT USED.
4. EXISTING DOMESTIC WATER PIPING SHALL REMAIN IN PLACE AND BE REUSED.
5. EXISTING EXPANSION TANK SHALL REMAIN IN PLACE AND BE REUSED.
6. EXISTING DOMESTIC HOT WATER RECIRCULATION PUMP SHALL REMAIN IN PLACE AND BE REUSED.
7. EXISTING MOP BASIN SHALL REMAIN IN PLACE AND BE REUSED.
8. EXISTING ELECTRIC WATER COOLER TO BE REMOVED AND REPLACED WITH NEW IN SAME LOCATION. CONNECT BACK TO EXISTING PIPING.
9. REFER TO SHEET P403 FOR CONTINUATION OF NEW COLD WATER, HOT WATER & RECIRCLUATING HOT WATER PIPING.

AREA KEY PLAN

D C A B

COMMONWEALTH OF KENTUCKY
CORY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA B - DOMESTIC WATER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

REVISIONS

NO	DESCRIPTION	DATE	BY

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SCALE CHECK

DATE: AUGUST 15, 2025
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SHEET NO: P-402 01

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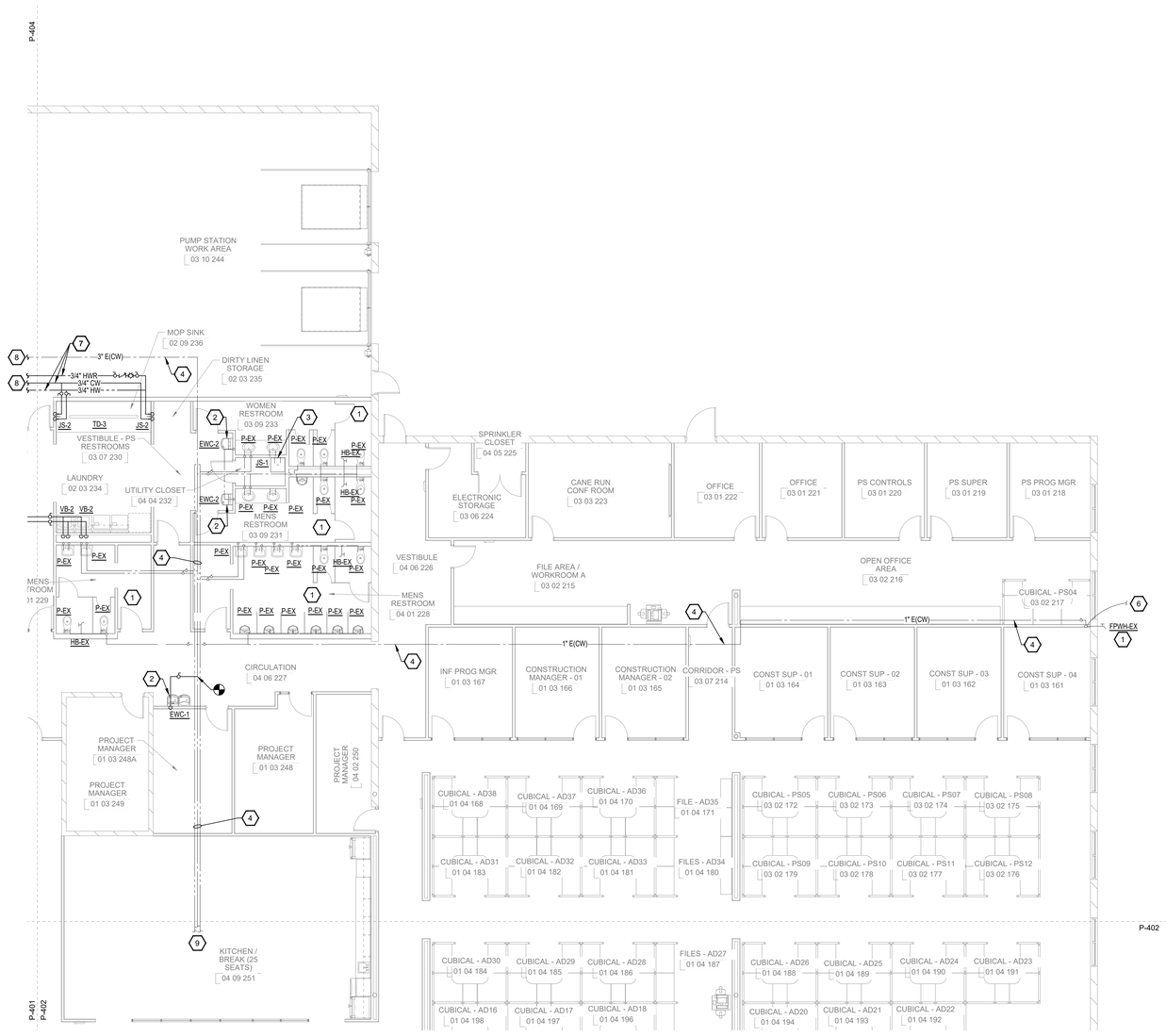

1 FIRST LEVEL - AREA C - DOMESTIC WATER PLAN

SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. EXISTING PLUMBING FIXTURES IN THIS AREA SHALL REMAIN IN PLACE AND BE REUSED.
2. PROVIDE NEW ELECTRIC WATER COOLER. CONNECT TO EXISTING COLD WATER, SANITARY & VENT PIPING IN WALL AND ABOVE CEILING.
3. PROVIDE NEW JANITOR SINK. CONNECT TO EXISTING COLD WATER AND HOT WATER PIPING IN WALL AND ABOVE CEILING.
4. EXISTING DOMESTIC WATER PIPING SHALL REMAIN IN PLACE AND BE REUSED.
5. NOTE NOT USED.
6. EXISTING 1" COLD WATER TO STORAGE BUILDINGS - REFER TO CIVIL.
7. NEW DOMESTIC WATER PIPING IN JOIST SPACE TO CONNECT TO NEW PLUMBING FIXTURES AS SHOWN.
8. REFER TO SHEET P404 FOR CONTINUATION OF NEW COLD WATER, HOT WATER & RECIRCLUATING HOT WATER PIPING.
9. REFER TO SHEET P402 FOR CONTINUATION OF NEW COLD WATER, HOT WATER & RECIRCLUATING HOT WATER PIPING.

AREA KEY PLAN

D | C
A | B

STATE OF KENTUCKY
CORY V. SHADDIX
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA C - DOMESTIC WATER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DESIGNED:	CVS
DRAWN:	SPB
REVIEWED:	CVS
APPROVED:	CVS

IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
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SHEET NO. P-403 01

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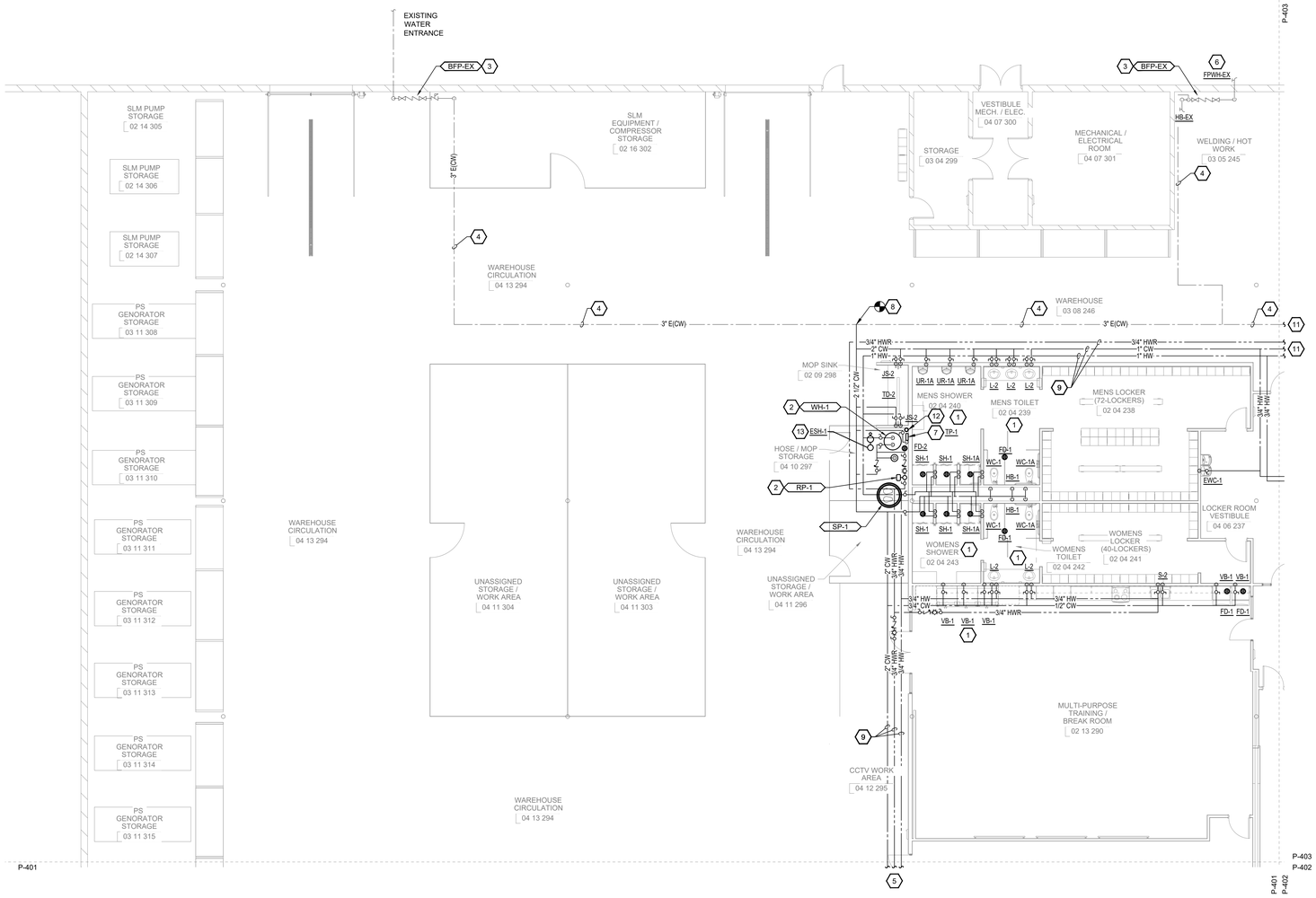


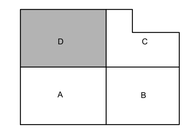
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. NEW PLUMBING FIXTURES SHALL BE INSTALLED IN THIS AREA.
2. NEW GAS-FIRED WATER HEATER, RECIRC PUMP, EXPANSION TANK SHALL BE INSTALLED IN THIS AREA TO FEED NEW LOCKER ROOMS, MULTIPURPOSE ROOM, LOCKER ROOM AREAS. NEW DOMESTIC WATER SHALL EXTEND TO NEW FIXTURES. INSTALL VENT PER MANUFACTURER'S RECOMMENDATIONS.
3. EXISTING REDUCED PRESSURE BACKFLOW PREVENTER SHALL REMAIN IN PLACE AND BE REUSED FOR NEW PLUMBING DESIGN.
4. EXISTING DOMESTIC WATER PIPING SHALL REMAIN IN PLACE AND BE REUSED.
5. REFER TO SHEET P401 FOR CONTINUATION OF NEW COLD WATER, HOT WATER & RECIRCLUATING HOT WATER PIPING.
6. EXISTING PLUMBING FIXTURES IN THIS AREA SHALL REMAIN IN PLACE AND BE REUSED.
7. ELECTRONIC TRAP PRIMER MANIFOLD MOUNT TO WALL. PROVIDE MAKE-UP WATER SUPPLIES FROM MANIFOLD TO RESTROOM FLOOR DRAINS.
8. CONNECT NEW 2 1/2" COLD WATER PIPING TO EXISTING 3" COLD WATER PIPING.
9. NEW WATER PIPING IN CEILING SPACE OF WAREHOUSE.
10. REFER EFER TO SHEET P403 FOR CONTINUATION OF NEW COLD WATER, HOT WATER & RECIRCLUATING HOT WATER PIPING
11. REFER TO SHEET P403 FOR CONTINUATION OF NEW COLD WATER, HOT WATER & RECIRCLUATING HOT WATER PIPING.
12. 4" VENT PIPING UP TO 4" VENT THROUGH ROOF.
13. EMERGENCY SHOWER - PROVIDE TEPID WATER SUPPLY FROM THERMOSTATIC MIXING VALVE MOUNTED ON WALL BEHIND NEW WATER HEATER - WH-1. REFER TO PLUMBING FIXTURE SCHEDULE FOR MORE INFORMATION.

AREA KEY PLAN



1 FIRST LEVEL - AREA D - DOMESTIC WATER PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

CONSTRUCTION DOCUMENTS

COBY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/15/25

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FIRST LEVEL - AREA D - DOMESTIC WATER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DATE	BY	DESCRIPTION

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APPROVED: CVS

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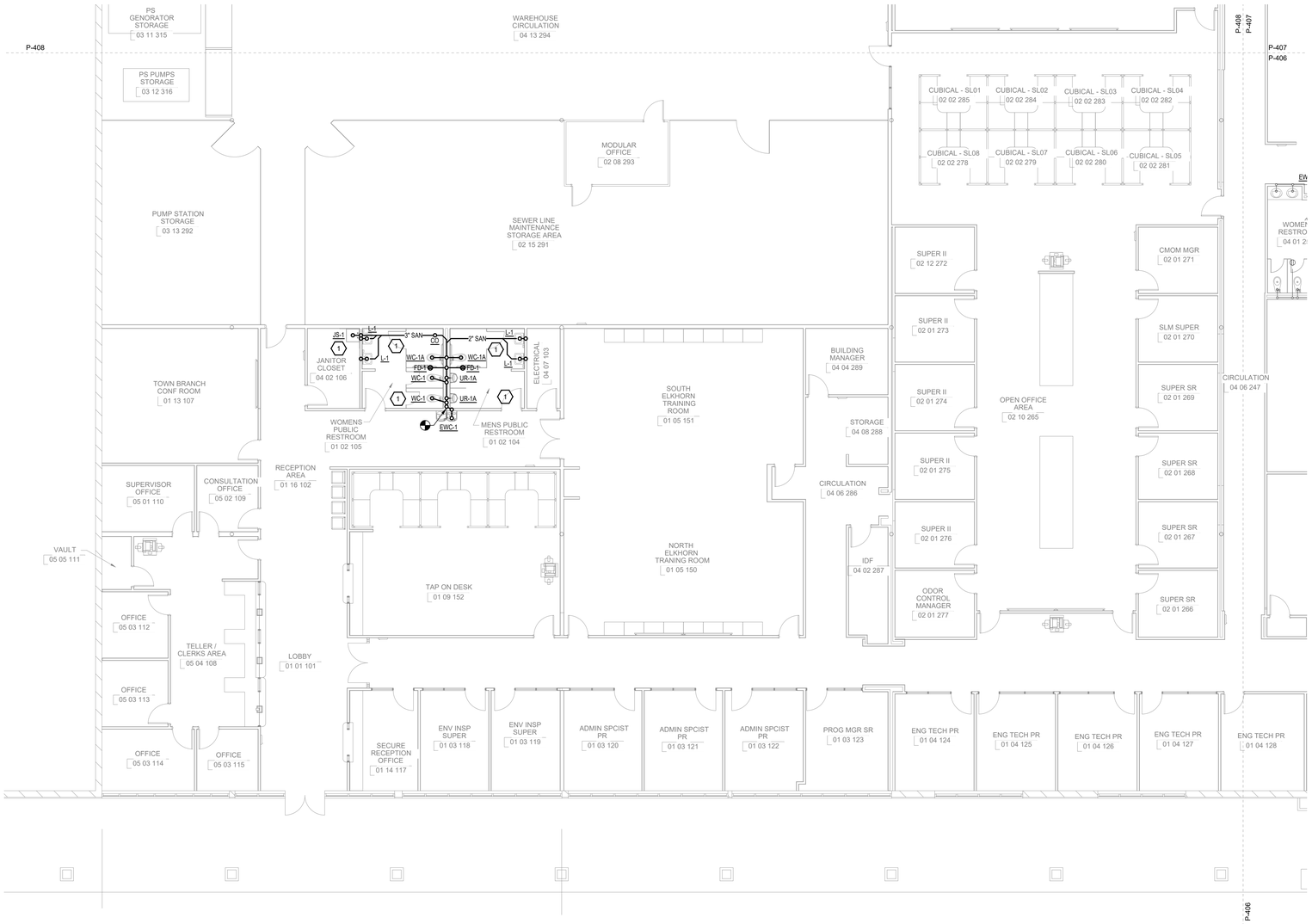


1 FIRST LEVEL - AREA A - SANITARY SEWER PLAN

SCALE: 1/8"=1'-0"

0 4' 8' 16'

PLAN NORTH

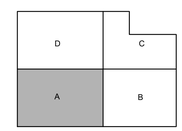
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. NEW SANITARY SEWER PIPING BELOW SLAB TO CONNECT TO NEW PLUMBING FIXTURES IN THIS AREA.

AREA KEY PLAN



COMMONWEALTH OF KENTUCKY
CORY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA A - SANITARY SEWER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

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DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

REVISIONS

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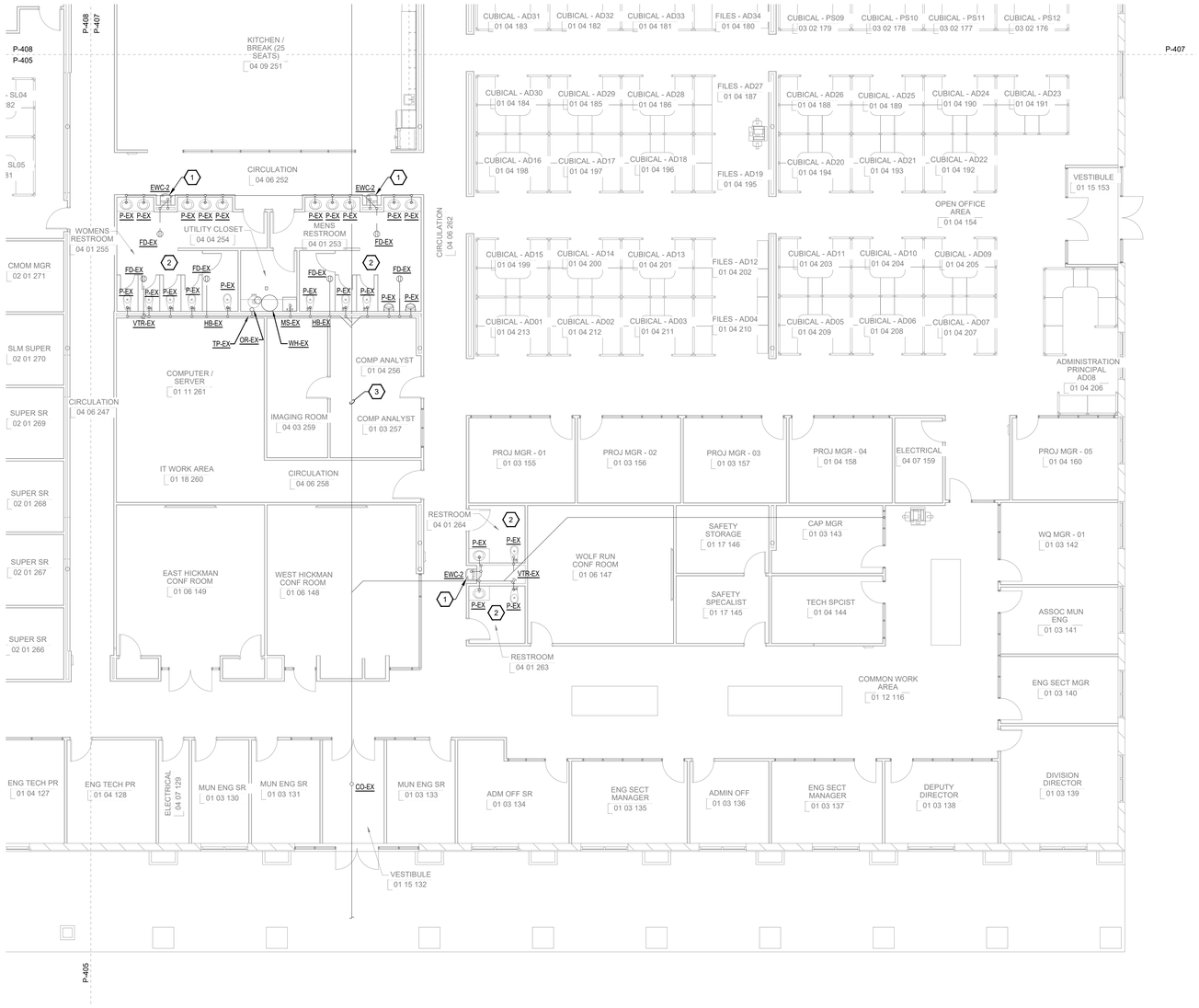


1 FIRST LEVEL - AREA B - SANITARY SEWER PLAN

SCALE: 1/8"=1'-0"

0 4' 8' 16'

PLAN NORTH

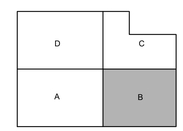
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. PROVIDE NEW ELECTRIC WATER COOLER. CONNECT TO EXISTING COLD WATER, SANITARY & VENT PIPING IN WALL AND ABOVE CEILING.
2. EXISTING PLUMBING FIXTURES IN THIS AREA SHALL REMAIN IN PLACE AND BE REUSED.
3. EXISTING SANITARY SEWER PIPING BELOW SLAB SHALL REMAIN IN PLACE AND BE REUSED. FIELD VERIFY EXACT LOCATION.
4. NEW SANITARY SEWER PIPING BELOW SLAB TO EXTEND TO NEW PLUMBING FIXTURES.

AREA KEY PLAN



COMMONWEALTH OF KENTUCKY
CORY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA B - SANITARY SEWER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
CVS	SPB	CVS	CVS

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1 FIRST LEVEL - AREA C - SANITARY SEWER PLAN

SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. PROVIDE NEW ELECTRIC WATER COOLER. CONNECT TO EXISTING COLD WATER, SANITARY & VENT PIPING IN WALL AND ABOVE CEILING.
2. PROVIDE NEW JANITOR SINK. CONNECT TO EXISTING SANITARY & VENT PIPING IN WALL AND ABOVE CEILING. SAW CUT FLOOR TO CONNECT TO EXISTING SANITARY.
3. EXISTING PLUMBING FIXTURES IN THIS AREA SHALL REMAIN IN PLACE AND BE REUSED.
4. EXISTING SANITARY SEWER PIPING BELOW SLAB SHALL REMAIN IN PLACE AND BE REUSED. FIELD VERIFY EXACT LOCATION.
5. NEW SANITARY SEWER PIPING BELOW SLAB TO EXTEND TO NEW PLUMBING FIXTURES.
6. SEE SHEET P-408-01 FOR CONTINUATION.

AREA KEY PLAN

D | C
A | B

STATE OF KENTUCKY
CORY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA C - SANITARY SEWER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
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THIS MARK REPRESENTS ONE INCH WHEN PLOTTED AT FULL SCALE. IF NOT ONE INCH, ADJUST SCALE ACCORDINGLY

DESIGNED: CVS
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APPROVED: CVS

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SHEET NO.: P-407 01

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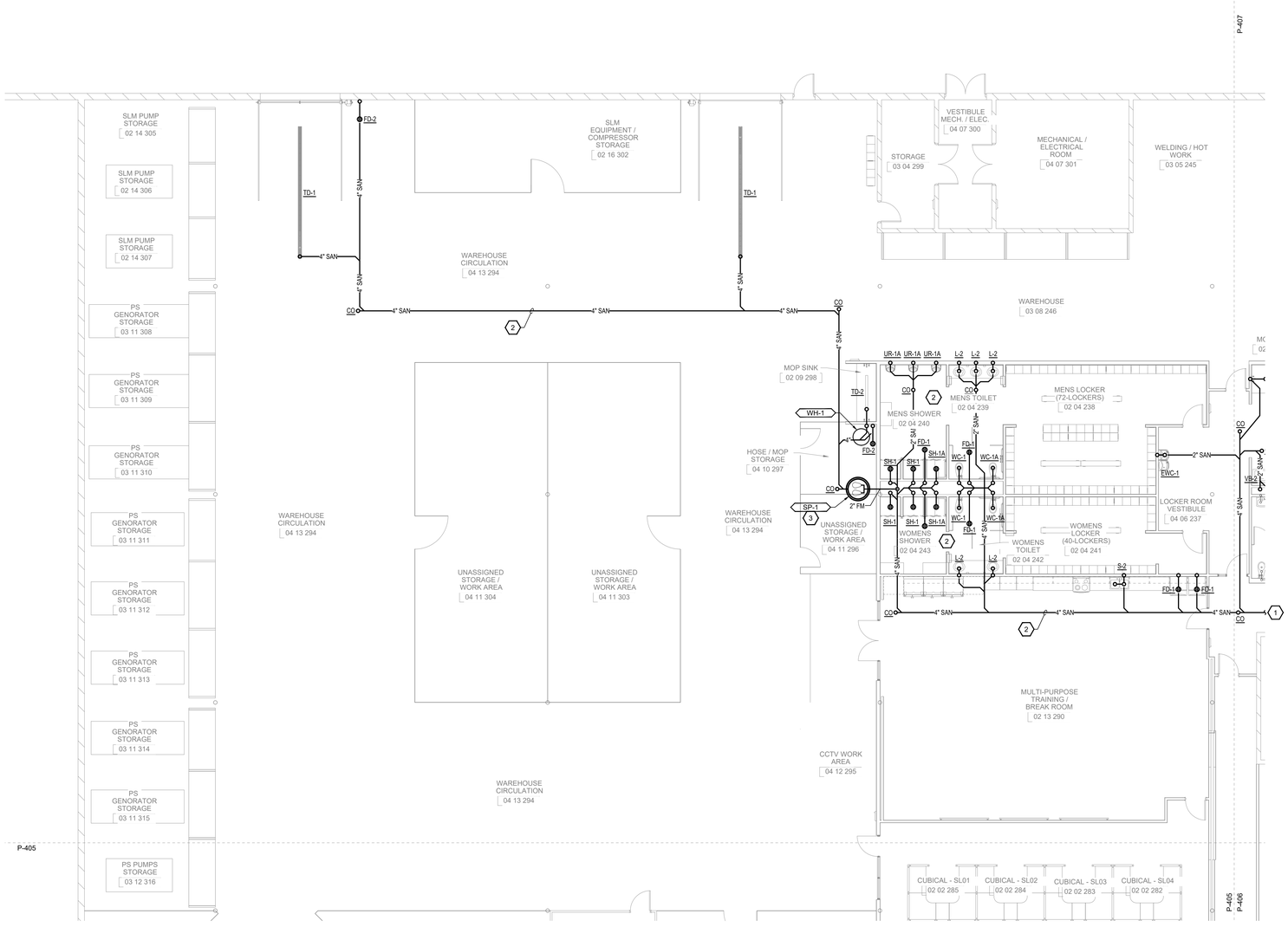


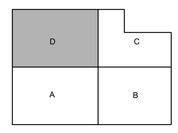
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.

SHEET KEYNOTES:

1. SEE SHEET P-407-01 FOR CONTINUATION.
2. NEW SANITARY SEWER PIPING BELOW SLAB TO FEED NEW PLUMBING FIXTURES IN THIS AREA.
3. PROVIDE NEW SUMP FOR THIS AREA. SEE SCHEDULES AND DETAILS FOR MORE INFORMATION. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

AREA KEY PLAN



PLAN NORTH

0 4' 8' 16'

1 FIRST LEVEL - AREA D - SANITARY SEWER PLAN
SCALE: 1/8"=1'-0"

CORY V. SHADDIX 25855 LICENSED PROFESSIONAL ENGINEER 8/15/25

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA D - SANITARY SEWER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
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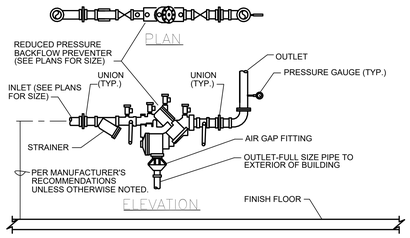
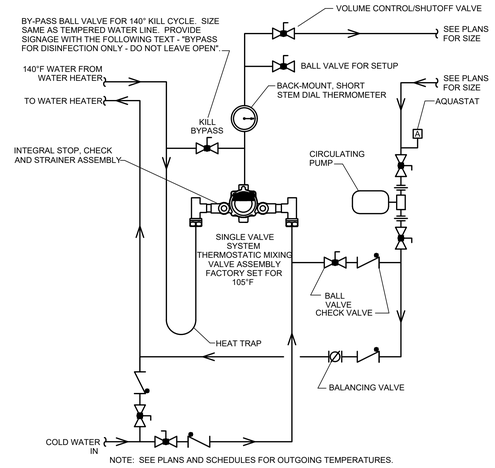


1 REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER DETAIL

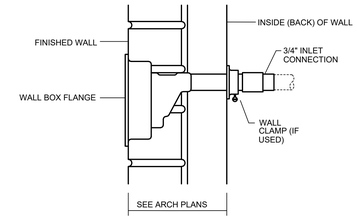
NOT TO SCALE



NOTE: SEE PLANS AND SCHEDULES FOR OUTGOING TEMPERATURES.

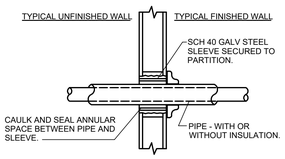
2 THERMOSTATIC MIXING VALVE PIPING DETAIL

NOT TO SCALE



3 FREEZEPROOF WALL HYDRANT INSTALLATION DETAIL

NOT TO SCALE

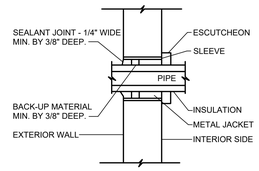


NOTES:

1. TYPICAL FOR NON-INSULATED PIPE AND CONDUIT.
2. ALL CAULKING AND SEALANT SHALL BE FIRE RATED (SEE SPECIFICATIONS).
3. WHERE PIPING IS EXPOSED AT FINISHED FLOOR, FLUSH MOUNT SLEEVE AND PROVIDE ESCUTCHEON PLATE.

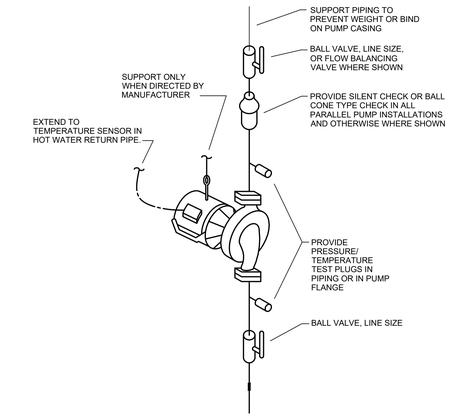
4 PIPE PENETRATION THRU INTERIOR WALL DETAIL

NOT TO SCALE



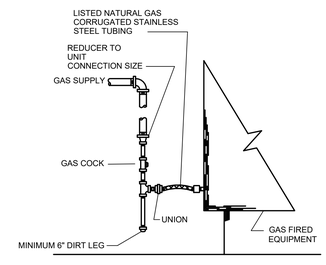
5 INSULATED PIPE PENETRATION THRU EXTERIOR WALL (ABOVE GRADE) DETAIL

NOT TO SCALE



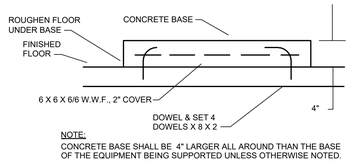
6 TYPICAL IN-LINE CENTRIFUGAL PUMP PIPING DETAIL

NOT TO SCALE



7 GAS PIPE EQUIPMENT DETAIL

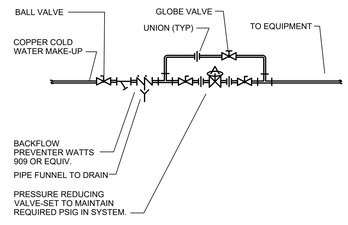
NOT TO SCALE



NOTE:
CONCRETE BASE SHALL BE 4" LARGER ALL AROUND THAN THE BASE OF THE EQUIPMENT BEING SUPPORTED UNLESS OTHERWISE NOTED.

8 TYPICAL CONCRETE PAD DETAIL

NOT TO SCALE



9 COLD WATER MAKE-UP

NOT TO SCALE

STATE OF KENTUCKY
CORY V. SHACKELFORD
LICENSED PROFESSIONAL ENGINEER
8/15/25

GRW PROJECT NO. 05247-01
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PLUMBING DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DESIGNED CVS
DRAWN JAC
REVIEWED CVS
APPROVED CVS

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: P-501 01

PRINTED: 8/15/2025 @ 2:51PM
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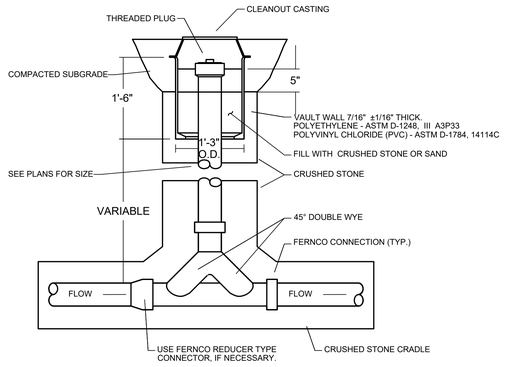
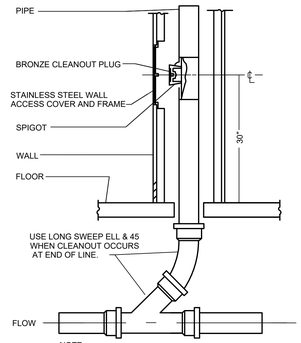


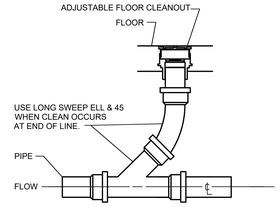
1 TYPICAL TWO WAY TEST TEE CLEANOUT DETAIL
NOT TO SCALE



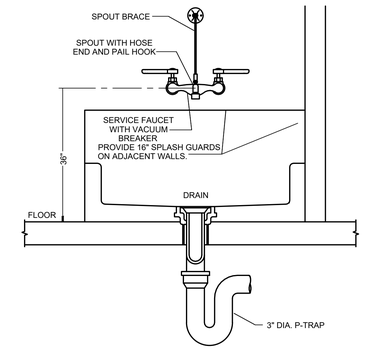
NOTE:
EXPOSED PIPE WITH CLEANOUT SAME EXCEPT OMIT ACCESS COVER AND FRAME.

PROVIDE CLEANOUTS WITH A PIN AND HOOK ON THE LOWER LEVEL OF THE HOUSING AREAS.

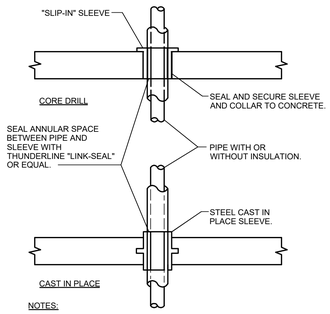
2 TYPICAL WALL CLEANOUT DETAIL
NOT TO SCALE



3 TYPICAL FLOOR CLEANOUT DETAIL
NOT TO SCALE



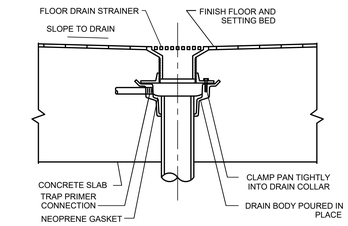
4 MOP SINK INSTALLATION DETAIL
NOT TO SCALE



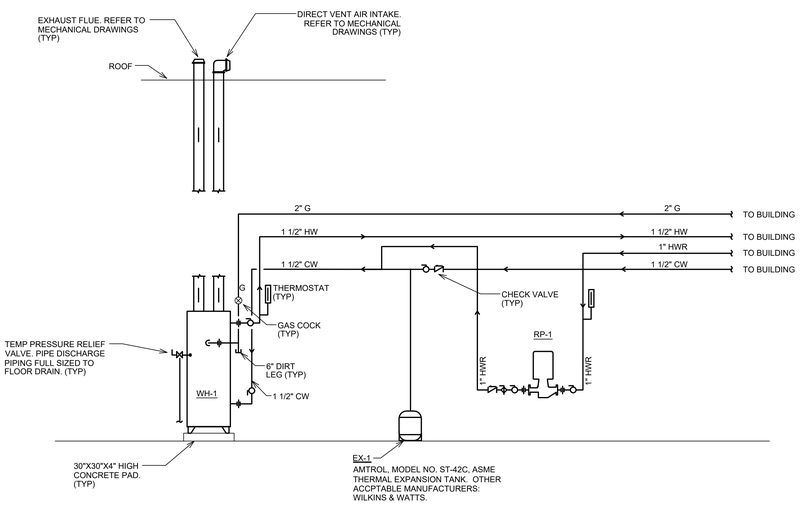
NOTES:

1. TYPICAL FOR NON-INSULATED PIPE AND CONDUIT.
2. FOR FLOOR PENETRATIONS WITH FIRE RATING GREATER THAN ONE HOUR, USE THUNDERLINE "PYRO-PAC" SEALS OR EQUAL.
3. WHERE PIPING IS EXPOSED AT FINISHED FLOOR, FLUSH MOUNT SLEEVE AND PROVIDE ESCUTCHEON PLATE.

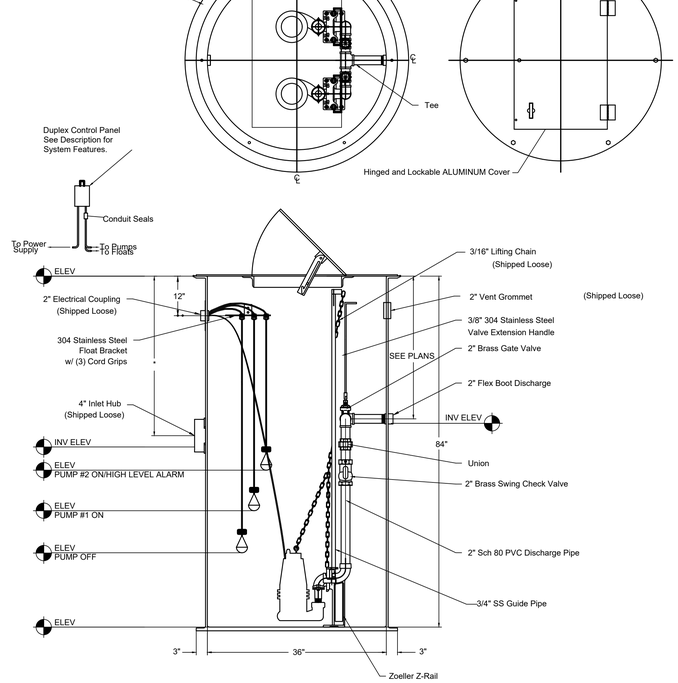
7 PIPE PENETRATION THRU CONCRETE SLAB DETAIL
NOT TO SCALE



6 FLOOR DRAIN DETAIL
NOT TO SCALE



9 WATER HEATER PIPING SCHEMATIC DETAIL
NOT TO SCALE



8 SEWER PUMP DETAIL
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STATE OF KENTUCKY
CORY V. SHADDIX
LICENSED PROFESSIONAL ENGINEER
8/15/25

GRW PROJECT NO. 52247-01
CLIENT PROJECT NO. RFB 70-2025

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PLUMBING DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DESIGNED: CVS
DRAWN: JAC
REVIEWED: CVS
APPROVED: CVS

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO: P-502 01

PLUMBING FIXTURES AND SPECIALTIES SCHEDULE

MARK	FIXTURE / SPECIALTY	MANUFACTURER	MODEL	TYPE / TRIM	PIPE SIZES				MOUNTING	REMARKS
					WASTE	VENT (U.O.N.)	CW SUPPLY	HW SUPPLY		
ESH-1	EMERGENCY SHOWER	GUARDIAN	MODEL G1950 COMBINATION SHOWER AND EYE/FACE WASH	IMPACT RESISTANT PLASTIC SHOWER HEAD SS EYE/FACE WASH BOWL WITH DUST COVER 2 EYE/FACE WASH SPRAY HEADS SS SHOWER PULL ROD, SS PUSH HANDLE	-	-	-	1 1/4" TEPID	FLOOR	PROVIDE WITH GUARDIAN, MODEL NO. G3800LF THERMOSTATIC EMERGENCY MIXING VALVE
EWC-1	ADA HI-LO WATER COOLER WITH BOTTLE FILLING STATION	ELKAY	MODEL LZSTL8WSSP LEAD FREE PUSHBARS, 8 GPH, FILTERED SAFETY BUBBLER BOTTLE FILLING STATION	REFRIGERATED STAINLESS STEEL	2"	2"	1/2"*	-	WALL 27" FIN. FL. TO BTM OF LOWER UNIT APRON	UNIT TO BE PROVIDED WITH HANGER BRACKETS. PROVIDE WITH FILTER. PROVIDE BOTTLE FILLING STATION ON LOWER UNIT.
FD-1	FLOOR DRAIN	ZURN	MODEL ZN415-BZ1-P*-VP-Y ADJUSTABLE	DURA-COATED CAST IRON BODY, 5" STRAINER, MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS, TRAP PRIMER*, SEDIMENT BUCKET, VANDAL-PROOF POLISHED NICKEL BRONZE TOP	4"	2"	1/2"*	-	FLOOR	*PROVIDE TRAP PRIMER AS CALLED OUT ON PLANS AND RISERS.
FD-2	MECHANICAL ROOM FLOOR DRAIN	ZURN	MODEL ZN415C-P*-VP-Y ADJUSTABLE	DURA-COATED CAST IRON BODY, 8" STRAINER, MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS, TRAP PRIMER*, SEDIMENT BUCKET, VANDAL-PROOF POLISHED NICKEL BRONZE TOP	4"	2"	-	-	FLOOR	*PROVIDE TRAP PRIMER AS CALLED OUT ON PLANS AND RISERS.
HB-1	HOSE BIBB	ZURN	MODEL 24 WALL FAUCET	CHROME FINISH VACUUM BREAKER ANTI-SIPHON	-	-	3/4"	-	WALL	PROVIDE WITH 2 ADDITIONAL WHEEL HANDLES AND LOOSE TEE KEYS.
JS-1	JANITOR SINK	ZURN	MODEL MTB-2424 24"X24"X10" MOP BASIN	2 SIDE CAPS, 2 SPLASH GUARD PANELS CHICAGO FAUCETS, MODEL 897-CP POLISHED CHROME FAUCET T-35 HOSE AND WALL HOOK WITH BRACKET T-40 MOP HANGER	3"	2"	1/2"	1/2"	FAUCET - SEE DETAIL	CAST BRASS DRAIN WITH STAINLESS STEEL STRAINER CAST INTEGRAL TO BASIN.
JS-2	SERVICE SINK FAUCET	ZURN	CHICAGO FAUCETS, MODEL 897-CP POLISHED CHROME FAUCET		-	-	1/2"	1/2"	FAUCET - SEE DETAIL	
L-1	ADA LAVATORY	ZURN	MODEL NO. 5344 WALL-HUNG SINK WITH OVERFLOW DELTA MODEL 22C551 FAUCET, 0.5 GPM FLOW GRID DRAIN	VITREOUS CHINA, WALL-HUNG CHROME PLATED WATER STOPS AND SUPPLIES CHROME PLATED OFFSET TAILPIECE AND TRAP CAST BRASS CHROME PLATED SINGLE LEVER FAUCET WITH CERAMIC CARTRIDGE AND LIMIT STOP	2"	2"	3/8"	3/8"	SEE ARCHITECT DWGS	PROVIDE ON THE EXPOSED WASTE PIPE AND WATER SUPPLY LINES A TRAP-WRAP INSULATION KIT WITH A VINYL AND PLASTIC COVERING. PROVIDE WITH ZURN Z-1231 WALL CARRIER
L-2	ADA LAVATORY	AMERICAN STANDARD	MODEL 0491.019 RONDALYN COUNTERTOP SINK WITH OVERFLOW DELTA MODEL 22C451 FAUCET, 0.5 GPM FLOW GRID DRAIN	VITREOUS CHINA, COUNTER-TOP SET CHROME PLATED WATER STOPS AND SUPPLIES CHROME PLATED OFFSET TAILPIECE AND TRAP CAST BRASS CHROME PLATED SINGLE LEVER FAUCET WITH CERAMIC CARTRIDGE AND LIMIT STOP	2"	2"	3/8"	3/8"	SEE ARCHITECT DWGS	PROVIDE ON THE EXPOSED WASTE PIPE AND WATER SUPPLY LINES A TRAP-WRAP INSULATION KIT WITH A VINYL AND PLASTIC COVERING.
S-1	ADA ONE-COMPARTMENT SINK	ELKAY	MODEL LRAD0221965 SINGLE BOWL SINK DELTA MODEL 400FL-HDF COMMERCIAL FAUCET, 1.5 GPM WITH ANTI-SIPHON SPRAY DEVICE AND HOSE DELTA #72010 KITCHEN SINK FLANGE AND STRAINER	18 GA, 304 SS SINGLE BOWL SINK - 22"x19-1/2"x6.5" DROP IN, LUSTROUS SATIN FINISH, 4 HOLES CHROME PLATED BRASS FAUCET CONSTRUCTION VANDAL RESISTANT AERATOR AND LEVER HANDLE CHROME PLATED WATER STOPS AND SUPPLIES CHROME PLATED TAILPIECE AND TRAP	2"	2"	3/8"	3/8"	SEE ARCHITECT DWGS	SOUND DEAFENING ON BOTTOM PADS.
S-2	ADA TWO-COMPARTMENT SINK	ELKAY	MODEL LRAD0332165 DOUBLE BOWL SINK DELTA MODEL 400FL-HDF COMMERCIAL FAUCET, 1.5 GPM WITH ANTI-SIPHON SPRAY DEVICE AND HOSE DELTA #72010 KITCHEN SINK FLANGE AND STRAINER DELTA #72030 KITCHEN DISPOSAL FLANGE AND STOPPER DELTA #72020 DISHWASHER AIR GAP IN-SINK-ERATOR MODEL LC-50-11 GARBAGE DISPOSAL	18 GA, 304 SS DOUBLE BOWL SINK - 33"x21-1/4"x6.5" DROP IN, LUSTROUS SATIN FINISH SPECIAL PUNCH FOR 5 HOLES CHROME PLATED BRASS FAUCET CONSTRUCTION VANDAL RESISTANT AERATOR AND LEVER HANDLE CHROME PLATED WATER STOPS AND SUPPLIES CHROME PLATED TAILPIECE AND TRAP GARBAGE DISPOSAL ACTIVATED BY WALL SWITCH	2"	2"	3/8"	3/8"	SEE ARCHITECT DWGS	SOUND DEAFENING ON BOTTOM PADS.
SH-1	SHOWER	ZURN	DELTA T13H132 PRESSURE BALANCING MIXING VALVE WITH SHOWER HEAD	1.5 GPM SHOWER HEAD	2"	2"	1/2"	3/8"	SEE ARCHITECT DWGS	PROVIDE 2" ZURN SHOWER DRAIN.
SH-1A	ADA SHOWER	ZURN	DELTA T13H332 PRESSURE BALANCING MIXING VALVE, WITH SHOWER HEAD, HAND SHOWER, DIVERTER VALVE AND ADA SLIDE BAR	1.5 GPM SHOWER HEAD AND 1.5 GPM HAND SHOWER	2"	2"	1/2"	3/8"	SEE ARCHITECT DWGS	PROVIDE 2" ZURN SHOWER DRAIN.
TD-1	TRENCH DRAIN	ZURN	ZURN Z886-HD WIDE REVEAL TRENCH DRAIN SYSTEM WITH HEAVY-DUTY HIGH DENSITY POLYETHELENE (HDPE) - 6-3/4" REVEAL, 4" THROAT, 80" LONG, REBAR CLIPS ON CHANNELS, INTEGRAL GRATE LOCKDOWN BARS P6-DGE 6" WIDE CLASS E GRATE	TRENCH DRAIN SHALL BE MANUFACTURED TO ACCEPT CATCH BASIN / SAND TRAP AT DEEP END OF TRENCH DRAIN. GRATING SHALL MATCH BOTH SAND TRAP AND TRENCH DRAIN AND RUN CONTINUOUS THROUGH BOTH THE TRENCH DRAIN AND THE CATCH BASIN / SAND TRAP- ZURN, MODEL NO. Z897-6.	4"	2"	-	-	FLOOR	SEE ARCHITECTURAL PLANS AND DETAILS FOR CUT LENGTH PER APPLICATION.
TP-1	TRAP PRIMER - ELECTRONIC	PPP (PRECISION PLUMBING PRODUCTS)	MODEL PTS-10 - PRIME-TIME, ELECTRONIC TRAP PRIMER	ATMOSPHERIC VACUUM BREAKER, PRE-SET 24 HOUR ADJUSTABLE TIMER MANUAL OVER RIDE SWITCH/TEST BUTTON, SOLENOID VALVE CALIBRATED MANIFOLD FOR EQUAL WATER DISTRIBUTION WITH 1/2" OUTLETS 12" X 12" X 4" NEMA-1 SURFACE MOUNT METAL CABINET WITH COVER PLATE	-	-	3/4"	-	WALL	DISTRIBUTION UNIT SHALL HAVE ONE OUTLET FOR EACH FLOOR DRAIN SERVED.
UR-1	URINAL	ZURN	MODEL Z5755-U ZURN, MODEL Z6003-AV, MANUAL FLUSH VALVE	VITREOUS CHINA 1.0 GPF 3/4" TOP INLET & REMOVABLE STRAINER 3/4" MANUAL FLUSH VALVE	2"	2"	3/4"	-	SEE ARCHITECT DWGS	PROVIDE ZURN URINAL WALL CARRIER WITH BEARING PLATE.
VB-1	ICE MAKER VALVE BOX	GUY GRAY	MIB SERIES ICE MAKER OUTLET BOX	18 GA. FACE PLATE AND BOX WHITE POWDER COAT FINISH BRASS QUARTER TURN LEAD FREE BALL VALVE WATER HAMMER ARRESTOR	-	-	1/2"	-	RECESSED WALL	MOUNTING HEIGHT PER REFRIGERATOR MANUFACTURER'S RECOMMENDATIONS.
VB-2	WASHER BOX	GUY GRAY	WMOB SERIES WASHING MACHINE OUTLET BOX	20 GA. FACE PLATE AND BOX WHITE POWDER COAT FINISH BRASS QUARTER TURN LEAD FREE BALL VALVES WATER HAMMER ARRESTORS	2"	2"	1/2"	1/2"	RECESSED WALL	MOUNTING HEIGHT PER WASHING MACHINE MANUFACTURER'S RECOMMENDATIONS.
WC-1	WATER CLOSET	AMERICAN STANDARD	AMERICAN STANDARD - MADERA FLOWISE 15" HEIGHT MODEL 2855.128 ELONGATED BOWL TOILET AMERICAN STANDARD MODEL 6047121.002 FLUSH VALVE	VITREOUS CHINA, HIGH EFFICIENCY 1.28 GPF, EVERCLEAN SIPHON JET, 1 1/2" TOP SPUD AMERICAN STANDARD 5901.110 OPEN FRONT SEAT (LESS COVER) AMERICAN STANDARD 1.28 GPF MANUAL FLUSH VALVE CHROME PLATED ANGLE STOP AND SUPPLY	4"	2"	1"	-	FLOOR MOUNT	PROVIDE WITH FLANGE AND WAX RING
WC-1A	ADA WATER CLOSET	AMERICAN STANDARD	AMERICAN STANDARD - MADERA FLOWISE 16-1/2" HEIGHT MODEL 3461.001 ELONGANTED BOWL TOILET AMERICAN STANDARD MODEL 6047121.002 FLUSH VALVE	VITREOUS CHINA, HIGH EFFICIENCY 1.28 GPF, EVERCLEAN SIPHON JET, 1 1/2" TOP SPUD AMERICAN STANDARD 5901.110 OPEN FRONT SEAT (LESS COVER) AMERICAN STANDARD 1.28 GPF MANUAL FLUSH VALVE CHROME PLATED ANGLE STOP AND SUPPLY	4"	2"	1"	-	FLOOR MOUNT	PROVIDE FLUSH HANDLE ON OPEN SIDE OF TOILET PER A.D.A.. PROVIDE WITH FLANGE AND WAX RING
FPWH-1	FREEZE-PROOF WALL HYDRANT	ZURN	MODEL Z1300 ENCASED NON-FREEZE BACKFLOW PREVENTER	RECESSED NICKEL BRONZE WALL BOX WHINGED COVER FLUSH WITH EXTERIOR WALL, KEY LOCK AND "WATER" CAST IN COVER ANTI-SIPHON, AUTOMATIC DRAINING	-	-	3/4"	-	EXTERIOR WALL 24" AFG U.O.N.	NICKEL BRONZE WALL BOX PROVIDE WITH 2 ADDITIONAL KEYS TO COVER.

NOTE: SEE SPECIFICATIONS FOR FIXTURE AND SPECIALTY STANDARDS AND ADDITIONAL MANUFACTURERS.

WATER HAMMER ARRESTOR SCHEDULE

MARK	FIXTURE UNITS	PDI SIZE	PIPE SIZE
WHA-A	1-11	A	1/2"
WHA-B	12-32	B	3/4"
WHA-C	33-60	C	1"
WHA-D	61-113	D	1 1/4"
WHA-E	114-154	E	1 1/2"
WHA-F	155-330	F	2"

REMARKS:

1. PROVIDE PER PDI WH-201 - TABLE BASED ON 50' PIPE LENGTH.
2. UNIT SHALL BE ASSE 1010 CERTIFIED.
3. ZURN MODEL 1260XL OR EQUAL.

SEWER PUMP SCHEDULE

MARK	MANUFACTURER	MODEL NO.	TYPE	LOCATION	DISCHARGE	MOTOR				REMARKS
						HP	FLA	RPM	V/PH/HZ	
SP-1	ZOELLER	6267	DUPLEX INDOOR PUMP SYSTEM	WAREHOUSE IN MAIN BUILDING	2 INCH VERTICAL	0.5	9.4 PER PUMP	1750	115V/1/60	ALL
SP-1	ZOELLER	6267	DUPLEX INDOOR PUMP SYSTEM	VACTOR BUILDING	2 INCH VERTICAL	0.5	6.2 PER PUMP	1750	208V/1/60	ALL

REMARKS:

1. SEE SPECIFICATIONS FOR EQUIPMENT STANDARDS AND MANUFACTURERS.
2. PUMPS SHALL BE NON-OVERLOADING THROUGHOUT THE CURVE.
3. MANUFACTURER'S CONTROL / ALARM PANEL
4. FLOATS, ALARMS AND ASSOCIATED CONNECTIONS
5. TWO (2) 2" THREADED CAST IRON CHECK VALVES AND TWO (2) 2" CAST IRON PLUG VALVES
6. TWO (2) 2" GUIDE RAIL ASSEMBLIES CONSISTAING OF BASE ELBOW, QUICK DISCONNECT SLIDE ASSEMBLIES, UPPER BRACKET, 3/4" STAINLESS STEEL RAIL PIPES.
7. ONE (1) 36" X 84" PREFABRICATED FIBERGLASS BASIN WITH ANTI-FLOTATION FLANGE AND LIFTING LUGS, 3" SIDEWALL VENT FLANGE, 2" SIDEWALL ELECTRICAL FLANGE
8. SEE DETAIL ON SHEET P-502-01 FOR MORE REQUIREMENTS.

DOMESTIC WATER HEATER SCHEDULE (GAS)

MARK	MANUFACTURER	MODEL NO.	SERVICE	LOCATION	STORAGE (GALLONS)	RECOVERY AT A 100ºF RISE (GPH)	NATURAL GAS INPUT (MBH)	ALLOWABLE GAS PRESSURE RANGE (INCHES OF WC)	VOLTAGE	PHASE	REMARKS
WH-1	A.O. SMITH	BTH-199	140ºF DOMESTIC HOT WATER FOR KITCHEN	WAREHOUSE	100	235	199	3.5" W.C. - 14" W.C	120	1	ALL

REMARKS:

1. SEE SPECIFICATIONS FOR FIXTURE STANDARDS AND MANUFACTURERS.
2. PROVIDE T&P VALVE.
3. PROVIDE DIRECT VENT KIT COMPLETE WITH FLUE AND COMBUSTION AIR INTAKE AND CAP. REFER TO MECHANICAL SHEETS FOR ROUTING.

DOMESTIC WATER RECIRCULATION PUMP SCHEDULE

MARK	MANUFACTURER	MODEL NO.	LOCATION	SERVICE	GPM	PRESSURE DROP (FT HEAD)	MOTOR HP	VOLTAGE	PHASE	REMARKS
RP-1	BELL & GOSSETT	PL-36B	MECHANICAL-174	140 DEGREE DOMESTIC RECIRCULATED HOT WATER	20	15	1/6	120	1	ALL

REMARKS:

1. SEE SPECIFICATIONS FOR EQUIPMENT STANDARDS AND MANUFACTURERS.

STATE OF KENTUCKY — CORY V. SHADDIX — 29355 — LICENSED PROFESSIONAL ENGINEER — 8/15/25

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PLUMBING SCHEDULES

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

NO	DESCRIPTION	DATE	BY

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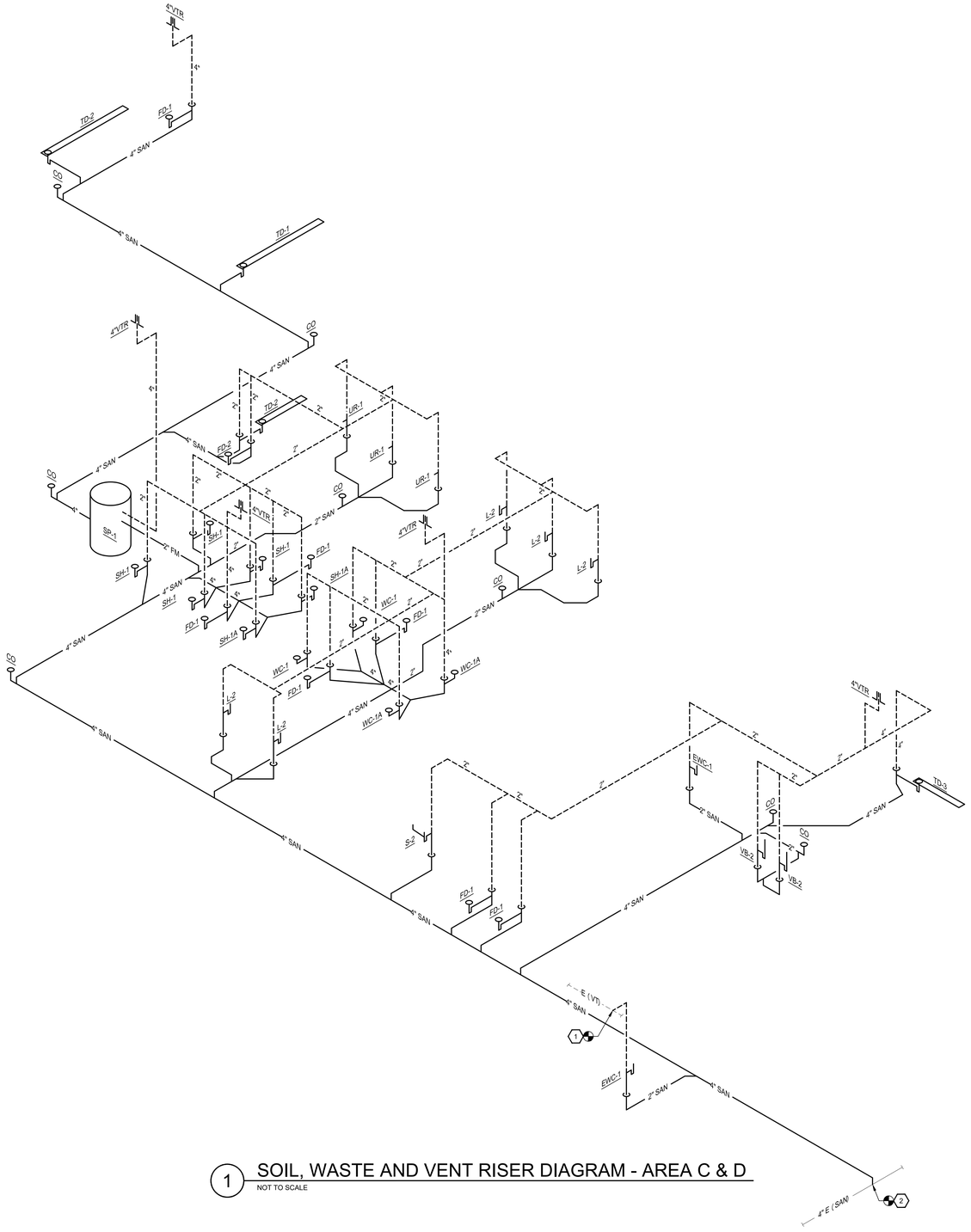
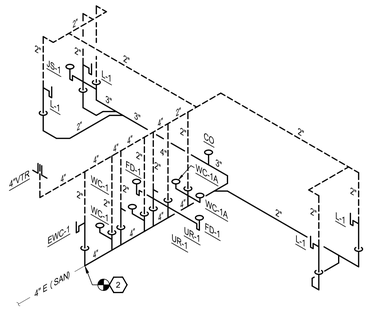
SHEET KEYNOTES:

1. CONNECT TO EXISTING VENT PIPING. FIELD VERIFY FOR EXACT LOCATION OF PIPING.
2. CONNECT TO EXISTING SANITARY PIPING. FIELD VERIFY FOR EXACT LOCATION OF PIPING.



1 SOIL, WASTE AND VENT RISER DIAGRAM - AREA C & D
NOT TO SCALE



2 SOIL, WASTE AND VENT RISER DIAGRAM - AREA A
NOT TO SCALE

STATE OF KENTUCKY
CORY V. SHADDIX
LICENSED PROFESSIONAL ENGINEER
8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

PLUMBING RISERS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

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SCALE CHECK

DESIGNED CVS
DRAWN SPB
REVIEWED CVS
APPROVED CVS

DATE: AUGUST 15, 2025
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SHEET NO.: P-602 01

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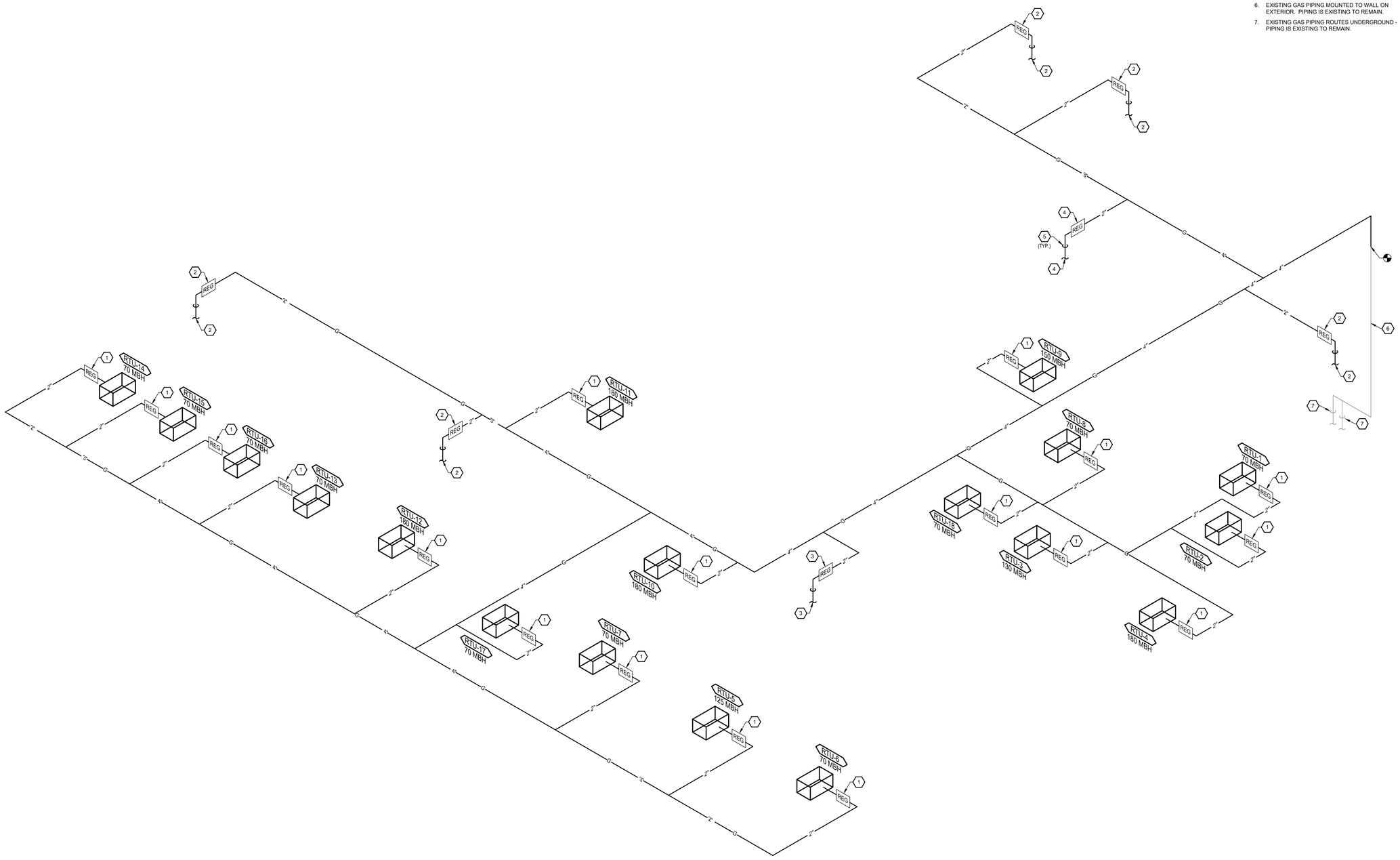
SHEET KEYNOTES:

1. PROVIDE PRESSURE REGULATOR, GAS COCK, DIRT LEG PER GAS PIPE EQUIPMENT DETAIL ON SHEET P-501 01 AND PER ROOFTOP UNIT MANUFACTURER RECOMMENDATIONS. REFER TO MECHANICAL SHEETS FOR MORE INFORMATION ON THE ROOFTOP UNIT.
2. PROVIDE PRESSURE REGULATOR BEFORE TURNING DOWN THROUGH ROOF. ROUTE GAS PIPING DOWN AND CONNECT TO EXISTING UNIT HEATER IN WAREHOUSE SPACE BELOW AND PER UNIT HEATER MANUFACTURER RECOMMENDATIONS. REFER TO MECHANICAL SHEETS FOR MORE INFORMATION ON THE EXISTING UNIT HEATER.
3. PROVIDE PRESSURE REGULATOR BEFORE TURNING DOWN THROUGH ROOF. ROUTE GAS PIPING DOWN AND CONNECT TO EXISTING WATER HEATER IN EXISTING UTILITY CLOSET-04 04 254 BELOW AND PER WATER HEATER MANUFACTURER RECOMMENDATIONS.
4. PROVIDE PRESSURE REGULATOR BEFORE TURNING DOWN THROUGH ROOF. ROUTE GAS PIPING DOWN AND CONNECT TO NEW WATER HEATER IN WAREHOUSE SPACE BELOW AND PER WATER HEATER MANUFACTURER RECOMMENDATIONS.
5. PIPING THROUGH ROOF.
6. EXISTING GAS PIPING MOUNTED TO WALL ON EXTERIOR. PIPING IS EXISTING TO REMAIN.
7. EXISTING GAS PIPING ROUTES UNDERGROUND - PIPING IS EXISTING TO REMAIN.



1 GAS RISER DIAGRAM
NOT TO SCALE

CONSTRUCTION DOCUMENTS

STATE OF KENTUCKY
CORY V. SHADRICK
LICENSED PROFESSIONAL ENGINEER
8/15/25

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PLUMBING RISERS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

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GENERAL LEGEND

APPEARS ON SHEET WHERE SECTION IS CUT
SECTION IDENTIFICATION LETTER
SHEET WHERE SECTION IS DRAWN

APPEARS ON THE SHEET WHERE SECTION IS DRAWN
SECTION OR DETAIL IDENTIFICATION LETTER
SHEET WHERE DRAWN

SECTION SYMBOL ON SHEET WHERE CUT
SHEET WHERE SECTION IS CUT
SHEET WHERE SECTION IS DRAWN

ELEVATION SYMBOL ON SHEET WHERE INDICATED
SHEET WHERE INDICATED
SHEET WHERE DRAWN

SECTION, ELEVATION OR DETAIL IDENTIFICATION ON SHEET WHERE DRAWN
SHEET WHERE INDICATED OR CUT
SHEET WHERE DRAWN

ENLARGED AREA OR PARTIAL PLAN SYMBOL (ON SHEET WHERE INDICATED AND SHEET WHERE DRAWN)
IDENTIFICATION LETTER
SHEET WHERE DRAWN

PLAN MATCH LINE SYMBOL

CONNECTION OF NEW WORK TO EXISTING

LINE OR EQUIPMENT TO BE REMOVED

123 — ROOM NUMBER

9'-6" — CEILING HEIGHT

AFF	ABOVE FINISHED FLOOR
TOS, BOS	TOP OF STEEL, BOTTOM
TOB, BOB	TOP OF BEAM, BOTTOM
TOJ, BOJ	TOP OF JOIST, BOTTOM
TOC, BOC	TOP OF CONCRETE, BOTTOM
TOP, BOP	TOP OF PIPE, BOTTOM
BOD	BOTTOM OF DUCT

MECHANICAL LEGEND
HVAC & PLUMBING

20x16 — NEW DUCT - 1ST FIGURE IS DIMENSION SHOWN

SUPPLY OR OUTSIDE AIR DUCTWORK; PLAN, UP & DOWN

RETURN OR EXHAUST DUCTWORK

D — R — DROP AND RISE IN DIRECTION OF FLOW

ACOUSTIC LINED DUCTWORK; PLAN

SA — SUPPLY AIR DUCT
OA — OUTSIDE AIR DUCT
RA — RETURN AIR DUCT
EA — EXHAUST AIR DUCT
TA — TRANSFER AIR DUCT
HVD — HIGH VELOCITY SUPPLY DUCT (MEDIUM PRESSURE)
F/O — FLAT OVAL DUCT

LOW PRESSURE FLEXIBLE DUCT
HIGH PRESSURE FLEXIBLE DUCT
ROUND DUCTWORK; PLAN, UP AND DOWN
AIR FLOW; DIRECTION
REHEAT COIL IN DUCT
MANUAL VOLUME DAMPER; PLAN, ONE LINE DIAGRAM
BACKDRAFT DAMPER
BDD
MOTOR OPERATED DAMPER; PLAN, ONE LINE DIAGRAM
FD — FIRE DAMPER

SD — SMOKE DAMPER; PLAN, ONE LINE DIAGRAM (FIRE/SMOKE - FSD)

SPLITTER DAMPER: SD; SHOWN IN TEE WITH TURNING VANES.

AIR TURNING VANES; PLAN, ONE LINE DIAGRAM

DUCT BRANCH TAKE OFF WITH RAKE OFF DAMPER; PLAN, ONE DIAGRAM

DUCT TRANSITION; PLAN, ONE LINE DIAGRAM

ACCESS DOOR, VERTICAL OR HORIZONTAL

CEILING DIFFUSERS

DUCT OR PIPE SECTION

SUPPLY DIFFUSER; ONE, TWO, THREE AND FOUR WAY

RETURN, EXHAUST OR TRANSFER GRILLE

RETURN GRILLE WITH ACOUSTIC BAFFLE

EXHAUST OR RETURN BOTTOM WALL REGISTER OR GRILLE

EXHAUST OR RETURN TOP WALL REGISTER OR GRILLE

DOOR GRILLE

S-2 / 200 — AIR DEVICE DESIGNATION. (S) SUPPLY, (R) RETURN, (E) EXHAUST, (T) TRANSFER, (L) LOUVER; I.E. SUPPLY TYPE 2, 200 C.F.M.

SLOT TYPE LINEAR SUPPLY DIFFUSER

SLOT TYPE LINEAR RETURN GRILLE

FLEXIBLE DUCT CONNECTOR; PLAN, ONE LINE DIAGRAM

A DIRECTION OF PIPE FLOW

DIRECTION OF PIPE PITCH

HWS	HOT WATER SUPPLY PIPING
HWR	HOT WATER RETURN PIPING
CWS	CONDENSER WATER SUPPLY PIPING
CWR	CONDENSER WATER RETURN PIPING
CHWS	CHILLED WATER SUPPLY PIPING
CHWR	CHILLED WATER RETURN PIPING
HCWS	HOT/CHILLED WATER SUPPLY PIPING
HCWR	HOT/CHILLED WATER RETURN PIPING
HPWS	WATER SOURCE HEAT PUMP SUPPLY
HPWR	WATER SOURCE HEAT PUMP RETURN
MU	MAKE-UP(NON-POTABLE)
HMU	MAKE-UP(NON-POTABLE)HOT
HRS	HEAT RECOVERY SUPPLY PIPING
HRR	HEAT RECOVERY RETURN PIPING
FOS	FUEL OIL SUPPLY PIPING
FOR	FUEL OIL RETURN PIPING
FOV	FUEL OIL VENT PIPING
RS	REFRIGERANT SUCTION PIPING
RL	REFRIGERANT LIQUID PIPING
D	EQUIPMENT OR SYSTEM DRAIN PIPING
E	EXPANSION LINE
R	SAFETY OR RELIEF VALVE DISCHARGE PIPING
CD	CONDENSATE DRAIN PIPING
G	NATURAL GAS PIPING
S	EXISTING SANITARY SEWER PIPING (SITE)
SS	EXISTING STORM SEWER PIPING (SITE)
S	SANITARY SEWER PIPING (SITE)
SS	STORM SEWER PIPING (SITE)
	SOIL & WASTE PIPING
	DWV VENT PIPING
RL	ROOF LEADER PIPING
FD	FOUNDATION DRAIN PIPING

AW	ACID WASTE
AV	ACID VENT
DCW	DOMESTIC COLD WATER PIPING
DHW	DOMESTIC HOT WATER (140 F) PIPING
DRW	DOMESTIC RECIRCULATING HOT WATER PIPING
105	DOMESTIC HOT WATER (105 F) PIPING
	HOT WATER PIPING (FOR EXAMPLE) HEAT TRACED
W	WATER SERVICE PIPING (EXTERIOR)
V	VENT PIPING
A	COMPRESSED AIR PIPING

VALVE (IN GENERAL - SEE SPECS)
GATE VALVES (GV)
GLOBE VALVES
CHECK VALVE
BALANCING VALVE (WITH READ OUT)
BALANCING COCK ONLY (NON-SHUTOFF)
HOSE CONNECTION, BOILER DRAIN
BALL VALVES (BV)
PLUG COCKS, BALANCING COCKS
SILENT CHECK VALVE
BUTTERFLY VALVES (BFV)
CONTROL VALVE; TWO WAY, THREE WAY
SOLENOID OR QUICK-OPENING VALVE
M — MOTOR OPERATED VALVE
FLOW MEASURING DEVICE
SELF REGULATING FLOW CONTROL VALVE
RELIEF VALVE; PLAN, ELEVATION
PRESSURE REDUCING VALVE (PRV)
TRI-FUNCTION VALVE (TDV)
STRAINER; STRAINER WITH BLOW DOWN.
FLOAT VALVE
FLEXIBLE CONNECTOR
BACKFLOW PREVENTER, REDUCED PRESSURE (STRAINER NOT SHOWN) (BFP - RPZ)
DOUBLE CK. VALVE ASSEMBLY (DCA)
REDUCING BUSHING
COUPLING, JOINT
CAP
PLUG
90° ELBOW
90° ELBOW TURNED UP
90° ELBOW TURNED DOWN
45° ELBOW
TEE OR SIDE CONNECTION
TEE OUTLET UP
TEE OUTLET DOWN

CROSS
TOP / BOT. — UNCONNECTED CROSSING PIPES
RISE OR DROP IN PIPE
BOTTOM CONNECTION TO LINE
TOP CONNECTION TO LINE
RISER IN SLEEVE
UNION
STRUCTURAL PIPE ANCHOR
BUILDING ENTRANCE PIPE ANCHOR
PIPE GUIDE
EXPANSION JOINT
THRUST BLOCK
WALL SLEEVE
CONCENTRIC REDUCER
ECCENTRIC REDUCER
VTR / VTR — VENT THROUGH ROOF, PLAN & RISER
THROUGH ROOF
THROUGH FLOOR
THROUGH WALL
T — THERMOMETERS
THERMOMETER WELL
P — PRESSURE GAUGES
V / C — VACUUM AND COMPOUND GAUGES
P/T — PRESSURE/TEMPERATURE TEST PLUG
FS — FLOW SWITCH
ORIFICE FLOW METER
M — METER; WATER, CONDENSATE OR GAS
F — POT OR SHOT FEEDER
T / T — THERMOSTAT, OR TEMP. CONTROLLER
P — PRESSURE CONTROLLER
H / H — HUMIDISTAT, OR HUM. CONTROLLER
C — CONDUCTIVITY CONTROLLER
MAV — MANUAL AIR VENT
AAV — AUTOMATIC AIR VENT
AAE — AUTOMATIC AIR ELIMINATOR
VACUUM BREAKER
FLOAT AND THERMOSTATIC TRAP, TRAP SET
INVERTED BUCKET TRAP, TRAP SET
F — FLOAT, STEAM OR AIR TRAP
EMD — MAIN OR END OF MAIN DRIP TRAP SET

HORIZONTAL UNIT HEATER
P — PUMP
ROOF EXHAUST HOOD, EXHAUST FAN
ROOF INTAKE HOOD, SUPPLY FAN
WH — WALL HYDRANT
HB — HOSE BIBB
OR / OSD — OPEN RECEPTACLE

RISER SYMBOL ON PLAN SHEET
SHEET WHERE WASTE & WATER RISERS APPEAR

RISER SYMBOL ON PLAN SHEET
SHEET WHERE WASTE RISER APPEARS
SHEET WHERE WATER RISER APPEARS

A/S / A/W — RISER SYMBOLS FOR WASTE (SANITARY) AND WATER ON RISER SHEET

GENERAL NOTES:

1. FURNISH ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR THE COMPLETION & OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES, ASHRAE, SMACNA, NFPA, EPA, ETC.
2. REFER TO ALL PROJECT DRAWINGS FOR DETAILS OF CONSTRUCTION AND INSTALLATION REQUIREMENTS.
3. CONTRACTOR SHALL BECOME, PRIOR TO BID, THOROUGHLY FAMILIAR WITH THE REQUIREMENTS OF THESE NOTES AS WELL AS OTHER NOTES SHOWN ON THE CONTRACT DOCUMENTS.
4. THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIC REFERENCE PRODUCTS (SEE SCHEDULES). THE SELECTION OF WHICH HAS INFLUENCED THE DESIGNS OF OTHER TRADES (ELECTRICAL, STRUCTURAL, ETC.) IF SUBSTITUTE MANUFACTURERS, SIZES, OR MODEL NUMBERS ARE BID, SUBMITTED OR INSTALLED, IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR AND ALL HIS SUBCONTRACTORS TO COORDINATE ALL DIFFERENCES PRIOR TO BID. ALL COSTS OF ALL TRADES ASSOCIATED WITH THE SUBSTITUTION SHALL BE INCLUDED IN THE BID.
5. COORDINATION OF ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER, WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER.
6. ALL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRICAL RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, SEQUENCE, DEVICE, OPTION, FITTING, VALVE, OR COMPONENT.
7. INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS OR DETAILS, BUT NOT SHOWN ON PLANS, AND VICE VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED BY BOTH.
8. CONTRACTOR SHALL NOT SCALE DRAWINGS. DRAWINGS SPECIFIC TO THIS DISCIPLINE DO NOT LIMIT THE RESPONSIBILITY OF WORK REQUIRED BY THE CONTRACT DOCUMENTS.
9. EXACT LOCATIONS OF ALL EQUIPMENT, DUCTS, DIFFUSERS, ETC. SHALL BE COORDINATED WITH OTHER TRADES. CEILING MOUNTED LIGHTING, AND ELECTRICAL REQUIREMENTS TAKE PRECEDENCE OVER CEILING MOUNTED MECHANICAL REQUIREMENTS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES. REFER TO ELECTRICAL AND OTHER DRAWINGS FOR COMPLETE INFORMATION PRIOR TO BID.
11. ALL MECHANICAL CONSTRUCTION DETAILS SHALL BE AS SHOWN AND AS REQUIRED TO MAINTAIN "UL" ASSEMBLY RATINGS. SEAL AROUND ALL PENETRATIONS THROUGH ALL "UL" RATED ASSEMBLIES, FIRE, AND SMOKE WALLS. COORDINATE WITH GENERAL CONTRACTOR.
12. NO OTHER TRADES, I.E., ELECTRICAL, CEILING, PLUMBING, ETC., SHALL BE SUSPENDED, HUNG, OR SUPPORTED FROM DUCTWORK OR PIPING.
13. ALL BUILDING PENETRATIONS MUST BE COORDINATED WITH ENGINEER AND SHALL BE FLASHED AND SEALED WEATHERTIGHT. ALL MATERIALS AND COLORS MUST BE PRE-APPROVED BY ENGINEER.
14. ROUTE DUCTWORK AS HIGH AS POSSIBLE TO FACILITATE ACCESS TO ABOVE CEILING SPACE. COORDINATE ROUTING WITH OTHER SERVICES AND TRADES.
15. ALL DUCTWORK AND PIPING SHALL BE SUPPORTED FROM STRUCTURE.
16. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
17. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 5'-0". ALL FLEXIBLE DUCT SHALL CONFORM TO THE REQUIREMENTS OF U.L. 181 FOR CLASS 1 FLEXIBLE AIR DUCTS. SUPPORT TO ELIMINATE SAGGING & KINKING.
18. ALL HVAC EQUIPMENT TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS AS SHOWN. UTILIZE FACTORY FILTERS DURING CONSTRUCTION.
19. ALL PIPING, DUCTS, VENTS, ETC., EXTENDING THROUGH WALLS SHALL BE FLASHED, COUNTER FLASHED IN WATERPROOF MANNER W/LEAD ROOF JACK.
20. CONTRACTOR TO COORDINATE DUCTWORK WITH OTHER TRADES, OFF-SET AS REQUIRED, RUN DUCTWORK BETWEEN JOIST WHERE POSSIBLE.
21. CONTRACTOR SHALL VISIT THE JOB SITE & BE FAMILIAR WITH ALL PROJECT CONDITIONS PRIOR TO FABRICATING ANY EQUIPMENT, DUCTWORK, ETC. NO ALLOWANCES WILL BE MADE FOR CONTRACTOR UNFAMILIARITY WITH PROJECT CONDITIONS.
22. MECHANICAL CONTRACTOR SHALL BALANCE SYSTEM TO AIR QUANTITIES INDICATED ON PLANS AND PROVIDE OWNERS REPRESENTATIVES WITH COMPLETE NEBB/AABC BALANCE REPORT.
23. ALL SQUARE ELBOWS SHALL HAVE TURNING VANES. NO EXCEPTIONS.
24. PROVIDE A MANUAL VOLUME DAMPER AT ALL BRANCH TAKE-OFFS.
25. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR CLEAR DUCT DIMENSIONS.
26. ALL CONTROL WIRING & CONDUIT SHALL COMPLY WITH NEC.
27. PIPE AND DUCT ROUTING SHOWN IS SCHEMATIC. HVAC CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS, INCLUDING DIVIDED DUCTS, REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES AS ENCOUNTERED IN THE FIELD.
28. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND DRAWINGS FOR CONNECTIONS AND LOCATION OF ALL EQUIPMENT.
29. CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS.
30. CONSULT ROOF PLAN AND STRUCTURAL DRAWINGS FOR PLACEMENT OF ROOF MOUNTED EQUIPMENT. PROVIDE ALL NECESSARY ROOF CURBS, EQUIPMENT RAILS AND BASES AND ANY ADDITIONAL REQUIRED FRAMING IN COORDINATION WITH STRUCTURAL AND ROOFING WORK.
31. ALL EQUIPMENT, DUCT, PIPING AND ACCESSORIES INSTALLED OUTSIDE OR OTHERWISE EXPOSED TO THE ELEMENTS SHALL BE ADEQUATELY WEATHERPROOFED, IN KEEPING WITH THE SPECIFICATIONS. ALL FERROUS METAL FRAMING COMPONENTS SHALL BE STAINLESS STEEL OR HOT-DIP GALVANIZED.
32. PROVIDE ALL ACCESS DOORS AS SHOWN, EXCEPT THOSE SPECIFIED UNDER OTHER DIVISIONS. IN ADDITION, PROVIDE ANY OTHER ACCESS DOORS WHETHER OR NOT SHOWN ON PLANS, NECESSARY FOR ACCESS TO CONCEALED EQUIPMENT, VALVES, DAMPERS, ACTUATORS, JUNCTION BOXES, CONTROLS OR OTHER OPERATIONAL OR SERVICEABLE ITEMS, UNLESS ITEM IS REASONABLY ACCESSIBLE THROUGH LAY-IN CEILING PANELS.
33. PROVIDE LINTELS AS REQUIRED FOR ALL NEW OPENINGS GREATER THAN 12" WIDE IN MASONRY OR LOAD-BEARING WALLS, MATERIAL TO BE APPROVED BY ENGINEER.
34. ANY AND ALL DAMAGE DUE TO DEMOLITION OR CONSTRUCTION IS TO BE REPAIRED OR REPLACED AS APPROPRIATE, SUBJECT TO ENGINEER'S APPROVAL, AND AT NO ADDITIONAL COST TO THE OWNER.
35. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY SUSPECTED HAZARDOUS MATERIALS, INCLUDING ASBESTOS-CONTAINING MATERIALS (ACM), LEAD-BASED PAINTS, ELECTRICAL GEAR CONTAINING PCB'S OR ANY OTHER, EXCEPT AS INSTRUCTED IN THIS CONTRACT. IF ANY MATERIAL NOT COVERED BY THE CONTRACT IS ENCOUNTERED, NOTIFY THE ENGINEER AT ONCE.
36. ALL DEMOLISHED OR REMOVED EQUIPMENT, PIPING, DUCTWORK, SUPPORTS, CONTROLS AND THE LIKE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE NOTED.
37. ALL EQUIPMENT PROVIDED WITH FILTERS SHALL HAVE FILTERS IN PLACE AT THE TIME OF STARTUP. ALL NEW FILTERS SHALL BE INSTALLED AT THE TIME OF OWNER OCCUPANCY, AND A COMPLETE SET OF EXTRA FILTERS SHALL BE TURNED OVER TO THE OWNER AT THIS TIME. IN THE EVENT THAT CARE IS NOT TAKEN DURING INITIAL OPERATION TO PREVENT CONTAMINATION OF THE FILTERS WITH CONSTRUCTION DUST, ADDITIONAL SETS OF FILTERS SHALL BE PROVIDED TO PROTECT THE EQUIPMENT.
38. PROVIDE ADDITIONAL INPUT/OUTPUT POINTS REQUIRED TO IMPLEMENT CONTROL SEQUENCES SPECIFIED.
39. PAINT ALL EXPOSED PLENUMS AND DUCTWORK BEHIND GRILLES AND DIFFUSERS WITH FLAT BLACK PAINT.

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

CONSTRUCTION DOCUMENTS

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MECHANICAL LEGEND AND GENERAL NOTES
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

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SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

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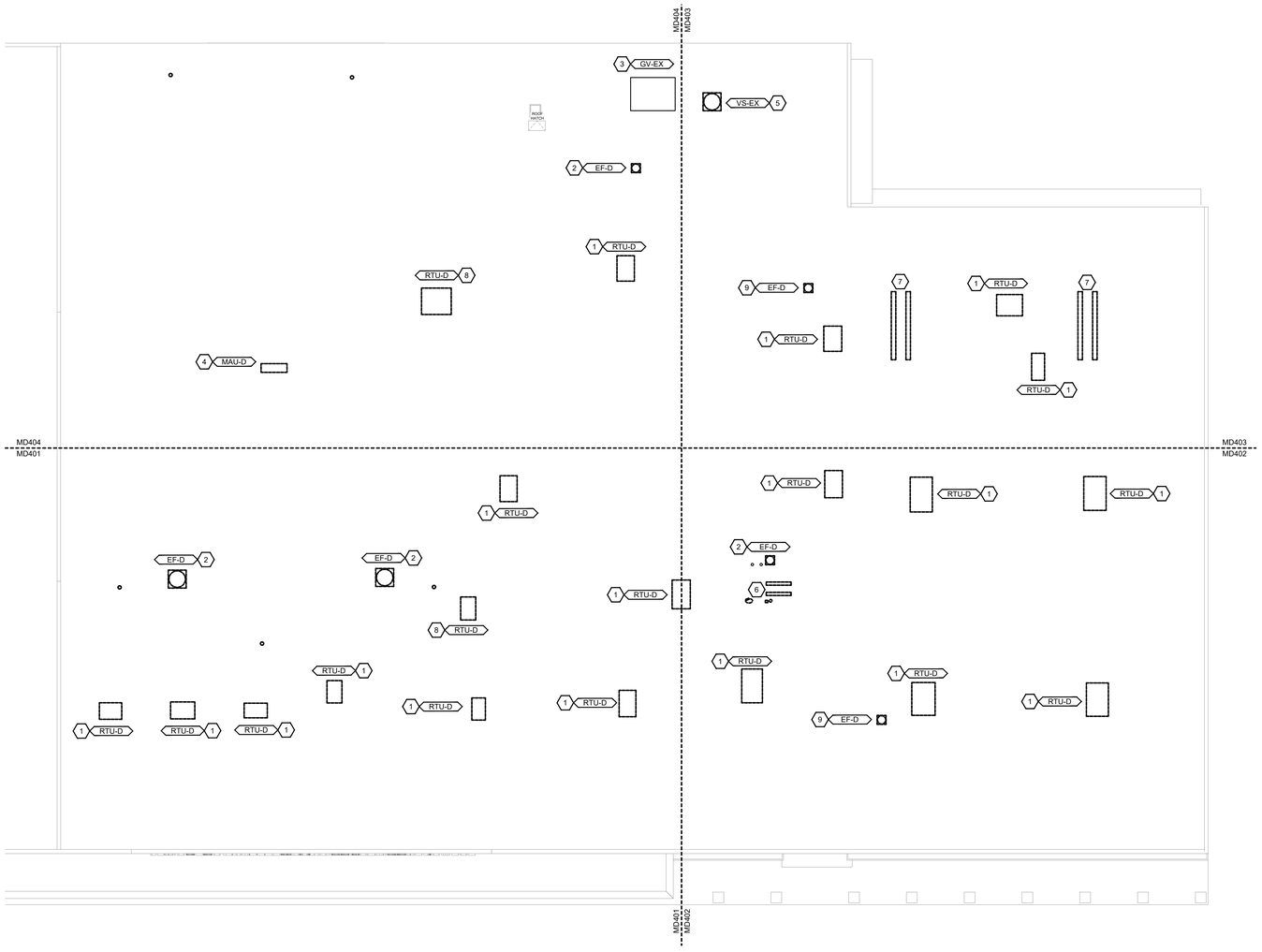


1 ROOF LEVEL - DEMOLITION - HVAC PLAN
SCALE: 1/16"=1'-0"

PLAN NORTH

0 8' 16' 32'

LINETYPE LEGEND

– – – – – – – – – – – – – –	DEMOLITION TO BE REMOVED
————————————	EXISTING TO REMAIN

ADD ALTERNATE #2:

REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER DETAILS. ADD ALT #2 INCLUDES REPLACING THE EXISTING ROOF DECK. MECHANICAL CONTRACTOR SHALL INCLUDE IN ADD ALT #2 PRICING TO REMOVE ALL EXISTING RTU ROOF CURBS AND REPLACE WITH NEW CURBS FOR ALL NEW UNITS.

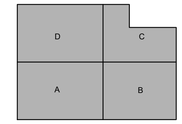
GENERAL NOTES:

1. DEMOLITION PLAN HAS BEEN DEVELOPED FROM EXISTING PLANS AND VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.
2. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.
3. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RESPONSIBLE TO REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF TO MATCH EXISTING CONDITION WHERE DEMOLITION WORK HAS BEEN DONE. COORDINATE ALL WORK WITH OWNER/ENGINEER.

SHEET KEYNOTES:

1. EXISTING ROOFTOP UNIT SHALL BE REMOVED. EXISTING ROOF CURB SHALL REMAIN IN PLACE. DISCONNECT ALL DUCTWORK AND ANY GAS PIPING IF APPLICABLE. A NEW ROOFTOP UNIT SHALL BE INSTALLED IN SAME LOCATION REUSING EXISTING ROOF CURB WITH NEW ROOF CURB ADAPTER. SEE NEW WORK PLAN FOR MORE INFORMATION.
2. EXISTING EXHAUST FAN SERVING EXISTING WAREHOUSE AREA SHALL BE REMOVED. EXISTING ROOF CURB SHALL REMAIN IN PLACE AND BE REUSED FOR NEW EXHAUST FAN. SEE NEW WORK PLAN FOR MORE INFORMATION.
3. EXISTING GRAVITY VENT ON ROOF TO REMAIN AND NOT BE REUSED.
4. EXISTING ROOF MOUNTED MAKEUP AIR UNIT TO BE REMOVED. CAP EXISTING ROOF CURB.
5. EXISTING VENT STACK TO BE REMOVED. CAP EXISTING ROOF CURB.
6. EXISTING EQUIPMENT RAIL STRUCTURE FROM CRU SHALL BE REMOVED COMPLETE.
7. EXISTING EQUIPMENT RAIL STRUCTURE SHALL BE REMOVED COMPLETE.
8. EXISTING ROOFTOP UNIT SHALL BE REMOVED COMPLETE. EXISTING CURB WILL REMAIN AND NOT BE USED. EXISTING CURB SHALL BE CAPPED WATER TIGHT.
9. EXISTING EXHAUST FAN SHALL BE REMOVED COMPLETE. EXISTING CURB WILL REMAIN AND NOT BE USED. EXISTING CURB SHALL BE CAPPED WATER TIGHT.

AREA KEY PLAN



STATE OF KENTUCKY
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8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - DEMOLITION - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED CVS
DRAWN SPB
REVIEWED CVS
APPROVED CVS

REVISIONS

NO	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/16" - 1'0"
SHEET NO.: MD101 01

PRINTED: 8/13/2025 @ 4:22PM
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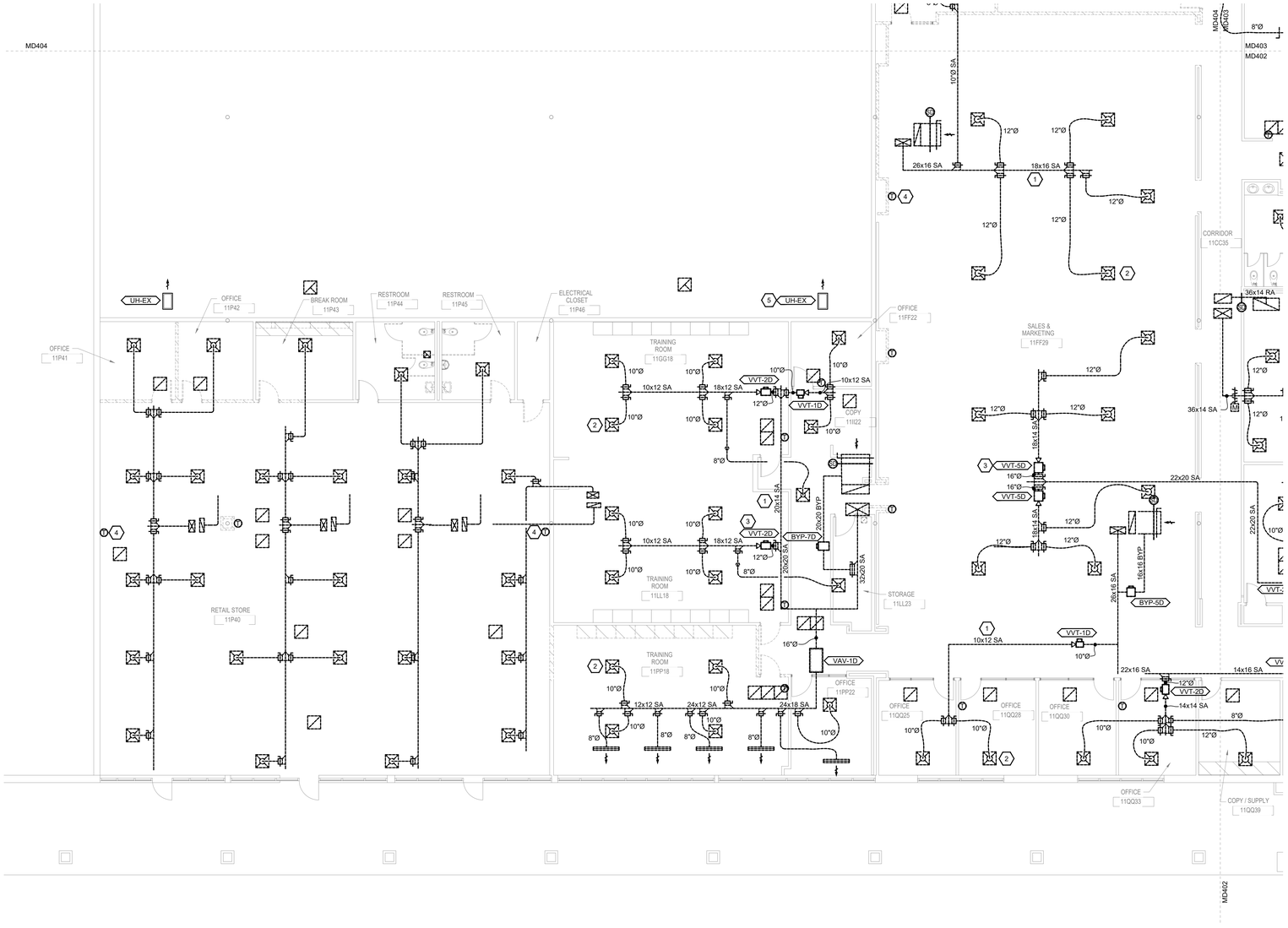


1 FIRST LEVEL - DEMOLITION - AREA A - HVAC PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

GENERAL NOTES:

1. DEMOLITION PLAN HAS BEEN DEVELOPED FROM EXISTING PLANS AND VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.
2. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.
3. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RESPONSIBLE TO REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF TO MATCH EXISTING CONDITION WHERE DEMOLITION WORK HAS BEEN DONE. COORDINATE ALL WORK WITH OWNER/ENGINEER.

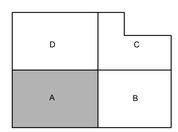
LINETYPE LEGEND

- - - - - - - - - - - - - - -	DEMOLITION TO BE REMOVED
———————————	EXISTING TO REMAIN

SHEET KEYNOTES:

1. ALL EXISTING DUCTWORK SHALL BE REMOVED COMPLETE.
2. ALL EXISTING GRD'S SHALL BE REMOVED COMPLETE.
3. ALL EXISTING VAV BOXES SHALL BE REMOVED COMPLETE.
4. ALL EXISTING THERMOSTATS AND ASSOCIATED CONTROL WIRING SHALL BE REMOVED COMPLETE.
5. EXISTING UNIT HEATER SHALL REMAIN AND BE USED.

AREA KEY PLAN



STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
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FIRST LEVEL - DEMOLITION - AREA A - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

NO.	DESCRIPTION	DATE	BY

FIELD MARK: IF SCALE MEASURE EXACTLY IT WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
SHEET NO.: MD401 01

PRINTED: 8/13/2025 @ 4:22PM
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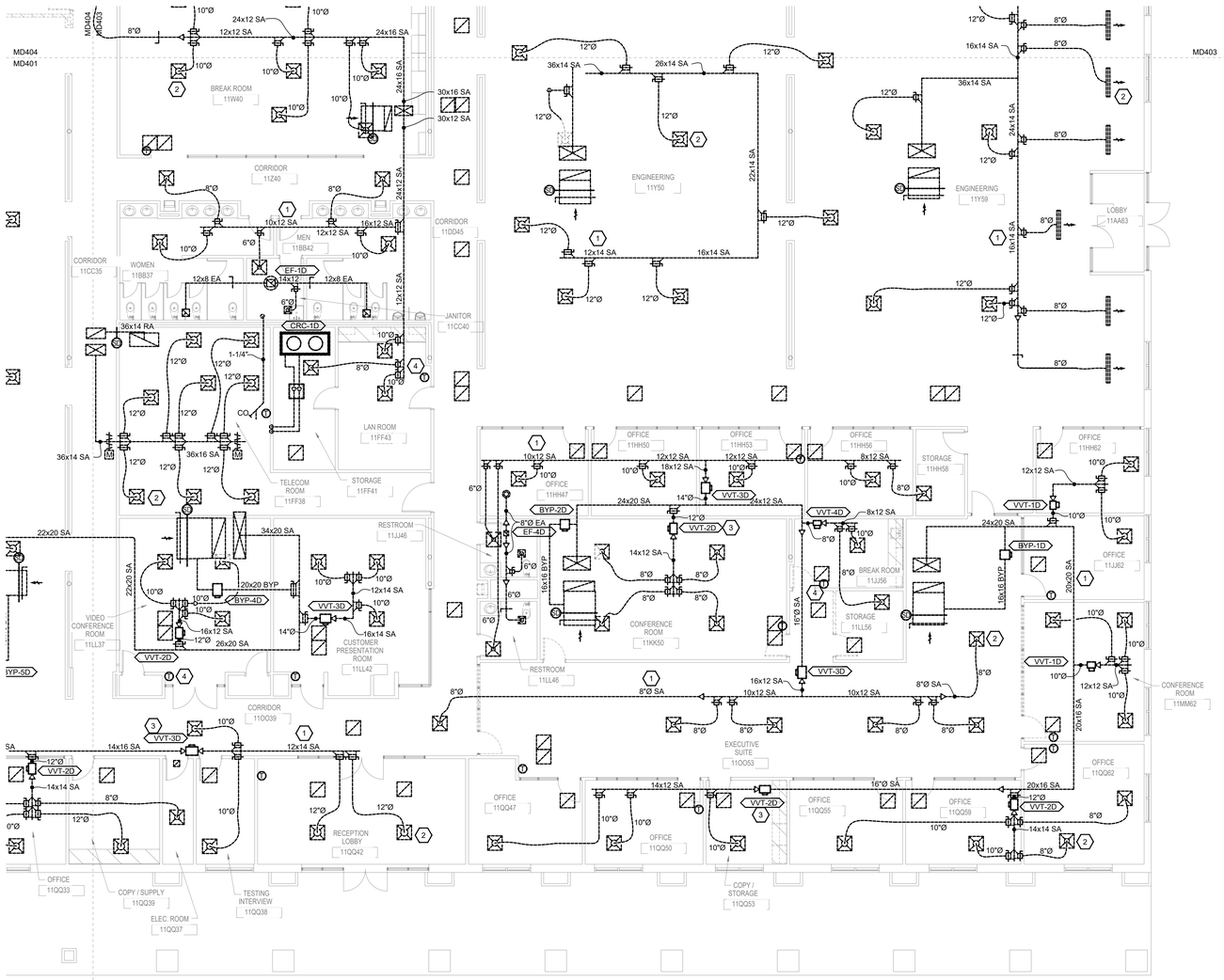
PRINTED: 8/13/2025 @ 4:22PM
FILE NAME: G:\52472-FLICG DWG HOB\Working Drawings\Auto\CAD\52472-01-MD402-01.dwg

LINETYPE LEGEND	
– – – – – – – – – – – – – –	DEMOLITION TO BE REMOVED
————————————	EXISTING TO REMAIN



GENERAL NOTES:

1. DEMOLITION PLAN HAS BEEN DEVELOPED FROM EXISTING PLANS AND VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.
2. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.
3. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RESPONSIBLE TO REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF TO MATCH EXISTING CONDITION WHERE DEMOLITION WORK HAS BEEN DONE. COORDINATE ALL WORK WITH OWNER/ENGINEER.

SHEET KEYNOTES:

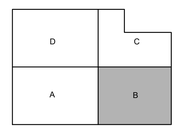
1. ALL EXISTING DUCTWORK SHALL BE REMOVED COMPLETE.
2. ALL EXISTING GRD'S SHALL BE REMOVED COMPLETE.
3. ALL EXISTING VAV BOXES SHALL BE REMOVED COMPLETE.
4. ALL EXISTING THERMOSTATS AND ASSOCIATED CONTROL WIRING SHALL BE REMOVED COMPLETE.

1 FIRST LEVEL - DEMOLITION - AREA B - HVAC PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

AREA KEY PLAN



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FIRST LEVEL - DEMOLITION - AREA B - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
CVS	SPB	CVS	CVS

NO.	DESCRIPTION	DATE:	BY:

REVISIONS

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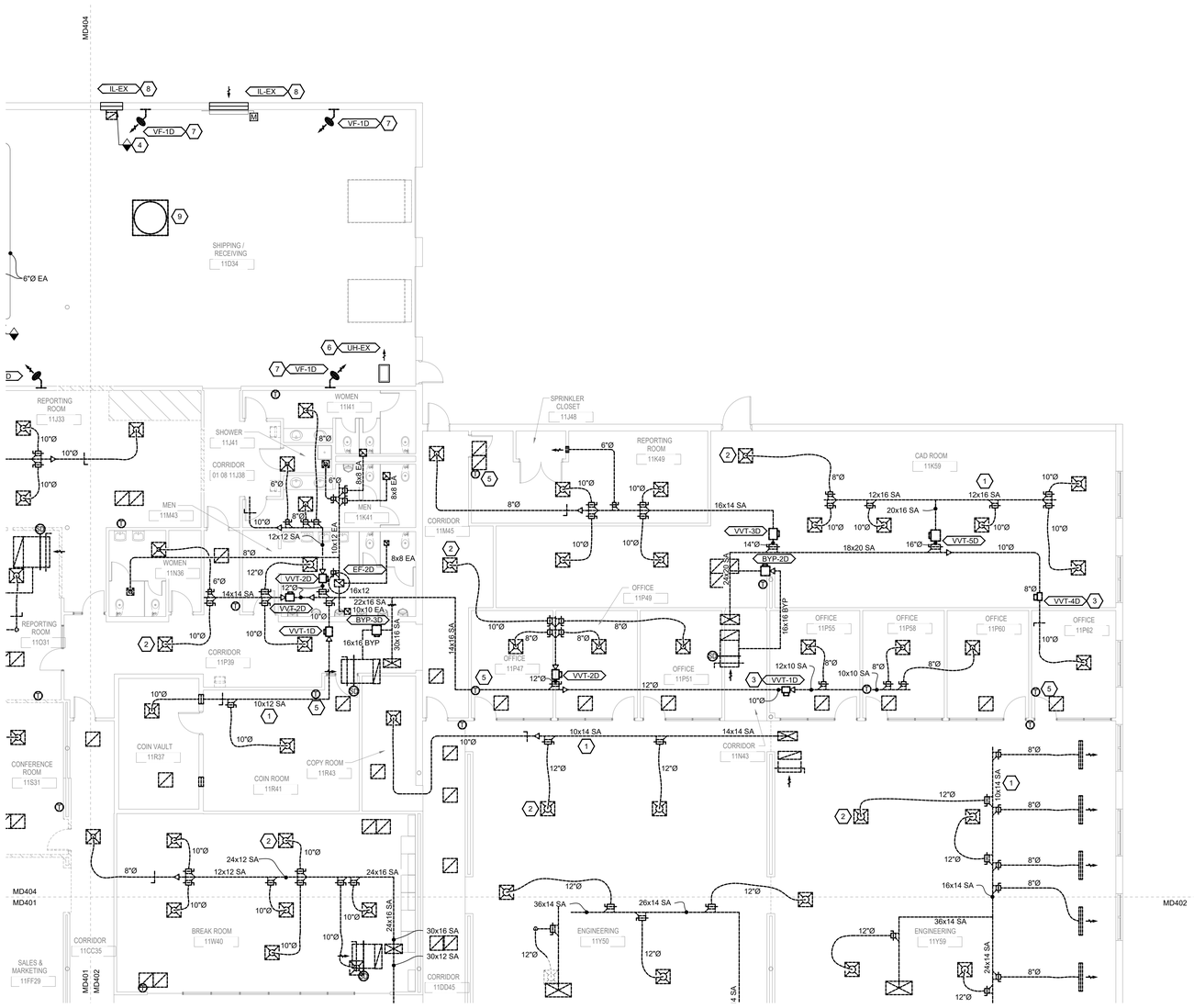
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
SHEET NO.: MD402 01



1 FIRST LEVEL - DEMOLITION - AREA C - HVAC PLAN

SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

LINETYPE LEGEND

- - - - - - - - - - - - - - - -	DEMOLITION TO BE REMOVED
————————————	EXISTING TO REMAIN

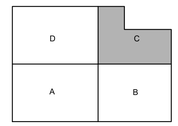
GENERAL NOTES:

1. DEMOLITION PLAN HAS BEEN DEVELOPED FROM EXISTING PLANS AND VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.
2. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.
3. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RESPONSIBLE TO REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF TO MATCH EXISTING CONDITION WHERE DEMOLITION WORK HAS BEEN DONE. COORDINATE ALL WORK WITH OWNER/ENGINEER.

SHEET KEYNOTES:

1. ALL EXISTING DUCTWORK SHALL BE REMOVED COMPLETE.
2. ALL EXISTING GRD'S SHALL BE REMOVED COMPLETE.
3. ALL EXISTING VAV BOXES SHALL BE REMOVED COMPLETE.
4. EXISTING VENTILATION DUCTWORK SHALL BE REMOVED COMPLETE. EXISTING LOUVER SHALL REMAIN AND BE BLANKED OFF AIR TIGHT.
5. ALL EXISTING THERMOSTATS AND ASSOCIATED CONTROL WIRING SHALL BE REMOVED COMPLETE.
6. EXISTING UNIT HEATER SHALL REMAIN AND BE USED.
7. EXISTING WALL FAN SHALL BE REMOVED COMPLETE.
8. EXISTING LOUVER AND CONTROL DAMPER SHALL REMAIN AND BE REUSED.
9. EXISTING VENT STACK TO BE REMOVED COMPLETE. PATCH AND SEAL ROOF AND ROOF CURB ON ROOF WATER TIGHT.

AREA KEY PLAN



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CONSTRUCTION DOCUMENTS

FIRST LEVEL - DEMOLITION - AREA C - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

SCALE CHECK: IF BAR MARK REDUCE/MEASURE EXACTLY 1" PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
SHEET NO.: MD403 01

PRINTED: 8/13/2025 @ 4:22PM
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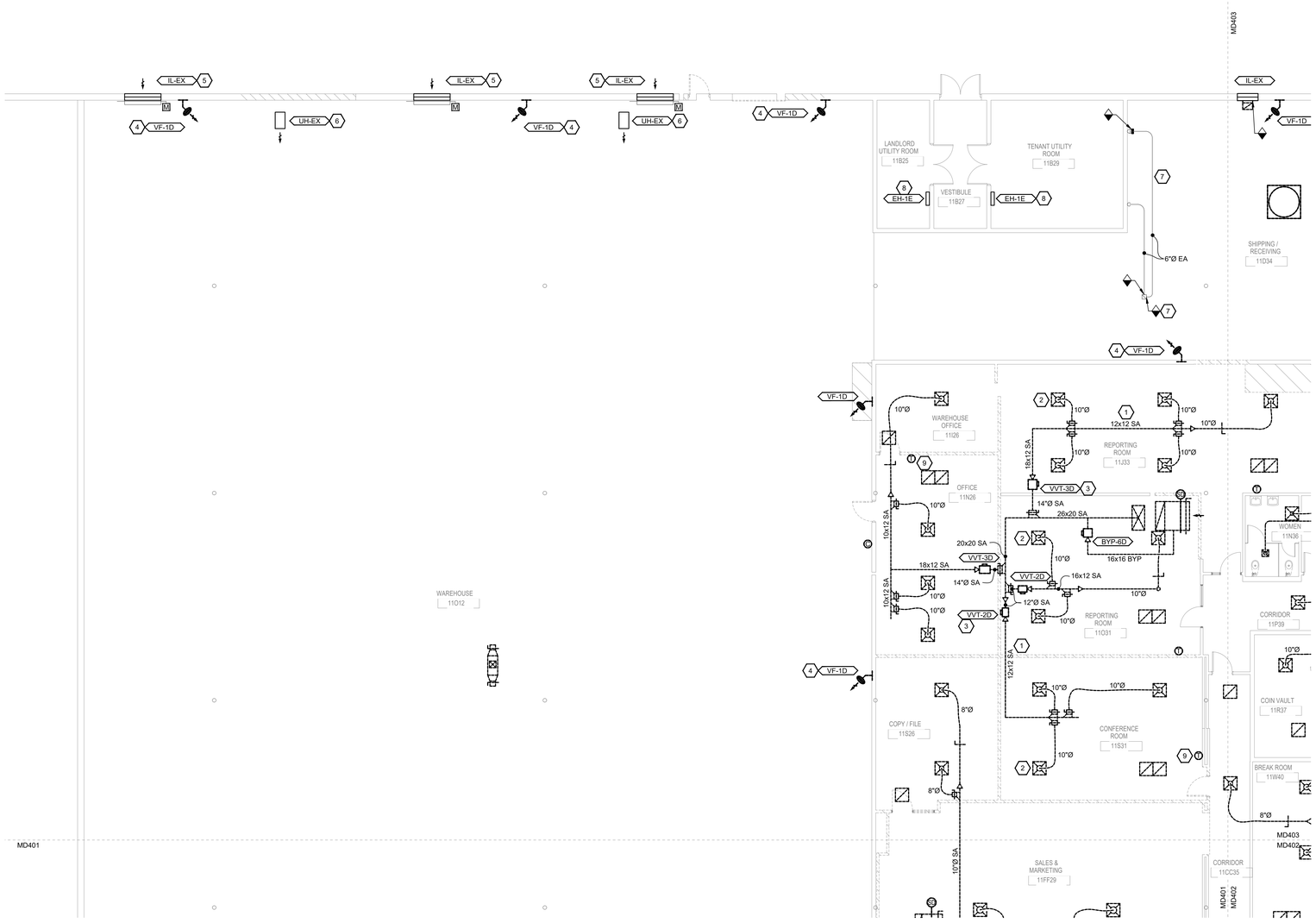


1 FIRST LEVEL - DEMOLITION - AREA D - HVAC PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

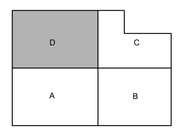
GENERAL NOTES:

1. DEMOLITION PLAN HAS BEEN DEVELOPED FROM EXISTING PLANS AND VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.
2. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.
3. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RESPONSIBLE TO REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF TO MATCH EXISTING CONDITION WHERE DEMOLITION WORK HAS BEEN DONE. COORDINATE ALL WORK WITH OWNER/ENGINEER.

SHEET KEYNOTES:

1. ALL EXISTING DUCTWORK SHALL BE REMOVED COMPLETE.
2. ALL EXISTING GRD'S SHALL BE REMOVED COMPLETE.
3. ALL EXISTING VAV BOXES SHALL BE REMOVED COMPLETE.
4. EXISTING WALL CIRCULATION FAN SHALL BE REMOVED COMPLETE.
5. EXISTING LOUVER AND CONTROL DAMPER SHALL REMAIN AND BE REUSED.
6. EXISTING UNIT HEATER SHALL REMAIN.
7. EXISTING EXHAUST DUCTWORK SHALL REMAIN AND BE REUSED. EXISTING FAN ON ROOF SHALL BE REMOVED AND REPLACED WITH NEW.
8. EXISTING WALL HEATER SHALL REMAIN AND BE REUSED.
9. ALL EXISTING THERMOSTATS AND ASSOCIATED CONTROL WIRING SHALL BE REMOVED COMPLETE.

AREA KEY PLAN



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8/15/2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - DEMOLITION - AREA D - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION:	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
SHEET NO.: MD404 01

PRINTED: 8/13/2025 @ 4:22PM
FILE NAME: G:\5247-LFUCG DWQ HQB\Working Drawings\AutoCAD\5247-01-MD404-01.dwg

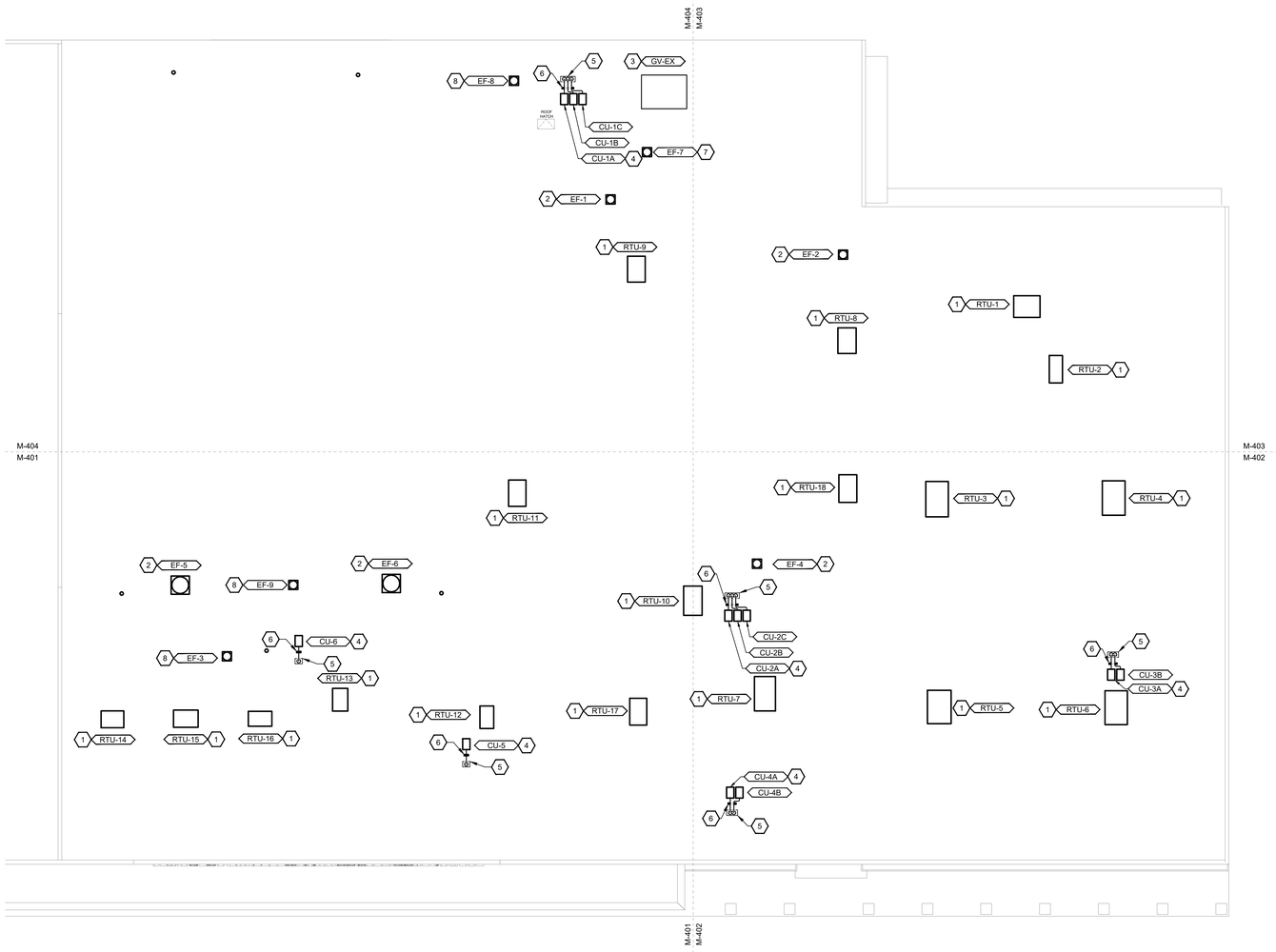
SPECIAL NOTE:

THIS SHEET IS MEANT TO BE VIEWED IN COLOR. FOR THE CONTRACTOR TO BEST UNDERSTAND EACH ZONE PLEASE PRINT THIS SHEET IN COLOR OR VIEW ON A DIGITAL DEVICE.

M-404
M-401
M-403
M-402
M-401
M-402
SLM PUMP STORAGE 02 14 305
SLM PUMP STORAGE 02 14 306
SLM PUMP STORAGE 02 14 307
PS GENERATOR STORAGE 03 11 308
PS GENERATOR STORAGE 03 11 309
PS GENERATOR STORAGE 03 11 310
PS GENERATOR STORAGE 03 11 311
PS GENERATOR STORAGE 03 11 312
PS GENERATOR STORAGE 03 11 313
PS GENERATOR STORAGE 03 11 314
PS GENERATOR STORAGE 03 11 315
PS PUMPS STORAGE 03 13 316
SLM EQUIPMENT / CONSUMABLES STORAGE 02 16 302
VESTIBULE MECH / ELEC 04 07 300
STORAGE 03 04 299
MECHANICAL / ELECTRICAL ROOM 04 07 301
WELDING / HOT WORK 03 09 240
PUMP STATION WORK AREA 03 10 244
WAREHOUSE 03 06 240
WAREHOUSE CIRCULATION 04 13 294
WAREHOUSE CIRCULATION 04 13 294
WAREHOUSE CIRCULATION 04 13 294
WAREHOUSE CIRCULATION 04 13 294
UNASSIGNED STORAGE / WORK AREA 04 11 296
UNASSIGNED STORAGE / WORK AREA 04 11 300
UNASSIGNED STORAGE / WORK AREA 04 11 304
MOP SINK 02 09 236
HOSE / MOP STORAGE 04 10 297
MENS TOILET 03 04 235
MENS SHOWER 02 04 240
MENS LOCKERS (72 LOCKERS) 02 09 238
WOMENS SHOWER 02 04 243
WOMENS TOILET 02 04 242
WOMENS LOCKER (40 LOCKERS) 02 04 241
LOCKER ROOM VESTIBULE 04 06 227
MOP SINK 02 09 236
LAUNDRY 02 03 234
VESTIBULE / PS RESTROOMS 03 07 230
UTILITY CLOSET 04 04 232
WOMEN RESTROOM 03 01 209
MENS RESTROOM 03 01 210
DIRTY LINEN STORAGE 02 03 235
WOMEN RESTROOM 04 01 209
MENS RESTROOM 04 01 208
VESTIBULE 04 06 225
CIRCULATION 04 06 227
MULTIPURPOSE BREAK ROOM 02 13 290
CCTV WORK AREA 04 12 292
PROJECT MANAGER 01 03 248
PROJECT MANAGER 01 03 246A
PROJECT MANAGER 01 03 245
PROJECT MANAGER 01 03 243
KITCHEN / BREAK ROOM 04 09 201
CIRCULATION 04 06 202
WOMENS RESTROOM 04 01 202
MENS RESTROOM 04 01 203
UTILITY CLOSET 04 04 204
JANITOR CLOSET 04 02 106
WOMENS PUBLIC RESTROOM 01 02 105
MENS PUBLIC RESTROOM 01 02 104
RECEPTION 01 06 102
SUPERVISOR OFFICE 03 01 110
CONSULTATION OFFICE 03 02 109
VAULT 06 05 111
OFFICE 03 03 112
TELLER / CLERKS AREA 05 04 108
OFFICE 03 03 113
LOBBY 01 01 101
OFFICE 03 03 114
OFFICE 03 03 115
TOWN BRANCH CONF ROOM 01 13 107
SOUTH ELEVATORS MACHINE ROOM 01 05 151
NORTH ELEVATORS MACHINE ROOM 01 05 150
TAP ON DESK 01 06 102
BUILDING MANAGER 04 04 260
STORAGE 04 06 226
CIRCULATION 04 06 286
ED 04 02 227
CUSTODIAL CLOSET 04 04 262
SUPER II 02 01 272
SUPER I 02 01 273
SUPER II 02 01 274
SUPER II 02 01 275
SUPER II 02 01 276
CUSTODIAL MANAGER 02 01 277
OPEN OFFICE AREA 02 10 260
DMOM MGR 02 01 271
SLM SUPER 02 01 270
SUPER SR 02 01 269
SUPER SR 02 01 268
SUPER SR 02 01 267
SUPER SR 02 01 266
CUBICAL - SL01 02 02 280
CUBICAL - SL02 02 02 281
CUBICAL - SL03 02 02 282
CUBICAL - SL04 02 02 283
CUBICAL - SL05 02 02 284
CUBICAL - SL06 02 02 285
CUBICAL - SL07 02 02 286
CUBICAL - SL08 02 02 287
CUBICAL - SL09 02 02 288
CUBICAL - SL10 02 02 289
CUBICAL - SL11 02 02 290
CUBICAL - SL12 02 02 291
MODULAR OFFICE 02 06 250
PUMP STATION STORAGE 03 13 292
SEWER LINE MAINTENANCE BUILDING 02 16 297
SECURE RECEPTION OFFICE 01 14 117
ENV INSP SUPER 01 03 118
ENV INSP SUPER 01 03 119
ADMIN SPCIST PR 01 03 120
ADMIN SPCIST PR 01 03 121
ADMIN SPCIST PR 01 03 122
PROJ MGR SR 01 03 123
ENG TECH PR 01 04 124
ENG TECH PR 01 04 125
ENG TECH PR 01 04 126
ENG TECH PR 01 04 127
ENG TECH PR 01 04 128
ELECTRICAL 01 03 129
MUN ENG SR 01 03 130
MUN ENG SR 01 03 131
VESTIBULE 01 15 132
MUN ENG SR 01 03 133
SPRING CR
ELECTRONIC STORAGE 03 09 224
CASE RUN CONF ROOM 01 03 223
OFFICE 03 01 222
OFFICE 03 01 221
PS CONTROLS 03 01 220
PS SUPER 03 01 219
PS PROG MGR 03 01 218
FILE AREA / COPY AREA 03 09 219
OPEN OFFICE AREA 03 03 216
CUBICAL - PS04 03 02 217
INF PROG MGR 01 03 107
CONSTRUCTION MANAGER - 01 01 02 166
CONSTRUCTION MANAGER - 02 01 02 165
CORRIDOR - PS 03 07 214
CONST SUP - 01 01 03 164
CONST SUP - 02 01 03 163
CONST SUP - 03 01 03 162
CONST SUP - 04 01 03 161
CUBICAL - AD38 01 04 168
CUBICAL - AD37 01 04 169
CUBICAL - AD36 01 04 170
FILE - AD37 01 04 171
CUBICAL - PS06 03 02 173
CUBICAL - PS07 03 02 174
CUBICAL - PS08 03 02 175
CUBICAL - AD35 01 04 183
CUBICAL - AD34 01 04 182
CUBICAL - AD33 01 04 181
FILES - AD36 01 04 180
CUBICAL - PS05 03 02 176
CUBICAL - PS09 03 02 178
CUBICAL - PS10 03 02 177
CUBICAL - PS11 03 02 177
CUBICAL - PS12 03 02 179
CUBICAL - AD39 01 04 199
CUBICAL - AD40 01 04 198
CUBICAL - AD41 01 04 197
FILES - AD40 01 04 196
CUBICAL - AD31 01 04 193
CUBICAL - AD32 01 04 192
CUBICAL - AD30 01 04 191
FILES - AD35 01 04 190
CUBICAL - AD29 01 04 189
CUBICAL - AD28 01 04 188
CUBICAL - AD27 01 04 187
FILES - AD34 01 04 202
CUBICAL - AD26 01 04 209
CUBICAL - AD25 01 04 208
CUBICAL - AD24 01 04 207
FILES - AD33 01 04 206
CUBICAL - AD23 01 04 205
CUBICAL - AD22 01 04 204
CUBICAL - AD21 01 04 203
CUBICAL - AD20 01 04 201
CUBICAL - AD19 01 04 200
CUBICAL - AD18 01 04 199
CUBICAL - AD17 01 04 198
CUBICAL - AD16 01 04 197
FILES - AD32 01 04 196
CUBICAL - AD15 01 04 213
CUBICAL - AD14 01 04 212
CUBICAL - AD13 01 04 211
FILES - AD31 01 04 210
CUBICAL - AD12 01 04 217
CUBICAL - AD11 01 04 216
CUBICAL - AD10 01 04 215
FILES - AD30 01 04 214
CUBICAL - AD09 01 04 221
CUBICAL - AD08 01 04 220
CUBICAL - AD07 01 04 219
FILES - AD29 01 04 218
OPEN OFFICE AREA 01 04 154
VESTIBULE 01 15 153
ADMINISTRATION PRINCIPAL OFFICE 01 04 226
PROJ MGR - 01 01 03 155
PROJ MGR - 02 01 03 156
PROJ MGR - 03 01 03 157
PROJ MGR - 04 01 04 158
ELECTRICAL 04 07 159
PROJ MGR - 05 01 14 160
RESTROOM 04 01 204
RESTROOM 04 01 203
WOLF RUN CONF ROOM 01 06 147
SAFETY SPECIALIST 01 17 145
SAFETY SPECIALIST 01 17 146
CAP MGR 01 02 143
TECH SPCIST 01 04 144
IMG MGR - 01 01 03 142
ASSOC MUN ENG 01 03 141
ENG SECT MGR 01 03 140
COMMON WORK AREA 01 13 148
ADM OFF SR 01 03 134
ENG SECT MANAGER 01 03 135
ADMIN OFF 01 03 136
ENG SECT MANAGER 01 03 137
DEPUTY DIRECTOR 01 03 138
DIVISION DIRECTOR 01 03 139
EAST MCDIVAN CONF ROOM 01 06 149
WEST MCDIVAN CONF ROOM 01 06 148
RACKING ROOM 04 03 256
COMP ANALYST 01 04 256
COMP ANALYST 01 03 257
CIRCULATION 04 06 202
CIRCULATION 04 06 203
CIRCULATION 04 06 204
CIRCULATION 04 06 205
CIRCULATION 04 06 206
CIRCULATION 04 06 207
CIRCULATION 04 06 208
CIRCULATION 04 06 209
CIRCULATION 04 06 210
CIRCULATION 04 06 211
CIRCULATION 04 06

ADD ALTERNATE #2:

REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER DETAILS. ADD ALT #2 INCLUDES REPLACING THE EXISTING ROOF DECK. MECHANICAL CONTRACTOR SHALL INCLUDE IN ADD ALT #2 PRICING TO REMOVE ALL EXISTING RTU ROOF CURBS AND REPLACE WITH NEW CURBS FOR ALL NEW UNITS.



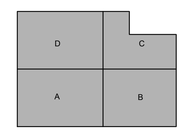
GENERAL NOTES:

1. MECHANICAL CONTRACTOR SHALL COORDINATE ALL ROOF WORK WITH GENERAL CONTRACTOR AND THE NEW ROOF SYSTEM AS TO NOT VOID ANY ROOF WARRANTY.
2. MECHANICAL CONTRACTOR SHALL ENSURE ALL OUTSIDE AIR INTAKES ARE MINIMUM OF 10-FEET AWAY FROM ANY EXHAUST DISCHARGE OR PLUMBING VENT.
3. MECHANICAL CONTRACTOR SHALL ENSURE ALL NEW EQUIPMENT IS INSTALLED AT LEAST 10-FEET AWAY FROM ANY ROOF EDGE.
4. REFER TO PLUMBING PLANS FOR GAS PIPING LAYOUT/CONNECTIONS TO NEW EQUIPMENT.

SHEET KEYNOTES:

1. PROVIDE AND INSTALL NEW ROOFTOP UNIT IN SAME LOCATION AS EXISTING, REUSING EXISTING ROOF CURB. PROVIDE AND INSTALL WITH NEW ROOF CURB ADAPTER AS NEEDED. REFER TO UNIT SCHEDULE FOR ADDITIONAL INFORMATION. REFER TO ADD ALTERNATE #2 FOR REVISED ROOF CURB DETAILS.
2. PROVIDE AND INSTALL NEW EXHAUST FAN IN SAME LOCATION AS EXISTING, REUSING EXISTING ROOF CURB. SEE NEW WORK PLAN FOR MORE INFORMATION.
3. EXISTING GRAVITY VENT ON ROOF TO REMAIN AND NOT BE REUSED..
4. PROVIDE AND INSTALL CONDENSING UNIT ON ROOF PER DETAIL ON M-502-01. TYPICAL OF ALL.
5. ROUTE REFRIGERANT PIPING DOWN THROUGH ROOF VIA PIPE PORTAL. REFER TO DETAIL ON M-502-01
6. PROVIDE REFRIGERANT PIPING SUPPORTS ON ROOF. SUPPORTS SHALL BE MIRO INDUSTRIES PILLOW BLOCK OR EQUAL.
7. PROVIDE AND INSTALL EXHAUST FAN ON ROOF, REUSING EXISTING ROOF CURB. CONNECT TO EXISTING EXHAUST DUCT BELOW & TRANSITION SIZING AS NEEDED.
8. PROVIDE AND INSTALL NEW EXHAUST FAN IN NEW LOCATION ON ROOF. PROVIDE NEW ROOF CURB. SEE NEW WORK PLAN FOR MORE INFORMATION.

AREA KEY PLAN



PLAN NORTH

0 8' 16' 32'

1 ROOF LEVEL - HVAC PLAN
SCALE: 1/16"=1'-0"

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS	DRAWN: SPB	REVIEWED: CVS	APPROVED: CVS

NO.	DESCRIPTION	DATE	BY

REVISIONS

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/16" - 1'0"
SHEET NO.: M-102 01

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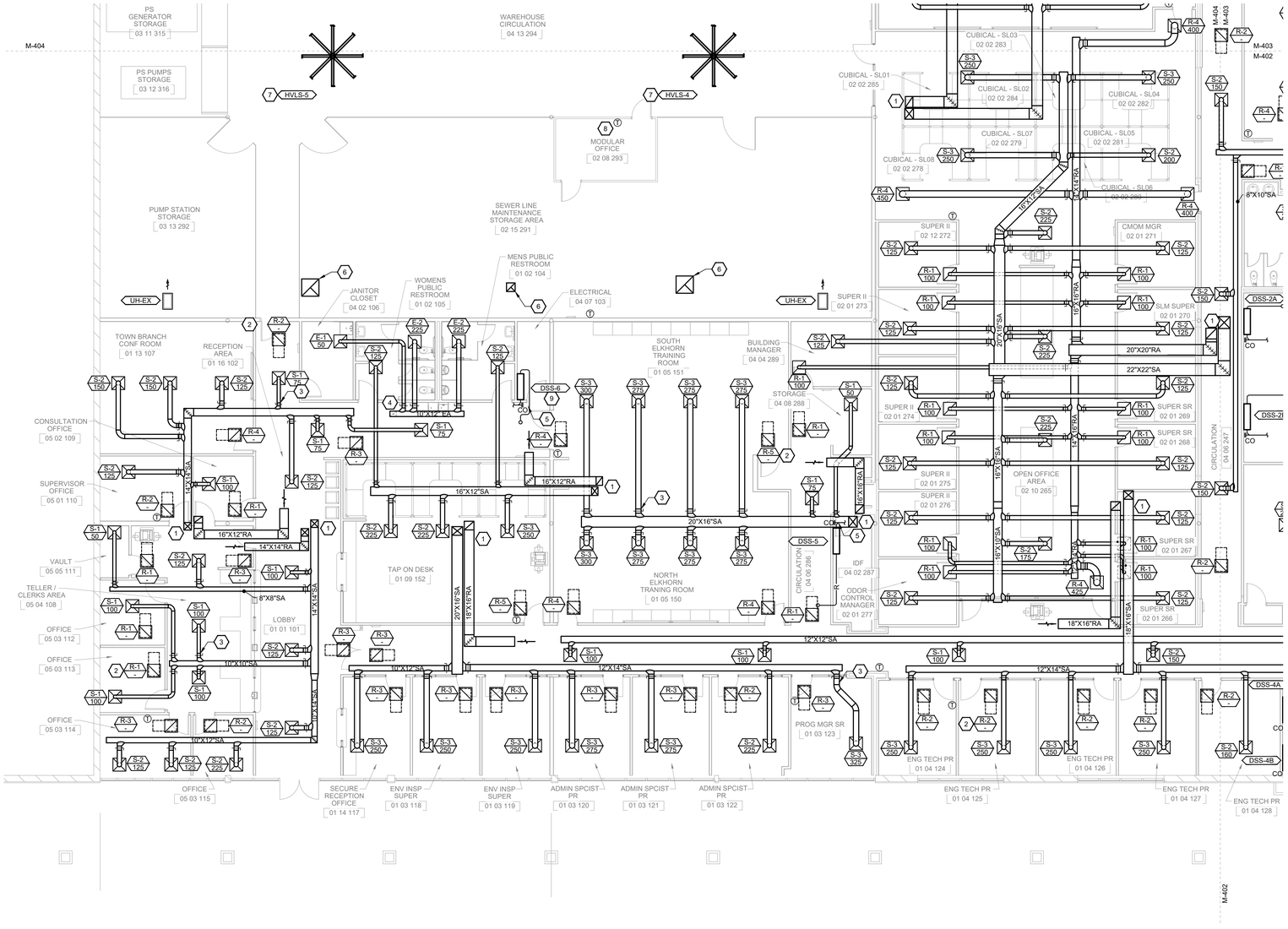
FILE NAME: G:\5247-LFUCG DWQ HQB\Working Drawings\Autocad\5247-01-M-102-01.dwg

DUCT RUNOUT SCHEDULE					
GRD TAG	DUCT SIZE	GRD TAG	DUCT SIZE	GRD TAG	DUCT SIZE
S-1	6"Ø	R-1	6"Ø	E-1	6"Ø
S-1A	6"Ø	R-1A	6"Ø	E-1A	6"Ø
S-2	8"Ø	R-2	8"Ø	E-2	8"Ø
S-3	10"Ø	R-3	10"Ø	E-3	10"Ø
S-4	12"Ø	R-4	12"Ø	E-4	12"Ø
S-5	6"X6"	R-5	14"Ø	E-5	14"Ø
S-6	12"X8"	R-6	16"Ø	E-6	10"X6"
S-7	10"Ø	R-7	26"X10"	-	-



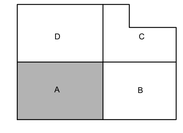
GENERAL NOTES:

1. COORDINATE ALL PIPE ROUTING WITH DUCTWORK, CABLE TRAY, LIGHTING, ETC. CONTRACTOR SHALL MAKE ALL OFFSETS REQUIRED AT NO ADDITIONAL COST TO OWNER.
2. DO NOT ROUTE ANY DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS, TRANSFORMERS, OR DISCONNECTS.
3. CONTRACTOR SHALL ENSURE ALL MANUAL AND BALANCING DAMPERS ARE ACCESSIBLE.
4. BALANCE ALL SUPPLY, RETURN, & EXHAUST DIFFUSERS TO CFM VALUES SHOWN.
5. ALL SUPPLY DUCTWORK SHALL BE INSULATED AND IDENTIFIED PER SPECIFICATIONS.
6. MECHANICAL CONTRACTOR SHALL ENSURE ALL RETURN AIR HAS OPEN PATH BACK TO RETURN AIR DUCTWORK IN PLENUM SPACE. IF ANY WALLS EXTEND TO DECK, PROVIDE TRANSFER OPENINGS TO ALLOW FOR RETURN AIR PATH.

SHEET KEYNOTES:

1. ROUTE SUPPLY AND RETURN AIR DUCTWORK UP TO ROOF ABOVE AND TRANSITION AS NEEDED TO CONNECT UNIT OPENINGS.
2. FURNISH & INSTALL NEW SOUND TRAP ON RETURN AIR GRILLES AS SHOWN. TYPICAL FOR ALL PLENUM RETURN GRILLES. REFER TO DETAIL ON DETAIL SHEETS.
3. INSTALL HIGH EFFICIENCY TAKEOFF AT EACH GRD BRANCH TAKEOFF AS SHOWN ON DETAILS. TYPICAL OF ALL
4. ROUTE EXHAUST DUCT UP TO FAN ON ROOF ABOVE AND TRANSITION SIZE TO MATCH UNIT OPENING SIZE.
5. ROUTE PUMPED CONDENSATE TO MOP BASIN IN JANITOR CLOSET - 106.
6. EXTEND EXHAUST DUCTWORK DOWN FROM FAN ON ROOF APPROXIMATELY 4-FT BELOW ROOF SURFACE. PROVIDE STEEL MESH SCREEN OVER DUCT OPENING. DUCT SIZE SHALL MATCH FAN INLET SIZE.
7. FURNISH AND INSTALL HIGH VOLUME LOW SPEED (HVLS) FAN AT THIS LOCATION. INSTALL PER MANUFACTURER'S REQUIREMENTS AND MAINTAIN ALL SERVICE REQUIREMENTS.
8. PROVIDE TEMPERATURE SENSOR CONNECTED TO BAS TO MONITOR AIR TEMPERATURE IN ROOM. REFER TO CONTROLS DRAWINGS FOR ADDITIONAL INFORMATION.
9. FURNISH AND INSTALL INDOOR DUCTLESS SPLIT UNIT AS HIGH ON WALL AS POSSIBLE. ROUTE REFRIGERANT PIPING UP TO OUTDOOR UNIT ON ROOF.

AREA KEY PLAN



1 FIRST LEVEL - AREA A - HVAC PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA A - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

NO	DESCRIPTION	DATE	BY

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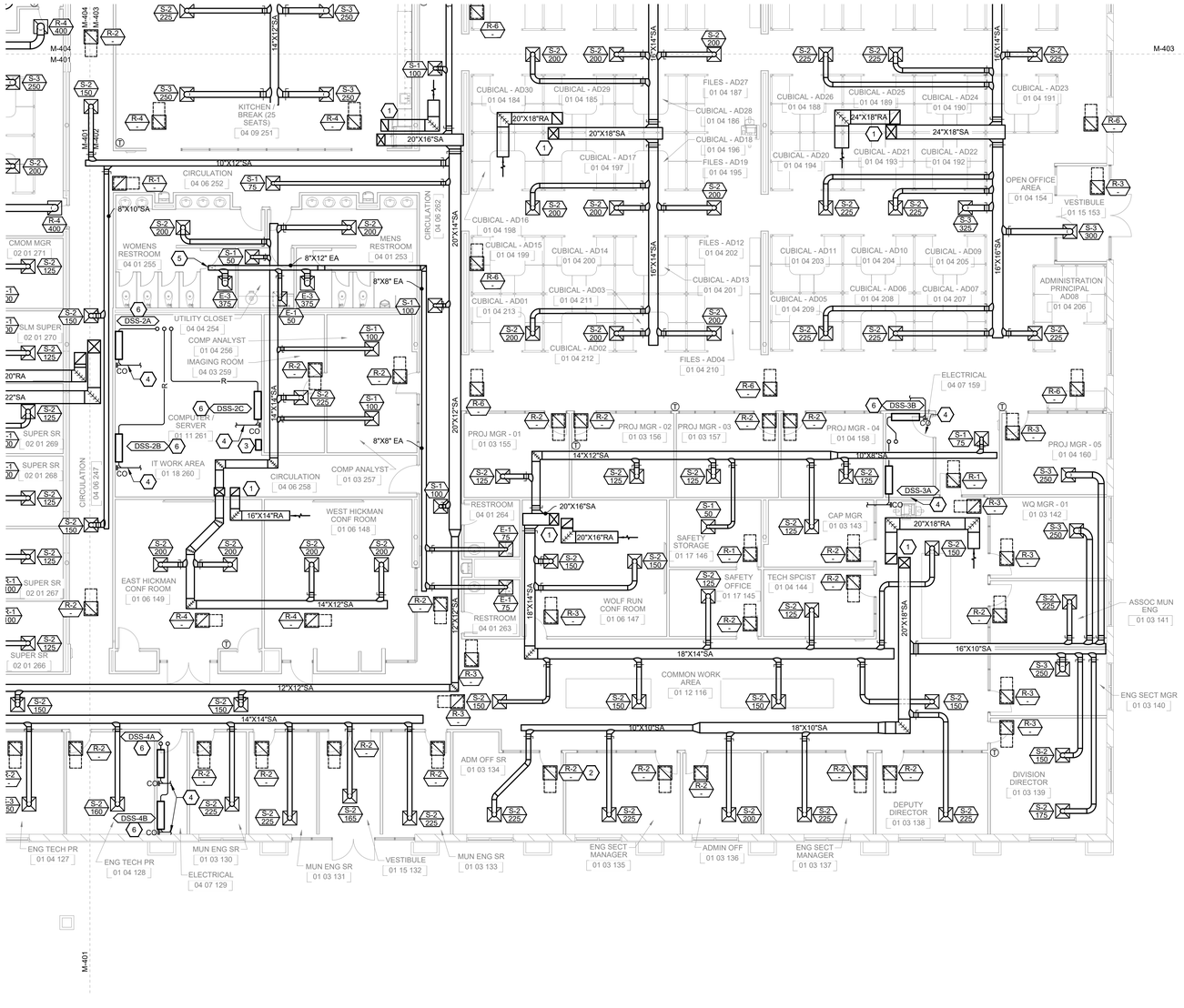
S-1A	6"Ø	R-1A	6"Ø	E-1A	6"Ø
S-2	8"Ø	R-2	8"Ø	E-2	8"Ø
S-3	10"Ø	R-3	10"Ø	E-3	10"Ø
S-4	12"Ø	R-4	12"Ø	E-4	12"Ø
S-5	6"X6"	R-5	14"Ø	E-5	14"Ø
S-6	12"X8"	R-6	16"Ø	E-6	10"X6"
S-7	10"Ø	R-7	26"X10"	-	-



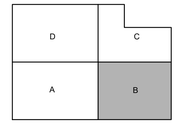
GENERAL NOTES:

1. COORDINATE ALL PIPE ROUTING WITH DUCTWORK, CABLE TRAY, LIGHTING, ETC. CONTRACTOR SHALL MAKE ALL OFFSETS REQUIRED AT NO ADDITIONAL COST TO OWNER.
2. DO NOT ROUTE ANY DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS, TRANSFORMERS, OR DISCONNECTS.
3. CONTRACTOR SHALL ENSURE ALL MANUAL AND BALANCING DAMPERS ARE ACCESSIBLE.
4. BALANCE ALL SUPPLY & EXHAUST DIFFUSERS TO CFM VALUES SHOWN.
5. ALL SUPPLY DUCTWORK SHALL BE INSULATED AND IDENTIFIED PER SPECIFICATIONS.
6. MECHANICAL CONTRACTOR SHALL ENSURE ALL RETURN AIR HAS OPEN PATH BACK TO RETURN AIR DUCTWORK IN PLENUM SPACE. IF ANY WALLS EXTEND TO DECK, PROVIDE TRANSFER OPENINGS TO ALLOW FOR RETURN AIR PATH.

SHEET KEYNOTES:

1. ROUTE SUPPLY AND RETURN AIR DUCTWORK UP TO ROOF ABOVE AND TRANSITION AS NEEDED TO CONNECT TO UNIT OPENINGS.
2. FURNISH & INSTALL NEW SOUND TRAP ON RETURN AIR GRILLES AS SHOWN. TYPICAL FOR ALL PLENUM RETURN GRILLES. REFER TO DETAIL ON DETAIL SHEETS.
3. PROVIDE AND INSTALL MAIN BAS CONTROL PANEL IN LOCATION SHOWN BELOW. COORDINATE LOCATION WITH OWNER AND OWNER'S IT DEPARTMENT. ALSO COORDINATE WITH ELECTRICAL AND CONTROLS CONTRACTORS.
4. ROUTE PUMPED CONDENSATE PIPING TO MOP BASIN IN UTILITY CLOSET - 254.
5. ROUTE EXHAUST DUCT UP TO FAN ON ROOF ABOVE AND TRANSITION SIZE TO MATCH UNIT OPENING SIZE.
6. FURNISH AND INSTALL INDOOR DUCTLESS SPLIT UNIT AS HIGH ON WALL AS POSSIBLE. ROUTE REFRIGERANT PIPING UP TO OUTDOOR UNIT ON ROOF.

AREA KEY PLAN



1 FIRST LEVEL - AREA B - HVAC PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA B - HVAC PLAN
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS			
NO.	DESCRIPTION	DATE:	BY

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SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
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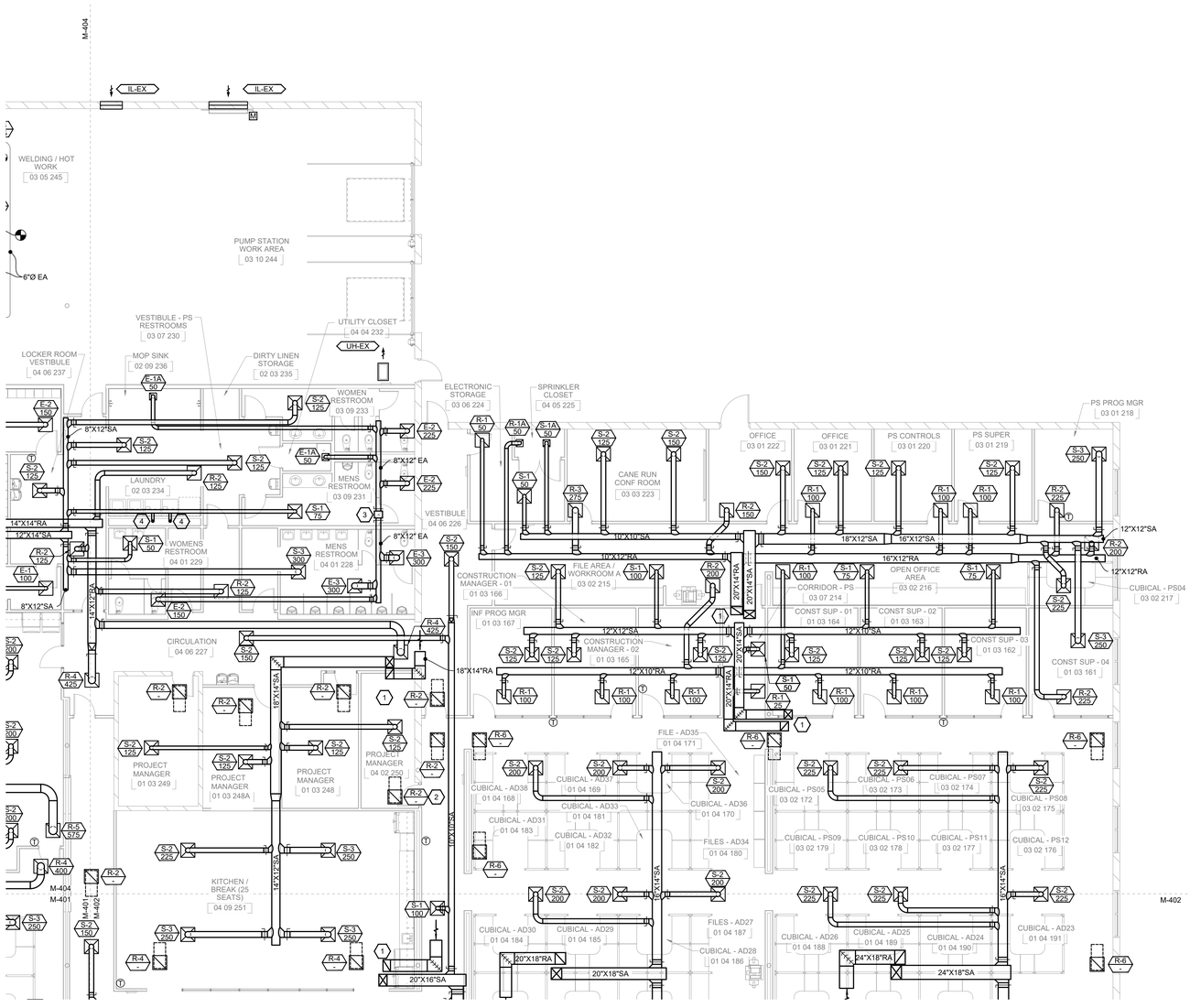
PRINTED: 8/13/2025 @ 4:22PM

FILE NAME: G:\52A7-L-FUCG DWG HOB\Working Drawings\Auto\CAD\52A7-01-M-403-01.dwg



DUCT RUNOUT SCHEDULE

GRD TAG	DUCT SIZE	GRD TAG	DUCT SIZE	GRD TAG	DUCT SIZE
S-1	6"Ø	R-1	6"Ø	E-1	6"Ø
S-1A	6"Ø	R-1A	6"Ø	E-1A	6"Ø
S-2	8"Ø	R-2	8"Ø	E-2	8"Ø
S-3	10"Ø	R-3	10"Ø	E-3	10"Ø
S-4	12"Ø	R-4	12"Ø	E-4	12"Ø
S-5	6"X6"	R-5	14"Ø	E-5	14"Ø
S-6	12"X8"	R-6	16"Ø	E-6	10"X6"
S-7	10"Ø	R-7	26"X10"	-	-

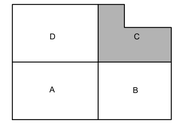
GENERAL NOTES:

1. COORDINATE ALL PIPE ROUTING WITH DUCTWORK, CABLE TRAY, LIGHTING, ETC. CONTRACTOR SHALL MAKE ALL OFFSETS REQUIRED AT NO ADDITIONAL COST TO OWNER.
2. DO NOT ROUTE ANY DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS, TRANSFORMERS, OR DISCONNECTS.
3. CONTRACTOR SHALL ENSURE ALL MANUAL AND BALANCING DAMPERS ARE ACCESSIBLE.
4. BALANCE ALL SUPPLY, RETURN, & EXHAUST DIFFUSERS TO CFM VALUES SHOWN.
5. ALL SUPPLY DUCTWORK SHALL BE INSULATED AND IDENTIFIED PER SPECIFICATIONS.
6. MECHANICAL CONTRACTOR SHALL ENSURE ALL RETURN AIR HAS OPEN PATH BACK TO RETURN AIR DUCTWORK IN PLENUM SPACE. IF ANY WALLS EXTEND TO DECK, PROVIDE TRANSFER OPENINGS TO ALLOW FOR RETURN AIR PATH.

SHEET KEYNOTES:

1. ROUTE SUPPLY AND RETURN AIR DUCTWORK UP TO ROOF ABOVE AND TRANSITION AS NEEDED TO CONNECT TO UNIT OPENINGS.
2. FURNISH & INSTALL NEW SOUND TRAP ON RETURN AIR GRILLES AS SHOWN. TYPICAL FOR ALL PLENUM RETURN GRILLES. REFER TO DETAIL ON DETAIL SHEETS.
3. ROUTE 14"X12" EXHAUST AIR DUCT UP TO FAN ON ROOF AND TRANSITION DUCT SIZE TO FAN OPENING SIZE.
4. INSTALL 4" ALUMINUM DRYER VENT EXHAUST DUCT AND ROUTE UP TO ROOF ABOVE. PROVIDE LINT CLEANOUT AT BOTTOM OF VERTICAL DUCT. TERMINATE VENT ON ROOF PER MANUFACTURER'S REQUIREMENTS WITH GOOSENECK OR VENT CAP. PROTECT THE DISCHARGE OPENING PER MANUFACTURER'S REQUIREMENTS. DRYERS ARE OWNER FURNISHED & OWNER INSTALLED. MECHANICAL CONTRACTOR SHALL COORDINATE EXHAUST DUCTS WITH OWNER FURNISHED EQUIPMENT.

AREA KEY PLAN



1 FIRST LEVEL - AREA C - HVAC PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 052A7-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA C - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE:	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DESIGNED:	CVS
DRAWN:	SPB
RECEIVED:	CVS
APPROVED:	CVS

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
SHEET NO.: M-403 01

DUCT RUNOUT SCHEDULE					
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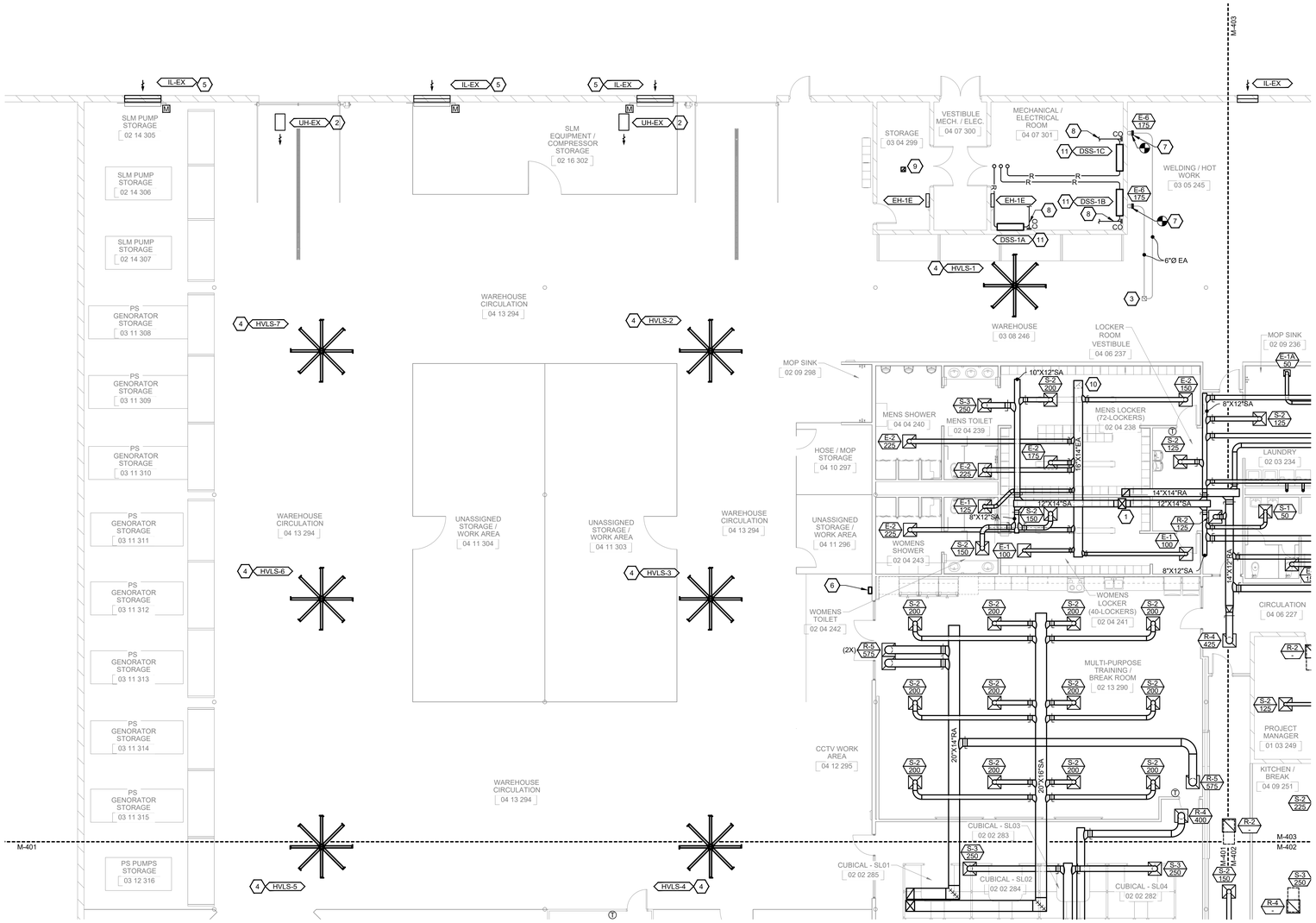
S-2	8"Ø	R-2	8"Ø	E-2	8"Ø
S-3	10"Ø	R-3	10"Ø	E-3	10"Ø
S-4	12"Ø	R-4	12"Ø	E-4	12"Ø
S-5	6"X6"	R-5	14"Ø	E-5	14"Ø
S-6	12"X8"	R-6	16"Ø	E-6	10"X6"
S-7	10"Ø	R-7	26"X10"	-	-



1 FIRST LEVEL - AREA D - HVAC PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

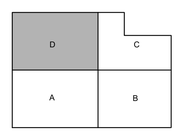
GENERAL NOTES:

1. COORDINATE ALL PIPE ROUTING WITH DUCTWORK, CABLE TRAY, LIGHTING, ETC. CONTRACTOR SHALL MAKE ALL OFFSETS REQUIRED AT NO ADDITIONAL COST TO OWNER.
2. DO NOT ROUTE ANY DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS, TRANSFORMERS, OR DISCONNECTS.
3. CONTRACTOR SHALL ENSURE ALL MANUAL AND BALANCING DAMPERS ARE ACCESSIBLE.
4. BALANCE ALL SUPPLY, RETURN & EXHAUST DIFFUSERS TO CFM VALUES SHOWN.
5. ALL SUPPLY DUCTWORK SHALL BE INSULATED AND IDENTIFIED PER SPECIFICATIONS.
6. MECHANICAL CONTRACTOR SHALL ENSURE ALL RETURN AIR HAS OPEN PATH BACK TO RETURN AIR DUCTWORK IN PLENUM SPACE. IF ANY WALLS EXTEND TO DECK, PROVIDE TRANSFER OPENINGS TO ALLOW FOR RETURN AIR PATH.

SHEET KEYNOTES:

1. ROUTE SUPPLY AND RETURN AIR DUCTWORK UP TO ROOF ABOVE AND TRANSITION AS NEEDED TO CONNECT TO UNIT OPENINGS.
2. EXISTING UNIT HEATER TO REMAIN.
3. EXISTING EXHAUST DUCTWORK SHALL BE CONNECTED TO NEW EXHAUST FAN ON ROOF. TRANSITION DUCTWORK AS NEEDED TO CONNECT TO FAN.
4. FURNISH AND INSTALL HIGH-VOLUME, LOW-SPEED (HVLS) FAN AT THIS LOCATION. INSTALL PER MANUFACTURER'S REQUIREMENTS AND MAINTAIN ALL SERVICE REQUIREMENTS.
5. EXISTING INTAKE LOUVER AND EXISTING MOTORIZED DAMPER TO REMAIN IN PLACE AND BE REUSED FOR VENTILATION SYSTEM IN WAREHOUSE AREA.
6. PROVIDE AND INSTALL HVLS CONTROLLER AT LOCATION SHOWN. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
7. INSTALL NEW EXHAUST GRILLE AT BOTTOM OF VERTICAL DUCT, AT SIMILAR HEIGHT TO EXISTING.
8. ROUTE PUMPED CONDENSATE TO MOP BASIN IN MOP STORAGE - 279.
9. EXTEND EXHAUST DUCTWORK DOWN FROM FAN ON ROOF APPROXIMATELY 4-FT BELOW ROOF SURFACE. PROVIDE STEEL MESH SCREEN OVER DUCT OPENING. DUCT SIZE SHALL MATCH FAN INLET SIZE.
10. ROUTE EXHAUST DUCT UP TO FAN ON ROOF ABOVE AND TRANSITION SIZE TO MATCH UNIT OPENING SIZE.
11. FURNISH AND INSTALL INDOOR DUCTLESS SPLIT UNIT AS HIGH ON WALL AS POSSIBLE. ROUTE REFRIGERANT PIPING UP TO OUTDOOR UNIT ON ROOF.

AREA KEY PLAN



STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - AREA D - HVAC PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
CVS	SPB	CVS	CVS

REVISIONS

NO	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
SHEET NO.: M-404 01

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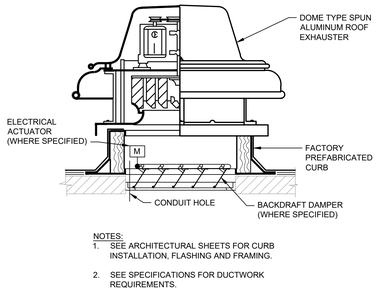
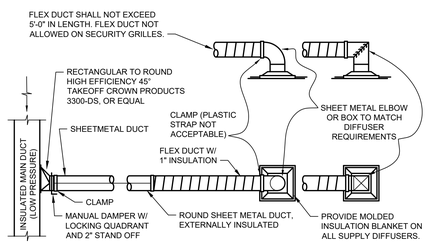
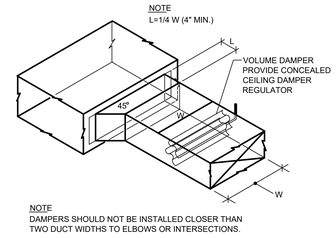


NOTES:
1. SEE ARCHITECTURAL SHEETS FOR CURB INSTALLATION, FLASHING AND FRAMING.
2. SEE SPECIFICATIONS FOR DUCTWORK REQUIREMENTS.

1 TYPICAL ROOF EXHAUST FAN DETAIL
NOT TO SCALE

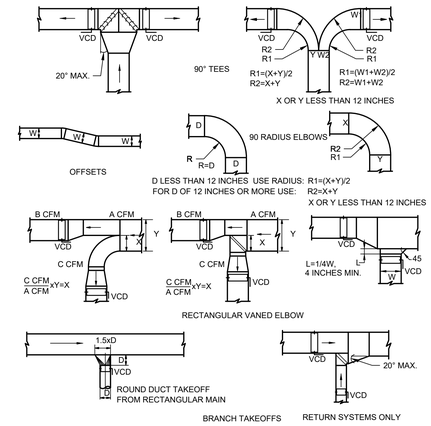


2 TYPICAL DIFFUSER & BRANCH TAKE-OFF DETAIL
NOT TO SCALE



NOTE
DAMPERS SHOULD NOT BE INSTALLED CLOSER THAN TWO DUCT WIDTHS TO ELBOWS OR INTERSECTIONS.

3 BRANCH DUCT TAKE-OFF DETAIL
NOT TO SCALE



4 RECTANGULAR DUCTWORK DETAILS
NOT TO SCALE

5 TYPICAL ROOFTOP UNIT DETAIL
NOT TO SCALE

TYP. FOR PENETRATIONS OF RATED WALLS.
DETAIL IS SIMILAR FOR NONRATED WALLS EXCEPT SEALANT CAN BE NONRATED.
DETAIL SIMILAR FOR FLOOR SLAB PENETRATIONS EXCEPT PIPE SLEEVE EXTENDS 1" ABOVE SLAB, AND DUCT PENETRATIONS INCLUDE A 4" CURB.

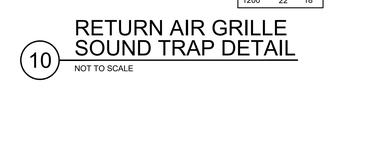
6 DUCT & PIPE RATED WALL PENETRATION DETAIL
NOT TO SCALE

DUCT TRANSITION

NOTE:
1. UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

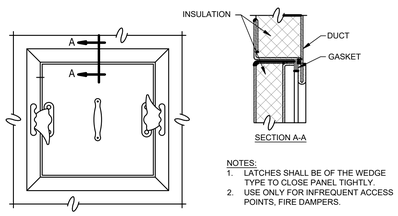
DUCT TRANSFORMATION WITH EQUIPMENT IN DUCT

7 DUCT AND EQUIPMENT TRANSITION DETAIL
NOT TO SCALE



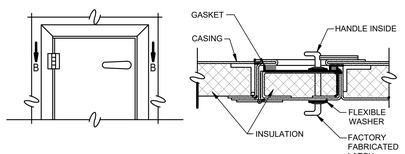
NOTE:
1. INSTALL OBD IIN ALL BRANCH SUPPLY & RETURN AIR DUCTS AT ALL RISER CONNECTIONS. (TYPICAL)

8 BRANCH DUCT DAMPER DETAIL
NOT TO SCALE



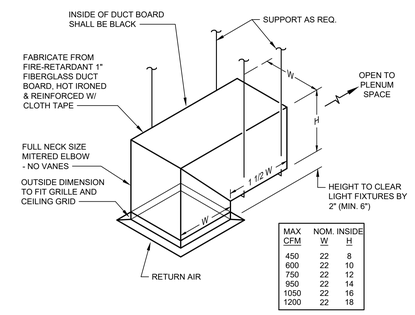
NOTES:
1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE PANEL TIGHTLY.
2. USE ONLY FOR INFREQUENT ACCESS POINTS, FIRE DAMPERS.

ACCESS DOOR - INSULATED DUCT AND EQUIPMENT DETAIL
NOT TO SCALE



NOTES:
1. LATCH SHALL BE OF THE WEDGE TYPE TO CLOSE DOOR TIGHTLY.
2. HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS.
3. USE FOR ALL MAJOR ACCESS OPENINGS AND IN EQUIPMENT.

9 ACCESS DOOR INSULATED DUCT AND EQUIPMENT DETAIL
NOT TO SCALE



MAX CFM	NOM. INSIDE W	H
450	22	8
600	22	10
750	22	12
950	22	14
1050	22	16
1200	22	18

10 RETURN AIR GRILLE SOUND TRAP DETAIL
NOT TO SCALE

PRINTED: 8/13/2025 @ 4:22PM
FILE NAME: G:\52447-LFUCG DWG HOB\Working Drawings\Auto\CAD\52447-01-M-501-01.dwg

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025
engineering | architecture | geospatial
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CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 052447-01
CLIENT PROJECT NO. RFB 70-2025

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MECHANICAL DETAILS

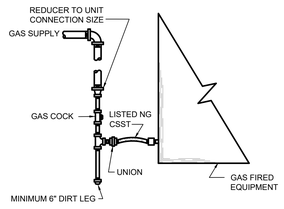
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: M-501 01

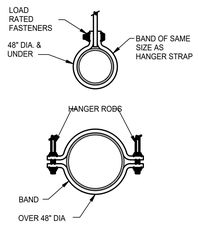


NOTES: SEE EQUIPMENT MANUFACTURER FOR EQUIPMENT ADDITIONAL CONNECTION REQUIREMENTS.

MUST REPLACE NATURAL GAS PIPE FROM SHUTOFF VALVE TO CONNECTION OF NEW UNIT, INCLUDING THE SHUTOFF VALVE.

1 EQUIPMENT GAS PIPING CONNECTION DETAIL

NOT TO SCALE

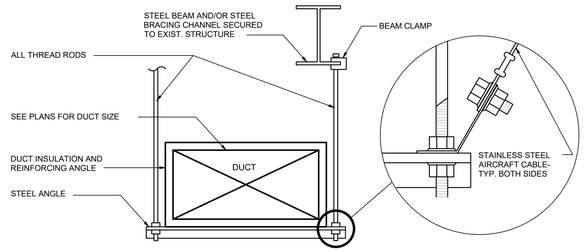


HANGER STRAPS OR RODS			
MAX. DUCT DIA. (in.)	HANGER	MAX. LOAD lbs.	MAX. SPACING ft.
26	ONE 1" x 22 GA STRAP	260	12
36	ONE 1" x 18 GA STRAP	418	12
50	ONE 1" x 16 GA STRAP	700	12
60	TWO 3/8" DIA. RODS	1320	12
84	TWO 1/2" DIA. RODS	2500	12

NOTE:
1. TABULATED DATA FROM SMACNA ALLOWS FOR DUCT REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.
2. DATA IS FOR SINGLE WALL DUCT ONLY.

2 ROUND DUCT HANGERS

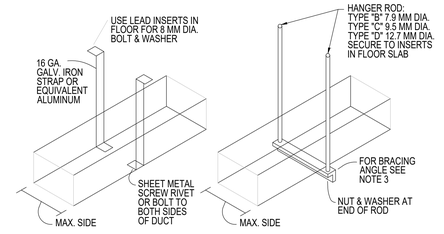
NOT TO SCALE



NOTE: 1. DO NOT SUPPORT DUCTS FROM METAL DECK.
2. SIZE SUPPORT STEEL MEMBERS AS REQ'D.

3 DUCT HANGING DETAIL

NOT TO SCALE



TYPE "A"

(2438MM MAX. HANGER SPACING) ALSO PROVIDE 3 HANGERS AT EACH TAKE-OFF OR BRANCH

TYPE "B" "C" & "D"

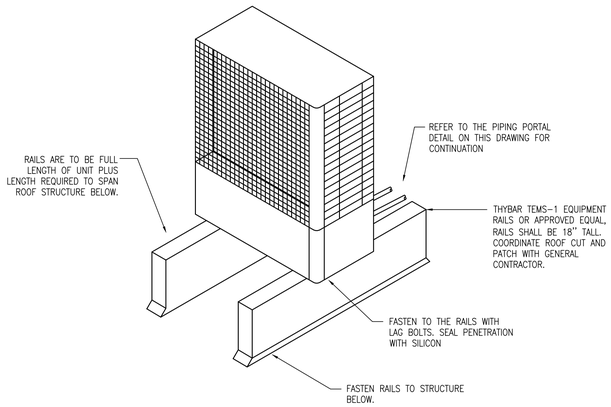
(2438MM. MAX. HANGER SPACING)

DUCT SCHEDULE	
DUCT DIMENSIONS (MM)	TYPE HANGER
UP THRU 305	A
330 THRU 460	A
483 THRU 762	A/B
787 THRU 1067	B
1092 THRU 1372	B
1397 THRU 1524	B
1549 THRU 2134	C
2159 THRU 2438	C
OVER 2438	D

NOTES:
1. ALL EXHAUST DUCTS CARRYING GREASE CONTAMINATED AIR SHALL BE U.S. STANDARD GAGE.
2. FOR SEVERAL DUCTS ON ONE HANGER TYPE "B", "C" OR "D" MAY BE USED. SIZE OF HANGER WILL BE SELECTED ON SUM OF DUCT WIDTHS EQUAL TO MAX. WIDTH OF DUCT SCHEDULE.
3. SCHEDULE FOR ANGLES FOR BRACING: TYPE "B"- 38 MM x 38 MM x 3.1 MM ANGLE, MAXIMUM SPACING 2438 MM CENTERS. TYPE "C"- 38 MM x 38 MM x 4.7 MM ANGLE, MAXIMUM SPACING 2438 MM CENTERS. TYPE "D"- 51 MM x 51 MM x 6.3 MM ANGLE, MAXIMUM SPACING 2438 MM CENTERS.

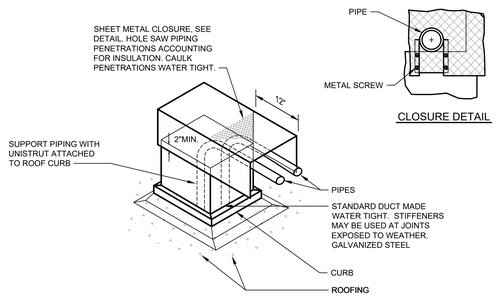
4 DUCT HANGER DETAIL

NOT TO SCALE



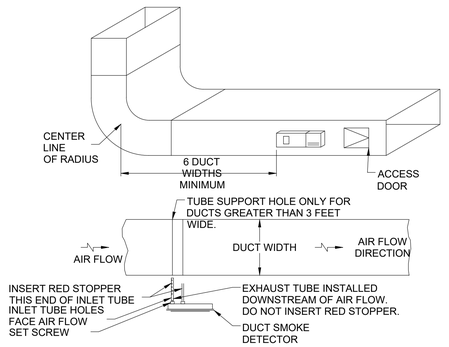
5 CONDENSING UNIT ROOF CURB DETAIL

NOT TO SCALE



6 (REFRIGERANT LINES) PIPE PORTAL DETAIL

NOT TO SCALE



DUCT SMOKE LOCATION PERQUISITES:

1. A UNIFORM NON TURBULENT AIRFLOW BETWEEN 142 LPS MIN TO 1888 LPS MUST BE PRESENT IN THE HVAC DUCT. TO DETERMINE THE DUCT VELOCITIES EXAMINE THE ENGINEERING SPECIFICATIONS THAT DEFINE THE EXPECTED VELOCITIES OR USE AN ALNOR MODEL 6000P VELOCITY/METER (OR EQUIVALENT).
2. IN ORDER TO PREVENT STRATIFICATION, DUCT SMOKE UNITS, WHERE POSSIBLE, MUST BE LOCATED AT A MINIMUM OF 6 DUCT WIDTHS DOWN STREAM FROM A SOURCE OF TURBULENCE I.E. ELBOWS, DEFLECTOR PLATES, DAMPERS, AND INLETS. IN INSTALLATIONS WHERE IT IS IMPOSSIBLE TO ADHERE TO THE SIX DUCT WIDTH REQUIREMENT, UNITS CAN BE INSTALLED CLOSER BUT AS FAR FROM INLETS, BENDS OR DEFLECTOR PLATES AS POSSIBLE. SHOULD THIS SITUATION ARISE, CHECK VELOCITY READINGS IN THE DUCT PRIOR TO THE DUCT SMOKE UNIT INSTALLATION. ENSURE THE DUCT SMOKE UNIT PRESSURE DIFFERENTIAL BETWEEN COMPLIES WITH THE UNIT SPECIFICATIONS. THE PRESSURE DIFFERENTIAL BETWEEN THE INLET SAMPLING TUBE AND EXHAUST TUBE FOR THE FIREX SERIES SMOKE UNIT SHOULD BE GREATER THAN 2.491 PASCALS AND LESS THAN 298.92 PASCALS.
3. IDENTIFY A LOCATION FOR THE INSTALLATION OF THE DUCT UNIT THAT WILL PERMIT EASY ACCESS FOR VIEWING AND SERVICEABILITY.
4. INSTALL DUCT UNITS IN THE RETURN AIR SIDE OF AN HVAC UNIT PRIOR TO THE AIR BEING EXHAUSTED FROM THE BUILDING OR DILUTED WITH OUTSIDE AIR.
5. LOCATE DETECTOR ON THE SIDE OR TOP OF DUCT.
6. TO PREVENT FALSE ALARMS, THE DUCT DETECTOR SHOULD NOT BE MOUNTED IN AREAS OF EXTREME HIGH OR LOW TEMPERATURES, IN AREAS WHERE HIGH HUMIDITY EXISTS OR IN AREAS WHERE THE DUCT MAY CONTAIN GASSES OR EXCESS DUST.
7. PROVIDE DUCT ACCESS DOOR FOR SERVICEABILITY.

7 DUCT SMOKE DETECTOR DETAIL

NOT TO SCALE

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

MECHANICAL DETAILS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS				
NO.	DESCRIPTION	DATE	BY	

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

SCALE: IF THIS MARK IS NOT 1" MEASURE EXACTLY 1" PRINT PLOTTED

DATE: AUGUST 15, 2025
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SHEET NO. M-502 01

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FILE NAME: G:\5247-L-FUCG DWQ HQB\Working Drawings\Aaibc\CAD\5247-01-M-502-01.dwg

ADD ALTERNATE #3:

MECHANICAL CONTRACTOR SHALL INCLUDE PRICING FOR ADD ALTERNATE #3 TO INCLUDE ALL PREVENTATIVE MAINTENANCE WORK FOR ALL MECHANICAL EQUIPMENT FOR A PERIOD OF THREE YEARS FROM DATE OF SUBSTANTIAL COMPLETION. ALL PREVENTATIVE MAINTENANCE WORK SHALL BE PER MANUFACTURER'S INSTALLATION AND MAINTENANCE GUIDES. BASE BID AND WARRANTY WORK INCLUDES ONE YEAR FROM SUBSTANTIAL COMPLETION, ADD ALTERNATE #3 PRICING INCLUDES THE TWO ADDITIONAL YEARS AFTER THE FIRST YEAR.

PACKAGED ROOF TOP UNIT SCHEDULE

UNIT										DX COOLING								GAS HEAT					ELECTRICAL			
					SUPPLY FAN			RETURN AIR	OUTSIDE AIR	AIR TEMPS		TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	COMPRESSOR			HOT GAS REHEAT								
MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	EER / SEER	AIRFLOW (CFM)	ESP (in/H²O)	MOTOR SIZE (HP)	AIRFLOW (CFM)	MIN OA CFM	EAT DB/WB (F)	LAT DB/WB (F)			STAGES	QTY	REFRIGERANT	TOTAL CAPACITY (MBH)	LAT (°F) DB/WB	INPUT CAPACITY (MBH)	OUTPUT CAPACITY (MBH)	STAGES	EAT (°F)	LAT (°F)	V/Ø/Hz	MCA	MOCP	REMARKS
RTU-1	DAIKIN	DHG060	655	16.2	1,625	0.6"	1.5	1,475	150	77 / 64	55 / 53	56.8	40.3	2	1	R-32	28.3	71 / 59	70	56.7	2	64	95	460/3/60	14.2	20	ALL
RTU-2	DAIKIN	DHG048	650	16.4	1,175	0.6"	1.5	925	250	79 / 66	54 / 53	44.8	30.9	2	1	R-32	20.5	71 / 59	70	56.7	2	56	100	460/3/60	11.6	15	ALL
RTU-3	DAIKIN	DHG102	1,275	12.5	2,400	0.6"	2.5	2,000	400	78 / 65	53 / 52	99.4	69.2	2	1	R-32	41.9	71 / 59	130	105.3	2	59	97	460/3/60	22.7	25	ALL
RTU-4	DAIKIN	DHG120	1,300	12.5	3,100	0.6"	2.5	2,700	400	77 / 64	55 / 52	112.1	73.7	2	1	R-32	54.1	71 / 59	180	145.8	2	62	104	460/3/60	25.6	30	ALL
RTU-5	DAIKIN	DHG072	725	12.5	2,050	0.6"	1.5	1,750	300	78 / 65	55 / 54	67.8	51.7	2	1	R-32	35.8	71 / 59	125	101.3	2	61	104	460/3/60	13.1	15	ALL
RTU-6	DAIKIN	DHG072	725	12.5	2,400	0.6"	2.5	2,225	175	76 / 63	55 / 53	67.6	54.4	2	1	R-32	41.9	71 / 59	70	56.7	2	65	86	460/3/60	15.1	20	ALL
RTU-7	DAIKIN	DHG060	655	16.2	1,600	0.6"	1.5	1,400	200	77 / 64	55 / 53	56.8	40.3	2	1	R-32	27.9	71 / 59	70	56.7	2	62	93	460/3/60	14.2	20	ALL
RTU-8	DAIKIN	DHG060	655	16.2	1,475	0.6"	1.5	1,275	200	77 / 64	53 / 51	56.3	37.9	2	1	R-32	25.7	71 / 59	70	56.7	2	61	96	460/3/60	14.2	20	ALL
RTU-9	DAIKIN	DHG072	725	12.5	1,675	0.6"	1.5	1,225	450	80 / 67	55 / 54	67.8	46.1	2	1	R-32	29.2	71 / 59	150	121.5	2	53	116	460/3/60	13.1	15	ALL
RTU-10	DAIKIN	DHG120	1,300	12.5	3,425	0.6"	2.5	2,975	450	77 / 64	56 / 53	113.1	77.6	2	1	R-32	59.7	71 / 59	180	145.8	2	62	100	460/3/60	25.6	30	ALL
RTU-11	DAIKIN	DHG090	1,275	12.5	2,400	0.6"	2.5	1,825	575	79 / 66	54 / 54	88.0	65.0	2	1	R-32	41.9	71 / 59	180	145.8	2	55	112	460/3/60	21.3	25	ALL
RTU-12	DAIKIN	DHG090	1,275	12.5	2,400	0.6"	2.5	1,875	525	79 / 66	54 / 54	88.0	65.0	2	1	R-32	41.9	71 / 59	180	145.8	2	56	112	460/3/60	21.3	25	ALL
RTU-13	DAIKIN	DHG036	575	16.6	950	0.6"	1.5	875	75	76 / 63	53 / 51	33.2	24.8	2	1	R-32	16.6	71 / 59	70	56.7	2	65	118	460/3/60	9.1	15	ALL
RTU-14	DAIKIN	DHG048	650	16.4	1,000	0.6"	1.5	850	150	78 / 65	54 / 52	44.4	31.0	2	1	R-32	17.4	71 / 59	70	56.7	2	60	105	460/3/60	11.6	15	ALL
RTU-15	DAIKIN	DHG060	675	16.2	1,400	0.6"	1.5	1,250	150	77 / 64	53 / 51	56.3	37.9	2	1	R-32	24.4	71 / 59	70	56.7	2	63	98	460/3/60	14.2	20	ALL
RTU-16	DAIKIN	DHG060	675	16.2	1,850	0.6"	1.5	1,700	150	76 / 63	54 / 52	56.9	43.4	2	1	R-32	32.3	71 / 59	70	56.7	2	65	93	460/3/60	14.2	20	ALL
RTU-17	DAIKIN	DHG072	725	12.5	2,000	0.6"	1.5	1,800	200	77 / 64	54 / 52	66.5	48.8	2	1	R-32	34.9	71 / 59	70	56.7	2	64	91	460/3/60	13.1	15	ALL
RTU-18	DAIKIN	DHG072	725	16.2	1,725	0.6"	1.5	1,450	275	78 / 65	54 / 52	66.6	46.4	2	1	R-32	30.1	71 / 59	70	56.7	2	60	90	460/3/60	13.1	15	ALL

REMARKS:
1. COOLING DESIGN CONDITIONS: 95F DB / 78F WB AMBIENT.
2. PROVIDE ROOF TOP UNIT WITH ROOF CURB ADAPTER TO INSTALL UNIT ON EXISTING ROOF CURB.
3. SINGLE POINT POWER CONNECTION WITH FACTORY INSTALLED DISCONNECT SWITCH AND 115V GFI CONVENIENCE OUTLET.
4. PROVIDE UNIT WITH STAINLESS STEEL GAS-FIRED HEAT EXCHANGER.
5. PROVIDE WITH FAN CYCLING CONTROL OPTION.
6. PROVIDE WITH HIGH AND LOW PRESSURE SWITCH.
7. PROVIDE COMPRESSOR SHORT CYCLE TIMER.
8. PROVIDE WITH HAIL GUARDS AND HINGED ACCESS DOORS.
9. PROVIDE UNIT WITH FACTORY MOUNTED DDC CONTROLLER WITH BACNET INTERFACE TO TIE INTO BUILDING AUTOMATION SYSTEM.
10. PROVIDE WITH FULLY MODULATING HOT GAS REHEAT CONTROL.
11. SUPPLY FANS SHALL BE PREMIUM EFFICIENT ECM FAN MOTORS OR PREMIUM EFFICIENT MOTORS WITH FACTORY VFD.
12. PROVIDE WITH PHASE PROTECTION.
13. PROVIDE WITH SMOKE DETECTOR SHUT DOWN. COORDINATE WITH ELECTRICAL CONTRACTOR.
14. PROVIDE UNIT WITH 2" MERV 13 FILTERS.
15. PROVIDE UNIT WITH HIGH EFFICIENCY SCROLL COMPRESSORS.
16. PROVIDE UNIT WITH AIRSIDE ECONOMIZER WITH ENTHALPY CONTROL AND FULLY MODULATING, LOW-LEAK OUTSIDE AIR AND RETURN AIR DAMPERS.
17. PROVIDE UNIT WITH POWERED EXHAUST FAN.
18. REFER TO ADD ALTERNATE ON DRAWINGS. PROVIDE NEW INSULATED ROOF CURB FOR ALL UNITS IF ADD ALTERNATE IS CHOSEN.

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: DAIKIN, TRANE, YORK/JCI, CARRIER, MCQUAY. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

COOLING ONLY MINI SPLIT SYSTEM SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	CFM	SEER2	NOM. COOLING CAPACITY MBH	SENSIBLE CAPACITY MBH	NOM. HEATING CAPACITY MBH	HEATING HSPF	ELECTRICAL			REMARKS
										V/Ø/Hz	MCA	MOCP	
OUTDOOR UNIT													
CU-1A/1B/1C	DAIKIN	RKF18AXVJU	MECH/ELEC 301	-	21	18.1	14.1	N/A	N/A	208/1/60	14.2	20	ALL
CU-2A/2B/2C	DAIKIN	RKF18AXVJU	SERVER 261	-	21	18.1	14.1	N/A	N/A	208/1/60	14.2	20	ALL
CU-3A/3B	DAIKIN	RKF12AXVJU	ELEC 159	-	21	12.0	9.5	N/A	N/A	208/1/60	9.2	15	ALL
CU-4A/4B	DAIKIN	RKF12AXVJU	ELEC 129	-	21	12.0	9.5	N/A	N/A	208/1/60	9.2	15	ALL
CU-5	DAIKIN	RKF09AXVJU	IDF 287	-	21	9.0	8.3	N/A	N/A	208/1/60	9.1	15	ALL
CU-6	DAIKIN	RKF18AXVJU	ELEC 103	-	21	18.1	14.1	N/A	N/A	208/1/60	14.2	20	ALL
INDOOR UNIT													
DSS-1A/1B/1C	DAIKIN	FTKF18AXVJU	MECH/ELEC 301	715	-	18.1	14.1	N/A	N/A	208/1/60	1	-	ALL
DSS-2A/2B/2C	DAIKIN	FTKF18AXVJU	SERVER 261	715	-	18.1	14.1	N/A	N/A	208/1/60	1	-	ALL
DSS-3A/3B	DAIKIN	FTKF12AXVJU	ELEC 159	435	-	12.0	9.5	N/A	N/A	208/1/60	1	-	ALL
DSS-4A/4B	DAIKIN	FTKF12AXVJU	ELEC 129	435	-	12.0	9.5	N/A	N/A	208/1/60	1	-	ALL
DSS-5	DAIKIN	FTKF09AXVJU	IDF 287	430	-	9.0	8.3	N/A	N/A	208/1/60	1	-	ALL
DSS-6	DAIKIN	FTKF18AXVJU	ELEC 103	715	-	18.1	14.1	N/A	N/A	208/1/60	1	-	ALL

REMARKS:
1. DESIGN CONDITIONS: 95DB/75WB SUMMER OUTDOOR AND 80DB/67WB INDOOR.
2. COOLING ONLY UNIT. AIRFLOW SHOWN IS FOR HIGH FAN SPEED SETTING. INDOOR UNIT SHALL BE WALL MOUNTED UNIT.
3. FURNISH WITH WIRED REMOTE CONTROLLER / THERMOSTAT INSTALLED ON WALL. UNIT SHALL ALSO INTERFACE WITH BAS. COORDINATE WITH TCC.
4. PROVIDE WITH LOW AMBIENT COOLING CONTROL DOWN TO -4F, WASHABLE FILTER AND R-32 REFRIGERANT OR R-454B REFRIGERANT.
5. PROVIDE WITH FACTORY CONDENSATE PUMP AND FACTORY COVER. CONDENSATE PUMP SHALL BE POWERED BY INDOOR INDOOR UNIT.
6. INDOOR UNIT SHALL BE POWERED BY OUTDOOR UNIT. DISCONNECT SWITCH SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR. COORDINATE ELECTRICAL LOAD WITH ELECTRICAL CONTRACTOR.
7. OUTDOOR UNIT SHALL BE INSTALLED ON ROOF CURB PER DETAIL. REFER TO DRAWINGS.

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: DAIKIN, LG, MITSUBISHI, SAMSUNG. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

AIR DEVICE SCHEDULE

MARK	MANUFACTURER	MODEL	MAX CFM	MODULE	AIR PATTERN	NECK	MAX NC	REMARKS
E-1	TITUS	50F - 1/2" CUBE CORE EGGCRATE	100	24X24	-	6	25	1, 3, 4, 5, 8
E-1A	TITUS	50F - 1/2" CUBE CORE EGGCRATE	100	12X12	-	6	25	1, 3, 4, 5, 8
E-2	TITUS	50F - 1/2" CUBE CORE EGGCRATE	225	24X24	-	8	25	1, 3, 4, 5, 8
E-3	TITUS	50F - 1/2" CUBE CORE EGGCRATE	375	24X24	-	10	25	1, 3, 4, 5, 8
E-4	TITUS	50F - 1/2" CUBE CORE EGGCRATE	500	24X24	-	12	25	1, 3, 4, 5, 8
E-5	TITUS	50F - 1/2" CUBE CORE EGGCRATE	650	24X24	-	14	25	1, 3, 4, 5, 8
E-6	TITUS	350FL - 3/4" BLADE SPACING	200	12X8	35º FIXED DEFLECTION	10X8	25	2, 3, 4, 5, 6
S-1	TITUS	TMS-AA - 3-CONE	100	24X24	4-WAY	6	15	1, 3, 4, 5, 7
S-1A	TITUS	TMS-AA - 3-CONE	100	12X12	4-WAY	6	15	1, 3, 4, 5, 7
S-2	TITUS	TMS-AA - 3-CONE	225	24X24	4-WAY	8	17	1, 3, 4, 5, 7
S-3	TITUS	TMS-AA - 3-CONE	375	24X24	4-WAY	10	17	1, 3, 4, 5, 7
S-4	TITUS	TMS-AA - 3-CONE	600	24X24	4-WAY	12	24	1, 3, 4, 5, 7
S-5	TITUS	300FL - 3/4" BLADE SPACING	95	8X8	22º DBL DEFLECTION	6X6	15	2, 3, 4, 5, 6
R-1	TITUS	50F - 1/2" CUBE CORE EGGCRATE	100	24X24	-	6	25	1, 3, 4, 5, 8
R-1A	TITUS	50F - 1/2" CUBE CORE EGGCRATE	100	12X12	-	6	25	1, 3, 4, 5, 8
R-2	TITUS	50F - 1/2" CUBE CORE EGGCRATE	225	24X24	-	8	25	1, 3, 4, 5, 8
R-3	TITUS	50F - 1/2" CUBE CORE EGGCRATE	375	24X24	-	10	25	1, 3, 4, 5, 8
R-4	TITUS	50F - 1/2" CUBE CORE EGGCRATE	500	24X24	-	12	25	1, 3, 4, 5, 8
R-5	TITUS	50F - 1/2" CUBE CORE EGGCRATE	650	24X24	-	14	25	1, 3, 4, 5, 8
R-6	TITUS	50F - 1/2" CUBE CORE EGGCRATE	800	24X24	-	16	25	1, 3, 4, 5, 8
R-7	TITUS	350FL - 3/4" BLADE SPACING	800	28X12	35º FIXED DEFLECTION	26X10	25	2, 3, 4, 5, 6

REMARKS:
1. LAY-IN TYPE
2. SIDE WALL TYPE
3. ALUMINUM CONSTRUCTION
4. COORDINATE AIR DEVICE LOCATIONS WITH REFLECTED CEILING PLANS PRIOR TO INSTALLATION. LIGHTING HAS PRIORITY OVER HVAC
5. COLOR BY ARCHITECT
6. PROVIDE WITH OPPOSED BLADE DAMPER
7. PROVIDE AND INSTALL FACTORY MOLDED INSULATION BLANKET ON ALL SUPPLY DIFFUSERS
8. PROVIDE WITH INLET TRANSITION BOX, ROUND TO RECTANGULAR

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: LAUREN COOK, PRICE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	TYPE	CFM	ESP (IN H20)	SONES	DRIVE TYPE	RPM	ELECTRICAL				REMARKS
										V/Ø/Hz	HP	MCA	MOCP	
EF-1	GREENHECK	G-120-VG	RESTROOMS / LOCKERS	ROOF-DOWNBLAST	1,200	0.5	9.8	DIRECT	1725	120/1/60	1/2	8.0	15	1,2,3,4,5,6,7
EF-2	GREENHECK	G-120-VG	RESTROOMS	ROOF-DOWNBLAST	1,300	0.5	10.9	DIRECT	1725	120/1/60	1/2	8.0	15	1,2,3,4,5,6,7
EF-3	GREENHECK	G-090-VG	RESTROOMS	ROOF-DOWNBLAST	500	0.5	7.2	DIRECT	1725	120/1/60	1/6	3.0	15	1,2,3,4,5,6,7
EF-4	GREENHECK	G-100-VG	RESTROOMS	ROOF-DOWNBLAST	950	0.5	8.1	DIRECT	1725	120/1/60	1/4	4.0	15	1,2,3,4,5,6,7
EF-5	GREENHECK	G-300-C-VGD	WAREHOUSE	ROOF-DOWNBLAST	10,050	0.4	19.4	DIRECT	1000	460/3/60	5	9.5	15	1,2,3,4,6,7,9
EF-6	GREENHECK	G-300-C-VGD	WAREHOUSE	ROOF-DOWNBLAST	10,050	0.4	19.4	DIRECT	1000	460/3/60	5	9.5	15	1,2,3,4,6,7,9
EF-7	GREENHECK	G-098-VG	WAREHOUSE/HOT WORK	ROOF-DOWNBLAST	350	0.7	7.8	DIRECT	1725	120/1/60	1/4	4.0	15	1,2,3,4,6,7,10
EF-8	GREENHECK	CUE-060-VG	STORAGE	ROOF-UPBLAST	75	0.3	3.1	DIRECT	1725	120/1/60	1/10	2.0	15	1,2,3,4,5,6,8
EF-9	GREENHECK	G-120-VG	WAREHOUSE	ROOF-DOWNBLAST	1,300	0.4	12.1	DIRECT	1725	120/1/60	1/2	8.0	15	1,2,3,4,5,6,7

REMARKS:
1. PROVIDE WITH UNIT MOUNTED DISCONNECT
2. PROVIDE WITH UNIT MOUNTED SPEED CONTROL
3. PROVIDE WITH GRAVITY BACKDRAFT DAMPER
4. PROVIDE WITH HIGH EFFICIENCY ECM FAN MOTOR AND MOTOR STARTERS
5. FAN SHALL OPERATE CONTINUOUS PER BAS OCCUPIED SCHEDULE
6. PROVIDE FAN WITH BIRD SCREEN
7. ROOF MOUNTED, DOWN-BLAST, PROVIDE WITH APPROPRIATE ROOF CURB (MIN. 12"). ROOF SLOPE SHALL BE CONFIRMED PRIOR TO ORDERING ROOF CURB
8. ROOF MOUNTED, UP-BLAST, PROVIDE WITH APPROPRIATE ROOF CURB (MIN. 12"). ROOF SLOPE SHALL BE CONFIRMED PRIOR TO ORDERING ROOF CURB
9. FAN SHALL BE CONTROLLED VIA WALL MOUNTED THERMOSTAT DURING OCCUPIED HOURS FROM BAS. REFER TO CONTROL DRAWINGS. PROVIDE LOW VOLTAGE TRANSFORMER AS NEEDED FOR THERMOSTAT CONTROL.
10. PROVIDE FAN WITH ON/OFF TOGGLE WALL SWITCH. COORDINATE WITH ELECTRICAL CONTRACTOR. WALL SWITCH SHALL HAVE SIGN STATING "WELDING EXHAUST FAN CONTROL"

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: CARNES, COOK. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

HIGH VOLUME LOW SPEED FAN SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	DIAMETER	MAX SPEED	AIRFLOW CFM	NO. OF AIRFOILS	ELECTRICAL				REMARKS
								V/Ø/Hz	WATTS	FLA	MOCP	
HVLS-1	GREENHECK	DC-5-10	WAREHOUSE	10-FT	140 RPM	41,200	5	120/1/60	175	5.0	15	ALL
HVLS-2	GREENHECK	DC-5-10	WAREHOUSE	10-FT	140 RPM	41,200	5	120/1/60	175	5.0	15	ALL
HVLS-3	GREENHECK	DC-5-10	WAREHOUSE	10-FT	140 RPM	41,200	5	120/1/60	175	5.0	15	ALL
HVLS-4	GREENHECK	DC-5-10	WAREHOUSE	10-FT	140 RPM	41,200	5	120/1/60	175	5.0	15	ALL
HVLS-5	GREENHECK	DC-5-10	WAREHOUSE	10-FT	140 RPM	41,200	5	120/1/60	175	5.0	15	ALL
HVLS-6	GREENHECK	DC-5-10	WAREHOUSE	10-FT	140 RPM	41,200	5	120/1/60	175	5.0	15	ALL
HVLS-7	GREENHECK	DC-5-10	WAREHOUSE	10-FT	140 RPM	41,200	5	120/1/60	175	5.0	15	ALL

REMARKS:
1. COLOR SELECTED BY ARCHITECT.
2. PROVIDE WITH WALL MOUNTED ADVANCED TOUCHSCREEN CONTROLLER. CONTROLLER SHALL BE ABLE TO SET DIRECTION AND FAN SPEED ON EACH FAN SEPARETLEY. CONTROLLER SHALL ALSO HAVE ABILITY TO GROUP AND OPERATE FANS TOGETHER. CONTROLLER IS 120V, COORDINATE POWER WITH ELECTRICAL CONTRACTOR.
3. VERIFY EXTENSION TUBE LENGTH AND MOUNTING BRACKET WITH MANUFACTURER PRIOR TO ORDERING.
4. SUPPORT FROM STRUCTURE ABOVE. VERIFY INSTALLATION HEIGHT WITH ARCHITECT/GENERAL CONTRACTOR.
5. MAINTAIN FACTORY CLEARANCE REQUIREMENTS.
6. PROVIDE FORWARD AND REVERSE OPERATION.
7. HVLS CONTROLLER SHALL TIE INTO BUILDING AUTOMATION SYSTEM. COORDINATE CONTROLS WORK WITH TCC.

REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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MECHANICAL SCHEDULES
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS				DESIGNED: CVS
NO.	DATE	BY	DESCRIPTION	DRAWN: SPB
				REVIEWED: CVS
				APPROVED: CVS

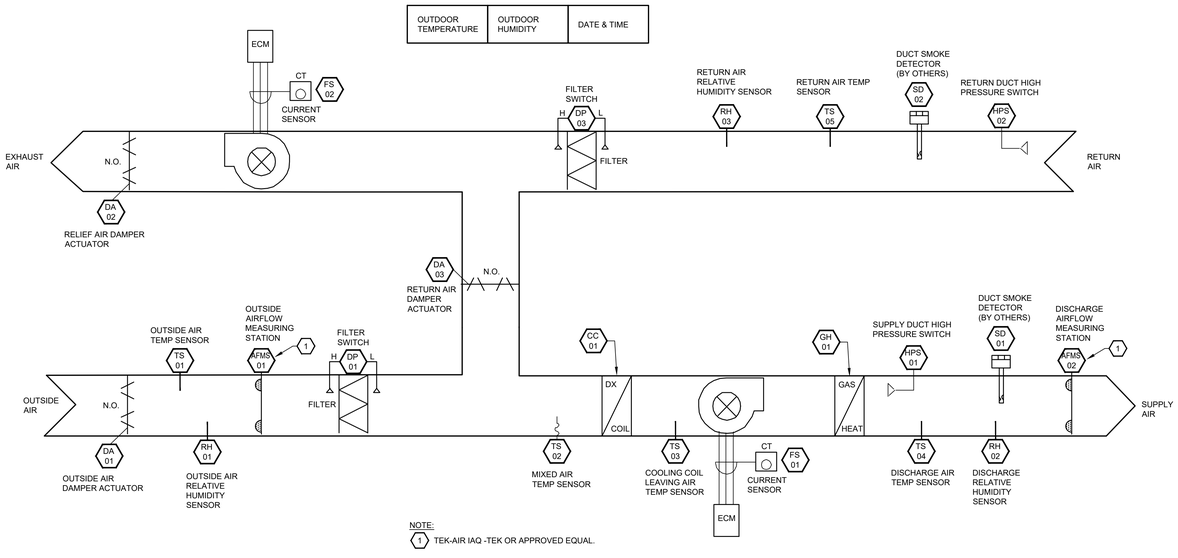
THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO. M-601 01

PRINTED: 8/13/2025 @ 4:22PM
FILE NAME: G:\5247-LFUCG DWQ HQB\Working Drawings\AutoCAD\5247-01-M-601-01.dwg

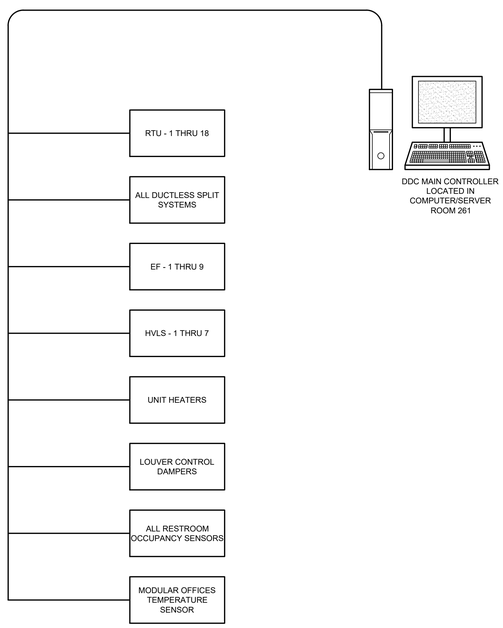
OPERATING PARAMETERS

FUNCTION	SET POINT (ADJUSTABLE)	REMARKS
SPACE TEMPERATURE SETPOINT - COOLING SPACE TEMPERATURE SETPOINT - HEATING	74 F 70 F	DEAD BAND +/- 2 F DEAD BAND +/- 2 F
SPACE RELATIVE HUMIDITY SETPOINT - COOLING	50% RH	DEAD BAND +/- 5% RH



NOTE:
(1) TEK-AIR IAQ -TEK OR APPROVED EQUAL.

1 RTU CONTROL DIAGRAM
NOT TO SCALE



2 CONTROL NETWORK COMMUNICATIONS DIAGRAM
NOT TO SCALE

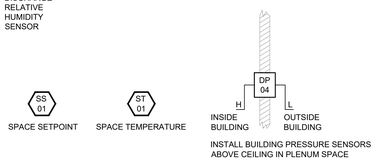
RTU POINTS LIST

TAG	POINT DESCRIPTION	UNITS	DI	DO	AI	AO	ALARM	TREND
TS-01	OUTSIDE AIR TEMPERATURE SENSOR	DEG F (DEG C)			X			6 MO
DA-01	OUTSIDE AIR MOTORIZED DAMPER POSITION	PER (%)	X		X			
RH-01	OUTSIDE AIR RELATIVE HUMIDITY SENSOR	%RH			X			6 MO
ST-01	SPACE TEMPERATURE	DEG F (DEG C)			X			6 MO
SS-01	SPACE TEMPERATURE SETPOINT	DEG F (DEG C)			X			
AFMS-01	AIRFLOW MEASURING STATION	CFM			X			6 MO
DP-01	OUTSIDE AIR PREFILTER STATUS	IN WG (PA)			X		X	
TS-02	MIXED AIR TEMPERATURE SENSOR	DEG F (DEG C)			X			6 MO
CC-01	COOLING COIL COMMAND	PER (%)				X		
TS-03	COOLING COIL LEAVING AIR TEMPERATURE SENSOR	DEG F (DEG C)			X			6 MO
FS-01	SUPPLY FAN STATUS	ON/OFF	X				X	6 MO
GH-01	GAS HEATING SECTION	PER (%)	X			X		
SD-01	SUPPLY SMOKE DETECTOR	ON/OFF	X				X	
TS-04	UNIT DISCHARGE AIR TEMPERATURE SENSOR	DEG F (DEG C)			X			6 MO
RH-02	UNIT DISCHARGE AIR RELATIVE HUMIDITY SENSOR	%RH			X			6 MO
HPS-01	HIGH LIMIT STATIC PRESSURE SWITCH	IN WG (PA)	X				X	
AFMS-02	AIRFLOW MEASURING STATION	CFM			X			6 MO
HPS-02	HIGH LIMIT STATIC PRESSURE SWITCH	IN WG (PA)	X				X	
SD-02	RETURN SMOKE DETECTOR	ON/OFF	X				X	
TS-05	RETURN AIR TEMPERATURE SENSOR	DEG F (DEG C)			X			6 MO
RH-03	RETURN AIR RELATIVE HUMIDTY SENSOR	%RH			X			6 MO
DP-03	RETURN AIR FILTER STATUS	IN WG (PA)			X		X	
DA-02	RELIEF AIR MOTORIZED DAMPER POSITION	PER (%)	X		X			
FS-02	RELIEF/EXHAUST FAN STATUS	ON/OFF	X				X	6 MO
DA-03	RETURN AIR MOTORIZED DAMPER POSITION	PER (%)	X					
DP-04	BUILDING STATIC PRESSURE	IN WG (PA)			X		X	

Note 1: Outside air temperature, and humidity readings can be a global point.

NOTE:

RTU-3, RTU-4, AND RTU-18 HAVE TWO THERMOSTATS FOR EACH ZONE AND THE UNIT SHALL OPERATE BASED ON ZONE TEMPERATURE AVERAGING WITH THESE TWO THERMOSTATS



SEQUENCE OF OPERATION - RTU

ROOFTOP UNITS

FANS
SUPPLY FAN SHALL RUN AT CONSTANT VOLUME AS COOLING/HEATING IS NEEDED DURING OCCUPIED HOURS. TCC SHALL CONFIRM OCCUPIED AND UNOCCUPIED HOURS WITH BUILDING OWNER. RELIEF FAN SHALL MODULATE AS REQUIRED TO MAINTAIN BUILDING PRESSURIZATION.

DAMPER CONTROL
OUTSIDE AIR DAMPER, RETURN AIR DAMPER, AND RELIEF/EXHAUST AIR DAMPER SHALL MODULATE AS NEEDED TO MAINTAIN MINIMUM OUTDOOR AIRFLOW RATE DURING OCCUPIED HOURS. OUTSIDE AIR DAMPER SHALL CLOSE IF SUPPLY FAN IS OFF OR DURING UNOCCUPIED HOURS. RELIEF/EXHAUST AIR DAMPER SHALL CLOSE IF RELIEF FAN IS OFF OR DURING UNOCCUPIED HOURS.

DX COOLING COIL CONTROL
IN COOLING MODE THE DX COOLING COIL AND COMPRESSORS SHALL ENERGIZE AND MODULATE AS REQUIRED TO MAINTAIN COOLING SPACE TEMPERATURE SETPOINT.

DEHUMIDIFICATION HOT GAS REHEAT COIL CONTROL
THE HOT GAS REHEAT COIL SHALL BE ENERGIZED IF THE RELATIVE HUMIDITY MEASURED FROM THE RETURN DUCT HUMIDITY SENSOR RISES ABOVE 50% RH (ADJ). THE COOLING COIL SHALL ACTIVATE TO PROVIDE 55°F COIL LEAVING AIR TEMPERATURE AND THE HOT GAS REHEAT COIL SHALL MODULATE CAPACITY AS NEEDED TO ACHIEVE COOLING SPACE TEMPERATURE SETPOINT AND RETURN RELATIVE HUMIDITY SETPOINT OF 50% RH (ADJ) AND THEN SHALL DE-ACTIVATE UNTIL HUMIDITY RISES ABOVE SETPOINT (ADJ).

GAS HEATING CONTROL
IN HEATING MODE THE MODULATING GAS HEATING SECTION SHALL BE ENERGIZED AND MODULATE AS NEEDED IN ORDER TO MAINTAIN SPACE TEMPERATURE. AN AIRFLOW PROVING SWITCH SHALL BE PROVIDED IN UNIT TO PREVENT GAS HEATING SECTION FROM OPERATING IN THE EVENT OF NO AIRFLOW.

ECONOMIZER
ENABLE ECONOMIZER CYCLE WITH ENTHALPY CONTROL WHEN OUTSIDE AIR TEMPERATURE IS EQUAL TO OR LESS THAN THE ECONOMIZER COOLING SWITCHOVER SETPOINT. DX COOLING SHALL BE OFF. EXHAUST (RELIEF) AIR DAMPER SHALL OPEN AND OUTSIDE AIR AND RETURN AIR DAMPERS SHALL MODULATE TO MAINTAIN MIXED AIR TEMPERATURE SETPOINT. EXHAUST FAN SHALL OPERATE TO MAINTAIN BUILDING PRESSURE AND PREVENT OVER-PRESSURIZATION. WHEN THE OUTSIDE AIR TEMPERATURE IS GREATER THAN THE SWITCHOVER SETPOINT ECONOMIZER OPERATION SHALL BE DISABLED.

UNOCCUPIED MODE / NIGHT SETBACK MODE (TIMEFRAME USER DEFINED, CONFIRM WITH OWNER)
DURING UNOCCUPIED MODE (TCC SHALL CONFIRM TIME SCHEDULES WITH BUILDING OWNER) THE OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL BE FULLY CLOSED, THE SUPPLY FAN AND RELIEF FAN SHALL BE TURNED OFF. IF SPACE TEMPERATURE RISES OR FALLS OUTSIDE OF NIGHT SETBACK TEMPERATURE SETTINGS, THE UNIT SUPPLY FAN SHALL ACTIVATE AND THE UNIT SHALL OPERATE IN COOLING OR HEATING MODES TO MAINTAIN THE SETBACK SPACE TEMPERATURES. THE OUTSIDE AIR DAMPER SHALL REMAIN FULLY CLOSED AND THE RETURN DAMPER SHALL FULLY OPEN. EXHAUST FAN SHALL REMAIN OFF.

MORNING WARM-UP / COOL-DOWN (IF NEEDED BASED ON UNOCCUPIED SCHEDULE)
DEPENDING ON THE SEASON DDC SHALL CALCULATE OPTIMAL START TIME FOR OBTAINING OCCUPIED SPACE TEMPERATURE SETPOINT AS SCHEDULED. OUTSIDE AIR AND RELIEF / EXHAUST DAMPERS SHALL REMAIN CLOSED AND RETURN DAMPER SHALL REMAIN OPEN. SUPPLY FAN AND HEATING OR COOLING CONTROL SHALL MODULATE AS NEEDED TO MAINTAIN SPACE TEMPERATURE.

SMOKE / FIRE ALARMS
ACTIVATION OF ROOFTOP UNIT DUCT SMOKE DETECTOR SHALL DE-ENERGIZE ASSOCIATED ROOFTOP UNIT AND SEND AN ALARM SIGNAL TO THE FIRE ALARM SYSTEM. FIRE ALARM SYSTEM SHALL SEND A SUPERVISORY SIGNAL TO THE ROOFTOP UNIT CONTROL SYSTEM.

OVER PRESSURIZATION CONTROL
A STATIC PRESSURE SENSOR SHALL BE LOCATED IMMEDIATELY UPSTREAM OF THE SUPPLY AIR FAN AND DOWNSTREAM OF THE RETURN AIR FAN, BEFORE ANY FIRE DAMPERS OR SMOKE DAMPERS. IF THE PRESSURE IN THE SUPPLY AIR DUCT EXCEEDS 2.5" W.G. (ADJ) OR -2.0" W.G. (ADJ) IN THE RETURN AIR DUCT, BOTH FANS SHALL BE DE-ACTIVATED. UPON CORRECTION OF THE PROBLEM, THE SYSTEM SHALL BE RESET AND UNIT SHALL RETURN TO NORMAL OPERATION.

OPERATING PARAMETERS: UH

FUNCTION	SET POINT ADJUSTABLE	REMARKS
TEMPERATURE SETPOINT	65 F (ADJ)	SEND ALARM TO DDC SYSTEM IF SPACE TEMPERATURE FALLS BELOW 60F (ADJ).
BAS INTERFACE		-ON/OFF STATUS TO BAS MONITORING SYSTEM. -HEAT STATUS TO BAS MONITORING SYSTEM. -SPACE TEMPERATURE TO BAS MONITORING SYSTEM.

UNIT HEATER POINTS LIST (EXISTING WAREHOUSE HEATERS)

TAG	POINT DESCRIPTION	UNITS	DI	DO	AI	AO	ALARM	TREND
	UH 1-2							
TS-1	ROOM THERMOSTAT	DEG F				X	X	
SF-1	SUPPLY AIR FAN	ON/OFF	X					

EF POINTS LIST

TAG	POINT DESCRIPTION	UNITS	DI	DO	AI	AO	ALARM	TREND
FS-1	FAN STATUS	ON/OFF	X				X	

SEQUENCE OF OPERATION - EF

EXHAUST FANS - EF-1, EF-2, EF-3, EF-4, EF-8
EXHAUST FANS SHALL RUN CONTINUOUS DURING OCCUPIED HOURS. FAN SHALL BE OFF DURING UNOCCUPIED HOURS. VERIFY OCCUPIED HOURS WITH OWNER.

UNOCCUPIED HOURS OPERATION: THE OCCUPANCY SENSOR IN EACH RESTROOM SHALL ALSO BE CONNECTED TO BAS. IF ANY OCCUPANCY SENSOR IS ACTIVATED DURING UNOCCUPIED HOURS, THE ASSOCIATED EXHAUST FAN SHALL TURN ON AND RUN FOR 60 MINUTES, THEN TURN OFF.

EXHAUST FANS - EF-5, EF-6, EF-9
EF-9 SHALL RUN CONTINUOUS DURING OCCUPIED HOURS. FAN SHALL BE OFF DURING UNOCCUPIED HOURS. VERIFY OCCUPIED HOURS WITH OWNER. MOTORIZED CONTROL DAMPERS ON LOUVERS SHALL BE INTERLOCKED WITH FAN STATUS. IF ANY FAN IS ON, THEN LOUVER DAMPERS SHALL OPEN. IF FANS ARE OFF, THEN LOUVER DAMPERS SHALL BE CLOSED. FAN ON/OFF STATUS SHALL TIE INTO BAS MONITORING SYSTEM.

EF-5,6 SHALL BE CONTROLLED VIA WALL MOUNTED THERMOSTAT. WHEN SPACE TEMPERATURE IS 65F (ADJ) OR BELOW, FANS SHALL BE OFF. WHEN SPACE TEMPERATURE RISES ABOVE 65F (ADJ), FANS SHALL RUN CONTINUOUS DURING OCCUPIED HOURS. DURING UNOCCUPIED HOURS, FANS SHALL BE OFF.

LOUVER CONTROL DAMPER OPEN/CLOSE STATUS SHALL BE VIEWABLE AND CONNECT TO BAS.

EMERGENCY SHUTOFF: IF SPACE TEMPERATURE DROPS TO 45F (ADJ) OR BELOW, EF-1 AND EF-2 SHALL TURN OFF AND THE LOUVER MOTORIZED DAMPERS SHALL CLOSE. WHEN SPACE TEMPERATURE RISES ABOVE 45F (ADJ), FANS SHALL RESUME NORMAL OPERATION.

EXHAUST FANS - EF-7
EF-7 SHALL BE CONTROLLED VIA DEDICATED ON/OFF WALL SWITCH. IF SWITCH IS SELECTED ON, THEN FAN SHALL RUN CONTINUOUS. IF SWITCH IS OFF, FAN SHALL TURN OFF. IF FAN IS SWITCHED ON BUT DOESNT ACTIVATE, IT SHALL ALARM TO BAS.

OPERATING PARAMETERS: DSS/CU-1 THRU 6

FUNCTION	SET POINT ADJUSTABLE	REMARKS
TEMPERATURE SETPOINT	75 F (ADJ)	SEND ALARM TO DDC SYSTEM IF SPACE TEMPERATURE GOES ABOVE 85F (ADJ).
BAS INTERFACE		-ON/OFF STATUS TO BAS MONITORING SYSTEM. -HEAT/COOL STATUS TO BAS MONITORING SYSTEM. -SPACE TEMPERATURE TO BAS MONITORING SYSTEM.

DSS/CU POINTS LIST (DSS/CU 1 THRU 6)

TAG	POINT DESCRIPTION	UNITS	DI	DO	AI	AO	ALARM	TREND
TS-1	ROOM THERMOSTAT	DEG F				X	X	6 MO
OA-1	GLOBAL OUTSIDE AIR TEMPERATURE	DEG F (DEG C)			X			6 MO
RH-1	GLOBAL OUTSIDE AIR HUMIDITY	% RH			X			6 MO

Note 1: Outside air temperature, and humidity readings can be a global point.

SEQUENCE OF OPERATION - DSS

DUCTLESS SPLIT SYSTEM UNITS

FANS
SUPPLY FAN SHALL OPERATE AS NEEDED TO MAINTAIN SPACE TEMPERATURE.

COOLING COIL CONTROL
IN COOLING MODE THE DX COOLING COIL AND CONDENSING UNIT SHALL ACTIVATE AS REQUIRED TO MAINTAIN SPACE TEMPERATURE.

SEQUENCE OF OPERATION: HVLS FANS

FANS SHALL BE CONNECTED AND COMMUNICATE TO BAS. FANS SHALL BE ENABLED UNDER FACTORY HAND-OFF-AUTOMATIC (H-O-A) CONTROL OR PER BAS OCCUPIED/UNOCCUPIED SCHEDULE. FANS SHALL HAVE ABILITY TO BE PROGRAMMED SEPARATELY OR GROUPED TOGETHER.

PROVIDE FAN STATUS AND ALARM STATUS TO DDC MONITORING SYSTEM.

MODULAR OFFICE TEMPERATURE SENSOR

TEMPERATURE SENSOR SHALL BE CONNECTED TO BAS TO MONITOR SPACE TEMPERATURE INSIDE ROOM.

BAS SHALL ALARM IF SPACE TEMPERATURE RISES ABOVE 85F (ADJ) OR FALLS BELOW 55F (ADJ).

NOTE:

PER DIRECTION FROM OWNER, ALL CONTROL WIRING SHALL BE ORANGE AND SHALL NOT CONFLICT WITH OTHER SYSTEM'S WIRING. TCC SHALL COORDINATE WIRING COLOR WITH OWNER AND OWNER'S IT DEPARTMENT PRIOR TO INSTALLATION.

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

MECHANICAL CONTROLS
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS
SCALE CHECK: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: M-701 01

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INTERIOR LIGHTING

SUBSCRIPTS INDICATE THE FOLLOWING:

LF-X	=	INDICATES LUMINAIRE TYPE
E	=	INDICATES EMERGENCY BATTERY BACKUP
a	=	DENOTES SINGLE SWITCH DESIGNATION
a/b	=	DENOTES DUAL SWITCH DESIGNATION

CEILING MTD

WALL MTD

- 2' x 4' RECESSED LUMINAIRE
- 2' x 4' RECESSED LUMINAIRE WITH EMERGENCY BATTERY BACKUP
- 2' x 2' RECESSED LUMINAIRE
- 2' x 2' RECESSED LUMINAIRE WITH EMERGENCY BATTERY BACKUP
- 1' x 4' SURFACE MOUNTED OR SUSPENDED LUMINAIRE
- 1' x 4' SURFACE MOUNTED OR SUSPENDED LUMINAIRE WITH EMERGENCY BATTERY BACKUP
- 4' STRIP LUMINAIRE
- 8' STRIP LUMINAIRE
- EXIT LIGHT WITH ARROW
- RECESSED OR SURFACE MOUNTED LUMINAIRE
- RECESSED LUMINAIRE WITH EMERGENCY BATTERY BACKUP
- EMERGENCY LUMINAIRE BATTERY OPERATED
- EMERGENCY REMOTE HEAD

INTERIOR LIGHTING CONTROLS

SUBSCRIPTS INDICATE THE FOLLOWING:

a	=	SWITCH DESIGNATION
D	=	DIMMER
2	=	DOUBLE-POLE
3	=	THREE-WAY
4	=	FOUR-WAY
K	=	KEY-OPERATED
OC	=	OCCUPANCY SENSOR
P	=	PILOT LIGHT
T	=	TIMER
L	=	LOW-VOLTAGE
M	=	MOTOR RATED WITH OVERLOAD PROTECTION
IG	=	ISOLATED GROUND
EXP	=	EXPLOSION PROOF
WP	=	WEATHERPROOF
DR	=	DOOR SWITCH

- WALL SWITCH 120-277 VOLT, 20 AMP, SINGLE POLE
- MULTIPLE WALL SWITCHES 120-277 VOLT, 20 AMP, MTD IN A SINGLE BOX
- OCCUPANCY SENSOR - CEILING MOUNTED
- OCCUPANCY SENSOR - CEILING MOUNTED - WITH AUTOMATIC DIMMING CONTROL PHOTOCELL
- POWER PACK
- POWER PACK W/ 0-10V DIMMING OUTPUT
- LIGHTING CONTROL TAG - REFER TO LIGHTING CONTROL DETAILS FOR REQUIREMENTS

INTERIOR CONDUIT & WIRE

- CONDUIT CONCEALED IN WALL OR CEILING TIC MARKS INDICATE NUMBER OF WIRES. #12 IF NOT OTHERWISE SHOWN. CONDUIT SHALL BE 3/4 " UNLESS OTHERWISE NOTED.
  - PHASE(S)
  - NEUTRAL
  - GROUND
- CONDUIT EXPOSED OR CONCEALED
- CONDUIT RUN UNDERGROUND OR IN CONCRETE
- HOMERUN TO PANEL (PANEL LP1 CIRCUIT 2 INDICATED) — LP1-2
- SIGNIFIES MULTIPLE CIRCUITS IN ONE CONDUIT
- EXPLOSION PROOF CONDUIT SEAL
- CONDUIT WITH END CAPPED
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN

SHEET IDENTIFICATION LEGEND

DISCIPLINE DESIGNATOR	DESCRIPTION
E-	ELECTRICAL GENERAL
ED	ELECTRICAL DEMOLITION
ES	ELECTRICAL SITE
EL	ELECTRICAL LIGHTING
EC	ELECTRICAL LIGHTING CONTROLS
EP	ELECTRICAL POWER
ET	ELECTRICAL TELECOMMUNICATIONS
EY	ELECTRICAL AUXILIARY SYSTEMS
SHEET NUMBER	DESCRIPTION
-00X	GENERAL (SYMBOLS LEGEND, NOTES, ETC.)
-1XX	PLANS
-2XX	ELEVATIONS
-3XX	SECTIONS
-4XX	ENLARGED PLANS
-5XX	DETAILS
-6XX	DIAGRAMS
-7XX	SCHEDULES
BUILDING	DESCRIPTION
01	LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
02	LFUCG EXTERIOR STRUCTURES
03	LFUCG VACTOR BUILDING

SHEET IDENTIFICATION

DISCIPLINE DESIGNATOR - SHEET NUMBER BUILDING
EXAMPLE: EP-102 02
(ELECTRICAL POWER PLAN FOR LFUCG EXTERIOR STRUCTURES)

POWER WIRING DEVICES

SUBSCRIPTS INDICATE THE FOLLOWING:

WP	=	WEATHERPROOF, IN-USE COVER
WR	=	WEATHER-RESISTANT WIRING DEVICE
GFCI	=	GROUND FAULT CIRCUIT INTERRUPTER
GF-BF	=	BLANK FACE GROUND FAULT INTERRUPTER
IG	=	ISOLATED GROUND
EWC	=	ELECTRIC WATER COOLER - GFCI TYPE UNLESS NOT READILY ACCESSIBLE (SEE SHEET KEYNOTES)
EXP	=	EXPLOSION PROOF
ACT	=	ABOVE COUNTER TOP
TR	=	TAMPER-RESISTANT WIRING DEVICE
AFCI	=	ARC FAULT CIRCUIT INTERRUPTER
SPD	=	SURGE PROTECTION DEVICE

- SINGLE RECEPTACLE, 125 VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
- DUPLEX RECEPTACLE, 125 VOLT, 2-POLE, 3 WIRE, NEMA 5-20R GROUNDING TYPE
- SPECIAL PURPOSE RECEPTACLE, NUMBER DENOTES NEMA CONFIGURATION
- QUADRUPLEX RECEPTACLE, 125 VOLT, 2-POLE, 3 WIRE, NEMA 5-20R GROUNDING TYPE
- SINGLE SPECIAL PURPOSE RECEPTACLE, NEMA CONFIGURATION NOTED
- FLOOR MOUNTED DUPLEX RECEPTACLE, 125-VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
- FLOOR MOUNTED QUADRAPLEX RECEPTACLE, 125-VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
- RANGE RECEPTACLE, 125/250 VOLT, 3-POLE, 4-WIRE, NEMA 14-50R GROUNDING TYPE
- JUNCTION BOX WALL OR CLG MOUNTED FLUSH OR SURFACE AS NOTED, 4"X4" SQUARE UNLESS OTHERWISE NOTED
- MULTI-OUTLET SURFACE RACEWAY, SIZE AND NUMBER OF RECEPTACLE AS SCHEDULED. # INDICATES CIRCUIT NUMBER
- WIREWAY
- CABLE TRAY
- PLUGIN OR FEEDER BUSWAY
- WALL MTD SINGLE FACE CLOCK
- WALL MTD DOUBLE FACE CLOCK

POWER DEVICES

- MOTOR CONNECTION (5 HP INDICATED)
- DISCONNECT SWITCH (ENCLOSURE TYPE, SIZE, AND FUSING, IF REQUIRED, DESIGNATED ON DRAWINGS)
- PANELBOARD, SURFACE MOUNTED
- PANELBOARD, RECESSED
- ENCLOSED CIRCUIT BREAKER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)
- MOTOR CONTROLLER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)
- COMBINATION STARTER/CIRCUIT BREAKER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)
- VARIABLE FREQUENCY DRIVE (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)
- DRY TYPE TRANSFORMER - FLOOR MOUNTED ON 4" HIGH HOUSEKEEPING PAD
- MAGNETIC CONTACT, DOOR MOUNTED
- MAGNETIC CONTACT, WINDOW MOUNTED
- PASSIVE INFRARED MOTION DETECTOR, ARROW DENOTES CURTAIN DIRECTION

TELECOMMUNICATIONS

SUBSCRIPTS INDICATE THE FOLLOWING:

X	=	DATA AND/OR VOICE OUTLET
AV	=	AUDIO VISUAL OUTLET

FACEPLATE CONFIGURATION TYPE - SEE DETAIL SHEETS

- RJ-45 OUTLET - WALL-MOUNTED, MOUNT 18" AFF, UNLESS OTHERWISE NOTED
- RJ-45 OUTLET - FLOOR MOUNTED
- ONE POSITION VOICE OUTLET (RJ-45) - WHITE JACK - WALL-MOUNTED AT 48" AFF, UNLESS OTHERWISE NOTED
- AUDIO VISUAL OUTLET, MOUNT AT HEIGHT INDICATED ON FLOOR PLANS - REQUIRES TYPE F COMPRESSION CONNECTOR + EMPTY BOX FOR OWNER PROVIDED DATA CABLING

SECURITY SYSTEMS

- CR — CARD READER (OWNER FURNISHED / DIVISION 28 INSTALLED)
- ES — ELECTRIC STRIKE (DIVISION 08 FURNISHED / DIVISION 08 INSTALLED)
- ED — ELECTRIFIED EXIT DEVICE (DIVISION 08 FURNISHED / DIVISION 08 INSTALLED)
- MD — MAGNETIC LOCK (DIVISION 08 FURNISHED / DIVISION 28 INSTALLED)
- GATE OPERATOR (DIVISION 32 FURNISHED / DIVISION 32 INSTALLED)
- MD — REX MOTION DETECTOR (OWNER FURNISHED / DIVISION 28 INSTALLED)
- PB — REX PUSHBUTTON (OWNER FURNISHED / DIVISION 28 INSTALLED)
- BMS — BALANCED MAGNETIC SWITCH (OWNER FURNISHED / DIVISION 28 INSTALLED)
- CAMERA (OWNER FURNISHED / OWNER INSTALLED)
- IC — INTERCOM CALL STATION (OWNER FURNISHED / DIVISION 28 INSTALLED)
- PS — POWER SUPPLY (DIVISION 08 FURNISHED / DIVISION 28 INSTALLED)
- HC — HANDICAP DOOR ACTUATOR (DIVISION 08 FURNISHED / DIVISION 28 INSTALLED)
- X — DOOR NUMBER

FIRE ALARM/SUPPRESSION SYSTEM DEVICES

- END OF LINE RESISTOR
- FACP — FIRE ALARM CONTROL PANEL
- FSA — FIRE ALARM ANNUNICATOR PANEL
- FAC — FIRE ALARM COMMUNICATOR
- MIC — REMOTE MIC
- FIRE ALARM MANUAL STATION
  - X= A- CLEAN AGENT, C- CARBON DIOXIDE, D- DRY CHEMICAL, F- FOAM, W- WET CHEMICAL, P- MANUAL PULL STATION
- FIRE ALARM SPEAKER-HORN/STROBE LIGHT
- FIRE ALARM HORN OR SPEAKER
- FIRE ALARM BELL/LIGHT
- WATER MOTOR GONG
- FIRE ALARM STROBE LIGHT
- SMOKE DETECTOR
  - X= P- PHOTOELECTRIC, I- IONIZATION, BT- BEAM TRANSMITTER, BR- BEAM RECEIVER
- DUCT MOUNTED SMOKE DETECTOR
- DUCT DETECTOR REMOTE TEST SWITCH
- HEAT DETECTOR, SUBSCRIPT DENOTES THE FOLLOWING:
  - X= F-FIXED TEMPERATURE, R-RATE OF RISE, R/F-COMBINATION RATE OF RISE AND FIXED
- TAMPER SWITCH CONNECTION
- FLOW SWITCH CONNECTION
- DOOR HOLDER
- PRESSURE SWITCH
- LEVEL SWITCH
- VALVE WITH TAMPER SWITCH
- MUSHROOM HEAD EMERGENCY PUSHBUTTON SWITCH
- FIRE FIGHTER'S TELEPHONE STATION
- CO_2 FIRE EXTINGUISHER
- AMM — ADDRESSABLE MONITOR MODULE
- CO — CARBON MONOXIDE DETECTOR

EXISTING / EXTERIOR / NEW

EXISTING	EXTERIOR	NEW
35/3	POLE, LENGTH AND CLASS AS INDICATED	35/3
3-25	TRANSFORMER BANK POLE MOUNTED, SHOWN AS THREE PHASE 25 KVA TRANSFORMERS	3-25
25	SINGLE PHASE TRANSFORMER, POLE MOUNTED 25 KVA NOTED	25
T 100	PAD MOUNTED TRANSFORMER, 100 KVA NOTED	T 100
	FUSE CUTOUT WITH FUSE SIZE AND TYPE NOTED	
	DISCONNECT SWITCH OR SECTIONALIZING SWITCH	
EG	BURIED GROUND WIRE	G
EG	GROUND WIRE IN OR UNDER FLOOR SLAB	G
EG	GROUND WIRE EXPOSED	G
	GROUND CONNECTION OR EQUIPMENT BOND	
EG	ROOF CONDUCTOR	RC
	POLE MOUNTED LUMINAIRE	
XXX	MANHOLE, HANDHOLE, OR PULLBOX, SUBSCRIPT DENOTES THE FOLLOWING: EMH ELECTRICAL MANHOLE, CMH COMMUNICATIONS MANHOLE, EHH ELECTRICAL HANDHOLE, CHH COMMUNICATIONS HANDHOLE, EPB ELECTRICAL PULLBOX, CPB COMMUNICATIONS PULLBOX	XXX
OR XXX XXX OR XXX XXX	WALLPACK EXTERIOR LUMINAIRE	OR XXX XXX OR XXX XXX
3/4-10 W	WALLPACK EXTERIOR LUMINAIRE WITH EMERGENCY BATTERY	3/4-10 W
24	GROUND ROD, SIZE AS NOTED 3/4" X 10' (W DENOTES INSTALLATION IN WELL)	24
	LIGHTNING ROD, (24 INCHES HIGH NOTED)	

DEMOLITION

- ITEMS / AREAS THAT ARE TO BE DEMOLISHED ARE INDICATED WITHIN A HATCH PATTERN

SINGLE LINE DIAGRAMS/CONTROLS

- ETM — ELAPSED TIME METER
- TM — TIMER MOTOR
- R OR CR# — CONTROL RELAY
- SV — SOLENOID VALVE CONNECTION
- LS — LIMIT SWITCH CONNECTION
- T — THERMOSTAT CONNECTION
- PC OR — PHOTOCELL
- PS — PRESSURE SWITCH CONNECTION
- A — AMMETER
- DM — DAMPER MOTOR ACTUATOR, SPRING RETURN
- EF — EXHAUST FAN MOTOR
- V — VOLTMETER
- W — WATTMETER
- WH — WATTHOUR METER
- M — MOTOR STARTER COIL
- M / OL — MOTOR CONTACTOR / MOTOR OVERLOAD
- INDICATOR LIGHT (CONTROL CIRCUIT)
- PUSH TO TEST — INDICATOR LIGHT W/PUSH TO TEST (CONTROL CIRCUIT)
- ON / OFF — 2 POSITION SELECTOR SWITCH: ON-OFF
- L / O / R — 3 POSITION SELECTOR SWITCH: LOCAL-OFF-REMOTE HAND-OFF-AUTOMATIC
- L / O / R / A — 4 POSITION SELECTOR SWITCH: LOCAL-OFF-REMOTE-AUTOMATIC
- STOP / START / M — START-STOP PUSHBUTTON (NON-MAINTAINED CONTACT)
- OFF / ON — ON-OFF PUSHBUTTON (MAINTAINED CONTACT)
- CONTROL PANEL HEATER/COOLING FAN
- E-STOP — EMERGENCY STOP PUSHBUTTON STATION
- SWITCH, NONFUSED
- FUSED SWITCH
- OR — FUSE
- MAGNETIC ONLY CIRCUIT BREAKER (SINGLE POLE SHOWN)
- THERMAL-MAGNETIC CIRCUIT BREAKER (SINGLE POLE SHOWN)
- CIRCUIT BREAKER GENERIC
- GF — GROUND FAULT PROTECTED BREAKER
- LINE REACTOR
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- SPD — SURGE PROTECTIVE DEVICE, TYPE 1 OR TYPE 2
- TS OR — LIGHTNING ARRESTOR (GROWBAR STYLE)
- CAPACITOR
- GROUND
- TRANSFORMER
- RELAY CONTACT (NORMALLY OPEN)
- RELAY CONTACT (NORMALLY CLOSED)
- TIMER CONTACT - NORMAL OPEN, TIME CLOSE — N.O.T.C.
- TIMER CONTACT - NORMAL CLOSE, TIME OPEN — N.C.T.O.
- TIMER CONTACT - NORMAL OPEN, TIME OPEN — N.O.T.O.
- TIMER CONTACT - NORMAL CLOSE, TIME CLOSE — N.C.T.C.
- KEY INTERLOCK
- THERMAL OVERLOAD PROTECTION
- BATTERY
- AUTOTRANSFORMER
- DOUBLE THROW SWITCH OR TRANSFER SWITCH
- FLOAT SWITCH (NORMALLY CLOSED)
- THERMOSTATIC SWITCH
- PRESSURE SWITCH
- LIMIT SWITCH OR TORQUE SWITCH
- DOT INDICATES CONNECTION OF WIRES
- 1 2 — TERMINALS FOR WIRE CONNECTIONS FROM REMOTE DEVICE

GENERAL NOTES:

1. THE MINIMUM STANDARD FOR ALL WORK SHALL BE THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE WITH IN STATE AMENDMENTS AND THE NATIONAL ELECTRICAL CODE (NEC).
2. ALL ELECTRICAL WORK SHALL BE PERFORMED BY AN IN-STATE LICENSED ELECTRICIAN.
3. ALL PERMITS NEEDED TO LEGALLY PERFORM THE ELECTRICAL WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO START OF WORK. COST OF PERMITTING IS BY THE CONTRACTOR.
4. AT COMPLETION OF THE WORK, A CERTIFICATE OF COMPLIANCE FROM THE LOCAL AHJ OVER THE ELECTRICAL WORK SHALL BE PROVIDED TO THE ENGINEER AND OWNER. COST OF ELECTRICAL INSPECTION IS BY THE CONTRACTOR.
5. ALL MATERIALS USED IN THE PROJECT GENERALLY SHALL BE NEW AND UNUSED. UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL NEW MATERIALS SHALL BE LISTED AND LABELED BY UL OR OTHER ACCEPTABLE LISTING AGENCY, WHERE A LISTING EXISTS.
6. THE CONTRACTOR SHALL VISIT THE SITE(S) PRIOR TO BIDDING TO FAMILIARIZE THEMSELVES WITH PROJECT REQUIREMENTS AND EXISTING CONDITIONS.
7. FIRESTOP ALL NEW CONDUIT INSTALLED THROUGH EXISTING OR NEW FIRE RATED ASSEMBLIES.
8. SHOP DRAWINGS SHALL BE SUBMITTED ON ALL ELECTRICAL MATERIALS AND EQUIPMENT FOR ACCEPTANCE PRIOR TO PURCHASE BY THE CONTRACTOR.
9. WHEN AN ITEM DEMOLISHED IS REMOVED, REMOVE ALL CONCRETE PADS, FASTENERS, CONDUIT AND WIRING. SCARIFY SURFACE AND RESTORE TO MATCH EXISTING SURROUNDING SURFACE, INCLUDING PAINTING TO MATCH.
10. ALL NEW WIRING SHALL BE ENCLOSED IN AN APPROVED RACEWAY SYSTEM. OPEN WIRING IS PROHIBITED.
11. CIRCUIT BREAKERS USED FOR HVAC EQUIPMENT LOADS SHALL BE HACR TYPE.
12. ENSURE DEDICATED ELECTRICAL SPACE IS PROVIDED AT ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC ARTICLE 110.26.
13. UP TO 3 CIRCUITS MAY BE COMBINED IN ONE CONDUIT, AS LONG AS NEC DERATING RULES ARE FOLLOWED.
14. ALL CIRCUITS SHALL HAVE A DEDICATED NEUTRAL. SHARED NEUTRALS AND MULTI-WIRE CIRCUITS ARE NOT TO BE USED EXCEPT POSSIBLY TO COORDINATE WITH SYSTEMS FURNITURE. SEE POWER PLAN.
15. 120 VOLT CIRCUITS THAT EXCEED 75 LINEAR CIRCUIT FEET SHALL BE INCREASED TO #10 AWG AS A GENERAL RULE. OTHER CIRCUITS WILL BE DESIGNED SPECIFICALLY WITH VOLTAGE DROP CONSIDERED IN CONDUCTOR SIZING.
16. COORDINATE ALL MOTOR STARTERS, FEEDERS AND DISCONNECT SWITCHES FOR HVAC AND OTHER UTILIZATION EQUIPMENT ACTUALLY PROVIDED IN ACCEPTED SHOP DRAWINGS.
17. IN ORDER TO COMPLY WITH OSHA REQUIREMENTS, NO OPERATOR DEVICE OF ANY PANEL OR DISCONNECT OR MOTOR CONTROL SHALL BE HIGHER THAN 6'-6" AFF.
18. PROVIDE AN EXTERIOR RATED SERVICE RECEPTACLE WITHIN 25 FEET HORIZONTALLY OF ANY EXTERIOR OR ROOFTOP HVAC OUTDOOR UNIT (HEATING OR AIR CONDITIONING ONLY).
19. INSTALL A NYLON PULLSTRING IN ALL SPARE CONDUITS, ACCESSIBLE AT BOTH ENDS. CAP OFF SPARE CONDUITS ON BOTH ENDS.
20. DEVICE PLATES SHALL BE INSTALLED PLUMB. JUMBO OR OVERSIZED PLATES SHALL NOT BE USED.
21. NEW RECEPTACLES SHALL BE INSTALLED WITH GROUND PIN ORIENTATION TO MATCH EXISTING. IN NEW CONSTRUCTION, GROUND PIN DOWN ABOVE COUNTERS OR WORK BENCHES AND UP FOR LOW WALL MOUNTED DEVICES.
22. AT COMPLETION OF PROJECT, ALL ELECTRICAL, TELECOMMUNICATIONS, AND ELECTRONIC SAFETY SYSTEMS SHALL BE FULLY OPERATIONAL.
23. EGRESS LUMINAIRES AND EXIT SIGNS REQUIRE UNSWITCHED LIGHTING CONDUCTOR.
24. SUPPORT ALL LUMINAIRES FROM THE STRUCTURE, NOT FROM THE SUSPENDED CEILING GRID. ALSO ATTACH THE LUMINAIRES TO THE GRID SYSTEM USING EARTHQUAKE CLIPS (SIMILAR TO ERICO/CADDY FASTENERS OR T&B/STEEL CITY).
25. WHERE DUPLEX RECEPTACLES ARE INDICATED GENERALLY BACK TO BACK ON OPPOSITE SIDES OF A PARTY WALL, THE RECEPTACLES SHALL NOT BE INSTALLED IN THE SAME STUD SPACE, BUT SHALL BE SEPARATED BY AT LEAST ONE STUD SPACE.
26. PROVIDE LABEL WITH ESTIMATED FAULT CURRENT AND DATE CALCULATED ON THE MAIN SERVICE DISCONNECT ENCLOSURE. PROVIDE COORDINATION STUDY AND ARC FLASH STUDY, AND APPLY JOB SPECIFIC ARC FLASH HAZARD WARNING LABELS ON ALL SWITCHBOARDS, SWITCHGEAR, MCC'S AND PANELBOARDS.
27. CIRCUIT BREAKERS, 1200 AMPERE OR LARGER, SHALL COMPLY WITH NEC ARTICLE 240.87, ARC ENERGY REDUCTION.

PATRICK J. BAISDEN — 22812 — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 8/11/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

GRW ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

STANDARD ELECTRICAL SYMBOLS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

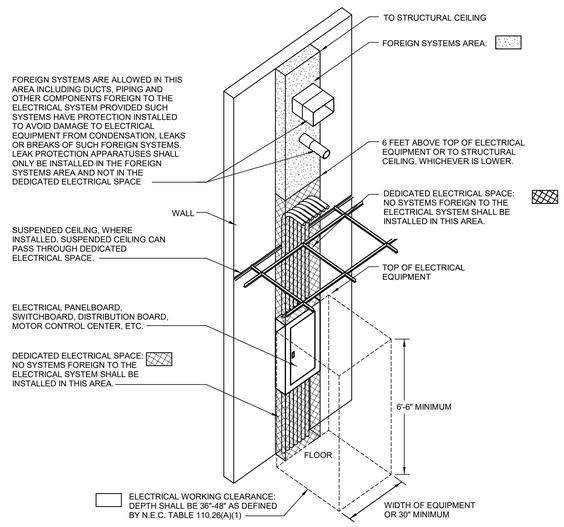
NO	DATE	DESCRIPTION
1	8/11	AS-BUILT

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

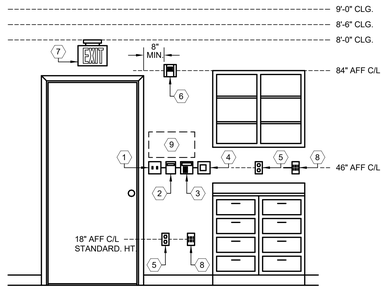
DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-001 01

8/17/2025 7:44:19 PM C:\GRW\LFUCG DWQ HQ\Working Drawings\Revit\Exec\Central Model\GRW_MODEL.RVT



1 DEDICATED ELECTRICAL SPACE DETAIL

NOT TO SCALE



SHEET KEYNOTES:

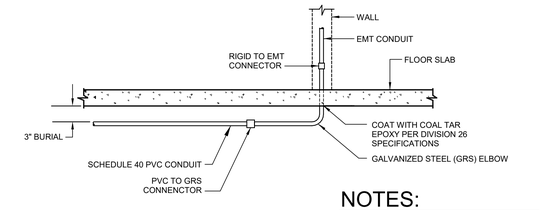
1. MOUNT EDGE OF LIGHTING CONTROL DEVICES CLOSEST TO DOOR AT A DISTANCE OF TWO INCHES FROM THE EDGE OF THE FACE PLATE TO THE DOOR FRAME INCLUDING ALL APPLIED TRIM UNLESS OTHERWISE NOTED. MOUNT REMAINING DEVICES IN THE FOLLOWING ORDER:

   A. FIRE ALARM INITIATION DEVICES.
   B. SECURITY/ACCESS CONTROL DEVICES.
   C. HVAC THERMOSTAT/HUMIDISTAT DEVICES.
   D. OTHER DEVICES.

   MOUNT THE EDGE OF DEVICE OR DEVICE FACE PLATES TWO INCHES APART. PROVIDE BLOCKING AS NECESSARY IN THE WALL OR PROVIDE MANUFACTURED SUPPORTS SIMILAR TO CADDY 'RB' SERIES OR EQUAL. ALL DEVICES TO BE MOUNTED WITH CENTER LINE AT HEIGHT INDICATED.
2. FIRE ALARM INITIATING DEVICE.
3. SECURITY/ACCESS CONTROL KEYPAD.
4. HVAC THERMOSTAT/HUMIDISTAT CONTROL DEVICE.
5. ABOVE COUNTER ELECTRICAL/COMMUNICATIONS DEVICE, COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL INTERIOR ELEVATIONS. SHOWN AT TYPICAL HEIGHT.
6. FIRE ALARM NOTIFICATION APPLIANCE.
7. INSTALL WALL MOUNTED EXIT SIGNS WITH BOTTOM EDGE OF SIGN APPROXIMATELY FOUR INCHES FROM TOP OF DOOR FRAME.
8. COMMUNICATIONS OUTLET.
9. WHEN SIGNAGE WITH TACTILE CHARACTERS ARE TO BE INSTALLED, THE BOTTOM OF TACTILE SIGNAGE SHALL BE MOUNTED AT 50" AFF MINIMUM WITH THE TOP MOUNTED AT A MAXIMUM OF 60" AFF. PROVIDE A CLEAR SPACE OF 18" IN FRONT OF SIGNAGE. ALL OTHER PROVISIONS AND SPACINGS REQUIRED BY A.D.A. SHALL BE FOLLOWED.

2 DEVICE MOUNTING COORDINATION DETAIL

NOT TO SCALE

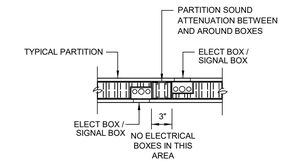


NOTES:

1. THIS DETAIL APPLIES TO ALL RISERS THROUGH SLAB ON GRADE, EITHER IN WALL OR EXPOSED.

3 THROUGH-SLAB CONDUIT DETAIL

NOT TO SCALE

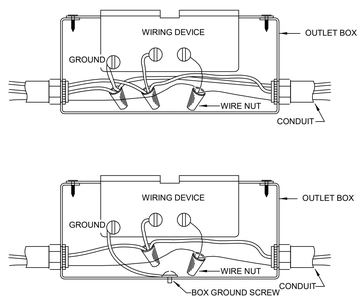


NOTES:

1. ROUGH-IN BOXES MAY BE MOUNTED IN ADJACENT STUD SPACE ONLY IF THE BOXES FACE THE SAME DIRECTION. BACK-TO-BACK BOXES MUST BE SEPARATED PER THIS DETAIL.
2. DO NOT PLACE BOXES BACK-TO-BACK EVEN IF SHOWN GRAPHICALLY ON DRAWINGS AS BACK-TO-BACK. BOXES SHALL BE INSTALLED SEPARATED PER THIS DETAIL. PROVIDE ADDITIONAL METAL FRAMING AS NECESSARY TO INSTALL BOXES SEPARATED AS INDICATED.
3. ELEC/SIGNAL BOXES WITH OPENING AREAS NOT EXCEEDING 16 SQUARE INCHES PLACED IN RATED WALLS FACING IN OPPOSITE DIRECTIONS SHALL BE SEPARATED A MINIMUM OF 24 INCHES. INSTALLATION SHALL BE IN ACCORDANCE WITH KENTUCKY BUILDING CODE SECTION 711.3.2 "MEMBRANE PENETRATIONS".

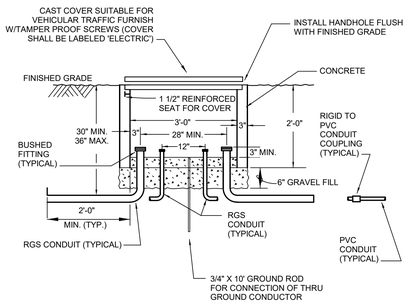
4 BACK-TO-BACK BOX MOUNTING DETAIL

NOT TO SCALE



5 WIRING DEVICE CONNECTION DETAIL

NOT TO SCALE

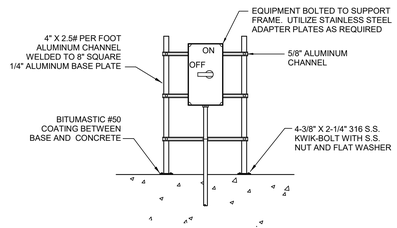


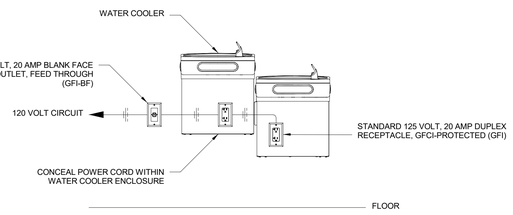
NOTES:

1. THIS DETAIL ALSO APPLIES FOR COMMUNICATIONS (SIGNAL WIRING) WHERE SHOWN ON DRAWINGS. COVER SHALL BE LABELED 'COMMUNICATIONS' WHERE UTILIZED FOR SIGNAL WIRING.
2. DIMENSIONS ARE FOR REFERENCE ONLY. PULL BOXES SHALL BE SIZED PER NEC.

7 ELECTRICAL HANDHOLE DETAIL

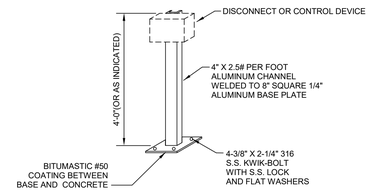
NOT TO SCALE





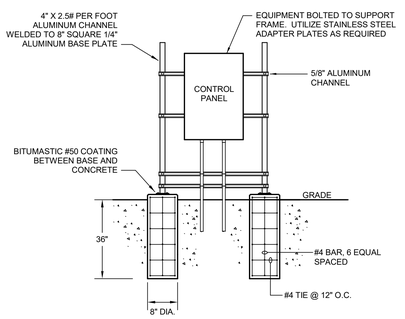
6 WATER COOLER WIRING DETAIL

NOT TO SCALE



8 EQUIPMENT SUPPORT BRACKET (PEDESTAL)

NOT TO SCALE



9 TYPICAL RACK MOUNTED ELECTRICAL EQUIPMENT

NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/17/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL DETAILS I

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

SCALE: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO. E-501 01

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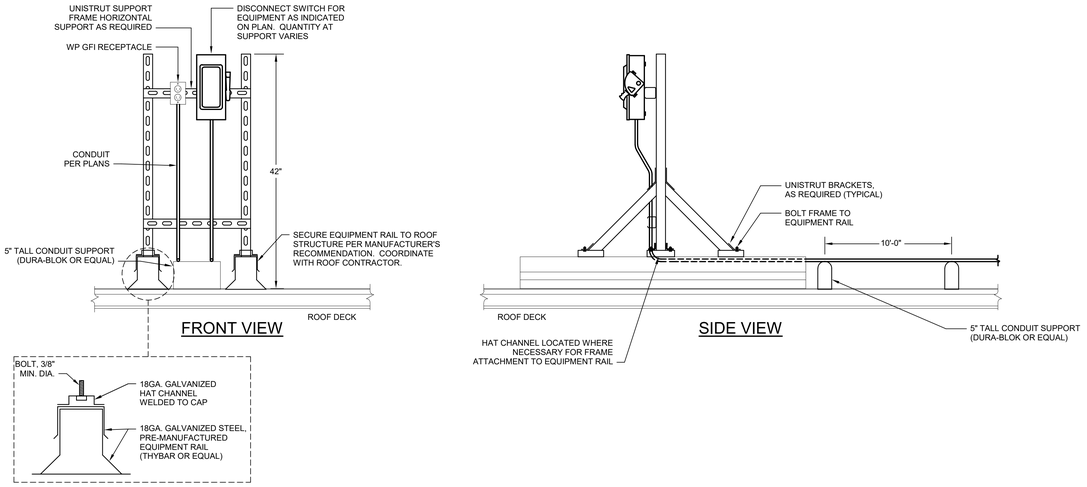
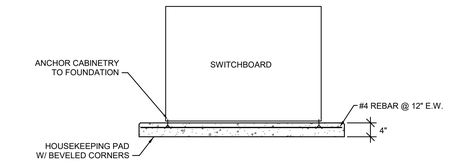


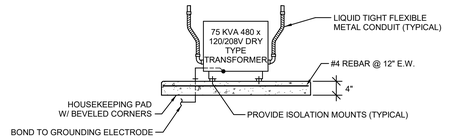
1 EQUIPMENT RACK - ROOF MOUNTING DETAIL

NOT TO SCALE



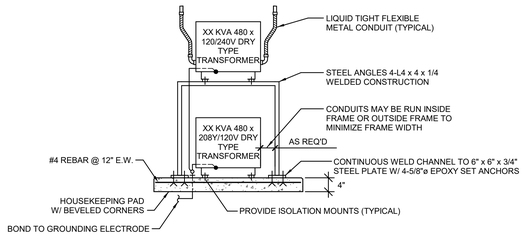
2 SWITCHBOARD MOUNTING DETAIL FLOOR MOUNTED

NOT TO SCALE



3 TRANSFORMER MOUNTING DETAIL FLOOR MOUNTED

NOT TO SCALE

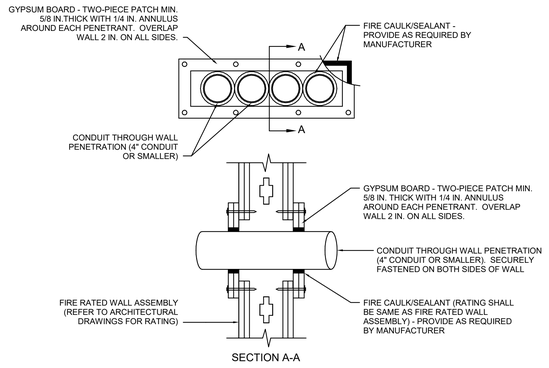


NOTES:

1. AT THE CONTRACTORS DISCRETION, THE TRANSFORMER LOCATED ON TOP OF THE RACK MAY BE WALL-MOUNTED UTILIZING THE PROPER WALL-MOUNT BRACKET (FURNISHED BY THE MANUFACTURER).
2. ALL TRANSFORMERS FOR WALL MOUNTING SHALL BE PROVIDED WITH APPROPRIATE MOUNTING BRACKET BY THE TRANSFORMER MANUFACTURER.
3. SLEEVE GROUNDING ELECTRODE BONDING BACK TO MAIN SERVICE GROUND.

4 TRANSFORMER MOUNTING DETAIL - RACK MOUNTED

NOT TO SCALE

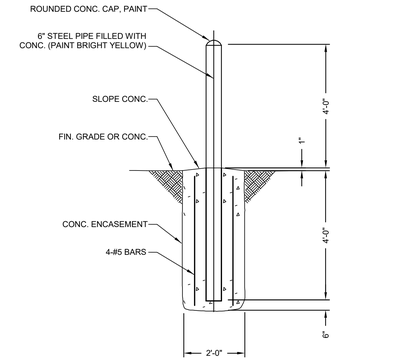


NOTE:

1. CONTRACTOR SHALL COORDINATE WITH FIRE CAULK/SEALANT MANUFACTURER FOR ADDITIONAL INSTALLATION REQUIREMENTS.
2. CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED WALLS.

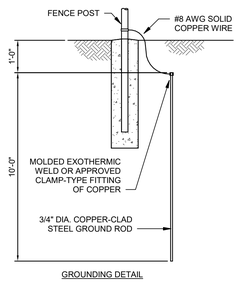
5 RATED WALL CONDUIT PENETRATION

NOT TO SCALE



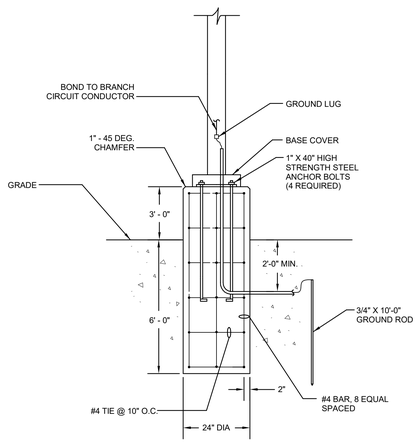
6 BOLLARD DETAIL

NOT TO SCALE



7 FENCE POST GROUNDING DETAIL

NOT TO SCALE



8 POLE BASE DETAIL

NOT TO SCALE

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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ELECTRICAL DETAILS II

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO	DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO. E-502 01

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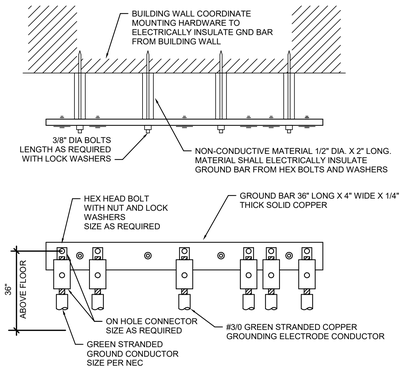
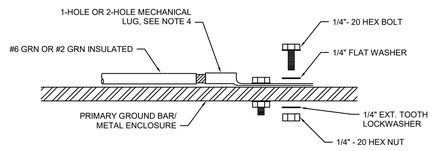


1 GROUND BAR DETAIL

NOT TO SCALE

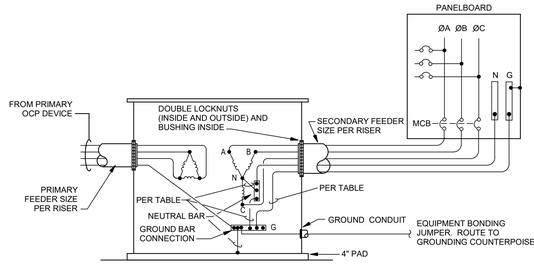


INSTALLATION NOTES

1. SELECT BOLT LENGTH TO PROVIDE A MINIMUM OF TWO EXPOSED THREADS.
2. FURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF LUG CONTACT.
3. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF LUG AND WIPE CLEAN EXCESS COMPOUND.
4. USE SOLID COPPER WIRE AND MECHANICAL 2-HOLE LUG FOR ALL EXTERIOR GROUNDING.
5. PROVIDE NUMBER AND SIZE OF CONNECTORS AND GROUND CONDUCTORS AS REQUIRED FOR EACH GROUND BAR LOCATION.

2 GROUNDING CONNECTION

NOT TO SCALE

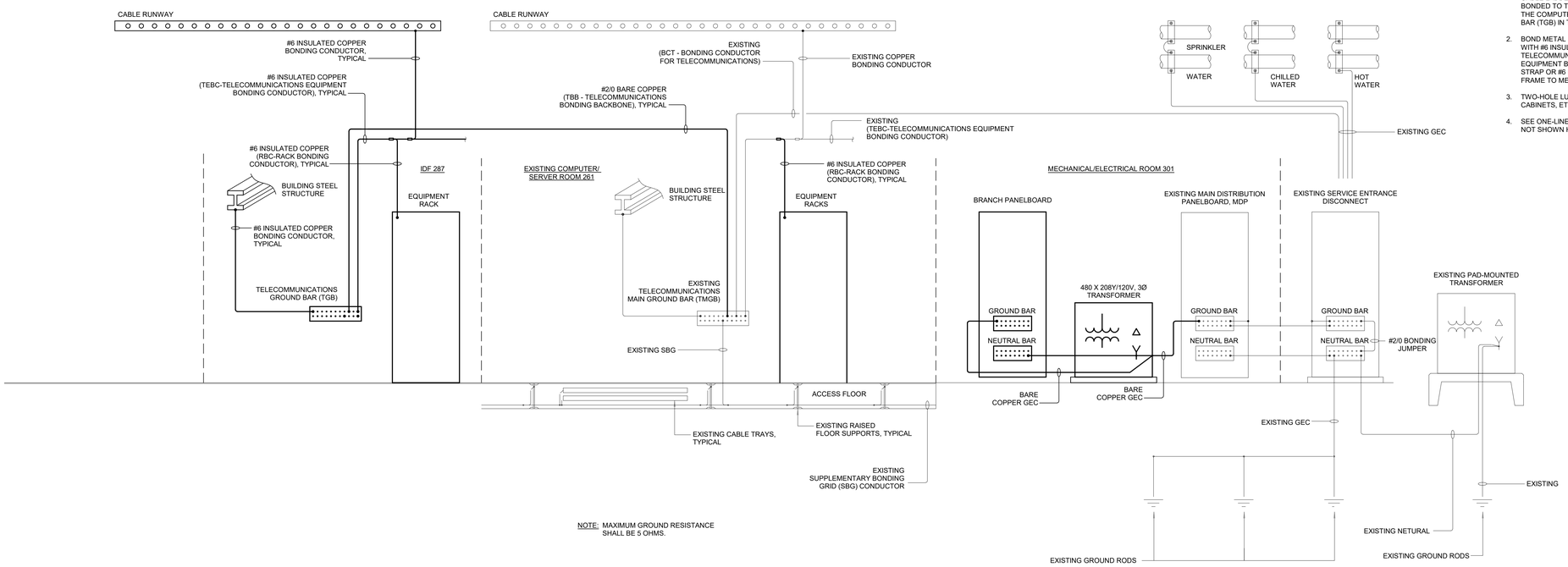


NOTES:

1. DETAIL IS FOR 3-PHASE DRY-TYPE TRANSFORMERS WITH PRIMARY 480-VOLTS DELTA AND SECONDARY 208/120-VOLT WYE.
2. BOND JUMPER AND GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED PER TABLE 250.66 OF NEC 2017.
3. BOND JUMPER AND REQUIRED GROUNDING ELECTRODE CONDUCTOR SHALL BE SAME SIZE. IF THE SECONDARY FEEDER CONDUCTORS ARE GREATER THAN 1100 MCM COPPER OR 1750MCM ALUMINUM, THE BOND JUMPER SHALL BE INCREASED IN SIZE TO 12.5 PERCENT OF THE CROSS-SECTIONAL AREA OF THE SECONDARY PHASE CONDUCTOR.

3 GROUNDING FOR DRY-TYPE (600V OR LESS) TRANSFORMER

NOT TO SCALE



4 GROUNDING SCHEMATIC

NOT TO SCALE

GENERAL NOTES:

1. ALL NON-CURRENT CARRYING METAL OBJECTS (EQUIPMENT RACKS, CABLE LADDER, CONDUIT, LIGHTS, HVAC EQUIPMENT, ETC.) SHALL BE BONDED TO THE TELECOMMUNICATIONS MAIN GROUND BAR (TMGB) IN THE COMPUTER/SERVER RM 261 AND THE TELECOMMUNICATIONS GROUND BAR (TGB) IN THE IT RM 287.
2. BOND METAL DOOR FRAMES,LIGHTS, HVAC EQUIPMENT (NOT SHOWN) WITH #6 INSULATED COPPER CONDUCTOR TO NEAREST TELECOMMUNICATIONS GROUND BAR OR TO TELECOMMUNICATIONS EQUIPMENT BONDING CONDUCTOR (TEBC). PROVIDE FLEXIBLE COOPER STRAP OR #6 INSULATED GROUND CONDUCTOR JUMPER FROM DOOR FRAME TO METAL DOORS.
3. TWO-HOLE LUGS SHALL BE USED TO BOND TO BUSBARS, RACKS, CABINETS, ETC. COMPRESSION STYLE SHALL BE USED FOR ALL BUSBARS.
4. SEE ONE-LINE DIAGRAMS AND FLOOR PLANS FOR CONDUCTOR SIZES NOT SHOWN HERE.

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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ELECTRICAL DETAILS III

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	DATE	DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO. E-503 01

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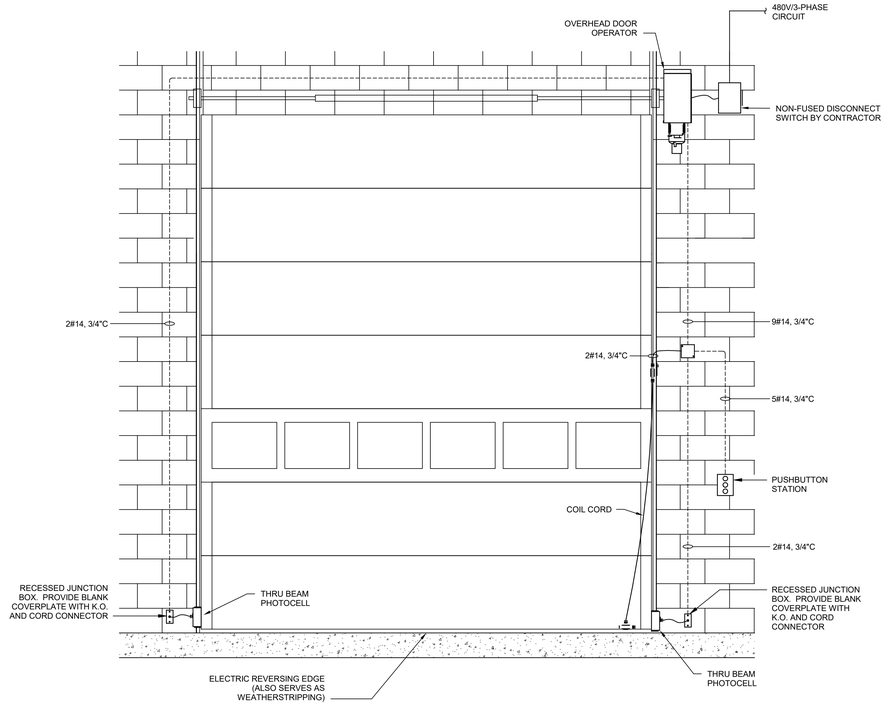
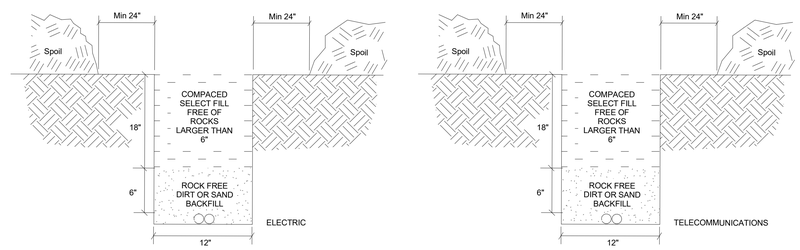


NOTES:

1. FIELD WIRING IS REQUIRED FROM DOOR OPERATOR PANEL FOR THE FOLLOWING:
   - 2#14 FOR SENSING EDGE SWITCH
   - 5#14 FOR PUSHBUTTON STATION
   - 2#14 FOR EACH PHOTOEYE SNESOR
2. ALL WIRING SHALL BE IN CONDUIT.
3. CONTRACTOR SHALL VERIFY EXACT FIELD WIRING REQUIREMENTS WITH ARCHITECT / ENGINEER APPROVED SHOP DRAWINGS.

1 FIELD CONNECTIONS - SECTIONAL DOOR

NOT TO SCALE

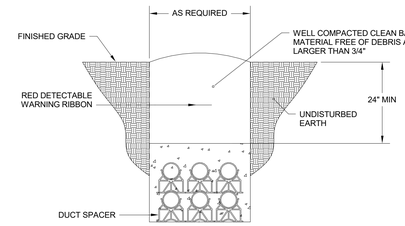


NOTES:

1. ALL EMPTY UTILITY CONDUITS SHALL HAVE PULL LINE INSTALLED.
2. CONTRACTOR RESPONSIBLE FOR ALL EXISTING UNDERGROUND WORK LOCATES.
3. INSTALL PVC SCHEDULE 80 CONDUIT UNDER PAVEMENT. CONDUIT SHALL BE CONCRETE ENCASED WITH FLOWABLE FILL.
4. ALL TURNS TO BE RIGID METALLIC LONG SWEEPING ELBOWS.
5. WARNING TAPE REQUIRED. INSTALL 12" ABOVE CONDUITS.

2 STANDARD DITCH DETAILS

NOT TO SCALE



NOTES:

1. PROVIDE A MINIMUM OF 2 INCHES OF CONCRETE AROUND ALL SIDES OF DUCT BANKS.
2. SPACING BETWEEN DUCTS SHALL BE 3 INCHES.
3. PROVIDE SPACERS EVERY 10 LINEAR FEET OF CONDUIT, MINIMUM. COORDINATE WITH MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE TIE WIRE, HOLD DOWNS, TIE WRAPS, ETC. AS REQUIRED FOR DUCT BANK CONSTRUCTION.

3 CONCRETE ENCASED CONDUIT TRENCH

NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/14/25

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ELECTRICAL DETAILS IV

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE:	BY:

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 12" = 1'-0"

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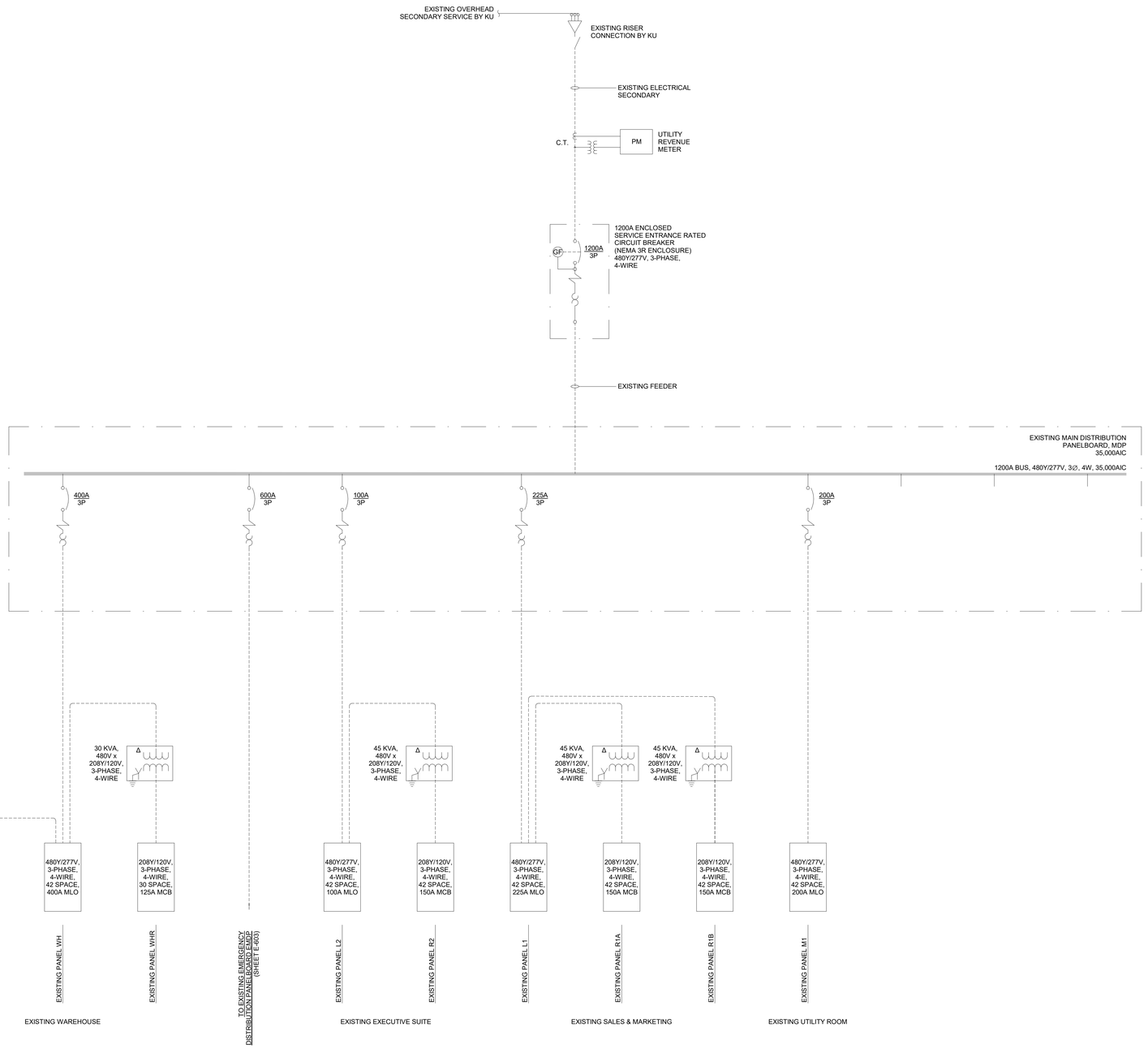

GENERAL NOTES:

1	WORK SHOWN IN HATCHED AREAS SHALL BE DISCONNECTED AND REMOVED.
2	PANELBOARDS THAT ARE SCHEDULED TO BE REMOVED, CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ASSOCIATED FEEDERS AND BRANCH CIRCUITS (CONDUIT AND CONDUCTORS).

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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ELECTRICAL ONE-LINE DIAGRAM I - EXISTING

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: E-601 01

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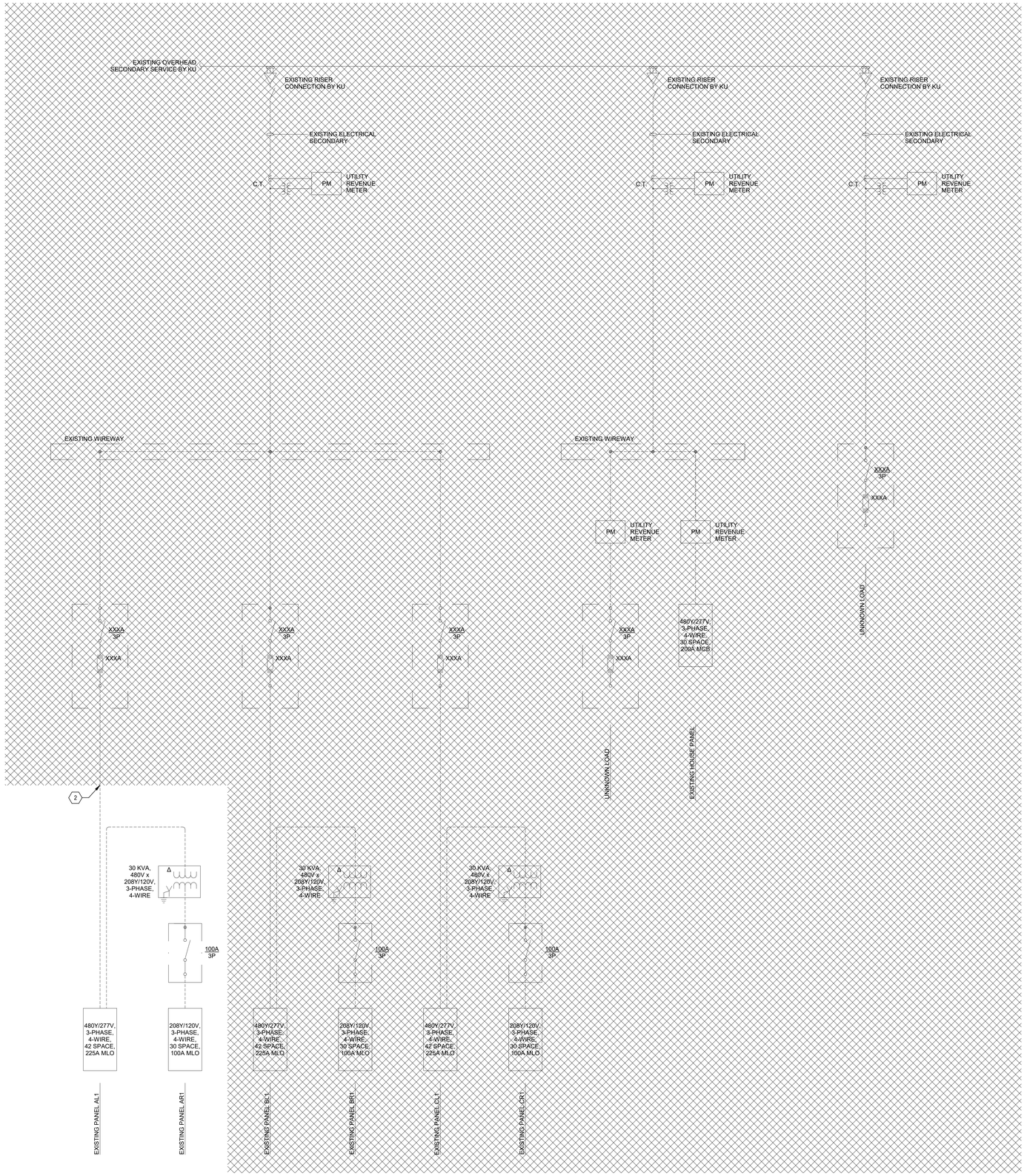

GENERAL NOTES:

1	WORK SHOWN IN HATCHED AREAS SHALL BE DISCONNECTED AND REMOVED.
2	PANELBOARDS THAT ARE SCHEDULED TO BE REMOVED, CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ASSOCIATED FEEDERS AND BRANCH CIRCUITS (CONDUIT AND CONDUCTORS).

SHEET KEYNOTES:

1	CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING ELECTRICAL SERVICES, PANELBOARDS, DISCONNECT SWITCHES, METER BASES AND ASSOCIATED CONDUIT/CONDUCTORS COMPLETELY.
2	CONTRACTOR SHALL INTERCEPT THE EXISTING ELECTRICAL FEEDER CONDUIT FOR PANELBOARD AL1 AND EXTEND TO THE NEW DISTRIBUTION PANELBOARD, DP. REFER TO SHEET E-604 FOR NEW CONDUCTOR SIZE.

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

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ELECTRICAL ONE-LINE DIAGRAM II - EXISTING

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

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SCALE: CHECK 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: E-602 01

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TO MAIN DISTRIBUTION PANELBOARD, MDP
(SHEET E-601)

EMERGENCY MAIN DISTRIBUTION PANELBOARD, EMDP
25,000AIC

600A BUS, 480Y/277V, 3Ø, 4W, 25,000AIC

100A 3P — 480Y/277V, 3-PHASE, 4-WIRE, 42 SPACE, 100A MLO — EXISTING PANEL EML1

125A 3P — 30 KVA, 480V x 208Y/120V, 3-PHASE, 4-WIRE — 208Y/120V, 3-PHASE, 4-WIRE, 42 SPACE, 100A MCB — EXISTING PANEL EMR1

30A 3P (1) — REMOVED WIRE 480V IN/ 208V OUT (6) (5) — 208Y/120V, 3-PHASE, 4-WIRE, 42 SPACE, 200A MCB (5) — EXISTING PANEL TC

35A 3P (1) — (3) — EXISTING AHCU-3 (2)

35A 3P (1) — (3) — EXISTING AHCU-4 (2)

35A 3P (1) — (3) — EXISTING RTU-1 (2)

40A 3P (1) — (3) — EXISTING RTU-2 (2)

EXISTING SALES & MARKETING

100A 3P — 480Y/277V, 3-PHASE, 4-WIRE, 42 SPACE, 125A MLO — EXISTING PANEL EML3

30 KVA, 480V x 208Y/120V, 3-PHASE, 4-WIRE — 208Y/120V, 3-PHASE, 4-WIRE, 42 SPACE, 100A MCB — EXISTING PANEL EMR3

EXISTING UTILITY ROOM

100A 3P — 480Y/277V, 3-PHASE, 4-WIRE, 42 SPACE, 125A MLO — EXISTING PANEL EML2

30 KVA, 480V x 208Y/120V, 3-PHASE, 4-WIRE — 208Y/120V, 3-PHASE, 4-WIRE, 42 SPACE, 100A MCB — EXISTING PANEL EMR2

EXISTING EXECUTIVE SUITE

60A 3P (1) — (4) — EXISTING AHCU-1 (2)

35A 3P (1) — (3) — EXISTING AHCU-2 (2)

25A 3P — (3) — EXISTING TEMPSTAR RTU-3 (2)

25A 3P (1) — (3) — EXISTING TEMPSTAR RTU-5 (2)

30A 3P (1) — (3) — EXISTING RTU-4 (2)

50A 3P — (6) — EXISTING CRU-1 (7)

GENERAL NOTES:

1	WORK SHOWN IN HATCHED AREAS SHALL BE DISCONNECTED AND REMOVED.
2	PANELBOARDS THAT ARE SCHEDULED TO BE REMOVED, CONTRACTOR SHALL DISCONNECT AND REMOVE ALL ASSOCIATED FEEDERS AND BRANCH CIRCUITS (CONDUIT AND CONDUCTORS).

SHEET KEYNOTE:

1	EXISTING CIRCUIT BREAKER SHALL BE REPLACED. REFER TO SHEET E-605 FOR NEW CIRCUIT BREAKER SIZE.
2	EXISTING HVAC UNIT SHALL BE REMOVED. DISCONNECT EXISTING HVAC UNIT AND PREP FOR NEW HVAC UNIT.
3	EXISTING ELECTRICAL FEEDER SHALL BE REUSED FOR THE NEW HVAC UNIT.
4	CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING ELECTRICAL CONDUCTORS (CONDUIT SHALL REMAIN). REFER TO SHEET E-604 FOR NEW CONDUCTOR SIZE.
5	EXISTING PANELBOARD SHALL REMAIN.
6	CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING ELECTRICAL FEEDER. REFER TO SHEET E-604 FOR NEW WORK REQUIRED TO BACKFEED THE EXISTING PANELBOARD.
7	EXISTING HVAC UNIT SHALL BE REMOVED. DISCONNECT EXISTING HVAC UNIT.
8	CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING ELECTRICAL FEEDER.

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 8/19/25

GRN PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

ELECTRICAL ONE-LINE DIAGRAM III - EXISTING

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

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SHEET NO.: E-603 01

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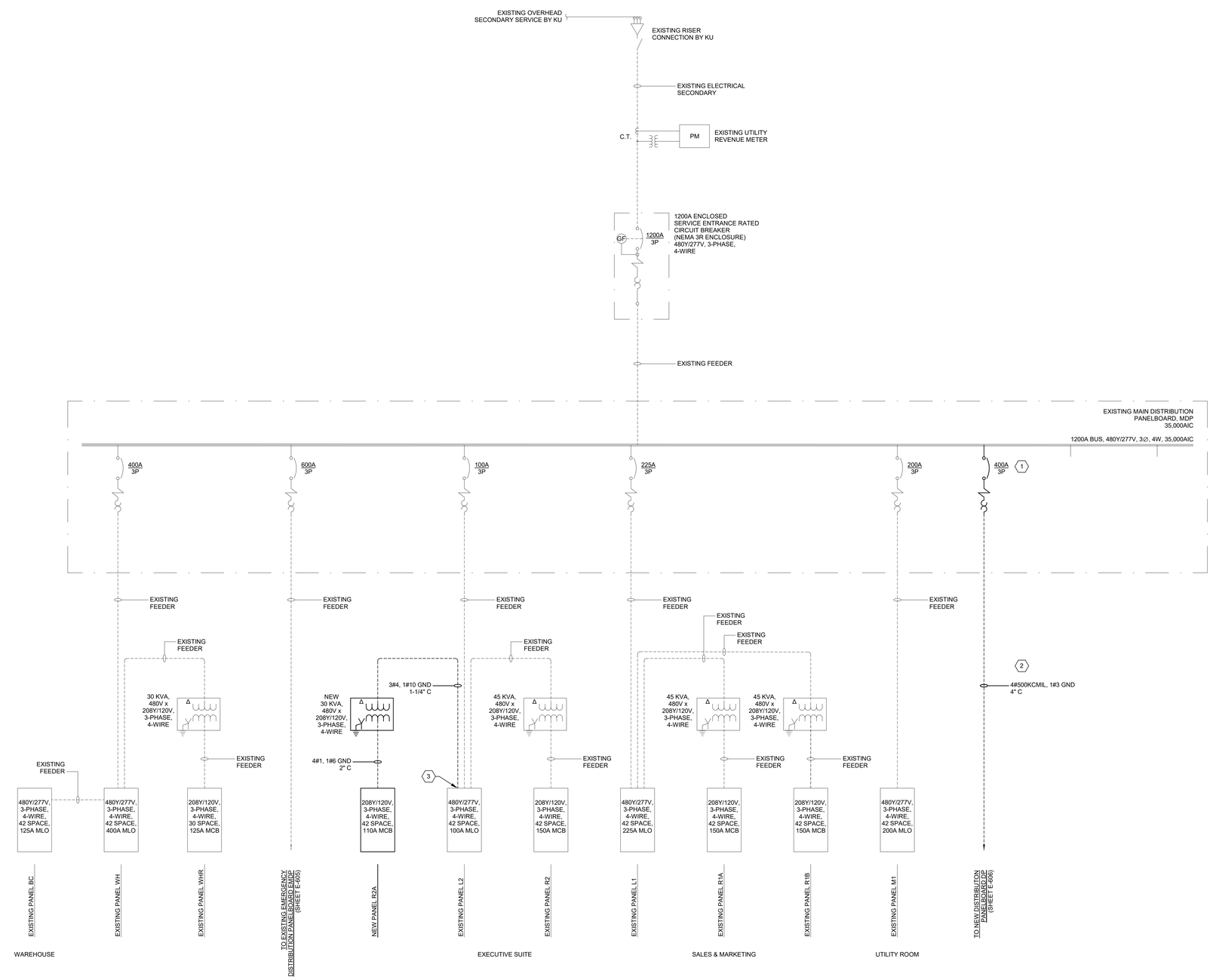

GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN.
2	WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK.

SHEET KEYNOTES:

1	PROVIDE NEW BREAKER IN SPACE OF THE EXISTING MAIN DISTRIBUTION PANELBOARD, MDP.
2	PROVIDE NEW ELECTRICAL FEEDER TO THE EXISTING MAIN DISTRIBUTION PANELBOARD.
3	CONNECT TO A NEW 60A/3P BREAKER IN EXISTING PANELBOARD L2 TO FEED THE NEW TRANSFORMER AND PANELBOARD R2A.

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL ONE-LINE DIAGRAM I - NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO. E-604 01

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TO MAIN DISTRIBUTION PANELBOARD, MDP
(SHEET E-604)

EMERGENCY MAIN DISTRIBUTION PANELBOARD, EMDP
25,000AIC

600A BUS, 480Y/277V, 3Ø, 4W, 25,000AIC

100A 3P	125A 3P	25A 3P (1)	20A 3P (1)	20A 3P (1)	15A 3P (1)	100A 3P	100A 3P	20A 3P (1)	30A 3P (1)	25A 3P REUSE EXISTING BREAKER	15A 3P (1)	30A 3P REUSE EXISTING BREAKER	50A 3P						
EXISTING FEEDER	3#1, 1#6 GND, 1-1/2"C					EXISTING FEEDER	EXISTING FEEDER												
	NEW 75 KVA, 480V x 208Y/120V, 3-PHASE, 4-WIRE																		
EXISTING FEEDER	4#4/0, 1#4 GND, 2-1/2"C	REUSE EXISTING ELECTRICAL FEEDER	REUSE EXISTING ELECTRICAL FEEDER	REUSE EXISTING ELECTRICAL FEEDER	REUSE EXISTING ELECTRICAL FEEDER	EXISTING FEEDER	EXISTING FEEDER	3#12, 1#12 GND (2)	REUSE EXISTING ELECTRICAL FEEDER	REUSE EXISTING ELECTRICAL FEEDER	REUSE EXISTING ELECTRICAL FEEDER	REUSE EXISTING ELECTRICAL FEEDER							
NEW FUSIBLE DISCONENCT SWITCH 200A 3P, 200A																			
30 KVA, 480V x 208Y/120V, 3-PHASE, 4-WIRE						30 KVA, 480V x 208Y/120V, 3-PHASE, 4-WIRE	30 KVA, 480V x 208Y/120V, 3-PHASE, 4-WIRE												
EXISTING FEEDER	4#4/0, 1#4 GND, 2-1/2"C					EXISTING FEEDER	EXISTING FEEDER												
480Y/277V, 3-PHASE, 4-WIRE, 42 SPACE, 100A MLO	208Y/120V, 3-PHASE, 4-WIRE, 42 SPACE, 100A MCB	208Y/120V, 3-PHASE, 4-WIRE, 42 SPACE, 200A MCB				480Y/277V, 3-PHASE, 4-WIRE, 42 SPACE, 125A MLO	208Y/120V, 3-PHASE, 4-WIRE, 42 SPACE, 100A MCB	480Y/277V, 3-PHASE, 4-WIRE, 42 SPACE, 125A MLO	208Y/120V, 3-PHASE, 4-WIRE, 42 SPACE, 100A MCB										
EXISTING PANEL EML1	EXISTING PANEL EMR1	EXISTING PANEL TC	NEW ROOF TOP UNIT RTU-5	NEW ROOF TOP UNIT RTU-6	NEW ROOF TOP UNIT RTU-1	NEW ROOF TOP UNIT RTU-9	EXISTING PANEL EML3	EXISTING PANEL EMR3	EXISTING PANEL EML2	EXISTING PANEL EMR2	NEW ROOF TOP UNIT RTU-7	NEW ROOF TOP UNIT RTU-4	NEW ROOF TOP UNIT RTU-11	NEW ROOF TOP UNIT RTU-17	NEW ROOF TOP UNIT RTU-10	SPARE BREAKER			
SALES & MARKETING							UTILITY ROOM		EXECUTIVE SUITE										

GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN.
2	WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK.

SHEET KEYNOTES:

1	REPLACE EXISTING BREAKER WITH INDICATED CIRCUIT BREAKER.
2	REPLACE EXISTING CONDUCTORS WITH NEW. REUSE EXISTING CONDUIT.

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL ONE-LINE DIAGRAM II - NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-605 01

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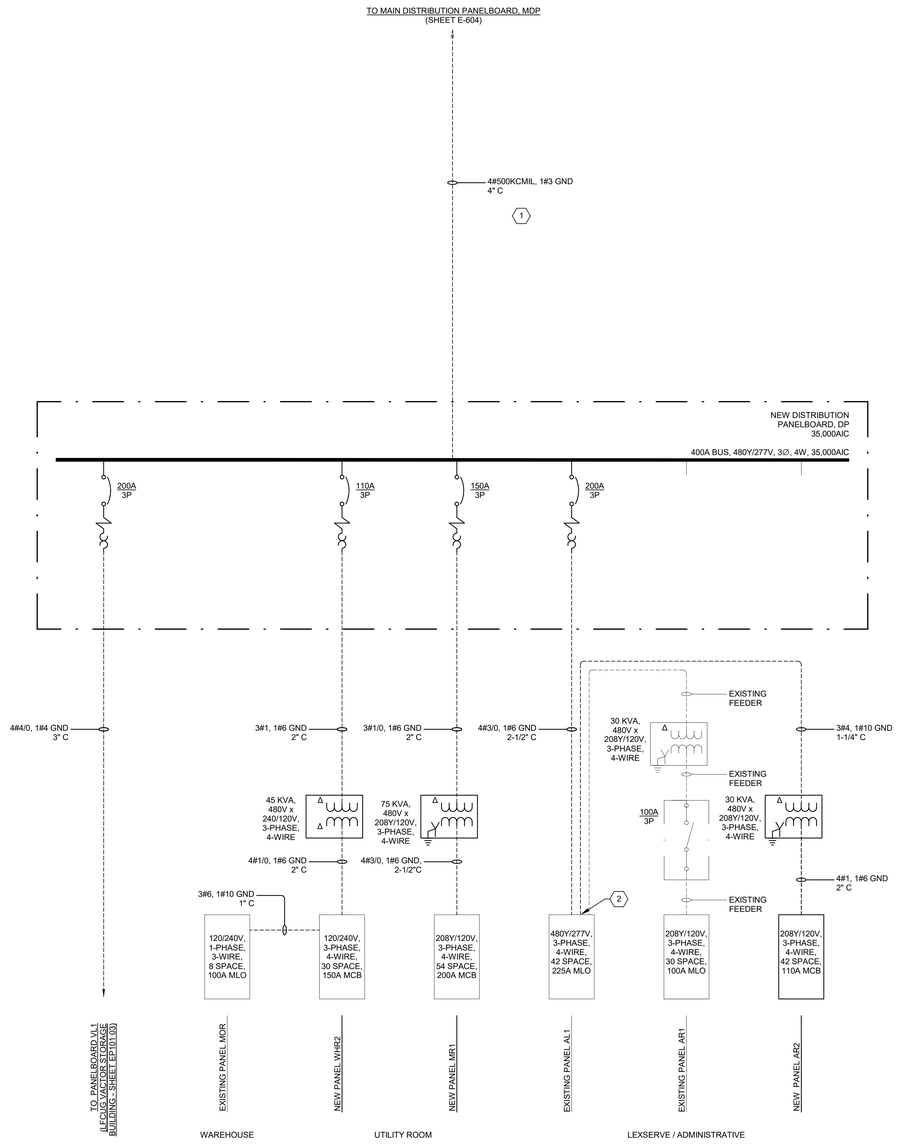

GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN.
2	WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK.

SHEET KEYNOTES:

1	PROVIDE NEW ELECTRICAL FEEDER TO THE EXISTING MAIN DISTRIBUTION PANELBOARD, MDP (SHEET E-604).
2	CONNECT TO AN EXISTING 60A/3P BREAKER IN EXISTING PANELBOARD AL1 TO FEED THE NEW TRANSFORMER AND PANELBOARD R2A.

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL ONE-LINE DIAGRAM

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DATE	BY
1	8/15/2025	PJB

SCALE CHECK: 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-606 01

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BRANCH PANEL: AL1(E)

LOCATION: ELECTRICAL 103
SUPPLY FROM:
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 225 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
~~1~~	~~LIGHTING~~	~~20 A~~	~~1~~	~~--~~	~~0 VA~~	~~0 VA~~						3	60 A	PANELBOARD AR1 TRANSFORMER	2
3	SPARE	20 A	1	--			0 VA	0 VA			--	--	--	--	4
5	SPARE	20 A	1	--					0 VA	0 VA	--	--	--	--	6
~~7~~	~~LIGHTING~~	~~20 A~~	~~1~~	~~--~~	~~0 VA~~	~~0 VA~~					--	~~3~~	~~60 A~~	~~ROOFTOP UNIT~~	~~8~~
9	SPARE	20 A	1	--			0 VA	0 VA			--	--	--	--	10
11	SPARE	20 A	1	--					0 VA	0 VA	--	--	--	--	12
13	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	14
15	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	16
17	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	18
19	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	20
21	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	22
23	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	24
25	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	30
31	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	32
33	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	34
35	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	36
37	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	38
39	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	40
41	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: AL1

LOCATION: ELECTRICAL 103
SUPPLY FROM: DP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 225 A
MCB RATING: MLO

NOTES:
1. REPLACE EXISTING BREAKERS WITH INDICATED BREAKER.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	LIGHTING: RM 101-106, 116-118, 206	20 A	1	2#12, 1#12 GND, 3/4"C	1566 VA	4560 VA					EXISTING-TO-REMAIN	3	60 A	PANELBOARD AR1 TRANSFORMER(E)	2
3	SPARE	20 A	1	--			0 VA	4326 VA			--	--	--	--	4
5	SPARE	20 A	1	--					0 VA	5660 VA	--	--	--	--	6
7	LIGHTING: RM 107-114, 298, 303	20 A	1	2#12, 1#12 GND, 3/4"C	1145 VA	6543 VA					3#4, 1#10 GND, 1-1/4"C	3	60 A	PANELBOARD AR2 TRANSFORMER..	8
9	RTU-14 (NOTE 1)	15 A	3	3#12, 1#12 GND, 3/4"C			2677 VA	6176 VA			--	--	--	--	10
11	--	--	--	--					2677 VA	5440 VA	--	--	--	--	12
13	--	--	--	--	2677 VA	3293 VA					3#12, 1#12 GND, 3/4"C	3	20 A	RTU-15 (NOTE 1)	14
15	RTU-16 (NOTE 1)	20 A	3	3#12, 1#12 GND, 3/4"C			3293 VA	3293 VA			--	--	--	--	16
17	--	--	--	--					3293 VA	3293 VA	--	--	--	--	18
19	--	--	--	--	3293 VA	2018 VA					3#12, 1#12 GND, 3/4"C	3	15 A	EF-6 (NOTE 1)	20
21	EF-5 (NOTE 1)	20 A	3	3#12, 1#12 GND, 3/4"C			2018 VA	2018 VA			--	--	--	--	22
23	--	--	--	--					2018 VA	2018 VA	--	--	--	--	24
25	--	--	--	--	2018 VA	0 VA					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	30
31	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	32
33	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	34
35	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	36
37	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	38
39	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	40
41	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	42
					27114 VA		23801 VA		24399 VA						
					98 A		86 A		88 A						

LEGEND:

HVAC	3949 VA	100.00%	3949 VA		
Heating	6 VA	100.00%	6 VA		
Other	0 VA	0.00%	0 VA		
Receptacle	24440 VA	70.46%	17220 VA		
Power	43957 VA	100.00%	43957 VA		
Lighting	2712 VA	100.00%	2712 VA		
Fire Alarm FPE	250 VA	100.00%	250 VA		

BRANCH PANEL: BL1

LOCATION: JANITOR CLOSET 106
SUPPLY FROM:
MOUNTING: FLUSH
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 225 A
MCB RATING: MLO

NOTES:
PANELBOARD SHALL BE DEMOLISHED.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	LIGHTING	20 A	1	--	0 VA	0 VA					--	3	60 A	PANELBOARD BR1 TRANSFORMER	2
3	LIGHTING	20 A	1	--			0 VA	0 VA			--	--	--	--	4
5	SPARE	20 A	1	--					0 VA	0 VA	--	--	--	--	6
7	LIGHTING	20 A	1	--	0 VA	0 VA					--	3	60 A	ROOFTOP UNIT	8
9	SPARE	20 A	1	--			0 VA	0 VA			--	--	--	--	10
11	SPARE	20 A	1	--					0 VA	0 VA	--	--	--	--	12
13	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	14
15	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	16
17	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	18
19	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	20
21	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	22
23	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	24
25	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	30
31	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	32
33	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	34
35	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	36
37	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	38
39	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	40
41	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

1

BRANCH PANEL: CL1

LOCATION: TOWN BRANCH CONF ROOM 107
SUPPLY FROM:
MOUNTING: FLUSH
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 225 A
MCB RATING: MLO

NOTES:
PANELBOARD SHALL BE DEMOLISHED.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	LIGHTING	20 A	1	--	0 VA	0 VA					--	3	60 A	PANELBOARD CR1 TRANSFORMER	2
3	SPARE	20 A	1	--			0 VA	0 VA			--	--	--	--	4
5	SPARE	20 A	1	--					0 VA	0 VA	--	--	--	--	6
7	SPARE	20 A	1	--	0 VA	0 VA					--	3	60 A	ROOFTOP UNIT	8
9	SPARE	20 A	1	--			0 VA	0 VA			--	--	--	--	10
11	SPARE	20 A	1	--					0 VA	0 VA	--	--	--	--	12
13	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	14
15	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	16
17	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	18
19	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	20
21	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	22
23	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	24
25	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	30
31	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	32
33	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	34
35	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	36
37	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	38
39	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	40
41	--	--	--	--					0 VA		--	1	20 A	SPARE	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

1

SHEET KEYNOTES:

1	REMOVE AND PROPERLY DISPOSE OF EXISTING BRANCH PANELBOARD. REMOVE AND PEROPERLY DISPOE OF THE PANELBOARD'S ELECTRICAL FEEDER.
2	INDICATED BRANCH CIRCUIT(S) SHALL BE REMOVED AS PART OF THE DEMOLITON PHASE. WHERE NOT REUSED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF BRANCH CIRCUIT.
3	NEW ELECTRICAL LOAD(S).

STATE OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/11/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

ELECTRICAL SCHEDULES I - EXISTING PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-701 01

8/17/2025 7:48:28 PM G:\2047-LEXCO DWG's\05Working Drawings\Revit\Revit Central Model\24116_R25B01.rvt

BRANCH PANEL: L1(E)

LOCATION: ELECTRICAL 129
SUPPLY FROM: MDP(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 225 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	~~LIGHTING TRAINING ROOMS~~	~~20 A~~	~~1~~	~~--~~	0 VA	0 VA					--	1	20 A	SPARE	2
3	~~LIGHTING TRAINING ROOMS~~	~~20 A~~	~~1~~	~~--~~			0 VA	0 VA			--	1	20 A	SPARE	4
5	~~LIGHTING TRAINING ROOMS/NE...~~	~~20 A~~	~~1~~	~~--~~					0 VA	0 VA	--	1	20 A	~~LIGHTING WAREHOUSE OFFICE~~	6
7	~~LIGHTING TRAIN RMS/CENTER BRC...~~	~~20 A~~	~~1~~	~~--~~	0 VA	0 VA					--	1	20 A	~~LIGHTING EAST CONFERENCE ROOM~~	8
9	~~LIGHTING TRAIN RMS/CON...~~	~~20 A~~	~~1~~	~~--~~			0 VA	0 VA			--	1	20 A	~~LIGHTING EAST REPORT ROOM~~	10
11	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA	--	1	20 A	UNKNOWN LOAD	12
13	~~RTU-1B?~~	~~40 A~~	~~3~~		0 VA	0 VA					--	1	20 A	UNKNOWN LOAD	14
15	~~--~~						0 VA	0 VA			--	1	20 A	UNKNOWN LOAD	16
17	~~--~~								0 VA	0 VA		3	70 A	PANELBOARD R1B TRANSFORMER	18
19	PANELBOARD R1A TRANSFORMER	70 A	3		0 VA	0 VA					--	--	--	--	20
21	--	--	--	--			0 VA	0 VA			--	--	--	--	22
23	--	--	--	--					0 VA	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: L1

LOCATION: ELECTRICAL 129
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 225 A
MCB RATING: MLO

NOTES:
1. REPLACE EXISTING BREAKERS WITH INDICATED BREAKER.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	LIGHTING: RM 150, 286-289	20 A	1	2#12, 1#12 GND, 3/4"C	1340 VA	0 VA					--	1	20 A	SPARE	2
3	LIGHTING: RM 260-270, 296	20 A	1	2#12, 1#12 GND, 3/4"C			2741 VA	0 VA			--	1	20 A	SPARE	4
5	LIGHTING: RM 258, 259, 295, 297	20 A	1	2#12, 1#12 GND, 3/4"C					1479 VA	903 VA	3#12, 1#12 GND, 1"C	3	20 A	SLIDE GATE OPERATOR (NOTE 1)	6
7	SITE LIGHTING	20 A	1	2#10, 1#10 GND, 1"C	2109 VA	903 VA					--	--	--	--	8
9	SITE LIGHTING	20 A	1	2#10, 1#10 GND, 1"C			2592 VA	903 VA			--	--	--	--	10
11	UNKNOWN LOAD (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	UNKNOWN LOAD (E)	12
13	SLIDE GATE OPERATOR (NOTE 1)	20 A	3	3#12, 1#12 GND, 1"C	0 VA	0 VA					--	1	20 A	UNKNOWN LOAD (E)	14
15	--	--	--	--			0 VA	0 VA			--	1	20 A	UNKNOWN LOAD (E)	16
17	--	--	--	--					0 VA	6320 VA	EXISTING-TO-REMAIN	3	70 A	PANELBOARD R1B TRANSFORMER...	18
19	PANELBOARD R1A TRANSFORMER...	70 A	3	EXISTING-TO-REMAIN	3218 VA	6840 VA					--	--	--	--	20
21	--	--	--	--			2756 VA	5640 VA			--	--	--	--	22
23	--	--	--	--					3342 VA	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					14410 VA		14632 VA		12044 VA						
					53 A		54 A		43 A						

LEGEND:

HVAC	5716 VA	100.00%	5716 VA		
Other	0 VA	0.00%	0 VA		
Receptacle	21900 VA	72.83%	15950 VA		
Power	500 VA	100.00%	500 VA		
Lighting	10260 VA	100.00%	10260 VA		
EQUIP	2709 VA	100.00%	2709 VA		

BRANCH PANEL: L2(E)

LOCATION: ELECTRICAL 159
SUPPLY FROM: MDP(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	~~LIGHTING CAD ROOM~~	~~20 A~~	~~1~~	~~--~~	0 VA	0 VA					--	1	20 A	SPARE	2
3	~~LIGHTING REPORT ROOM~~	~~20 A~~	~~1~~	~~--~~			0 VA	0 VA			--	1	20 A	SPARE	4
5	PANELBOARD R2 TRANSFORMER	70 A	3						0 VA	0 VA	--	1	20 A	SPARE	6
7	--	--	--	--	0 VA	0 VA					--	1	20 A	SPARE	8
9	--	--	--	--			0 VA	--			--	1	--	SPACE ONLY	10
11	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	12
13	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	14
15	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	16
17	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: L2

LOCATION: ELECTRICAL 159
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:
1. REPLACE EXISTING BREAKERS WITH INDICATED BREAKER.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	2
3	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	4
5	PANELBOARD R2 TRANSFORMER (E)	70 A	3	EXISTING-TO-REMAIN					3960 VA	0 VA	--	1	20 A	SPARE	6
7	--	--	--	--	4140 VA	0 VA					--	1	20 A	SPARE	8
9	--	--	--	--			4020 VA	--			--	1	--	SPACE ONLY	10
11	PANELBOARD R2A TRANSFORMER...	60 A	3	3#4, 1#10 GND, 1-1/4"C					6380 VA	--	--	1	--	SPACE ONLY	12
13	-- (NOTE 1)	--	--	--	5292 VA	--					--	1	--	SPACE ONLY	14
15	--	--	--	--			6056 VA	--			--	1	--	SPACE ONLY	16
17	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					9432 VA		10076 VA		10340 VA						
					34 A		37 A		38 A						

LEGEND:

HVAC	4152 VA	100.00%	4152 VA		
Motor	736 VA	125.00%	920 VA		
Receptacle	24960 VA	70.03%	17480 VA		
Power	0 VA	0.00%	0 VA		

BRANCH PANEL: BC(E)

LOCATION: PUMP STATION WORKSHOP 245
SUPPLY FROM: WH(E)
MOUNTING: SURFACE
ENCLOSURE: TYPE 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 18,000
MAINS TYPE: MLO
MAINS RATING: 125 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	BATTERY CHARGER	20 A	3	--	0 VA	0 VA					--	3	20 A	BATTERY CHARGER	2
3	--	--	--	--			0 VA	0 VA			--	--	--	--	4
5	--	--	--	--					0 VA	0 VA	--	--	--	--	6
7	BATTERY CHARGER	20 A	3	--	0 VA	0 VA					--	3	20 A	BATTERY CHARGER	8
9	--	--	--	--			0 VA	0 VA			--	--	--	--	10
11	--	--	--	--					0 VA	0 VA	--	--	--	--	12
13	BATTERY CHARGER	20 A	3	--	0 VA	0 VA					--	3	20 A	BATTERY CHARGER	14
15	--	--	--	--			0 VA	0 VA			--	--	--	--	16
17	--	--	--	--					0 VA	0 VA	--	--	--	--	18
19	BATTERY CHARGER	20 A	3	--	0 VA	0 VA					--	3	20 A	BATTERY CHARGER	20
21	--	--	--	--			0 VA	0 VA			--	--	--	--	22
23	--	--	--	--					0 VA	0 VA	--	--	--	--	24
25															26
27															28
29															30
31															32
33															34
35															36
37															38
39															40
41															42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

SHEET KEYNOTES:

1	INDICATED BRANCH CIRCUIT(S) SHALL BE REMOVED AS PART OF THE DEMOLITON PHASE. WHERE NOT REUSED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF BRANCH CIRCUIT.
2	NEW ELECTRICAL LOAD(S).

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL SCHEDULES II - EXISTING PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	REVISIONS DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-702 01

8/17/2025 7:44:27 PM G:\DAT-LEX\CD DWG\+ctd\Working Drawings\Revit\Sent\Central Model\24715_R25D01.rvt

BRANCH PANEL: HOUSE

LOCATION:
SUPPLY FROM:
MOUNTING: SURFACE
ENCLOSURE: NEMA 3R

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 22,500
MAINS TYPE: MCB
MAINS RATING: 260 A
MCB RATING: 260 A

NOTES:
PANELBOARD SHALL BE DEMOLISHED.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	POLE LIGHTING	30 A	2	--	0 VA	0 VA					--	1	20 A	CONTACTOR	2
3	--	--	--	--			0 VA	0 VA			--	1	20 A	UNKNOWN LOAD	4
5	CANOPY LIGHTING	20 A	1	--					0 VA	0 VA	--	1	--	SPACE ONLY	6
7	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	8
9	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	10
11	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	12
13	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	14
15	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	16
17	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--							--	1	--	SPACE ONLY	30
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

1

BRANCH PANEL: M1(E)

LOCATION: MECHANICAL / ELECTRICAL ROO...
SUPPLY FROM: MDP(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 200 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	~~RTU-3~~	~~50 A~~	~~3~~		0 VA	0 VA						~~3~~	~~40 A~~	~~12.5 TON TEMPSTAR~~	2
3	~~--~~						0 VA	0 VA						~~--~~	4
5	~~--~~								0 VA	0 VA				~~--~~	6
7	~~XACU-2~~	~~15 A~~	~~3~~	--	0 VA	0 VA						~~3~~	~~40 A~~	~~12.5 TON TEMPSTAR~~	8
9	~~--~~	~~--~~	~~--~~	~~--~~			0 VA	0 VA						~~--~~	10
11	~~--~~	~~--~~	~~--~~	~~--~~					0 VA	0 VA				~~--~~	12
13	~~XACU-5~~	~~35 A~~	~~3~~	--	0 VA	0 VA						~~3~~	~~50 A~~	~~RTU CENTER TRAINING ROOM~~	14
15	~~--~~	~~--~~	~~--~~	~~--~~			0 VA	0 VA						~~--~~	16
17	~~--~~	~~--~~	~~--~~	~~--~~					0 VA	0 VA				~~--~~	18
19	UNKNOWN LOAD	15 A	3	--	0 VA	0 VA						~~3~~	20 A	~~RTU TRAINING OFFICE~~	20
21	--	--	--	--			0 VA	0 VA							22
23	--	--	--	--					0 VA	0 VA					24
25	POLE LIGHTS	20 A	1	--	0 VA	0 VA					--	3	30 A	EX POLE LIGHTS	26
27	POLE LIGHTS	20 A	1	--			0 VA	0 VA			--	--	--	--	28
29	POLE LIGHTS	20 A	1	--					0 VA	0 VA	--	--	--	--	30
31	~~WALL PACKS~~	~~20 A~~	~~1~~	~~--~~	0 VA	--					--	1	--	SPACE ONLY	32
33	SPARE	20 A	1	--			0 VA	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

2

4

4

4

4

4

BRANCH PANEL: M1

LOCATION: MECHANICAL / ELECTRICAL ROO...
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 200 A
MCB RATING: MLO

NOTES:
1. REPLACE EXISTING BREAKER WITH INDICATED BREAKER. 2. INSTALL NEW CONDUCTORS IN EXISTING CONDUIT.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RTU-13 (NOTE 1)	15 A	3	EXISTING FEEDER	2146 VA	3293 VA					EXISTING FEEDER	3	20 A	RTU-8 (NOTE 1)	2
3	--	--	--	--			2146 VA	3293 VA			--	--	--	--	4
5	--	--	--	--					2146 VA	3293 VA	--	--	--	--	6
7	RTU-2 (NOTE 1)	15 A	3	EXISTING FEEDER	2677 VA	2988 VA					EXISTING FEEDER	3	15 A	RTU-18 (NOTE 1)	8
9	--	--	--	--			2677 VA	2988 VA			--	--	--	--	10
11	--	--	--	--					2677 VA	2988 VA	--	--	--	--	12
13	RTU-5 (NOTE 1)	15 A	3	EXISTING FEEDER	2988 VA	5285 VA					EXISTING FEEDER	3	25 A	RTU-12 (NOTE 1)	14
15	--	--	--	--			2988 VA	5285 VA			--	--	--	--	16
17	--	--	--	--					2988 VA	5285 VA	--	--	--	--	18
19	UNKNOWN LOAD (E)	15 A	3	--	0 VA	903 VA					3#12, 1#12 GND, 1"C	3	20 A	SLIDE GATE OPERATOR (NOTE 1)	20
21	--	--	--	--			0 VA	903 VA			--	--	--	--	22
23	--	--	--	--					0 VA	903 VA	--	--	--	--	24
25	POLE LIGHTS (E)	20 A	1	--	0 VA	0 VA					--	3	30 A	EX POLE LIGHTS (E)	26
27	POLE LIGHTS (E)	20 A	1	--			0 VA	0 VA			--	--	--	--	28
29	POLE LIGHTS (E)	20 A	1	--					0 VA	0 VA	--	--	--	--	30
31	SITE LIGHTING	20 A	1	2#10, 1#10 GND, 1"C	1512 VA	--					--	1	--	SPACE ONLY	32
33	SPARE	20 A	1	--			0 VA	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					21792 VA		20280 VA		20280 VA						
					79 A		73 A		73 A						

LEGEND:

Power	58131 VA	100.00%	58131 VA		
Lighting	1512 VA	100.00%	1512 VA		
EQUIP	2709 VA	100.00%	2709 VA		

3

3

3

MODIFIED

BRANCH PANEL: WH(E)

LOCATION: WAREHOUSE CIRCULATION 294
SUPPLY FROM: MDP(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 400 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~		0 VA	0 VA						~~1~~	~~20 A~~	~~WAREHOUSE LIGHTING~~	2
3	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~	--			0 VA	0 VA			--	~~1~~	~~20 A~~	~~WAREHOUSE LIGHTING~~	4
5	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~	--					0 VA	0 VA		~~1~~	~~20 A~~	~~WAREHOUSE LIGHTING~~	6
7	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~	--	0 VA	0 VA						~~1~~	~~20 A~~	~~WAREHOUSE LIGHTING~~	8
9	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~2~~	--			0 VA	0 VA				~~1~~	~~20 A~~	~~WAREHOUSE LIGHTING~~	10
11	~~--~~	~~--~~	~~--~~	~~--~~					0 VA	0 VA	--	~~1~~	~~20 A~~	~~WAREHOUSE LIGHTING~~	12
13	~~ROOF MT'D EXHAUST FAN~~	~~20 A~~	~~3~~		0 VA	0 VA						3	100 A	PANELBOARD BC	14
15	~~--~~	~~--~~	~~--~~	~~--~~			0 VA	0 VA			--	--	--	--	16
17	~~--~~	~~--~~	~~--~~	~~--~~					0 VA	0 VA	--	--	--	--	18
19	~~ROOF MT'D EXHAUST FAN~~	~~20 A~~	~~3~~	--	0 VA	--					--	1	--	SPACE ONLY	20
21	~~--~~	~~--~~	~~--~~	~~--~~			0 VA	--			--	1	--	SPACE ONLY	22
23	~~--~~	~~--~~	~~--~~	~~--~~					0 VA	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	PANELBOARD WHR TRANSFORMER	60 A	3		0 VA	--					--	1	--	SPACE ONLY	38
39	--	--	--	--			0 VA	--			--	1	--	SPACE ONLY	40
41	--	--	--	--					0 VA	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

2

2

2

MODIFIED

BRANCH PANEL: WH

LOCATION: WAREHOUSE CIRCULATION 294
SUPPLY FROM: MDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 400 A
MCB RATING: MLO

NOTES:
1. REPLACE EXISTING BREAKER WITH INDICATED BREAKER.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	LIGHTING: RM 287	20 A	1	2#12, 1#12 GND, 3/4"C	1021 VA	2035 VA					2#10, 1#10 GND, 3/4"C	1	20 A	LIGHTING: RM 287	2
3	LIGHTING: RM 287	20 A	1	2#12, 1#12 GND, 3/4"C			1530 VA	1400 VA			2#12, 1#12 GND, 3/4"C	1	20 A	LIGHTING: RM 249-251	4
5	LIGHTING: RM 287	20 A	1	2#12, 1#12 GND, 3/4"C					1783 VA	762 VA	2#12, 1#12 GND, 3/4"C	1	20 A	LIGHTING: RM 316	6
7	LIGHTING: RM 252-254	20 A	1	2#12, 1#12 GND, 3/4"C	384 VA	500 VA					2#12, 1#12 GND, 3/4"C	1	20 A	EXISTING CONTACTOR (E)	8
9	POLE LIGHTING (E) - (NOTE 1)	30 A	2	2#10, 1#10 GND, 1"C			250 VA	500 VA			2#12, 1#12 GND, 3/4"C	1	20 A	CANOPY LIGHTING (E)	10
11	--	--	--	--					250 VA	500 VA	2#12, 1#12 GND, 3/4"C	1	20 A	UNKNOWN LOAD (E)	12
13	SPARE	20 A	3	--	0 VA	0 VA					EXISTING-TO-REMAIN	3	100 A	PANELBOARD BC (E)	14
15	--	--	--	--			0 VA	0 VA			--	--	--	--	16
17	--	--	--	--					0 VA	0 VA	--	--	--	--	18
19	SPARE	20 A	3	--	0 VA	--					--	1	--	SPACE ONLY	20
21	--	--	--	--			0 VA	--			--	1	--	SPACE ONLY	22
23	--	--	--	--					0 VA	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	PANELBOARD WHR TRANSFORMER...	60 A	3	EXISTING-TO-REMAIN	3707 VA	--					--	1	--	SPACE ONLY	38
39	--	--	--	--			3743 VA	--			--	1	--	SPACE ONLY	40
41	--	--	--	--					3840 VA	--	--	1	--	SPACE ONLY	42
					7647 VA		7422 VA		7135 VA						
					28 A		27 A		26 A						

LEGEND:

Cooling	0 VA	0.00%	0 VA		
Heating	606 VA	100.00%	606 VA		
Motor	242 VA	125.00%	302 VA		
Other	4400 VA	100.00%	4400 VA		
Receptacle	3880 VA	100.00%	3880 VA		
Power	4162 VA	100.00%	4162 VA		
Lighting	8914 VA	100.00%	8914 VA		

3

3

SHEET KEYNOTES:

1	REMOVE AND PROPERLY DISPOSE OF EXISTING BRANCH PANELBOARD. REMOVE AND PEROPERLY DISPOE OF THE PANELBOARD'S ELECTRICAL FEEDER.
2	INDICATED BRANCH CIRCUIT(S) SHALL BE REMOVED AS PART OF THE DEMOLITON PHASE. WHERE NOT REUSED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF BRANCH CIRCUIT.
3	NEW ELECTRICAL LOAD(S).
4	HVAC UNIT SHALL BE REMOVED. DISCONNECT EXISTING HVAC UNIT AND PREP FOR NEW HVAC UNIT.

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

GRH PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL SCHEDULES III - EXISTING PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-703 01

8/7/2025 7:46:28 PM G:\2547-LEXCG DWQ-ofc\Working Drawings\Revit\Revit Central Model\2547R_CENTRAL.rvt

BRANCH PANEL: EML1(E)

LOCATION: ELECTRICAL 129
SUPPLY FROM: EMDP(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	~~CUST. PRES. LIGHTING~~	~~20 A~~	~~1~~		~~0 VA~~	~~0 VA~~						~~1~~	~~20 A~~	~~SALES LIGHTING~~	~~2~~
3	~~TELEGOMM LIGHTING~~	~~20 A~~	~~1~~				~~0 VA~~	~~0 VA~~				~~1~~	~~20 A~~	~~SALES LIGHTING~~	~~4~~
5	~~RESTROOM LIGHTING~~	~~20 A~~	~~1~~						~~0 VA~~	~~0 VA~~		~~1~~	~~20 A~~	~~CORRIDOR LIGHTING~~	~~6~~
7	~~ROOFTOP LIEBERT UNIT~~	~~15 A~~	~~3~~	--	~~0 VA~~	~~0 VA~~						~~1~~	~~20 A~~	~~EAST EMERGENCY LIGHTING~~	~~8~~
9	~~--~~	~~--~~	~~--~~	~~--~~			~~0 VA~~	~~0 VA~~				~~1~~	~~20 A~~	~~EAST EMERGENCY LIGHTING~~	~~10~~
11	~~--~~	~~--~~	~~--~~	~~--~~					~~0 VA~~	~~0 VA~~		~~--~~	~~1~~	~~20 A~~	~~UNKNOWN LOAD~~	~~12~~
13	UNKNOWN LOAD	20 A	1	--	0 VA	0 VA					--	3	20 A	UNKNOWN LOAD	14
15	SPACE ONLY	--	1	--			--	0 VA			--	--	--	--	16
17	SPACE ONLY	--	1	--					--	0 VA	--	--	--	--	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	0 VA					--	3	50 A	PANELBOARD EMR1 TRANSFORMER	38
39	SPACE ONLY	--	1	--			--	0 VA			--	--	--	--	40
41	SPACE ONLY	--	1	--					--	0 VA	--	--	--	--	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: EML1

LOCATION: ELECTRICAL 129
SUPPLY FROM: EMDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	LIGHTING: RM 88, 122, 218, 219,...	20 A	1	2#12, 1#12 GND, 3/4"C	2039 VA	1443 VA					2#12, 1#12 GND, 3/4"C	1	20 A	LIGHTING: RM 115, 211, 216	2
3	LIGHTING: RM 116-130	20 A	1	2#12, 1#12 GND, 3/4"C			1437 VA	1945 VA			2#12, 1#12 GND, 3/4"C	1	20 A	LIGHTING: RM 197, 198, 201, 212-21...	4
5	LIGHTING: RM 202, 203	20 A	1	2#12, 1#12 GND, 3/4"C					889 VA	344 VA	2#12, 1#12 GND, 3/4"C	1	20 A	CANOPY LIGHTING	6
7	BUILDING MOUNTED LIGHTING	20 A	1	2#12, 1#12 GND, 3/4"C	410 VA	0 VA					2#12, 1#12 GND, 3/4"C	1	20 A	EXTERIOR LIGHTING CONTROLS	8
9	BUILDING MOUNTED LIGHTING	20 A	1	2#12, 1#12 GND, 3/4"C			235 VA	0 VA			--	1	20 A	SPARE	10
11	SPACE ONLY	--	1	--					--	0 VA	--	1	20 A	UNKNOWN LOAD (E)	12
13	UNKNOWN LOAD (E)	20 A	1	--	0 VA	0 VA					--	3	20 A	UNKNOWN LOAD (E)	14
15	SPACE ONLY	--	1	--			--	0 VA			--	--	--	--	16
17	SPACE ONLY	--	1	--					--	0 VA	--	--	--	--	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	6846 VA					EXISTING-TO-REMAIN	3	50 A	PANELBOARD EMR1 TRANSFORME...	38
39	SPACE ONLY	--	1	--			--	6800 VA			--	--	--	--	40
41	SPACE ONLY	--	1	--					--	6220 VA	--	--	--	--	42
					10739 VA		10417 VA		7453 VA						
					40 A		39 A		27 A						

LEGEND:

Other	0 VA	0.00%	0 VA		
Receptacle	14860 VA	83.65%	12430 VA		
Power	4940 VA	100.00%	4940 VA		
Lighting	8809 VA	100.00%	8809 VA		

BRANCH PANEL: EML2(E)

LOCATION: ELECTRICAL 159
SUPPLY FROM: EMDP(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 125 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	~~LIGHTING ENGINEERING OFFICE~~	~~20 A~~	~~1~~		~~0 VA~~	~~0 VA~~						~~1~~	~~20 A~~	~~LIGHTING OPEN ENGINEERING...~~	~~2~~
3	~~LIGHTING EXECUTIVE OFFICE~~	~~20 A~~	~~1~~				~~0 VA~~	~~0 VA~~				~~1~~	~~20 A~~	~~LIGHTING OPEN ENGINEERING...~~	~~4~~
5	~~LIGHTING EXECUTIVE OFFICE~~	~~20 A~~	~~1~~						~~0 VA~~	~~0 VA~~	~~--~~	~~1~~	~~20 A~~	~~LIGHTING OPEN ENGINEERING...~~	~~6~~
7	~~LIGHTING ENGINEERING OFFICE~~	~~20 A~~	~~1~~	--	~~0 VA~~	~~0 VA~~					--	1	20 A	UNKNOWN LOAD	8
9	~~LIGHTING ENGINEERING OFFICE~~	~~20 A~~	~~1~~	~~--~~			~~0 VA~~	~~0 VA~~			~~--~~	1	20 A	UNKNOWN LOAD	10
11	SPACE ONLY	--	1	--					--	0 VA	--	1	20 A	UNKNOWN LOAD	12
13	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	14
15	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	16
17	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	PANELBOARD EMR2 TRANSFORMER	50 A	3		0 VA	--					--	1	--	SPACE ONLY	38
39	--	--	--	--			0 VA	--			--	1	--	SPACE ONLY	40
41	--	--	--	--					0 VA	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: EML2

LOCATION: ELECTRICAL 159
SUPPLY FROM: EMDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 125 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	LIGHTING: RM 144-150, 220, 221,...	20 A	1	2#12, 1#12 GND, 3/4"C	2476 VA	1892 VA					2#12, 1#12 GND, 3/4"C	1	20 A	LIGHTING: RM 142	2
3	LIGHTING: RM 189-196, 204, 205, 29...	20 A	1	2#12, 1#12 GND, 3/4"C			1449 VA	0 VA			--	1	20 A	SPARE	4
5	LIGHTING: RM 115, 132-140	20 A	1	2#12, 1#12 GND, 3/4"C					2225 VA	2202 VA	2#12, 1#12 GND, 3/4"C	1	20 A	LIGHTING: RM 142	6
7	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	UNKNOWN LOAD (E)	8
9	LIGHTING: RM 142	20 A	1	2#12, 1#12 GND, 3/4"C			2202 VA	0 VA			--	1	20 A	UNKNOWN LOAD (E)	10
11	SPACE ONLY	--	1	--					--	0 VA	--	1	20 A	UNKNOWN LOAD (E)	12
13	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	14
15	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	16
17	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	EMR2 TRANSFORMER	50 A	3	EXISTING-TO-REMAIN	4500 VA	--					--	1	--	SPACE ONLY	38
39	--	--	--	--			4740 VA	--			--	1	--	SPACE ONLY	40
41	--	--	--	--					4500 VA	--	--	1	--	SPACE ONLY	42
					8868 VA		8391 VA		8927 VA						
					32 A		30 A		32 A						

LEGEND:

Other	0 VA	0.00%	0 VA		
Receptacle	13740 VA	86.39%	11870 VA		
Power	0 VA	0.00%	0 VA		
Lighting	12446 VA	100.00%	12446 VA		

BRANCH PANEL: EML3(E)

LOCATION: MECHANICAL / ELECTRICAL ROO...
SUPPLY FROM: EMDP(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 125 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~		~~0 VA~~	~~0 VA~~						~~3~~	~~20 A~~	~~DOOR OPERATOR~~	~~2~~
3	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~				~~0 VA~~	~~0 VA~~				~~--~~	~~--~~	~~--~~	~~4~~
5	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~						~~0 VA~~	~~0 VA~~		~~--~~	~~--~~	~~--~~	~~6~~
7	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~	--	~~0 VA~~	~~0 VA~~					--	3	20 A	SCISSOR LIFT	8
9	UNKNOWN LOAD	20 A	1	--			0 VA	0 VA			--	--	--	--	10
11	SPACE ONLY	--	1	--					--	0 VA	--	--	--	--	12
13	~~WAREHOUSE LIGHTING~~	~~20 A~~	~~1~~	--	~~0 VA~~	~~--~~					--	1	--	SPACE ONLY	14
15	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	16
17	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	0 VA					--	3	50 A	PANELBOARD EMR3 TRANSFORMER	38
39	SPACE ONLY	--	1	--			--	0 VA			--	--	--	--	40
41	SPACE ONLY	--	1	--					--	0 VA	--	--	--	--	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: EML3

LOCATION: MECHANICAL / ELECTRICAL ROO...
SUPPLY FROM: EMDP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 25,000
MAINS TYPE: MLO
MAINS RATING: 125 A
MCB RATING: MLO

NOTES:
1. REPLACE EXISTING BREAKERS WITH INDICATED BREAKER.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	OVHDS: RM 244 (NOTE 1)	20 A	3	3#12, 1#12 GND, 3/4"C	0 VA	1662 VA					3#12, 1#12 GND, 3/4"C	3	20 A	OVHDS: RM 294	2
3	--	--	--	--			0 VA	1662 VA			--	--	--	--	4
5	--	--	--	--					0 VA	1662 VA	--	--	--	--	6
7						0 VA					--	3	20 A	SCISSOR LIFT (E)	8
9	UNKNOWN LOAD (E)	20 A	1	--			0 VA	0 VA			--	--	--	--	10
11	SPACE ONLY	--	1	--					--	0 VA	--	--	--	--	12
13	SPARE	20 A	1	--	0 VA	--					--	1	--	SPACE ONLY	14
15	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	16
17	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	5112 VA					EXISTING-TO-REMAIN	3	50 A	PANELBOARD EMR3 TRANSFORME...	38
39	SPACE ONLY	--	1	--			--	3072 VA			--	--	--	--	40
41	SPACE ONLY	--	1	--					--	3202 VA	--	--	--	--	42
					6774 VA		4734 VA		4864 VA						
					25 A		17 A		18 A						

LEGEND:

HVAC	8856 VA	100.00%	8856 VA		
Power	7266 VA	100.00%	7266 VA		
Fire Alarm FPE	250 VA	100.00%	250 VA		

SHEET KEYNOTES:

1. INDICATED BRANCH CIRCUIT(S) SHALL BE REMOVED AS PART OF THE DEMOLITON PHASE. WHERE NOT REUSED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF BRANCH CIRCUIT.
2. NEW ELECTRICAL LOAD(S).

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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PATRICK J. BAISDEN
12012
LICENSED PROFESSIONAL ENGINEER
8/14/25

ELECTRICAL SCHEDULES IV - EXISTING PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SCALE CHECK: 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-704 01

8/7/2025 7:44:31 PM E:\DATA\LEXCI\DWG NOBM\Working Drawings\Revit\Client\Central Model\24-FE_SDB01r.rvt

BRANCH PANEL: AR1(E)

LOCATION: ELECTRICAL 103
SUPPLY FROM: AR1 TRANSFORMER(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RECEPTACLE	20 A	1	--	0 VA	0 VA					--	3	100 A	SPARE	2
3	RECEPTACLE	20 A	1	--			0 VA	0 VA			--	--	--	--	4
5	SPACE ONLY	--	1	--					--	0 VA	--	--	--	--	6
7	SPACE ONLY	--	1	--	--	0 VA					--	1	20 A	RECEPTACLE	8
9	SPACE ONLY	--	1	--			--	0 VA			--	1	20 A	RECEPTACLE	10
11	SPACE ONLY	--	1	--					--	0 VA	--	1	20 A	RECEPTACLE	12
13	SPACE ONLY	--	1	--	--	0 VA					--	1	20 A	~~SIGN~~	~~14~~
15	SPACE ONLY	--	1	--			--	0 VA			--	1	20 A	~~NORSTAR~~	~~16~~
17	SPACE ONLY	--	1	--					--	0 VA	--	1	20 A	~~WATER HEATER~~	~~18~~
19	SPACE ONLY	--	1	--	--	0 VA					--	1	20 A	~~NORSTAR~~	~~20~~
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: AR1

LOCATION: ELECTRICAL 103
SUPPLY FROM: AR1 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:
1. PROVIDE NEW BREAKER IN EXISTING SPACE.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RECEPTACLE (E)	20 A	1	--	0 VA	0 VA					--	3	100 A	SPARE	2
3	RECEPTACLE (E)	20 A	1	--			0 VA	0 VA			--	--	--	--	4
5	EWC- RM 102 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C					740 VA	0 VA	--	--	--	--	6
7	RECEPTACLES: RM 102, 106 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	0 VA					--	1	20 A	RECEPTACLE (E)	8
9	RECEPTACLES: RM 106 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			546 VA	0 VA			--	1	20 A	RECEPTACLE (E)	10
11	ACS: POWER SUPPLIES (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C					1440 VA	0 VA	--	1	20 A	RECEPTACLE (E)	12
13	COPIER: RM 152 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C	1500 VA	720 VA					2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 116 (NOTE 1)	14
15	RECEPTACLES: RM 117 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			540 VA	900 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 118 (NOTE 1)	16
17	COPIER: RM 108 (NOTE 1)	20 A	1	2#10, 1#10 GND, 3/4"C					1500 VA	540 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 117 (NOTE 1)	18
19	RECEPTACLES: RM 101 (NOTE 1)	20 A	1	2#10, 1#10 GND, 3/4"C	900 VA	720 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 152 (NOTE 1)	20
21	RECEPTACLES: RM 119 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			900 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 152 (NOTE 1)	22
23	RECEPTACLES: RM 152 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C					720 VA	720 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 152 (NOTE 1)	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	RECEPTACLES: RM 152 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
					4560 VA		4326 VA		5660 VA						
					38 A		36 A		47 A						

LEGEND:

Heating	6 VA	100.00%	6 VA		
Receplacle	13100 VA	88.17%	11550 VA		
Power	1440 VA	100.00%	1440 VA		

BRANCH PANEL: BR1(E)

LOCATION: JANITOR CLOSET 109
SUPPLY FROM: BR1 TRANSFORMER
MOUNTING: FLUSH
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:
PANELBOARD SHALL BE DEMOLISHED.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	BREAKROOM RECEPTACLE	20 A	1	--	0 VA	0 VA					--	3	100 A	SPARE	2
3	BREAKROOM RECEPTACLE	20 A	1	--			0 VA	0 VA			--	--	--	--	4
5	RECEPTACLE	20 A	1	--					0 VA	0 VA	--	--	--	--	6
7	POWER POLE	20 A	1	--	0 VA	0 VA					--	1	20 A	POWER POLE	8
9	POWER POLE	20 A	1	--			0 VA	0 VA			--	1	20 A	POWER POLE	10
11	POWER POLE	20 A	1	--					0 VA	0 VA	--	1	20 A	POWER POLE	12
13	POWER POLE	20 A	1	--	0 VA	0 VA					--	1	20 A	POWER POLE	14
15	POWER POLE	20 A	1	--			0 VA	0 VA			--	1	20 A	POWER POLE	16
17	POWER POLE	20 A	1	--					0 VA	0 VA	--	1	20 A	POWER POLE	18
19	UNKNOWN LOAD	20 A	1	--	0 VA	0 VA					--	1	20 A	RECEPTACLE	20
21	SPACE ONLY	--	1	--			--	0 VA			--	1	20 A	UNKNOWN LOAD	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

BRANCH PANEL: CR1(E)

LOCATION: TOWN BRANCH CONF ROOM 107
SUPPLY FROM:
MOUNTING: FLUSH
ENCLOSURE: NEMA 1

VOLTS: 208V/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:
PANELBOARD SHALL BE DEMOLISHED.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RECEPTACLE	20 A	1	--	0 VA	0 VA					--	3	100 A	SPARE	2
3	RECEPTACLE	20 A	1	--			0 VA	0 VA			--	--	--	--	4
5	RECEPTACLE	20 A	1	--					0 VA	0 VA	--	--	--	--	6
7	SPARE	20 A	1	--	0 VA	--					--	1	--	SPACE ONLY	8
9	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	10
11	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	12
13	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	14
15	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	16
17	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

SHEET KEYNOTES:

1	REMOVE AND PROPERLY DISPOSE OF EXISTING BRANCH PANELBOARD. REMOVE AND PEROPERLY DISPOE OF THE PANELBOARD'S ELECTRICAL FEEDER.
2	INDICATED BRANCH CIRCUIT(S) SHALL BE REMOVED AS PART OF THE DEMOLITON PHASE. WHERE NOT REUSED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF BRANCH CIRCUIT.
3	NEW ELECTRICAL LOAD(S).

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL SCHEDULES V - EXISTING PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-705 01

8/17/2025 7:48:32 PM G:\DAV-LEX\LEX DWG's\05Working Drawings\Revit\Revit Central Model\24116_R25D01.rvt

BRANCH PANEL: R1A(E)

LOCATION: ELECTRICAL 129
SUPPLY FROM: R1A TRANSFORMER(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 150 A
MCB RATING: 150 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	SUPPLY ROOM RECEPTACLES	20 A	1	--	0 VA	0 VA					--	1	20 A	RESTROOM GFI'S	2
3	INTERVIEW RM RECEPTACLES	20 A	1	--			0 VA	0 VA			--	1	20 A	WATER COOLERS	4
5	COPIER - SUPPLY ROOM	20 A	1	--					0 VA	0 VA	--	1	20 A	BREAKROOM RECEPTACLES	6
7	SALES CORRIDOR RECEPTACLES	20 A	1	--	0 VA	0 VA					--	1	20 A	BREAKROOM RECEPTACLES	8
(1) 9	~~SALES AREA RECEPTACLES~~	~~20 A~~	~~1~~				0 VA	0 VA			--	1	20 A	BREAKROOM RECEPTACLES	10
11	~~SALES AREA RECEPTACLES~~	~~20 A~~	~~1~~	--					0 VA	0 VA	--	1	20 A	BREAKROOM RECEPTACLES	12
13	TRAINING VENDING RECEPTACLES	20 A	1	--	0 VA	0 VA					--	1	20 A	BREAKROOM RECEPTACLES	14
15	TRAINING VENDING RECEPTACLES	20 A	1	--			0 VA	0 VA			--	1	20 A	BREAKROOM RECEPTACLES	16
(1) 17	~~TRAINING ROOM RECEPTACLES~~	~~20 A~~	~~1~~						0 VA	0 VA	--	1	20 A	BREAKROOM RECEPTACLES	18
(1) 19	~~TRAINING ROOM RECEPTACLES~~	~~20 A~~	~~1~~	--	0 VA	0 VA					--	1	20 A	BREAKROOM RECEPTACLES	20
21	UNKNOWN LOAD	20 A	1	--			0 VA	0 VA			--	1	20 A	BREAKROOM RECEPTACLES	22
23	~~TRAINING OFFICE RECEPTACLES~~	~~20 A~~	~~1~~						0 VA	0 VA	--	1	20 A	BREAKROOM RECEPTACLES	24
25	~~TRAINING COPIER~~	~~20 A~~	~~1~~		0 VA	0 VA					--	1	20 A	BREAKROOM RECEPTACLES	26
27	~~TRAINING ROOM FLOOR BOXES~~	~~20 A~~	~~1~~				0 VA	0 VA			--	1	20 A	UNKNOWN LOAD	28
29	~~TRAINING ROOM FLOOR BOXES~~	~~20 A~~	~~1~~	--					0 VA	0 VA		1	20 A	~~NORTH TRAINING RM. RECEPTACLE~~	~~30~~ (1)
(1) 31	~~MIDDLE TRAINING ROOM FLOOR...~~	~~20 A~~	~~1~~	--	0 VA	0 VA					--	1	20 A	~~NORTH TRAINING RM. RECEPTACLE~~	~~32~~ (1)
33	~~MIDDLE TRAINING ROOM FLOOR...~~	~~20 A~~	~~1~~	--			0 VA	0 VA			--	1	20 A	UNKNOWN LOAD	34
35	~~SOUTH TRAINING ROOM FLOOR...~~	~~20 A~~	~~1~~	--					0 VA	0 VA	--	1	20 A	~~EXHAUST FANS~~	~~36~~ (1)
37	~~SOUTH TRAINING ROOM FLOOR...~~	~~20 A~~	~~1~~	--	0 VA	0 VA					--	1	20 A	UNKNOWN LOAD	38
39	~~SOUTH TRAINING ROOM WIREMOLD~~	~~20 A~~	~~1~~	--			0 VA	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: R1A

LOCATION: ELECTRICAL 129
SUPPLY FROM: R1A TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 150 A
MCB RATING: 150 A

NOTES:
1. REPLACE EXISTING BREAKER WITH INDICATED BREAKER.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RECEPTACLES: RM 128 (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	RECEPTACLES: RM 253,254 (E)	2
3	RECEPTACLES: RM 130 (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	EWC: RM 252 (E)	4
5	RECEPTACLES: RM 128 (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	RECEPTACLES: RM 251 (E)	6
7	SALES CORRIDOR RECEPTACLES (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	RECEPTACLES: RM 251 (E)	8
(2) 9	RECEPTACLES: RM 120	20 A	1	2#12, 1#12 GND, 3/4"C			900 VA	0 VA			--	1	20 A	RECEPTACLES: RM 251 (E)	10
11	RECEPTACLES: RM 122	20 A	1	2#12, 1#12 GND, 3/4"C					720 VA	0 VA	--	1	20 A	RECEPTACLES: RM 251 (E)	12
13	RECEPTACLES: RM 123 (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	RECEPTACLES: RM 251 (E)	14
15	RECEPTACLES: RM 123 (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	RECEPTACLES: RM 251 (E)	16
(2) 17	CU-5 (NOTE 1)	20 A	2	2#12, 1#12 GND, 3/4"C					946 VA	0 VA	--	1	20 A	RECEPTACLES: RM 251 (E)	18
19	--	--	--	--	946 VA	0 VA					--	1	20 A	RECEPTACLES: RM 251 (E)	20
21	UNKNOWN LOAD (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	RECEPTACLES: RM 251 (E)	22
23	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	RECEPTACLES: RM 251 (E)	24
25	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	RECEPTACLES: RM 251 (E)	26
27	RECEPTACLES: RM 121	20 A	1	2#12, 1#12 GND, 3/4"C			900 VA	0 VA			--	1	20 A	UNKNOWN LOAD (E)	28
29	TVS: RM 150	20 A	1	2#12, 1#12 GND, 3/4"C					360 VA	360 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 150	30 (2)
(2) 31	CU-4B (NOTE 1)	20 A	2	2#12, 1#12 GND, 3/4"C	956 VA	360 VA					2#12, 1#12 GND, 3/4"C	1	20 A	TVS: RM 151	32 (2)
33	--	--	--	--			956 VA	0 VA			--	1	20 A	UNKNOWN LOAD (E)	34
35	CU-4A (NOTE 1)	20 A	2	2#12, 1#12 GND, 3/4"C					956 VA	0 VA	--	1	20 A	SPARE	36 (2)
37	--	--	--	--	956 VA	0 VA					--	1	20 A	UNKNOWN LOAD (E)	38
39	SPARE	20 A	1	--			0 VA	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					3218 VA		2756 VA		3342 VA						
					27 A		23 A		28 A						

LEGEND:

HVAC	5716 VA	100.00%	5716 VA		
Receptacle	3600 VA	100.00%	3600 VA		

BRANCH PANEL: R1B(E)

LOCATION: ELECTRICAL 129
SUPPLY FROM: R1B TRANSFORMER(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 150 A
MCB RATING: 150 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	~~SOUTH CONFERENCE RECEPTACLES~~	~~30 A~~	~~1~~		0 VA	0 VA						1	20 A	~~SALES AREA MODULAR WALLS~~	~~2~~
3	~~SOUTH CONFERENCE RECEPTACLES~~	~~20 A~~	~~1~~	--			0 VA	0 VA			--	1	20 A	~~SALES AREA MODULAR WALLS~~	~~4~~
5	~~FILE ROOM COPIER~~	~~20 A~~	~~1~~	--					0 VA	0 VA	--	1	20 A	~~SALES AREA MODULAR WALLS~~	~~6~~
(1) 7	~~WAREHOUSE OFFICE RECEPTACLES~~	~~20 A~~	~~1~~		0 VA	0 VA					--	1	20 A	~~SALES AREA MODULAR WALLS~~	~~8~~ (1)
9	~~WAREHOUSE OFFICE RECEPTACLES~~	~~20 A~~	~~1~~				0 VA	0 VA			--	1	20 A	~~SALES AREA MODULAR WALLS~~	~~10~~
11	~~COPIER WAREHOUSE OFFICE~~	~~20 A~~	~~1~~	--					0 VA	0 VA	--	1	20 A	~~SALES AREA MODULAR WALLS~~	~~12~~
(1) 13	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~		0 VA	0 VA						1	20 A	~~WAREHOUSE OFFICE MODULAR~~	~~14~~
15	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~				0 VA	0 VA				1	20 A	~~COIN ROOM MODULAR WALLS~~	~~16~~
17	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~						0 VA	0 VA	--	1	20 A	COIN ROOM COPIER	18
19	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~	--	0 VA	0 VA					--	1	20 A	COIN ROOM WATER COOLER	20
21	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~				0 VA	--			--	1	--	SPACE ONLY	22
23	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~	--					0 VA	0 VA	--	1	20 A	COIN VAULT RECEPTACLES	24
25	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~		0 VA	0 VA					--	1	20 A	SOUTH RESTROOM RECEPTACLES	26
27	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~				0 VA	0 VA			--	1	20 A	SOUTH RESTROOM RECEPTACLES	28
29	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~						0 VA	0 VA	--	1	20 A	SOUTH WATER COOLERS	30
31	~~EAST REPORT WIREMOLD~~	~~20 A~~	~~1~~		0 VA	0 VA					--	1	20 A	BREAKROOM RECEPTACLES	32
33	UNKNOWN LOAD	20 A	1	--			0 VA	0 VA			--	1	20 A	BREAKROOM RECEPTACLES	34
35	BREAKROOM RECEPTACLES	20 A	1	--					0 VA	0 VA	--	1	20 A	ICE MAKER	36
(1) 37	~~TAPE LIGHT CUST. PRES. ROOM~~	~~20 A~~	~~1~~		0 VA	0 VA					--	1	20 A	COIN ROOM RECEPTACLES	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
(1) 41	~~DOWNLIGHTS SALES CONFERENCE~~	~~20 A~~	~~1~~						0 VA	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: R1B

LOCATION: ELECTRICAL 129
SUPPLY FROM: R1B TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 150 A
MCB RATING: 150 A

NOTES:
1. ADD INDICATED BREAKER IN EXISTING SPACE.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	SPARE	30 A	1	--	0 VA	500 VA					2#8, 1#8 GND, 1"C	1	20 A	TELE EQ CABINET (SITE)	2
3	RECEPTACLES: ROOF TOP (AREA A)	20 A	1	2#10, 1#10 GND, 3/4"C			720 VA	720 VA			2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 278 & 279	4
5	COPIER: RM 265	20 A	1	2#10, 1#10 GND, 3/4"C					1500 VA	540 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTS: RM 230 & 237 (NOTE 1)	6
7	COPIER: RM 116	20 A	1	2#12, 1#12 GND, 3/4"C	1500 VA	540 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 133	8 (2)
9	RECEPTACLES: RM 248A	20 A	1	2#10, 1#10 GND, 3/4"C			1080 VA	540 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 249	10
11	RECEPTACLES: RM 265	20 A	1	2#12, 1#12 GND, 3/4"C					540 VA	720 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 259	12
13	RECEPTACLES: RM 259	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	720 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 258 & 259	14
(2) 15	RECEPTACLES: RM 265	20 A	1	2#10, 1#10 GND, 3/4"C			720 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 259	16 (2)
17	RECEPTACLES: RM 257	20 A	1	2#12, 1#12 GND, 3/4"C					720 VA	0 VA	--	1	20 A	COPIER: RM 227 (E)	18
19	RECEPTACLES: RM 131 & 132	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	0 VA					--	1	20 A	EWC: RM 227 (E)	20
21	RECEPTACLES: RM 256	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	720 VA			2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTS: CUB 282 & 283 (NOTE 1)	22 (2)
23	RECEPTACLES: CUBICAL 284 & 285	20 A	1	2#10, 1#10 GND, 3/4"C					720 VA	0 VA	--	1	20 A	RECEPTACLES: RM 249 (E)	24
25	RECEPTACLES: CUBICAL 280 & 281	20 A	1	2#10, 1#10 GND, 3/4"C	720 VA	0 VA					--	1	20 A	RECEPTACLES: RM 228, 231, 233 (E)	26
27	RECEPTACLES: RM 250	20 A	1	2#10, 1#10 GND, 3/4"C			900 VA	0 VA			--	1	20 A	RECEPTACLES: RM 229 (E)	28
29	RECEPTACLES: RM 265	20 A	1	2#12, 1#12 GND, 3/4"C					900 VA	0 VA	--	1	20 A	EWC: RM 230 (E)	30
31	RECEPTACLES: RM 248	20 A	1	2#10, 1#10 GND, 3/4"C	900 VA	0 VA					--	1	20 A	RECEPTACLES: RM 251 (E)	32
(2) 33	UNKNOWN LOAD (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	RECEPTACLES: RM 251 (E)	34
35	RECEPTACLES: RM 251 (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	ICE MAKER: RM 251 (E)	36
37	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	RECEPTACLES: RM 227 (E)	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPARE	20 A	1	--					0 VA	--	--	1	--	SPACE ONLY	42
					6320 VA		6840 VA		5640 VA						
					54 A		58 A		47 A						

LEGEND:

Other	0 VA	0.00%	0 VA		
Receptacle	18300 VA	77.32%	14150 VA		
Power	500 VA	100.00%	500 VA		

BRANCH PANEL: R2(E)

LOCATION: ELECTRICAL 159
SUPPLY FROM: R2 TRANSFORMER(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 150 A
MCB RATING: 150 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	UNKNOWN LOAD	20 A	1	--	0 VA	0 VA					--	1	20 A	ENGINEERING LOBBY RECEPTACLES	2
3	MECHANICAL ROOM RECEPTACLES	20 A	1	--			0 VA	0 VA			--	1	20 A	UKNOWN LOAD	4
5	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA	--	1	20 A	RESTROOM GFI	6
7	OFFICE 11P55-11P62 RECEPTACLES	20 A	1	--	0 VA	0 VA					--	1	20 A	WATER COOLER	8
9	OFFICE 11P47-11P51 RECEPTACLES	20 A	1	--			0 VA	0 VA				1	20 A	~~ENGINEERING MODULAR WALLS~~	~~10~~
11	~~REPORT ROOM WIREMOLD~~	~~20 A~~	~~1~~	--					0 VA	0 VA	--	1	20 A	~~ENGINEERING MODULAR WALLS~~	~~12~~
13	~~REPORT ROOM WIREMOLD~~	~~20 A~~	~~1~~	--	0 VA	0 VA						1	20 A	~~ENGINEERING MODULAR WALLS~~	~~14~~
15	~~REPORT ROOM WIREMOLD~~	~~20 A~~	~~1~~	--			0 VA	0 VA				1	20 A	~~ENGINEERING MODULAR WALLS~~	~~16~~
17	~~REPORT ROOM WIREMOLD~~	~~20 A~~	~~1~~	--					0 VA	0 VA		1	20 A	~~ENGINEERING MODULAR WALLS~~	~~18~~
(1) 19	~~REPORT ROOM WIREMOLD~~	~~20 A~~	~~1~~	--	0 VA	0 VA						1	20 A	~~ENGINEERING MODULAR WALLS~~	~~20~~ (1)
21	~~CAD ROOM RECEPTACLES~~	~~20 A~~	~~1~~	--			0 VA	0 VA			--	1	20 A	~~ENGINEERING MODULAR WALLS~~	~~22~~
23	~~CAD ROOM RECEPTACLES~~	~~20 A~~	~~1~~	--					0 VA	0 VA	--	1	20 A	~~ENGINEERING MODULAR WALLS~~	~~24~~
25	~~CAD ROOM RECEPTACLES~~	~~20 A~~	~~1~~	--	0 VA	0 VA					--	1	20 A	~~ENGINEERING MODULAR WALLS~~	~~26~~
27	~~CAD ROOM RECEPTACLES~~	~~20 A~~	~~1~~	--			0 VA	0 VA			--	1	20 A	~~CAD ROOM RECEPTACLES~~	~~28~~
29	~~CAD ROOM RECEPTACLES~~	~~20 A~~	~~1~~	--					0 VA	0 VA	--	1	20 A	~~CAD ROOM RECEPTACLES~~	~~30~~
31	UNKNOWN LOAD	20 A	1	--	0 VA	0 VA					--	1	20 A	DEDICATED CIRCUIT ROOM	32
33	UNKNOWN LOAD	20 A	1	--			0 VA	0 VA			--	1	20 A	CONFERENCE ROOM DOWNLIGHTS	34
35	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA	--	1	20 A	UNKNOWN LOAD	36
37	DEDICATED CIRCUIT RM 11P55	20 A	1	--	0 VA	0 VA					--	1	20 A	NORTH OFFICE RECEPTACLES	38
39	UNKNOWN LOAD	20 A	1	--			0 VA	0 VA			--	1	20 A	WEST OFFICE RECEPTACLES	40
41	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA	--	1	20 A	NORTH OFFICE RECEPTACLES	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: R2

LOCATION: ELECTRICAL 159
SUPPLY FROM: R2 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 150 A
MCB RATING: 150 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	UNKNOWN LOAD (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	RECEPTACLES: RM 153 (E)	2
3	RECEPTACLES: RM 159 (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	UNKNOWN LOAD (E)	4
5	UNKNOWN LOAD (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	RECEPTACLES: RM 263 & 264 (E)	6
7	RECEPTACLES: RM 161-164 (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	EWC: RM 262 (E)	8
9	RECEPTACLES: RM 165-167 (E)	20 A	1	--			0 VA	720 VA			2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 215	10
(2) 11	RECEPTACLES: RM 2201	20 A	1	2#10, 1#10 GND, 3/4"C					900 VA	1500 VA	2#10, 1#10 GND, 3/4"C	1	20 A	COPIER: RM 215	12
13	RECEPTACLES: RM 223	20 A	1	2#12, 1#12 GND, 3/4"C	540 VA	720 VA					2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 216	14
15	RECEPTACLES: RM 218	20 A	1	2#10, 1#10 GND, 3/4"C			900 VA	900 VA			2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 219	16
17	RECEPTACLES: RM 224 & 226	20 A	1	2#10, 1#10 GND, 3/4"C					720 VA	900 VA	2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 223	18
19	RECEPTACLES: RM 216	20 A	1	2#10, 1#10 GND, 3/4"C	1080 VA	720 VA					2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 216	20 (2)
(2) 21	RECEPTACLES: RM 216	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	900 VA			2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 222	22
23	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	24
25	RECEPTACLES: RM 221	20 A	1	2#10, 1#10 GND, 3/4"C	900 VA	0 VA					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	30
31	UNKNOWN LOAD (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	DEDICATED CIRCUIT: RM 136 (E)	32
33	UNKNOWN LOAD (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	34
35	UNKNOWN LOAD (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	UNKNOWN LOAD (E)	36
37	DEDICATED CIRCUIT: RM 167 (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	RECEPTACLES: RM 136 & 137 (E)	38
39	UNKNOWN LOAD (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	RECEPTACLES: RM 141 & 142 (E)	40
41	UNKNOWN LOAD (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	RECEPTACLES: RM 136 & 137 (E)	42
					3960 VA		4140 VA		4020 VA						
					33 A		35 A		34 A						

LEGEND:

Receptacle	12120 VA	91.25%	11060 VA		

SHEET KEYNOTES:

1	INDICATED BRANCH CIRCUIT(S) SHALL BE REMOVED AS PART OF THE DEMOLITON PHASE. WHERE NOT REUSED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF BRANCH CIRCUIT.
2	NEW ELECTRICAL LOAD(S).

COMMONWEALTH OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL SCHEDULES VI - EXISTING PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	BY	DATE

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-706 01

8/7/2025 7:44:34 PM G:\05247-LEUCG PWD\14-MEP\Working Drawings\Revit\Revit Central Models\05247E_R2BDSH.rvt

BRANCH PANEL: TC(E)

LOCATION: COMPUTER / SERVER 261
SUPPLY FROM:
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 200 A
MCB RATING: 200 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
~~1~~	~~NEMA 6-20R~~	~~20 A~~	~~2~~		0 VA	0 VA						~~2~~	~~20 A~~	~~NEMA 6-20R~~	~~2~~
~~3~~							0 VA	0 VA							~~4~~
~~5~~	~~NEMA 6-20R~~	~~20 A~~	~~2~~						0 VA	0 VA		~~2~~	~~20 A~~	~~NEMA 6-20R~~	~~6~~
~~7~~					0 VA	0 VA									~~8~~
~~9~~	~~NEMA 6-20R~~	~~20 A~~	~~2~~				0 VA	0 VA				~~2~~	~~20 A~~	~~NEMA 6-20R~~	~~10~~
~~11~~									0 VA	0 VA					~~12~~
~~13~~	~~NEMA 6-20R~~	~~20 A~~	~~2~~		0 VA	0 VA						~~2~~	~~20 A~~	~~NEMA 6-20R~~	~~14~~
~~15~~							0 VA	0 VA							~~16~~
~~17~~	~~NEMA 6-20R~~	~~20 A~~	~~2~~						0 VA	0 VA		~~2~~	~~30 A~~	~~CISCO~~	~~18~~
~~19~~					0 VA	0 VA									~~20~~
~~21~~	~~CISCO~~	~~30 A~~	~~2~~				0 VA	0 VA			--	1	20 A	CONVENIENCE RECEPTACLES	22
~~23~~									0 VA	0 VA	--	1	20 A	CONVENIENCE RECEPTACLES	24
25	CONVENIENCE RECEPTACLES	20 A	1	--	0 VA	0 VA					--	1	20 A	DEDICATED RECEPTACLE	26
27	SERVER	20 A	1	--			0 VA	0 VA			--	1	20 A	DEDICATED RECEPTACLE	28
29	SERVER	20 A	1	--					0 VA	0 VA	--	1	20 A	CONVENIENCE RECEPTACLES	30
31	CONVENIENCE RECEPTACLES	20 A	1	--	0 VA	0 VA					--	2	20 A	RECEPTACLE 2/4	32
33	DEDICATED RECEPTACLE	20 A	1	--			0 VA	0 VA			--	--	--	--	34
35	CONVENIENCE RECEPTACLES	20 A	1	--					0 VA	0 VA	--	2	20 A	RECEPTACLE 1/3	36
37	DEDICATED RECEPTACLE	20 A	1	--	0 VA	0 VA					--	--	--	--	38
39	CONVENIENCE RECEPTACLES	20 A	1	--			0 VA	0 VA			--	1	20 A	LAN ROOM	40
41	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA	--	~~1~~	~~20 A~~	~~SECURITY PANELS~~	~~42~~
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: TC

LOCATION: COMPUTER / SERVER 261
SUPPLY FROM: TC TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 200 A
MCB RATING: 200 A

NOTES:
1. REPLACE EXISTING BREAKER WITH INDICATED BREAKER

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	BAS CONTROL PANEL (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C	500 VA	1000 VA					2#10, 1#10 GND, 3/4"C	2	30 A	MDF EQUIP RACK (NOTE 1)	2
3	RECEPTACLES: RM 261 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	1000 VA			--	--	--	--	4
5	MDF EQUIP RACK (NOTE 1)	30 A	2	2#10, 1#10 GND, 3/4"C					1000 VA	1476 VA	2#12, 1#12 GND, 3/4"C	2	20 A	CU-2B (NOTE 1)	6
7	--	--	--	--	1000 VA	1476 VA					--	--	--	--	8
9	CU-2A (NOTE 1)	20 A	2	2#12, 1#12 GND, 3/4"C			1476 VA	1000 VA			2#10, 1#10 GND, 3/4"C	2	30 A	MDF EQUIP RACK (NOTE 1)	10
11	--	--	--	--					1476 VA	1000 VA	--	--	--	--	12
13	CU-2C (NOTE 1)	20 A	2	2#12, 1#12 GND, 3/4"C	1476 VA	1000 VA					2#10, 1#10 GND, 3/4"C	2	30 A	MDF EQUIP RACK (NOTE 1)	14
15	--	--	--	--			1476 VA	1000 VA			--	--	--	--	16
17	MDF EQUIP RACK (NOTE 1)	30 A	2	2#10, 1#10 GND, 3/4"C					1000 VA	0 VA	--	2	30 A	SPARE	18
19	--	--	--	--	1000 VA	0 VA					--	--	--	--	20
21	ACS: POWER SUPPLIES (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			1440 VA	0 VA			--	1	20 A	CONVENIENCE RECEPTACLES (E)	22
23	SPACE ONLY	--	1	--					--	0 VA	--	1	20 A	CONVENIENCE RECEPTACLES (E)	24
25	CONVENIENCE RECEPTACLES (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	DEDICATED RECEPTACLE (E)	26
27	SERVER (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	DEDICATED RECEPTACLE (E)	28
29	SERVER (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	CONVENIENCE RECEPTACLES (E)	30
31	CONVENIENCE RECEPTACLES (E)	20 A	1	--	0 VA	0 VA					--	2	20 A	RECEPTACLE 2/4 (E)	32
33	DEDICATED RECEPTACLE (E)	20 A	1	--			0 VA	0 VA			--	--	--	--	34
35	CONVENIENCE RECEPTACLES (E)	20 A	1	--					0 VA	0 VA	--	2	20 A	RECEPTACLE 1/3 (E)	36
37	DEDICATED RECEPTACLE (E)	20 A	1	--	0 VA	0 VA					--	--	--	--	38
39	CONVENIENCE RECEPTACLES (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	RECEPTACLES: RM 257 (E)	40
41	UNKNOWN LOAD (E)	20 A	1	--					0 VA	360 VA	2#12, 1#12 GND, 1"C	1	20 A	RECEPTACLES: BAS COMPUTER	42
					7452 VA		8112 VA		6312 VA						
					64 A		69 A		53 A						

LEGEND:

HVAC	8856 VA	100.00%	8856 VA			
Receptacle	11080 VA	95.13%	10540 VA			
Power	1940 VA	100.00%	1940 VA			

BRANCH PANEL: WHR(E)

LOCATION: WAREHOUSE CIRCULATION 294
SUPPLY FROM: WHR TRANSFORMER (E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 125 A
MCB RATING: 125 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RECEPTACLE @ PANEL	20 A	1	--	0 VA	0 VA						~~1~~	~~20 A~~	~~LOUVER MOTORS~~	~~2~~
~~3~~	~~WAREHOUSE FANS~~	~~20 A~~	~~1~~				0 VA	0 VA				~~1~~	~~20 A~~	~~WAREHOUSE FAN~~	~~4~~
~~5~~	~~BATTERY CHARGER EXHAUST FAN~~	~~20 A~~	~~1~~						0 VA	0 VA		~~1~~	~~20 A~~	~~WAREHOUSE FAN~~	~~6~~
~~7~~	SPACE ONLY	--	1	--	--	0 VA						~~1~~	~~20 A~~	~~WAREHOUSE FAN~~	~~8~~
9	SPACE ONLY	--	1	--			--	0 VA				~~1~~	~~15 A~~	~~DOOR BELL~~	~~10~~
~~11~~	~~MAKEUP AIR UNIT~~	~~20 A~~	~~2~~						0 VA	0 VA	--	1	30 A	UNKNOWN LOAD	12
~~13~~					0 VA	0 VA					--	2	20 A	WALL HEATER	14
15	SPACE ONLY	--	1	--			--	0 VA			--	--	--	--	16
17	WAREHOUSE RECEPTACLES	20 A	1	--					0 VA	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	20
21	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	22
23	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: WHR

LOCATION: WAREHOUSE CIRCULATION 294
SUPPLY FROM: WHR TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 125 A
MCB RATING: 125 A

NOTES:
1. REPLACE EXISTING BREAKER WITH INDICATED BREAKER.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RECEPTACLE @ PANEL (E)	20 A	1	--	0 VA	600 VA					2#10, 1#10 GND, 3/4"C	1	15 A	HVLS-05 (NOTE 1)	2
3	HVLS-04 (NOTE 1)	15 A	1	2#10, 1#10 GND, 3/4"C			600 VA	720 VA			2#8, 1#8 GND, 1"C	1	20 A	RECEPTACLES: RM 291, 292	4
5	HVLS-06 (NOTE 1)	15 A	1	2#12, 1#12 GND, 3/4"C					600 VA	600 VA	2#12, 1#12 GND, 3/4"C	1	15 A	HVLS-03 (NOTE 1)	6
7	SUMP PUMP #1 (NOTE 1)	15 A	1	2#12, 1#12 GND, 3/4"C	1081 VA	600 VA					2#12, 1#12 GND, 3/4"C	1	15 A	HVLS-02 (NOTE 1)	8
9	SUMP PUMP #2 (NOTE 1)	15 A	1	2#12, 1#12 GND, 3/4"C			1081 VA	600 VA			2#12, 1#12 GND, 3/4"C	1	15 A	HVLS-07 (NOTE 1)	10
11	HVLS-01 (NOTE 1)	15 A	1	2#12, 1#12 GND, 3/4"C					600 VA	0 VA	--	1	30 A	UNKNOWN LOAD (E)	12
13	HVLS CONTROL PANEL (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C	180 VA	0 VA					--	2	20 A	WALL HEATER	14
15	SPACE ONLY	--	1	--			--	0 VA			--	--	--	--	16
17	WAREHOUSE RECEPTACLES (E)	20 A	1						0 VA	600 VA	2#12, 1#12 GND, 3/4"C	1	20 A	WATER HEATER, WH-1 (NOTE 1)	18
19	RECEPTACLES: RM 295 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C	360 VA	186 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 297 (NOTE 1)	20
21	TV TRUCK: RM 295 (NOTE 1)	20 A	1	2#10, 1#10 GND, 3/4"C			500 VA	242 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECIRC. PUMP, RP-1 (NOTE 1)	22
23	RECEPTACLES: RM 295 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C					360 VA	540 VA	2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 294 (NOTE 1)	24
25	TV TRUCK: RM 295 (NOTE 1)	30 A	1	2#10, 1#10 GND, 3/4"C	500 VA	200 VA					2#12, 1#12 GND, 3/4"C	1	20 A	CONTROL DAMPERS	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	RECEPTACLES: RM 294 (NOTE 1)	20 A	1	2#10, 1#10 GND, 3/4"C					540 VA	--	--	1	--	SPACE ONLY	30
					3707 VA		3743 VA		3840 VA						
					31 A		31 A		32 A						

LEGEND:

Cooling	0 VA	0.00%	0 VA			
Heating	606 VA	100.00%	606 VA			
Motor	242 VA	125.00%	302 VA			
Other	4400 VA	100.00%	4400 VA			
Receptacle	3880 VA	100.00%	3880 VA			
Power	2162 VA	100.00%	2162 VA			

BRANCH PANEL: EMR1(E)

LOCATION: ELECTRICAL 129
SUPPLY FROM: EMR1 TRANSFORMER(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	NORTH OFFICE RECEPTACLES	20 A	1	--	0 VA	0 VA						~~1~~	~~20 A~~	~~SALES AREA MODULAR WALLS~~	~~2~~
3	NORTH OFFICE RECEPTACLES	20 A	1	--			0 VA	0 VA				~~1~~	~~20 A~~	~~SALES AREA MODULAR WALLS~~	~~4~~
5	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA		~~1~~	~~20 A~~	~~SALES AREA MODULAR WALLS~~	~~6~~
7	UNKNOWN LOAD	20 A	1	--	0 VA	0 VA						~~1~~	~~20 A~~	~~SALES AREA MODULAR WALLS~~	~~8~~
9	UNKNOWN LOAD	20 A	1	--			0 VA	0 VA				~~1~~	~~20 A~~	~~SALES AREA MODULAR WALLS~~	~~10~~
11	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA	--	~~1~~	~~20 A~~	~~SALES AREA MODULAR WALLS~~	~~12~~
13	UNKNOWN LOAD	20 A	1	--	0 VA	0 VA					--	1	20 A	FIRE DAMPERS & BOOSTER PANEL	14
15	UNKNOWN LOAD	20 A	1	--			0 VA	0 VA			--	1	20 A	UNKNOWN LOAD	16
17	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA	--	1	20 A	UNKNOWN LOAD	18
19	UNKNOWN LOAD	20 A	1	--	0 VA	0 VA						~~1~~	~~20 A~~	~~DEDICATED - LAN ROOM~~	~~20~~
21	UNKNOWN LOAD	20 A	1	--			0 VA	0 VA			--	~~1~~	~~20 A~~	~~DEDICATED - LAN ROOM~~	~~22~~
23	UNKNOWN LOAD	20 A	1	--					0 VA	0 VA	--	~~1~~	~~20 A~~	~~DEDICATED - LAN ROOM~~	~~24~~
25	UNKNOWN LOAD	20 A	1	--	0 VA	0 VA					--	1	20 A	WATER HEATER	26
27	SIGN	20 A	1	--			0 VA	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: EMR1

LOCATION: ELECTRICAL 129
SUPPLY FROM: EMR1 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:
1. ADD INDICATED BREAKER IN EXISTING SPACE.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	NORTH OFFICE RECEPTACLES (E)	20 A	1	--	0 VA	360 VA					2#12, 1#12 GND, 3/4"C	1	20 A	TVS: RM 265	2
3	NORTH OFFICE RECEPTACLES (E)	20 A	1	--			0 VA	540 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 149	4
5	UNKNOWN LOAD (E)	20 A	1	--					0 VA	900 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 267	6
7	UNKNOWN LOAD (E)	20 A	1	--	0 VA	2566 VA					2#12, 1#12 GND, 3/4"C	1	20 A	BUILDING MOUNTED SIGN	8
9	RECEPTACLES: RM 266	20 A	1	2#12, 1#12 GND, 3/4"C			900 VA	1440 VA			2#10, 1#10 GND, 3/4"C	1	20 A	ACS: POWER SUPPLIES (NOTE 1)	10
11	RECEPTACLES: RM 268	20 A	1	2#12, 1#12 GND, 3/4"C					900 VA	1000 VA	2#12, 1#12 GND, 3/4"C	1	20 A	IDF EQUIP RACK	12
13	RECEPTACLES: RM 148	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	0 VA					--	1	20 A	FIRE DAMPERS & BOOSTER PNL (E)	14
15	UNKNOWN LOAD (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	UNKNOWN LOAD (E)	16
17	UNKNOWN LOAD (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	UNKNOWN LOAD (E)	18
19	UNKNOWN LOAD (E)	20 A	1	--	0 VA	900 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 275 (NOTE 1)	20
21	UNKNOWN LOAD (E)	20 A	1	--			0 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 148	22
23	UNKNOWN LOAD (E)	20 A	1	--					0 VA	720 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 265 (NOTE 1)	24
25	UNKNOWN LOAD (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	WATER HEATER (E)	26
27	SIGN (E)	20 A	1	--			0 VA	900 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 276 (NOTE 1)	28
29	RECEPTACLES: RM 277	20 A	1	2#12, 1#12 GND, 3/4"C					900 VA	900 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 274 (NOTE 1)	30
31	RECEPTACLES: RM 272 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C	900 VA	900 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 269 (NOTE 1)	32
33	RECEPTACLES: RM 273 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			900 VA	900 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 270 (NOTE 1)	34
35	RECEPTACLES: RM 271 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C					900 VA	--	--	1	--	SPACE ONLY	36
37	NEW POST/PANEL SIGNAGE	15 A	1	2#8, 1#8 GND, 1"C	500 VA	--					--	1	--	SPACE ONLY	38
39	NEW POST/PANEL SIGNAGE	15 A	1	2#8, 1#8 GND, 1"C			500 VA	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					6846 VA		6800 VA		6220 VA						
					58 A		57 A		52 A						

LEGEND:

Receptacle	14860 VA	83.65%	12430 VA			
Power	4940 VA	100.00%	4940 VA			
Lighting	66 VA	100.00%	66 VA			

SHEET KEYNOTES:

1	INDICATED BRANCH CIRCUIT(S) SHALL BE REMOVED AS PART OF THE DEMOLITON PHASE. WHERE NOT REUSED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF BRANCH CIRCUIT.
2	NEW ELECTRICAL LOAD(S).

STATE OF KENTUCKY — PATRICK J. BAISDEN — 22012 — LICENSED PROFESSIONAL ENGINEER — NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

8/15/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL SCHEDULES VII - EXISTING PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DATE:	BY:	REVISION DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: E-707 01

8/13/2025 7:46:35 PM G:\05247-01\CLTDOC\DWG\ndl\Working Drawings\Revit\Revit Central Model\24116_CENTER1.rvt

BRANCH PANEL: EMR2(E)

LOCATION: ELECTRICAL 159
SUPPLY FROM: EMR2 TRANSFORMER(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000 AIC
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
~~1~~	~~RECEPTACLES: 11KK50~~	~~20 A~~	~~1~~		~~0 VA~~	~~0 VA~~						~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~2~~
~~3~~	~~RECEPTACLES: 11HH50~~	~~20 A~~	~~1~~				~~0 VA~~	~~0 VA~~				~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~4~~
~~5~~	~~RECEPTACLES: 11HH65~~	~~20 A~~	~~1~~						~~0 VA~~	~~0 VA~~		~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~6~~
~~7~~	~~RECEPTACLES: 11HH47~~	~~20 A~~	~~1~~	--	~~0 VA~~	~~0 VA~~					--	~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~8~~
~~9~~	~~RECEPTACLES: 11HH62~~	~~20 A~~	~~1~~				~~0 VA~~	~~0 VA~~				~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~10~~
~~11~~	~~RECEPTACLES: 11QQ50~~	~~20 A~~	~~1~~						~~0 VA~~	~~0 VA~~		~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~12~~
~~13~~	~~RECEPTACLES: 11QQ62~~	~~20 A~~	~~1~~	--	~~0 VA~~	~~0 VA~~					--	~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~14~~
~~15~~	~~RECEPTACLES: 11QQ50~~	~~20 A~~	~~1~~	--			~~0 VA~~	~~0 VA~~			--	~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~16~~
~~17~~	~~RECEPTACLES: 11QQ47~~	~~20 A~~	~~1~~	--					~~0 VA~~	~~0 VA~~	--	~~1~~	~~20 A~~	~~ENGINEERING MODULAR WALLS~~	~~18~~
~~19~~	~~DOWNLIGHTS EXEC. CONFERENCE...~~	~~20 A~~	~~1~~	--	~~0 VA~~	~~0 VA~~					--	~~1~~	~~20 A~~	~~EXECUTIVE SUITE MODULAR WALLS~~	~~20~~
21	UNKNOWN LOAD	20 A	1	--			~~0 VA~~	~~0 VA~~			--	~~1~~	~~20 A~~	~~EXECUTIVE SUITE MODULAR WALLS~~	~~22~~
23	UNKNOWN LOAD	20 A	1	--					~~0 VA~~	~~0 VA~~	--	~~1~~	~~20 A~~	~~EXECUTIVE SUITE MODULAR WALLS~~	~~24~~
25	UNKNOWN LOAD	20 A	1	--	~~0 VA~~	~~0 VA~~					--	1	20 A	UNKNOWN LOAD	26
27	UNKNOWN LOAD	20 A	1	--			~~0 VA~~	~~0 VA~~			--	1	20 A	UNKNOWN LOAD	28
29	UNKNOWN LOAD	20 A	1	--					~~0 VA~~	~~0 VA~~	--	1	20 A	UNKNOWN LOAD	30
31	UNKNOWN LOAD	20 A	1	--	~~0 VA~~	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: EMR2

LOCATION: ELECTRICAL 159
SUPPLY FROM: EMR2 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000 AIC
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RECEPTACLES: CUBICAL 192	20 A	1	2#12, 1#12 GND, 3/4"C	360 VA	720 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 172 & 173	2
3	RECEPTACLES: CUBICAL 174 & 175	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	1500 VA			2#12, 1#12 GND, 3/4"C	1	20 A	COPIER: RM 116	4
5	RECEPTACLES: RM 143 & 144	20 A	1	2#12, 1#12 GND, 3/4"C					900 VA	1080 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 140 & 141	6
7	RECEPTACLES: RM 116 & 147	20 A	1	2#12, 1#12 GND, 3/4"C	900 VA	360 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 204 & 205	8
9	RECEPTACLES: CUBICAL 207	20 A	1	2#12, 1#12 GND, 3/4"C			360 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 116 & 144	10
11	RECEPTACLES: RM 116	20 A	1	2#12, 1#12 GND, 3/4"C					360 VA	720 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 145	12
13	RECEPTACLES: CUBICAL 208 & 209	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	720 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 190 & 191	14
15	RECEPTACLES: CUBICAL 193 & 194	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 178 & 179	16
17	RECEPTACLES: CUBICAL 203 & 204	20 A	1	2#12, 1#12 GND, 3/4"C					720 VA	720 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 188 & 189	18
19	RECEPTACLES: CUBICAL 176 & 177	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	0 VA					--	1	20 A	SPARE	20
21	UNKNOWN LOAD (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	22
23	UNKNOWN LOAD (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	24
25	UNKNOWN LOAD (E)	20 A	1	--	0 VA	0 VA					--	1	20 A	UNKNOWN LOAD (E)	26
27	UNKNOWN LOAD (E)	20 A	1	--			0 VA	0 VA			--	1	20 A	UNKNOWN LOAD (E)	28
29	UNKNOWN LOAD (E)	20 A	1	--					0 VA	0 VA	--	1	20 A	UNKNOWN LOAD (E)	30
31	UNKNOWN LOAD (E)	20 A	1	--	0 VA	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					4500 VA		4740 VA		4500 VA						
					38 A		40 A		38 A						

LEGEND:

Receptacle	13740 VA	86.39%	11870 VA		
Power	0 VA	0.00%	0 VA		

BRANCH PANEL: EMR3(E)

LOCATION: MECHANICAL / ELECTRICAL ROO...
SUPPLY FROM: EMR3 TRANSFORMER(E)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
~~1~~	~~WAREHOUSE POWER POLE~~	~~20 A~~	~~1~~	--	~~0 VA~~	~~0 VA~~					--	~~1~~	~~20 A~~	~~EXTERIOR BUILDING LIGHTS~~	~~2~~
~~3~~	~~WAREHOUSE POWER POLE~~	~~20 A~~	~~1~~				~~0 VA~~	~~0 VA~~			--	1	20 A	POLE LIGHTS	4
~~5~~	~~WAREHOUSE POWER POLE~~	~~20 A~~	~~1~~						~~0 VA~~	~~0 VA~~	--	1	20 A	SPARE	6
~~7~~	~~WAREHOUSE POWER POLE~~	~~20 A~~	~~1~~	--	~~0 VA~~	~~0 VA~~					--	2	20 A	MECHANICAL RM HEATER	8
9	FIRE ALARM PANEL	20 A	1	--			~~0 VA~~	~~0 VA~~			--	--	--	--	10
11	SPARE	20 A	1	--					~~0 VA~~	~~0 VA~~	--	1	20 A	MECHANICAL RM RECEPTACLES	12
13	SPARE	30 A	2	--	~~0 VA~~	~~0 VA~~					--	1	20 A	UNKNOWN LOAD	14
15	--	--	--	--			~~0 VA~~	~~0 VA~~			--	1	20 A	UNKNOWN LOAD	16
17	SPACE ONLY	--	1	--					--	~~0 VA~~	--	3	100 A	UNKNOWN LOAD	18
19	SPACE ONLY	--	1	--	--	~~0 VA~~					--	--	--	--	20
21	SPACE ONLY	--	1	--			--	~~0 VA~~			--	1	20 A	UNKNOWN LOAD	22
23	SPACE ONLY	--	1	--					--	~~0 VA~~	--	1	20 A	UNKNOWN LOAD	24
25	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					0 VA		0 VA		0 VA						
					0 A		0 A		0 A						

LEGEND:

MODIFIED

BRANCH PANEL: EMR3

LOCATION: MECHANICAL / ELECTRICAL ROO...
SUPPLY FROM: EMR3 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:
1. REPLACE EXISTING BREAKERS WITH INDICATED BREAKER

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	ACS: POWER SUPPLIES	20 A	1	2#10, 1#10 GND, 3/4"C	1440 VA	720 VA					2#10, 1#10 GND, 3/4"C	1	20 A	ACS: POWER SUPPLIES	2
3	CAMERA POE INJECTOR	20 A	1	2#12, 1#12 GND, 1"C			120 VA	0 VA			--	1	20 A	POLE LIGHTS (E)	4
5	FA BOOSTER PS	20 A	1	2#12, 1#12 GND, 3/4"C					250 VA	0 VA	--	1	20 A	SPARE	6
7	SPARE	20 A	1	--	0 VA	0 VA					--	2	20 A	MECHANICAL RM HEATER (E)	8
9	FIRE ALARM PANEL (E)	20 A	1	--			0 VA	0 VA			--	--	--	--	10
11	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	MECHANICAL ROOM RECEPTACLES...	12
13	SPARE	20 A	2	--	0 VA	0 VA					--	1	20 A	UNKNOWN LOAD (E)	14
15	--	--	--	--			0 VA	0 VA			--	1	20 A	UNKNOWN LOAD (E)	16
17	CU-1A (NOTE 1)	20 A	2	2#12, 1#12 GND, 3/4"C					1476 VA	0 VA	--	3	100 A	UNKNOWN LOAD (E)	18
19	--	--	--	--	1476 VA	0 VA					--	--	--	--	20
21	CU-1B (NOTE 1)	20 A	2	2#12, 1#12 GND, 3/4"C			1476 VA	0 VA			--	--	--	--	22
23	--	--	--	--					1476 VA	0 VA	--	1	20 A	UNKNOWN LOAD (E)	24
25	CU-1C (NOTE 1)	20 A	2	2#12, 1#12 GND, 3/4"C	1476 VA	--					--	1	--	SPACE ONLY	26
27	--	--	--	--			1476 VA	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
31	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	32
33	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	34
35	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					5112 VA		3072 VA		3202 VA						
					43 A		26 A		27 A						

LEGEND:

HVAC	8856 VA	100.00%	8856 VA		
Power	2280 VA	100.00%	2280 VA		
Fire Alarm FPE	250 VA	100.00%	250 VA		

BRANCH PANEL: MOR

LOCATION: MODULAR OFFICE 293
SUPPLY FROM: WHR2
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 240/120V
PHASES: 1
WIRES: 3

A.I.C. RATING: 10,000
MAINS TYPE: MLO
MAINS RATING: 100 A
MCB RATING: MLO

NOTES:
PANELBOARD IS FURNISHED WITH THE MODULAR OFFICE.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		FEEDER	#P	BKR	DESCRIPTION	NO.
1	SPACE ONLY	--	1	--	--	0 VA			--	1	15 A	RECEPTACLE	2
3	RECEPTACLE	15 A	1	--			0 VA	0 VA	--	1	20 A	INTERIOR LIGHTING	4
5	HVAC UNIT	20 A	2	--	0 VA	--			--	1	--	SPACE ONLY	6
7	--	--	--	--			0 VA	--	--	1	--	SPACE ONLY	8
					0 VA		0 VA						
					0 A		0 A						

LEGEND:

SHEET KEYNOTES:

1	INDICATED BRANCH CIRCUIT(S) SHALL BE REMOVED AS PART OF THE DEMOLITON PHASE. WHERE NOT REUSED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF BRANCH CIRCUIT.
2	NEW ELECTRICAL LOAD(S).

COMMONWEALTH OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL SCHEDULES VIII - EXISTING PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: E-708 01

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BRANCH PANEL: AR2 (NEW PANELBOARD)

LOCATION: ELECTRICAL 103
SUPPLY FROM: AR2 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 225 A
MCB RATING: 110 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	FA BOOSTER PS	20 A	1	2#12, 1#12 GND, 3/4"C	250 VA	253 VA					2#12, 1#12 GND, 3/4"C	1	15 A	EF-3	2
3	RECEPTACLES: ROOF TOP (AREA A)	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	736 VA			2#12, 1#12 GND, 3/4"C	1	20 A	EF-9	4
5	ACS: POWER SUPPLIES	20 A	1	2#12, 1#12 GND, 3/4"C					720 VA	720 VA	2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 108, 114	6
7	RECEPTACLES: RM 108	20 A	1	2#12, 1#12 GND, 3/4"C	360 VA	360 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 111	8
9	CU-6	20 A	2	2#12, 1#12 GND, 3/4"C			1480 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 108	10
11	--	--	--	--					1480 VA	720 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 107	12
13	ACS: POWER SUPPLIES	20 A	1	2#10, 1#10 GND, 3/4"C	1900 VA	900 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 107	14
15	RECEPTACLES: RM 107	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	900 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 114	16
17	RECEPTACLES: RM 115	20 A	1	2#10, 1#10 GND, 3/4"C					900 VA	900 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 112	18
19	RECEPTACLES: RM 104, 105	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	900 VA					2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: RM 113	20
21	RECEPTACLES: RM 110	20 A	1	2#12, 1#12 GND, 3/4"C			900 VA	0 VA			--	1	20 A	SPARE	22
23	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	24
25	RECEPTACLES: RM 109	20 A	1	2#12, 1#12 GND, 3/4"C	900 VA	0 VA					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	30
31	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	32
33	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	34
35	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					6543 VA		6176 VA		5440 VA						
					55 A		52 A		45 A						

LEGEND:					
HVAC	3949 VA	100.00%	3949 VA		
Receptacle	11340 VA	94.09%	10670 VA		
Power	2620 VA	100.00%	2620 VA		
Fire Alarm FPE	250 VA	100.00%	250 VA		

BRANCH PANEL: MR1 (NEW PANELBOARD)

LOCATION: MECHANICAL / ELECTRICAL ROO...
SUPPLY FROM: MR1 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 225 A
MCB RATING: 200 A

NOTES:
1. PROVIDE GFCI TYPE CIRCUIT BREAKER

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	CAMERA POE INJECTOR	20 A	1	2#12, 1#12 GND, 1"C	120 VA	180 VA					2#12, 1#12 GND, 3/4"C	1	20 A	REFRIGERATOR: RM 290 (NOTE 1)	2
3	EF-8	20 A	1	2#12, 1#12 GND, 3/4"C			158 VA	328 VA			2#12, 1#12 GND, 3/4"C	1	20 A	EF-7	4
5	REFRIGERATOR: RM 290 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C					180 VA	360 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 290	6
7	RANGE HOOD: RM 290	20 A	1	2#12, 1#12 GND, 3/4"C	468 VA	576 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: WORKBENCH	8
9	REFRIGERATOR: RM 290 (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			500 VA	696 VA			2#12, 1#12 GND, 3/4"C	1	20 A	GARBAGE DISP. RM 290 (NOTE 1)	10
11	RECEPTACLES: RM 290	20 A	1	2#12, 1#12 GND, 3/4"C					540 VA	736 VA	2#12, 1#12 GND, 3/4"C	1	20 A	EF-1	12
13	WASHER: RM 234	20 A	1	2#10, 1#10 GND, 3/4"C	1200 VA	1346 VA					2#10, 1#10 GND, 3/4"C	1	20 A	ICE MACHINE: RM 290 (NOTE 1)	14
15	EWC: RM 237	20 A	1	2#12, 1#12 GND, 3/4"C			740 VA	900 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 238	16
17	WASHER: RM 234	20 A	1	2#10, 1#10 GND, 3/4"C					1200 VA	540 VA	2#12, 1#12 GND, 3/4"C	1	20 A	TVS: RM 290	18
19	ICE MACHINE: RM 290 (NOTE 1)	20 A	1	2#10, 1#10 GND, 3/4"C	1346 VA	2496 VA					3#10, 1#10 GND, 3/4"C	2	30 A	DRYER: RM 234	20
21	RECEPTACLES: NEMA L5-30R	30 A	1	2#10, 1#10 GND, 3/4"C			540 VA	2496 VA			--	--	--	--	22
23	DRYER: RM 234	30 A	2	3#10, 1#10 GND, 3/4"C					2496 VA	576 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: WORKBENCH	24
25	--	--	--	--	2496 VA	540 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 290	26
27	RANGE: RM 290	50 A	2	3#6, 1#10 GND, 1"C			4850 VA	576 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: WORKBENCH	28
29	--	--	--	--					4850 VA	576 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: WORKBENCH	30
31	RECEPTACLES: WORKBENCH	20 A	1	2#12, 1#12 GND, 3/4"C	576 VA	576 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: WORKBENCH	32
33	RECEPTACLES: WORKBENCH	20 A	1	2#12, 1#12 GND, 3/4"C			576 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 290	34
35	RECEPTACLES: RM 290	20 A	1	2#12, 1#12 GND, 3/4"C					720 VA	1500 VA	2#10, 1#10 GND, 3/4"C	1	20 A	MICROWAVE: RM 290	36
37	RECEPTACLES: RM 241	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	1500 VA					2#10, 1#10 GND, 3/4"C	1	20 A	MICROWAVE: RM 290	38
39	MICROWAVE: RM 290	20 A	1	2#10, 1#10 GND, 3/4"C			1500 VA	1500 VA			2#10, 1#10 GND, 3/4"C	1	20 A	MICROWAVE: RM 290	40
41	MICROWAVE: RM 290	20 A	1	2#10, 1#10 GND, 3/4"C					1500 VA	1500 VA	2#10, 1#10 GND, 3/4"C	1	20 A	MICROWAVE: RM 290	42
43	MICROWAVE: RM 290	20 A	1	2#10, 1#10 GND, 3/4"C	1500 VA	1500 VA					2#10, 1#10 GND, 3/4"C	1	20 A	MICROWAVE: RM 290	44
45	MICROWAVE: RM 290	20 A	1	2#10, 1#10 GND, 3/4"C			1500 VA	0 VA			--	1	20 A	SPARE	46
47	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	48
49	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	50
51	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	52
53	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	54
					17140 VA		17580 VA		17274 VA						
					143 A		147 A		144 A						

LEGEND:					
HVAC	158 VA	100.00%	158 VA		
Motor	1064 VA	117.30%	1248 VA		
Other	0 VA	0.00%	0 VA		
Receptacle	49956 VA	60.01%	29978 VA		
Power	816 VA	100.00%	816 VA		

BRANCH PANEL: R2A (NEW PANELBOARD)

LOCATION: ELECTRICAL 159
SUPPLY FROM: R2A TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000 AIC
MAINS TYPE: MCB
MAINS RATING: 225 A
MCB RATING: 110 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	EF-4	15 A	1	2#12, 1#12 GND, 3/4"C	328 VA	1260 VA					2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: ROOF TOP (AREA B)	2
3	SPARE	20 A	1	--			0 VA	720 VA			2#10, 1#10 GND, 3/4"C	1	20 A	RECEPTACLES: ROOF TOP (AREA C)	4
5	RECEPTACLES: CUBICAL 168 & 169	20 A	1	2#10, 1#10 GND, 3/4"C					720 VA	1500 VA	2#12, 1#12 GND, 3/4"C	1	20 A	COPIER: RM 195	6
7	RECEPTACLES: CUBICAL 210 & 211	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	956 VA					2#12, 1#12 GND, 3/4"C	2	20 A	CU-3A	8
9	EF-2	15 A	1	2#12, 1#12 GND, 3/4"C			736 VA	956 VA			--	--	--	--	10
11	CU-3B	20 A	2	2#12, 1#12 GND, 3/4"C					956 VA	720 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL186 & 187	12
13	--	--	--	--	956 VA	720 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 199 & 200	14
15	RECEPTACLES: CUBICAL 212 & 213	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 201 & 202	16
17	RECEPTACLES: CUBICAL 206	20 A	1	2#12, 1#12 GND, 1"C					720 VA	720 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 197 & 198	18
19	RECEPTACLES: CUBICAL 184 & 185	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	720 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 170 & 171	20
21	RECEPTACLES: CUBICAL 195 & 196	20 A	1	2#12, 1#12 GND, 3/4"C			720 VA	720 VA			2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: CUBICAL 180 & 181	22
23	RECEPTACLES: CUBICAL 182 & 183	20 A	1	2#10, 1#10 GND, 3/4"C					720 VA	0 VA	--	1	20 A	SPARE	24
25	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	26
27	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	30
31	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	32
33	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	34
35	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					6380 VA		5292 VA		6056 VA						
					54 A		44 A		51 A						

LEGEND:					
HVAC	4152 VA	100.00%	4152 VA		
Motor	736 VA	125.00%	920 VA		
Receptacle	12940 VA	88.94%	11420 VA		
Power	0 VA	0.00%	0 VA		

BRANCH PANEL: WHR2 (NEW PANELBOARD)

LOCATION: PUMP STATION WORKSHOP 245
SUPPLY FROM: WHR2 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 240V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 225 A
MCB RATING: 150 A

NOTES:
PROVIDE LABEL STATING "NO 120V LOADS"

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	PANELBOARD MOR	60 A	2	3#6, 1#10 GND, 1"C	0 VA	2314 VA					2#6, 1#6 GND, 1"C	2	125 A	AIR COMPRESSOR	2
3	--	--	--	--			0 VA	2314 VA			--	--	--	--	4
5									5060 VA		2#8, 1#10 GND, 1"C	2	50 A	TIG WELDER	6
7	MIG WELDER	50 A	2	2#8, 1#10 GND, 1"C	3220 VA	5060 VA					--	--	--	--	8
9	--	--	--	--			3220 VA	5060 VA			2#4, 1#8 GND, 1-1/4"C	2	80 A	PLASMA CUTTER	10
11	SPARE	20 A	2	--					0 VA	5060 VA	--	--	--	--	12
13	--	--	--	--	0 VA	0 VA					--	2	20 A	SPARE	14
15	SPARE	20 A	2	--			0 VA	0 VA			--	--	--	--	16
17	--	--	--	--					0 VA	--	--	1	--	SPACE ONLY	18
19	SPACE ONLY	--	2	--	--	--					--	2	--	SPACE ONLY	20
21	--	--	--	--			--	--			--	--	--	--	22
23	SPACE ONLY	--	2	--					--	--	--	2	--	SPACE ONLY	24
25	--	--	--	--	--	--					--	--	--	--	26
27	SPACE ONLY	--	2	--			--	--			--	2	--	SPACE ONLY	28
29	--	--	--	--					--	--	--	--	--	--	30
					10594 VA		10594 VA		10120 VA						
					88 A		88 A		84 A						

LEGEND:					
Receptacle	6440 VA	100.00%	6440 VA		
Power	24868 VA	100.00%	24868 VA		

STATE OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL SCHEDULES IX - NEW PANELBOARDS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: E-709 01

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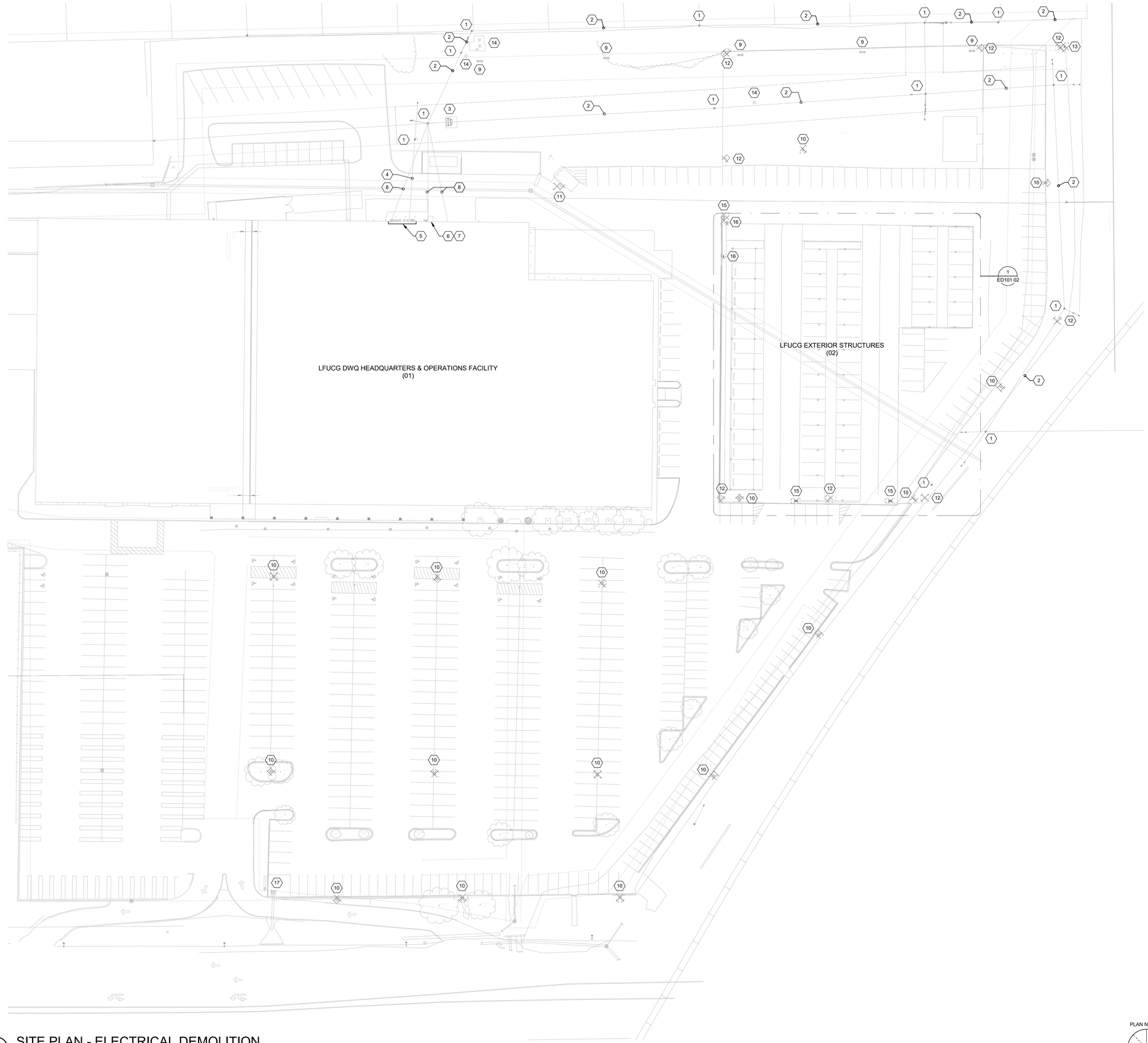

1 SITE PLAN - ELECTRICAL DEMOLITION
SCALE: 1" = 30'-0"

PLAN NORTH

GENERAL NOTES:

1	CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO STARTING WORK.
2	COORDINATE WITH OWNER FOR EQUIPMENT BEING DEMOLISHED. OWNER MAY REQUEST CERTAIN ITEMS BE TURNED OVER INTO THEIR POSSESSION ONCE DISCONNECTED AND REMOVED. EQUIPMENT NOT BEING SALVAGED SHALL BE PROPERLY DISPOSED BY THE CONTRACTOR.

SHEET KEYNOTES

1	EXISTING UTILITY POLE AND ASSOCIATED GUY WIRE(S) TO REMAIN.
2	EXISTING OVERHEAD UTILITIES TO REMAIN.
3	EXISTING PAD-MOUNTED TRANSFORMER TO REMAIN.
4	EXISTING OVERHEAD ELECTRICAL SECONDARY SERVING THE FACILITY SHALL REMAIN.
5	CONTRACTOR SHALL COORDINATE WITH KENTUCKY UTILITIES TO HAVE ALL ELECTRICAL SERVICES DISCONNECTED WITH EXCEPTION OF THE 1200AMP SERVICE. CONTRACTOR SHALL REMOVE ALL ASSOCIATED WIREWAYS, DISCONNECT SWITCHES, PANELBOARD, AND CONDUIT AND WIRING COMPLETE. REFER TO ELECTRICAL ONE-LINE DIAGRAMS ON SHEET E-601 AND E-602 FOR ADDITIONAL INFORMATION.
6	EXISTING 1200A ENCLOSED CIRCUIT BREAKER (SERVICE ENTRANCE RATED) SHALL REMAIN.
7	EXISTING ELECTRICAL METER SHALL REMAIN.
8	EXISTING OVERHEAD TELEPHONE AND OPTICAL FIBER SERVICES SHALL BE REMOVED. CONTRACTOR SHALL COORDINATE WITH ASSOCIATED UTILITY COMPANIES.
9	EXISTING POLE-MOUNTED LUMINAIRE SHALL REMAIN.
10	REMOVE AND PROPERLY DISPOSE OF EXISTING POLE-MOUNTED LUMINAIRE AND ASSOCIATED POLE BASE.
11	REMOVE AND PROPERLY DISPOSE OF EXISTING CARD READER PEDESTALS AND ASSOCIATED BOLLARDS.
12	REMOVE AND PROPERLY DISPOSE OF EXISTING FENCE DETECTION PHOTO SENSORS AND ASSOCIATED POST AND CONCRETE BASE.
13	REMOVE AND PROPERLY DISPOSE OF EXISTING CAMERA POLE AND CAMERAS.
14	EXISTING TELEPHONE CABINET(S) SHALL REMAIN.
15	REMOVE AND PROPERLY DISPOSE OF EXISTING SLIDE GATE CONTROLLER AND REMOVE ALL ASSOCIATED DEVICES (INCLUDING MOUNTING RACK).
16	REMOVE AND PROPERLY DISPOSE OF EXISTING ABOVE-GRADE JUNCTION BOX.
17	EXISTING SIGN SHALL REMAIN.

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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CLIENT PROJECT NO. RFP 70-2025

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SITE PLAN - ELECTRICAL DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1" = 30'-0"
SHEET NO.: ES101 01

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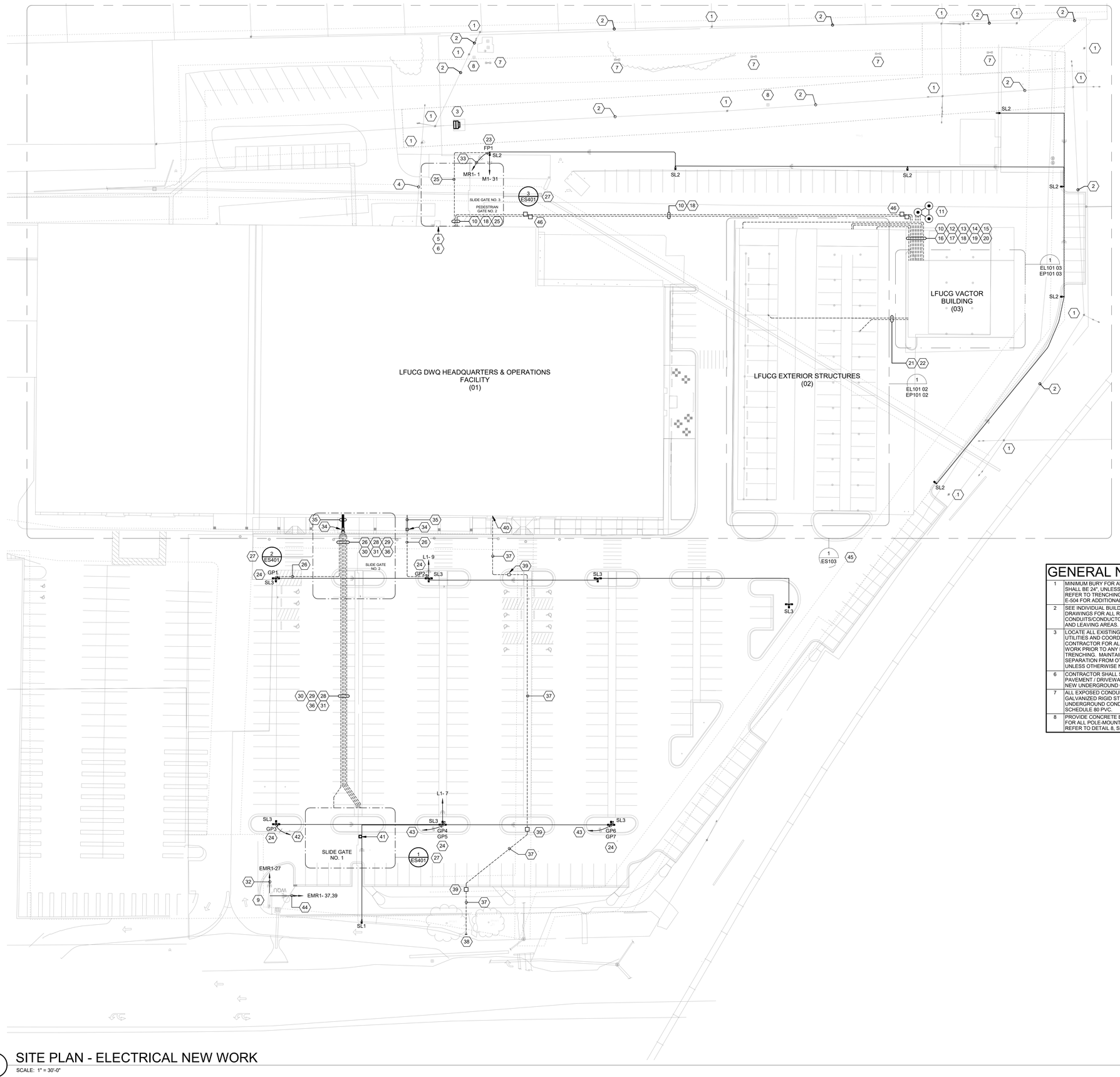

SHEET KEYNOTES

1	EXISTING UTILITY POLE AND ASSOCIATED GUY WIRE(S) SHALL REMAIN.
2	EXISTING OVERHEAD UTILITIES SHALL REMAIN.
3	EXISTING PAD-MOUNTED TRANSFORMER SHALL REMAIN.
4	EXISTING OVERHEAD ELECTRICAL SECONDARY SERVING THE FACILITY SHALL REMAIN.
5	EXISTING 1200A ENCLOSED CIRCUIT BREAKER (SERVICE ENTRANCE RATED) SHALL REMAIN.
6	EXISTING ELECTRICAL METER SHALL REMAIN.
7	EXISTING POLE-MOUNTED LUMINAIRE SHALL REMAIN.
8	EXISTING TELEPHONE CABINET(S) SHALL REMAIN.
9	EXISTING FACILITY SIGN SHALL REMAIN.
10	PANELBOARD VL1 ELECTRICAL FEEDER - ROUTED FROM DISTRIBUTION PANELBOARD DP ("LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY", SHEET EP404 01) TO PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM III - NEW WORK, SHEET E-606 01).
11	PROVIDE 3/4" X 10' COPPER GROUND RODS IN TRIAD CONFIGURATION, MINIMUM 10' APART.
12	BARE #2 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03).
13	PANELBOARD SR1 ELECTRICAL FEEDER - ROUTED FROM PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR1 ("LFUCG EXTERIOR STRUCTURES", EP101 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
14	PANELBOARD SR2 ELECTRICAL FEEDER - ROUTED FROM PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR2 ("LFUCG EXTERIOR STRUCTURES", EP101 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
15	BARE #2 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR1 TRANSFORMER ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO GROUNDING ELECTRODE CONDUCTOR.
16	BARE #6 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR2 TRANSFORMER ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO GROUNDING ELECTRODE CONDUCTOR.
17	BARE #6 GROUND FROM TMGB ("LFCUG VACTOR BUILDING", SHEET ET101 03) TO GROUNDING ELECTRODE CONDUCTOR.
18	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01) TO TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET ET101 03).
19	PROVIDE CAT 6, 1"C FROM TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET ET101 03) TO ACCESS CONTROL PANEL (STORAGE 105 - "LFUCG EXTERIOR STRUCTURES", SHEET EY101 02).
20	PROVIDE 1-1/2" CONDUIT WITH PULL STRING FROM THE VACTOR STORAGE 101 ("LFUCG VACTOR BUILDING", SHEET EY101 03) TO SM STORAGE F 106 ("LFUCG EXTERIOR STRUCTURES", SHEET EY101 02). CONTROLS CONTRACTOR SHALL UTILIZE FOR BAS NETWORK CABLING.
21	PROVIDE FIVE (5) CAT 6 CABLES (CAMERAS) IN 1-1/2"C FROM TELECOMMUNICATIONS EQUIPMENT RACK (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET EY101 03) TO CAMERAS AT THE EXTERIOR STRUCTURES (COLUMN G8 - "LFUCG EXTERIOR STRUCTURES", SHEET EY 101 02).
22	PROVIDE SIX (6) CAT 6 CABLES (CAMERAS) IN 1-1/2"C FROM TELECOMMUNICATIONS EQUIPMENT RACK (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET EY101 03) TO CAMERAS AT THE EXTERIOR STRUCTURES (COLUMN E18 - "LFUCG EXTERIOR STRUCTURES", SHEET EY 101 02).
23	POLE-MOUNTED SECURITY CAMERA(S) AND NEMA 4X SURVEILLANCE CABINET (CAMERA, CAMERA MOUNT, AND NEMA 4X SURVEILLANCE CABINET PROVIDED BY OWNER AS PART OF A SEPARATE CONTRACT). REFER TO DETAIL 1, SHEET EY502 01 FOR ADDITIONAL INFORMATION.
24	POLE-MOUNTED SECURITY CAMERA(S) - CAMERA AND CAMERA MOUNT PROVIDED BY OWNER AS PART OF A SEPARATE CONTRACT. REFER TO DETAIL 2, SHEET EY502 01 FOR ADDITIONAL INFORMATION.
25	PROVIDE ONE (1) 4-STRAND SINGLEMODE (OS2) OPTICAL FIBER IN 1"C FROM POLE-MOUNTED SECURITY CAMERAS TO TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01).
26	PROVIDE CAT 6, 1" C FROM POLE-MOUNTED SECURITY CAMERAS TO TELECOMMUNICATIONS EQUIPMENT RACK (IDF 287 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET401 01).
27	REFER TO ENLARGED DETAIL FOR ADDITIONAL WORK WITHIN THIS AREA.
28	SLIDE GATE NO. 1 CARD READERS (ACCESS CONTROL) - TWO (2) 6C#18 SHIELDED CABLE, 1-1/4"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET EY402 01).
29	SLIDE GATE NO. 1 OPERATOR BRANCH CIRCUIT (480V) FROM PANELBOARD L1 (ELECTRICAL ROOM 129 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET EP402 01). UTILIZE 3#12, 1#12 GND, 1"C.
30	SLIDE GATE NO. 1 OPERATOR CONTROL (REMOTE / ACCESS CONTROL) - 2#12, 1#12 GND, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (ELECTRICAL ROOM 129 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET EY402 01).
31	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET (SITE) TO THE TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER / SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING" - SHEET ET402 01).
32	AS A RESULT OF THE DEMOLITION PHASE, IT IS ANTICIPATED THAT THE EXISTING CIRCUIT SERVING THE FACILITY SIGN WILL BE DEMOLISHED. CONTRACTOR SHALL PROVIDE NEW CONDUIT/WIRING (MATCH EXISTING) TO BACKFEED FROM CIRCUIT INDICATED. ROUTE NEW WIRING THROUGH A NEW LIGHTING CONTACTOR INSTALLED IN ELECTRICAL ROOM 129 (SHEET EL402). REFER TO EXTERIOR LIGHTING CONTROLS - DETAIL LC-17, SHEET EL503.
33	POE INJECTOR CIRCUIT (120V) FROM INDICATED PANELBOARD. UTILIZE FOR POLE-MOUNTED CAMERA.
34	ROUTE CONDUIT WITHIN EFIS SYSTEM AT COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED, COORDINATE WITH GENERAL CONTRACTOR.
35	EXTEND CONDUIT ABOVE EXISTING SOFFIT TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS, AND ACCESS CONTROL PANELS) AS NOTED.
36	120V CIRCUIT FOR TELECOMMUNICATIONS EQUIPMENT CABINET (SITE). CONNECT TO 20A/1P BREAKER IN PANELBOARD RP1B - UTILIZE 2#6, 1#6 GND, 1"C.
37	PROVIDE 4" CONDUIT WITH PULL STRING FROM PROPERTY LINE TO ELECTRICAL ROOM 129 ("LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01) FOR OPTICAL FIBER SERVICE. CONTRACTOR SHALL CONCRETE ENCASE UNDER DRIVE; HOWEVER CONCRETE ENCASEMENT IS NOT REQUIRED BELOW THE SIDEWALK. REFER TO TRENCHING DETAILS ON SHEET E-504. LFUCG WILL PROVIDE AND INSTALL OPTICAL FIBER CABLE.
38	CAP 4" CONDUIT AT PROPERTY LINE.
39	PROVIDE A 36" X 36" CONCRETE HANDHOLE FOR OPTICAL FIBER CONDUIT. REFER TO DETAIL 7, SHEET E-501 FOR ADDITIONAL INFORMATION.
40	CONTRACTOR SHALL CORE DRILL BUILDING FOUNDATION AS REQUIRED TO ENTER BUILDING.
41	RACK-MOUNTED TELECOMMUNICATIONS EQUIPMENT CABINET (SITE). REFER TO SHEET ET604 AND DIVISION 27 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
42	PROVIDE CAT 6, 1"C FROM CAMERA TO TELECOMMUNICATIONS EQUIPMENT CABINET (SITE).
43	PROVIDE TWO (2) CAT 6 CABLES FROM CAMERAS TO TELECOMMUNICATIONS EQUIPMENT CABINET (SITE).
44	PROVIDE TWO (2) 120V CONNECTIONS TO THE NEW POST/PANEL SIGNAGE PROVIDED AS PART OF THIS PROJECT. ROUTE CIRCUITS THROUGH A NEW LIGHTING CONTACTOR INSTALLED IN ELECTRICAL ROOM 129 (SHEET EL402). REFER TO EXTERIOR LIGHTING CONTROLS - DETAIL LC-17, SHEET EL503.
45	REFER TO SHEET ES103 FOR MODIFICATIONS REQUIRED AS PART OF ADD ALTERNATE #1 FOR THIS AREA.
46	PROVIDE TWO (2) 36" X 36" CONCRETE HANDHOLES FOR POWER AND OPTICAL FIBER CONDUIT. LOCATE OUTSIDE VEHICULAR TRAFFIC. REFER TO DETAIL 7, SHEET E-501 FOR ADDITIONAL INFORMATION.

GENERAL NOTES:

1	MINIMUM BURY FOR ALL SITE CONDUITS SHALL BE 24". UNLESS OTHERWISE NOTED. REFER TO TRENCHING DETALS ON SHEET E-504 FOR ADDITIONAL INFORMATION.
2	SEE INDIVIDUAL BUILDING/STRUCTURE DRAWINGS FOR ALL REQUIRED CONDUITS/CONDUCTORS/CABLES ENTERING AND LEAVING AREAS.
3	LOCATE ALL EXISTING UNDERGROUND UTILITIES AND COORDINATE WITH GENERAL CONTRACTOR FOR ALL UNDERGROUND WORK PRIOR TO ANY EXCAVATION OR TRENCHING. MAINTAIN A MINIMUM 12" SEPARATION FROM OTHER UTILITIES, UNLESS OTHERWISE NOTED.
6	CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT / DRIVEWAYS AS REQUIRED FOR NEW UNDERGROUND CONDUITS.
7	ALL EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL AND UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC.
8	PROVIDE CONCRETE BASE AND GROUNDING FOR ALL POLE-MOUNTED LUMINAIRES. REFER TO DETAIL 8, SHEET E-502.

PLAN NORTH

1 SITE PLAN - ELECTRICAL NEW WORK
SCALE: 1" = 30'-0"

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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SITE PLAN - ELECTRICAL NEW WORK
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1" = 30'-0"
SHEET NO.: ES102 01

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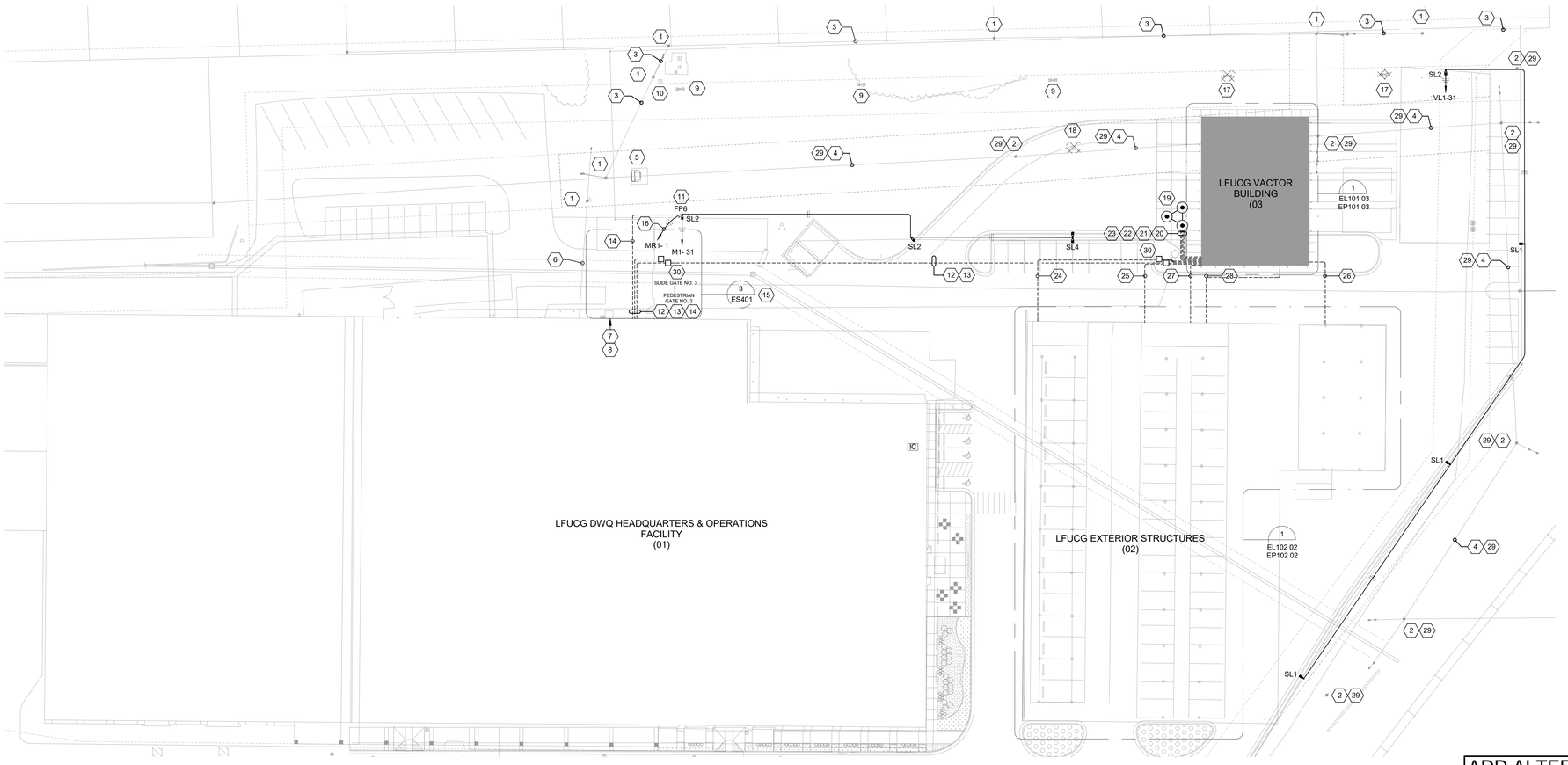

SHEET KEYNOTES

1	EXISTING UTILITY POLE AND ASSOCIATED GUY WIRE(S) SHALL REMAIN.
2	KENTUCKY UTILITIES (KU) WILL REMOVE THE EXISTING UTILITY POLE AND ASSOCIATED GUY WIRE(S).
3	EXISTING OVERHEAD UTILITIES SHALL REMAIN.
4	KENTUCKY UTILITIES (KU) WILL RELOCATE THE EXISTING OVERHEAD ELECTRICAL PRIMARY.
5	EXISTING PAD-MOUNTED TRANSFORMER SHALL REMAIN.
6	EXISTING OVERHEAD ELECTRICAL SECONDARY SERVING THE FACILITY SHALL REMAIN.
7	EXISTING 1200A ENCLOSED CIRCUIT BREAKER (SERVICE ENTRANCE RATED) SHALL REMAIN.
8	EXISTING ELECTRICAL METER SHALL REMAIN.
9	EXISTING POLE-MOUNTED LUMINAIRE SHALL REMAIN.
10	EXISTING TELEPHONE CABINET(S) SHALL REMAIN.
11	POLE-MOUNTED SECURITY CAMERA(S) AND NEMA 4X SURVEILLANCE CABINET (CAMERA, CAMERA MOUNT, AND NEMA 4X SURVEILLANCE CABINET PROVIDED BY OWNER AS PART OF A SEPARATE CONTRACT). REFER TO DETAIL 1, SHEET EY502 01 FOR ADDITIONAL INFORMATION.
12	PANELBOARD VL1 ELECTRICAL FEEDER - ROUTED FROM DISTRIBUTION PANELBOARD DP ("LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY", SHEET EP404 01) TO PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM III - NEW WORK, SHEET E-606 01).
13	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01) TO TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET ET101 03).
14	PROVIDE ONE (1) 4-STRAND SINGLEMODE (OS2) OPTICAL FIBER IN 1"C FROM POLE-MOUNTED SECURITY CAMERAS TO TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01).
15	REFER TO ENLARGED DETAIL FOR ADDITIONAL WORK WITHIN THIS AREA.
16	POE INJECTOR CIRCUIT (120V) FROM INDICATED PANELBOARD. UTILIZE FOR POLE-MOUNTED CAMERA.
17	REMOVE AND PROPERLY DISPOSE OF EXISTING POLE-MOUNTED LUMINAIRE AND ASSOCIATED POLE BASE.
18	REMOVE AND PROPERLY DISPOSE OF THE EXISTING TELEPHONE CABINET.
19	PROVIDE 3/4" X 10' COPPER GROUND RODS IN TRIAD CONFIGURATION, MINIMUM 10' APART.
20	BARE #2 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03).
21	BARE #2 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR1 TRANSFORMER ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO GROUNDING ELECTRODE CONDUCTOR.
22	BARE #6 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR2 TRANSFORMER ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO GROUNDING ELECTRODE CONDUCTOR.
23	BARE #6 GROUND FROM TMGB ("LFUCG VACTOR BUILDING", SHEET ET101 03) TO GROUNDING ELECTRODE CONDUCTOR.
24	PANELBOARD SR1 ELECTRICAL FEEDER - ROUTED FROM PANELOBARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR1 ("LFUCG EXTERIOR STRUCTURES", EP102 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
25	PANELBOARD SR2 ELECTRICAL FEEDER - ROUTED FROM PANELOBARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR2 ("LFUCG EXTERIOR STRUCTURES", EP102 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
26	PANELBOARD SR3 ELECTRICAL FEEDER - ROUTED FROM PANELOBARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR3 ("LFUCG EXTERIOR STRUCTURES", EP102 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
27	PROVIDE 1-1/2" CONDUIT WITH PULL STRING FROM THE VACTOR STORAGE 101 ("LFUCG VACTOR BUILDING", SHEET EY101 03) TO STORAGE C 103 ("LFUCG EXTERIOR STRUCTURES", SHEET EY102 02). CONTROLS CONTRACTOR SHALL UTILIZE FOR BAS NETWORK CABLING.
28	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET ET101 03) TO TELECOMMUNICATIONS EQUIPMENT CABINET (SM STORAGE E 105 - "LFUCG EXTERIOR STRUCTURES", SHEET EY102 02).
29	LFUCG WILL PAY KU DIRECTLY FOR THEIR WORK. CONTRACTOR DOES NOT NEED TO INCLUDE THIS COST.
30	PROVIDE TWO (2) 36" X 36" CONCRETE HANDHOLES FOR POWER AND OPTICAL FIBER CONDUIT. LOCATE OUTSIDE VEHICULAR TRAFFIC. REFER TO DETAIL 7, SHEET E-501 FOR ADDITIONAL INFORMATION.

ADD ALTERNATE #1

1	ADD ALTERNATE #1 WILL REQUIRE THE WORK SHOWN ON THE BASE BID DRAWINGS (SHEET ES102 AND ES401). HOWEVER, WORK SHALL BE MODIFIED AS SHOWN ON THIS DRAWING FOR THE ALTERNATE LOCATION OF THE "LFUCG VACTOR BUILDING".

GENERAL NOTES:

1	MINIMUM BURY FOR ALL SITE CONDUITS SHALL BE 24". UNLESS OTHERWISE NOTED. REFER TO TRENCHING DETAILS ON SHEET E-504 FOR ADDITIONAL INFORMATION.
2	SEE INDIVIDUAL BUILDING/STRUCTURE DRAWINGS FOR ALL REQUIRED CONDUITS/CONDUCTORS/CABLES ENTERING AND LEAVING AREAS.
3	LOCATE ALL EXISTING UNDERGROUND UTILITIES AND COORDINATE WITH GENERAL CONTRACTOR FOR ALL UNDERGROUND WORK PRIOR TO ANY EXCAVATION OR TRENCHING. MAINTAIN A MINIMUM 12" SEPARATION FROM OTHER UTILITIES, UNLESS OTHERWISE NOTED.
6	CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT / DRIVEWAYS AS REQUIRED FOR NEW UNDERGROUND CONDUITS.
7	ALL EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL AND UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC.
8	PROVIDE CONCRETE BASE AND GROUNDING FOR ALL POLE-MOUNTED LUMINAIRES. REFER TO DETAIL 8, SHEET E-502.

PLAN NORTH

1 ADD ALTERNATE #1 SITE PLAN - ELECTRICAL NEW WORK
SCALE: 1" = 30'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 0524T-01
CLIENT PROJECT NO. RFP 70-2025

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ADD ALTERNATE #1 - SITE PLAN - ELECTRICAL NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

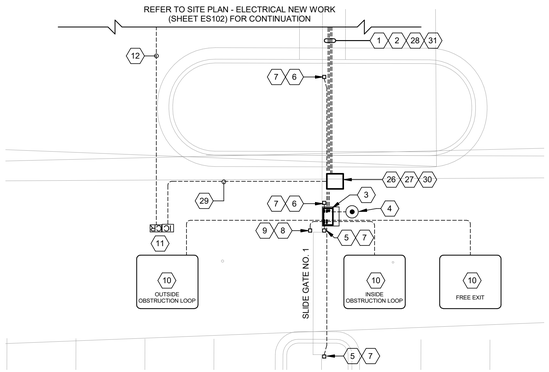
REVISIONS

NO.	REVISION DESCRIPTION	DATE
		BY

SCALE CHECK: 1"=30" MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

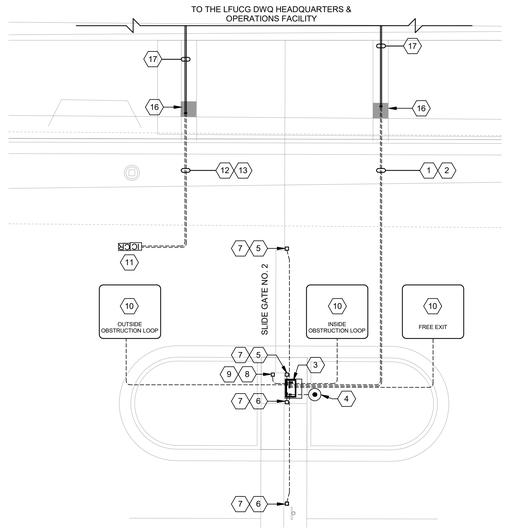
DATE: AUGUST 15, 2025
SCALE: 1" = 30'-0"
SHEET NO.: ES103 01

8/7/2025 7:44:51 PM G:\GAT-LFUCG-DWQ-HDB\Working Drawings\Revit\Revit Central Model\0524T-01_ES0301.rvt



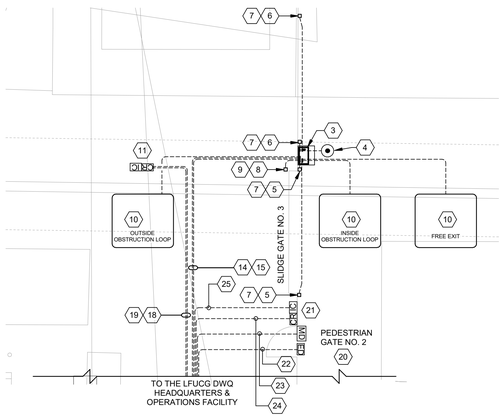
1 ENLARGED SITE PLAN - SLIDE GATE NO. 1

SCALE: 1/8" = 1'-0"



2 ENLARGED SITE PLAN - SLIDE GATE NO. 2

SCALE: 1/8" = 1'-0"



3 ENLARGED SITE PLAN - SLIDE GATE NO. 3

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1	MINIMUM BURY FOR ALL SITE CONDUITS SHALL BE 24", UNLESS OTHERWISE NOTED. REFER TO TRENCHING DETAILS ON SHEET E-504 FOR ADDITIONAL INFORMATION.
2	SEE INDIVIDUAL BUILDING/STRUCTURE DRAWINGS FOR ALL REQUIRED CONDUITS/CONDUCTORS/CABLES ENTERING AND LEAVING AREAS.
3	LOCATE ALL EXISTING UNDERGROUND UTILITIES AND COORDINATE WITH GENERAL CONTRACTOR FOR ALL UNDERGROUND WORK PRIOR TO ANY EXCAVATION OR TRENCHING. MAINTAIN A MINIMUM 12" SEPARATION FROM OTHER UTILITIES, UNLESS OTHERWISE NOTED.
6	CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT / DRIVEWAYS AS REQUIRED FOR NEW UNDERGROUND CONDUITS.
7	ALL EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL AND UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC.
8	PROVIDE CONCRETE BASE AND GROUNDING FOR ALL POLE-MOUNTED LUMINAIRES. REFER TO DETAIL 8, SHEET E-502.

SHEET KEYNOTES

1	SLIDE GATE OPERATOR BRANCH CIRCUIT (480V) FROM PANELBOARD L1 (SHEET EP402) - UTILIZE 3#12, 1#12 GND, 1"C.
2	SLIDE GATE OPERATOR CONTROL (REMOTE / ACCESS CONTROL) - 6#12, 1#12 GND, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 - SHEET EY401).
3	SLIDE GATE OPERATOR (2HP, 460V/3-PHASE). PROVIDE 20'W X 30"L X 15"D CONCRETE PAD (COORDINATE REQUIREMENTS WITH MANUFACTURER AND PROVIDE COMPLETE).
4	3/4" X 10' GROUND ROD WITH #6 AWG COPPER GROUND CONDUCTOR. PROVIDE 1" PVC SLEEVE. TERMINATE ON GROUND LUG WITHIN OPERATOR.
5	PHOTO EYE SENSOR (TRANSMITTER OR RECEIVER) FOR LEADING END PROTECTION. COORDINATE LOCATION WITH GATE OPERATOR INSTALLER. MOUNT SIMILAR TO DETAIL 8, SHEET E-501.
6	PHOTO EYE SENSOR (TRANSMITTER OR RECEIVER) FOR TRAILING END PROTECTION. COORDINATE LOCATION WITH GATE OPERATOR INSTALLER. MOUNT SIMILAR TO DETAIL 8, SHEET E-501.
7	PROVIDE 3#12, 1#12 GND, 1"C FROM PHOTO EYE SENSOR TO THE GATE OPERATOR.
8	WIRED EDGE ENTRAPMENT SENSOR ON POST.
9	PROVIDE 3#12, 1#12 GND, 1"C FROM WIRED EDGE SENSOR TO THE GATE OPERATOR.
10	OBSTRUCTION LOOP (OR RESET LOOP). CONTRACTOR TO PROVIDE 1"C FROM OPERATOR TO LOOP.
11	DUAL HEIGHT CARD READER/INTERCOM PEDESTAL WITH PROTECTION BOLLARD. REFER TO DETAIL 1, SHEET ET503 FOR ADDITIONAL INFORMATION.
12	CARD READERS (ACCESS CONTROL) - TWO (2) 6C#18 SHIELDED CABLE, 1-1/4"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 - SHEET EY401).
13	INTERCOM DOOR STATIONS - PROVIDE TWO (2) CAT 6 IN 1"C FROM CARD READER/INTERCOM PEDESTAL TO IDF 287 (SHEET ET401).
14	SLIDE GATE OPERATOR BRANCH CIRCUIT (480V) FROM PANELBOARD M1 (SHEET EP404) - UTILIZE 3#12, 1#12 GND, 1"C.
15	SLIDE GATE OPERATOR CONTROL (REMOTE / ACCESS CONTROL) - 2#12, 1#12 GND, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
16	ROUTE CONDUIT WITHIN EFIS SYSTEM AT COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED, COORDINATE WITH GENERAL CONTRACTOR.
17	EXTEND CONDUIT ABOVE EXISTING SOFFIT TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS, AND ACCESS CONTROL PANELS) AS NOTED.
18	CARD READERS (ACCESS CONTROL) - TWO (2) 6C#18 SHIELDED CABLE, 1-1/4"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
19	INTERCOM DOOR STATIONS - PROVIDE TWO (2) CAT 6 IN 1"C FROM CARD READER/INTERCOM PEDESTAL TO COMPUTER/SERVER 261 (SHEET ET402).
20	PEDESTRIAN GATE WITH ELECTRIFIED LATCH RETRACTION, POSITION SWITCH, AND CARD READER. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402). REFER TO DETAIL 2, SHEET EY503.
21	CARD READER/INTERCOM PEDESTAL. REFER TO DETAIL 3, SHEET EY503 FOR ADDITIONAL INFORMATION.
22	PEDESTRIAN GATE CONTROL (REMOTE / ACCESS CONTROL) - 4#14, 2#18, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
23	BALANCED MAGNETIC SWITCH (MONITORING) - 2#18, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
24	CARD READER (ACCESS CONTROL) - 6C#18 SHIELDED CABLE, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
25	INTERCOM DOOR STATION - PROVIDE CAT 6 IN 1"C FROM CARD READER/INTERCOM PEDESTAL TO COMPUTER/SERVER 261 (SHEET ET402).
26	RACK-MOUNTED TELECOMMUNICATIONS EQUIPMENT CABINET (SITE). REFER TO SHEET ET604 AND DIVISION 27 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
27	PROVIDE EQUIPMENT RACK SIMILAR TO DETAIL 9, SHEET E-501 FOR MOUNTING OF TELECOMMUNICATIONS EQUIPMENT CABINET.
28	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET (SITE) TO THE TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER / SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING" - SHEET ET402 01).
29	INTERCOM DOOR STATIONS - PROVIDE TWO (2) CAT 6 IN 1"C FROM CARD READER/INTERCOM PEDESTAL TO TELECOMMUNICATIONS EQUIPMENT CABINET (SITE).
30	MOUNT 120V RECEPTACLE IN TELECOMMUNICATIONS EQUIPMENT CABINET.
31	120V CIRCUIT FOR TELECOMMUNICATIONS EQUIPMENT CABINET (SITE). CONNECT TO 20A/1P BREAKER IN PANELBOARD RP1B - UTILIZE 2#8, 1#8 GND, 1"C.

PLAN NORTH

STATE OF KENTUCKY — PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — 8/19/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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SITE PLAN - ENLARGED ELECTRICAL NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
PJB	PJB	PJB	PJB

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. ES401 01

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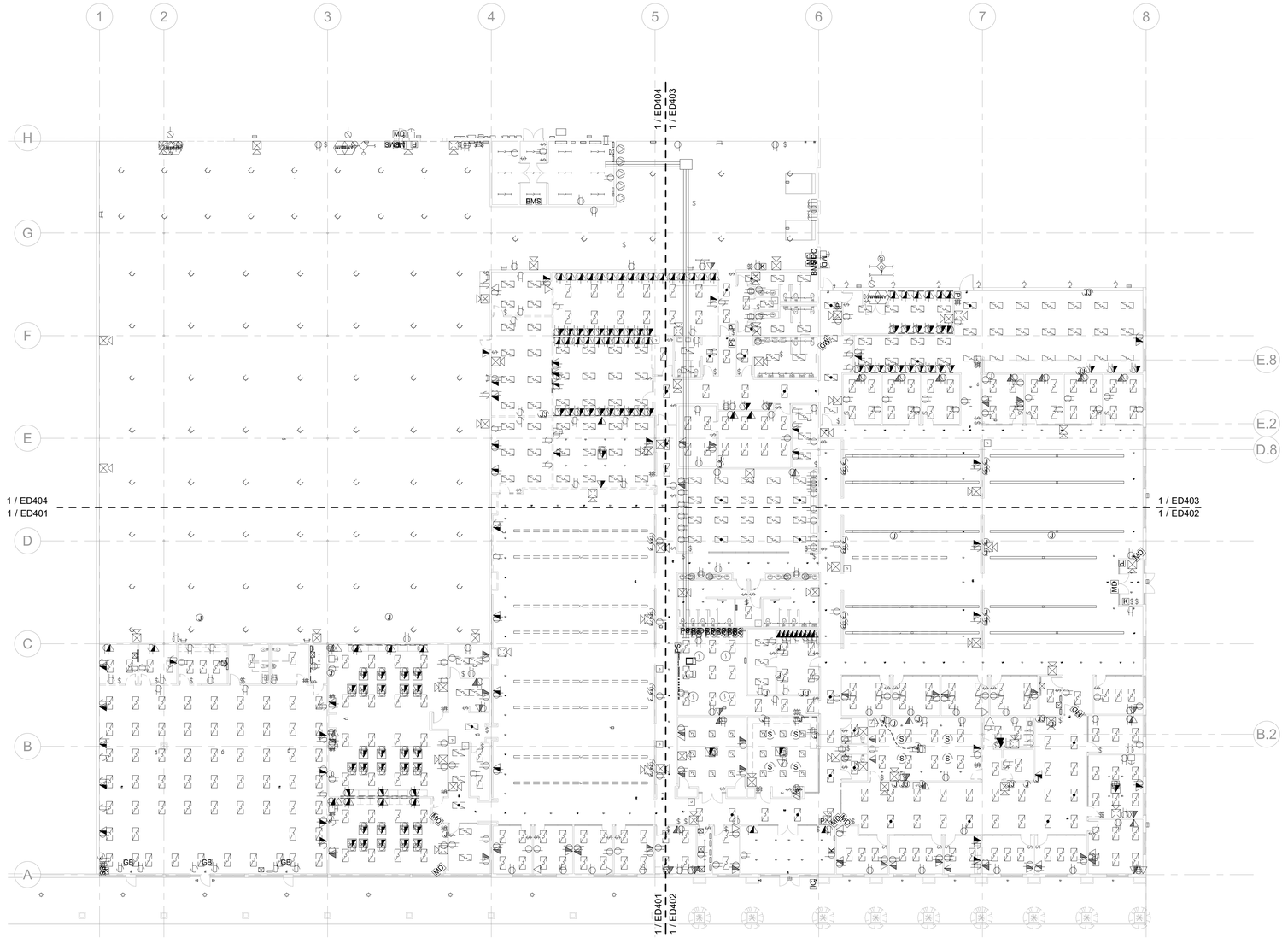


1 FIRST LEVEL - DEMOLITION PLAN

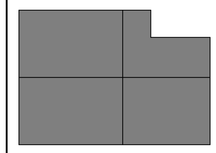
SCALE: 1/16" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	SHEET IS PROVIDED FOR REFERENCE ONLY.

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - ELECTRICAL DEMOLITION PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/16" = 1'-0"

SHEET NO.: ED101 01

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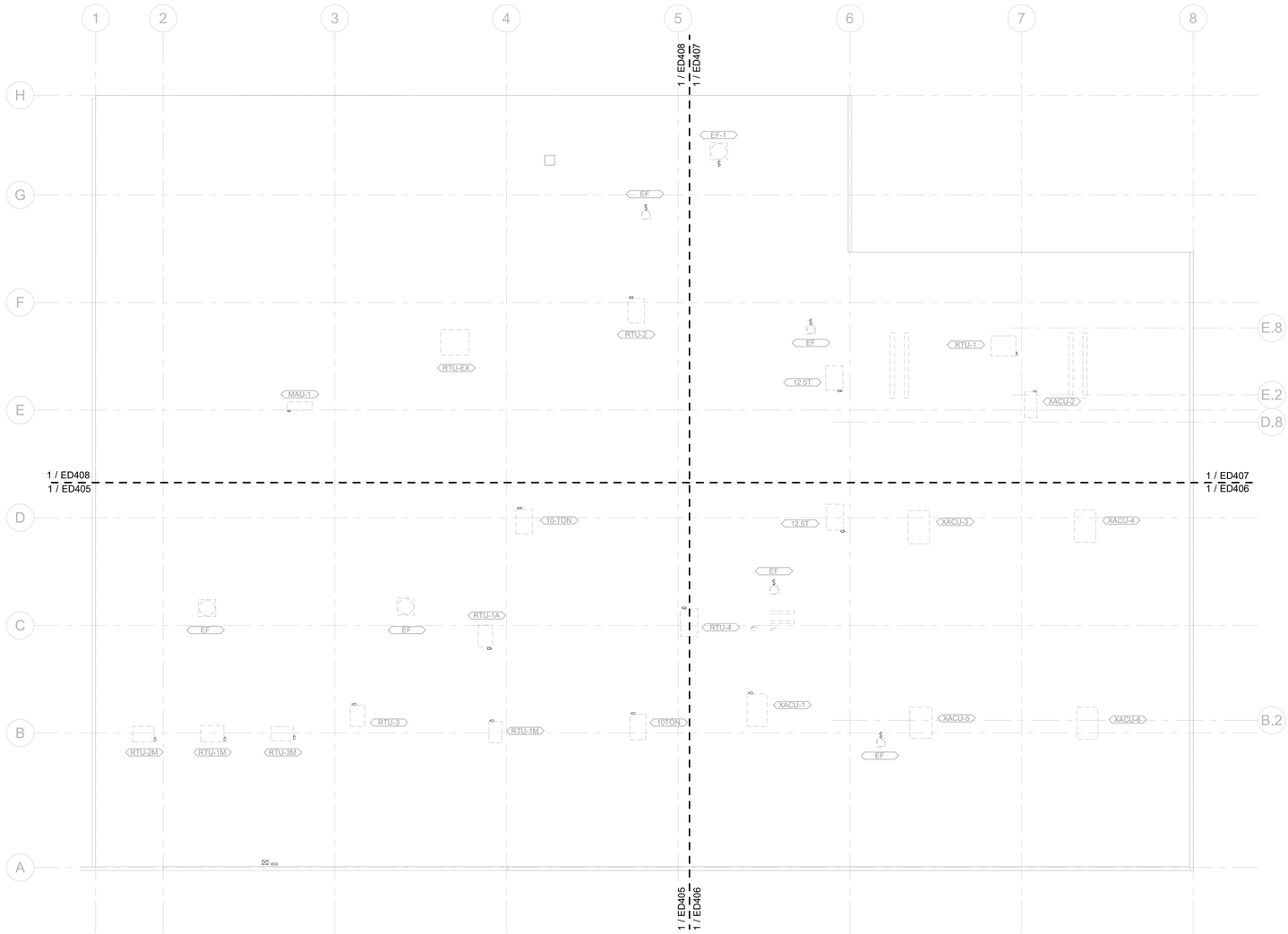


1 ROOF LEVEL - DEMOLITION PLAN

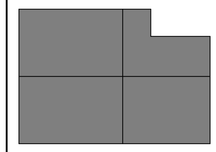
SCALE: 1/16" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	SHEET IS PROVIDED FOR REFERENCE ONLY.

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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ROOF LEVEL - ELECTRICAL DEMOLITION PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/16" = 1'-0"

SHEET NO.: ED102 01

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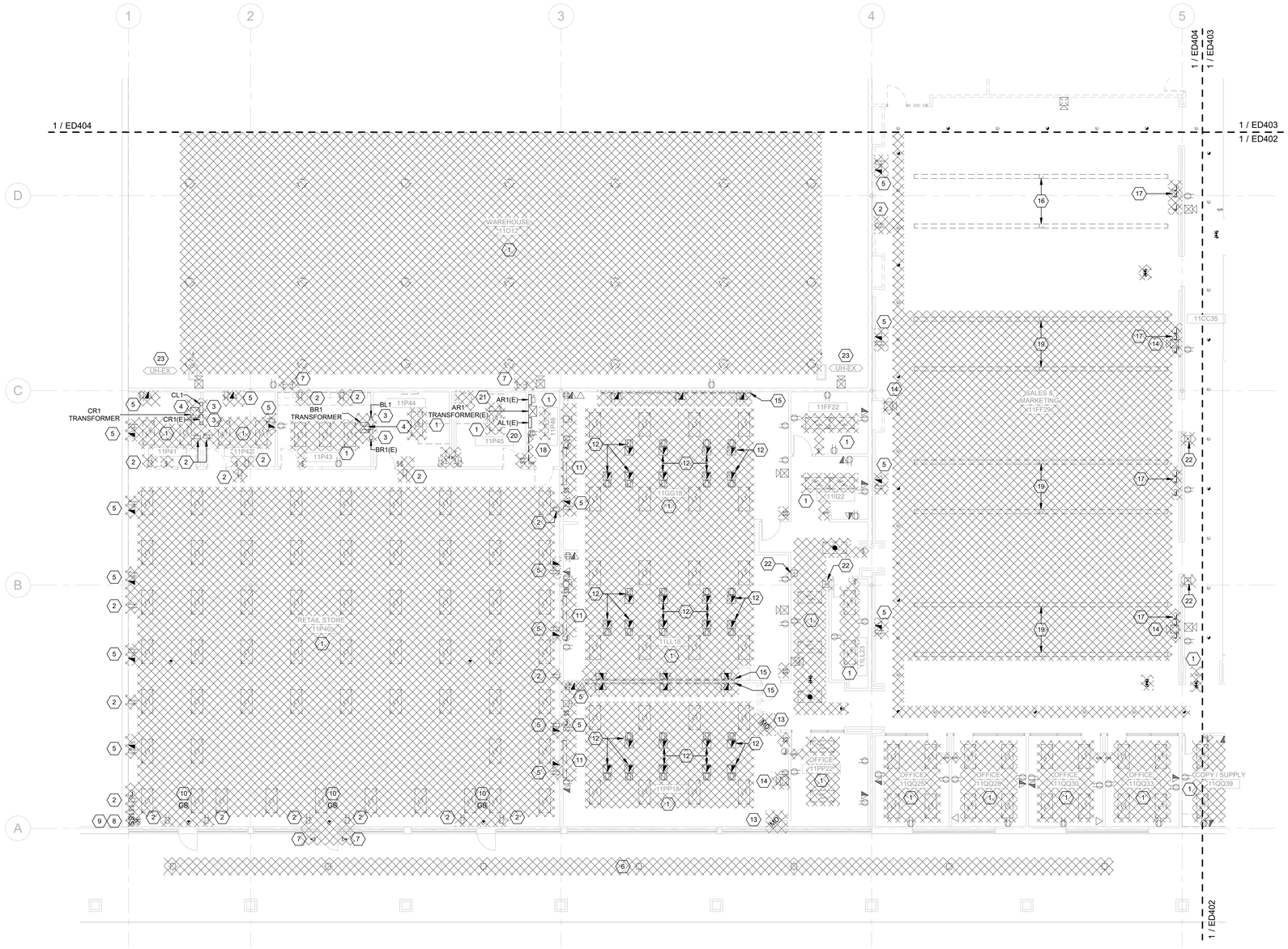


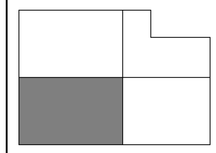
GENERAL NOTES:

1. AN EFFORT HAS BEEN MADE TO DOCUMENT MAJOR ELECTRICAL EQUIPMENT / DEVICES FOR REMOVAL; HOWEVER, CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND PROPER DISPOSAL OF THE INDICATED PANELBOARDS, DISCONNECTS, LIGHTING, LIGHTING CONTROLS, ACCESS CONTROL DEVICES, INTRUSION DETECTION DEVICES, AND ELECTRICAL CONNECTIONS TO HVAC / PLUMBING EQUIPMENT WITHIN THE RENOVATED AREAS.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3. ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4. WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5. EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6. WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN", WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1. REMOVE AND PROPERLY DISPOSE OF LUMINAIRES AND ASSOCIATED LIGHTING CONTROLS WITHIN THIS SPACE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
2. REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE(S). REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
3. REMOVE AND PROPERLY DISPOSE OF EXISTING PANELBOARD AND ASSOCIATED ELECTRICAL FEEDER COMPLETE - PANEL DESIGNATION IS SHOWN ADJACENT TO PANEL.
4. REMOVE AND PROPERLY DISPOSE OF EXISTING TRANSFORMER AND ASSOCIATED ELECTRICAL FEEDER - TRANSFORMER DESIGNATION IS SHOWN ADJACENT TO TRANSFORMER.
5. REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE(S) AND TELECOMMUNICATIONS OUTLET(S). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE.
6. REMOVE AND PROPERLY DISPOSE OF EXISTING EXTERIOR LIGHTING. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
7. REMOVE AND PROPERLY DISPOSE OF EXISTING EMERGENCY LIGHT. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
8. REMOVE AND PROPERLY DISPOSE OF EXISTING INTRUSION DETECTION SYSTEM KEYPAD. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
9. REMOVE AND PROPERLY DISPOSE OF EXISTING INTRUSION DETECTION SYSTEM ALARM. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
10. REMOVE AND PROPERLY DISPOSE OF EXISTING INTRUSION DETECTION SYSTEM GLASS BREAK SENSOR. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
11. REMOVE AND PROPERLY DISPOSE OF EXISTING PROJECTOR SCREEN AND ASSOCIATED UP/DOWN/STOP CONTROL STATION. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
12. REMOVE AND PROPERLY DISPOSE OF EXISTING FLOOR BOXES (POWER AND TELECOMMUNICATIONS). REMOVE ASSOCIATED WIRING/CABLING BACK TO SOURCE. PATCH FLOOR SLAB BACK TO MATCH SURROUNDINGS.
13. REMOVE AND PROPERLY DISPOSE OF EXISTING INTRUSION DETECTION SYSTEM MOTION DETECTOR. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
14. REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM AUDIO/VISUAL DEVICE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
15. REMOVE AND PROPERLY DISPOSE OF EXISTING SURFACE-MOUNTED WIREWAY (POWER AND TELECOMMUNICATIONS OUTLETS). REMOVE ASSOCIATED CONDUIT/WIRING/CABLINE BACK TO SOURCE.
16. DUE TO CEILING HEIGHT CHANGE, REMOVE EXISTING LINEAR PENDANT LUMINAIRE AND REINSTALL IN SAME LOCATION (REFER TO SHEETS EL401 FOR ADDITIONAL INFORMATION).
17. REMOVE AND PROPERLY DISPOSE OF EXISTING BACKBOXES (QTY 3) FOR POWER AND DATA CONNECTIONS TO PREVIOUSLY REMOVED MODULAR FURNITURE (3-120V CIRCUITS AND X DATA/VOICE CABLES). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE. PATCH WALL BACK TO MATCH EXISTING.
18. REMOVE AND PROPERLY DISPOSE OF EXISTING TELEPHONE EQUIPMENT AND TELEPHONE BACKBOARD.
19. REMOVE EXISTING LINEAR PENDANT LUMINAIRE. LUMINAIRE SHALL BE RE-INSTALLED IN OPEN OFFICE AREA ROOM 154 (REFER TO SHEETS EL402 AND EL403 FOR ADDITIONAL INFORMATION).
20. REMOVE AND PROPERLY DISPOSE OF THE EXISTING ELECTRICAL FEEDER FOR PANELBOARD AL1 BACK TO THE DISCONNECT SWITCH ON THE EXTERIOR OF BUILDING (REFER TO SHEET ED404 FOR LOCATION). PANELBOARD AL1 SHALL BE REFED FROM A NEW DISTRIBUTION PANELBOARD, DP, LOCATED WITHIN THE MECHANICAL/ELECTRICAL ROOM 301 (REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION). CONTRACTOR MAY REUSE THE EXISTING ELECTRICAL FEEDER CONDUIT AND EXTEND TO DISTRIBUTION PANELBOARD, DP LOCATION.
21. DISCONNECT EXISTING WATER HEATER (LOCATED ABOVE CEILING). CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
22. REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM REMOTE TEST SWITCH AND ASSOCIATED DUCT SMOKE DETECTOR. DUCT SMOKE DETECTOR NOT SHOWN.
23. MAINTAIN ELECTRICAL CONNECTION TO EXISTING UNIT HEATER.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION PLAN - AREA A
SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
22012
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - ELECTRICAL DEMOLITION - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	DESCRIPTION	DATE

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ED401 01

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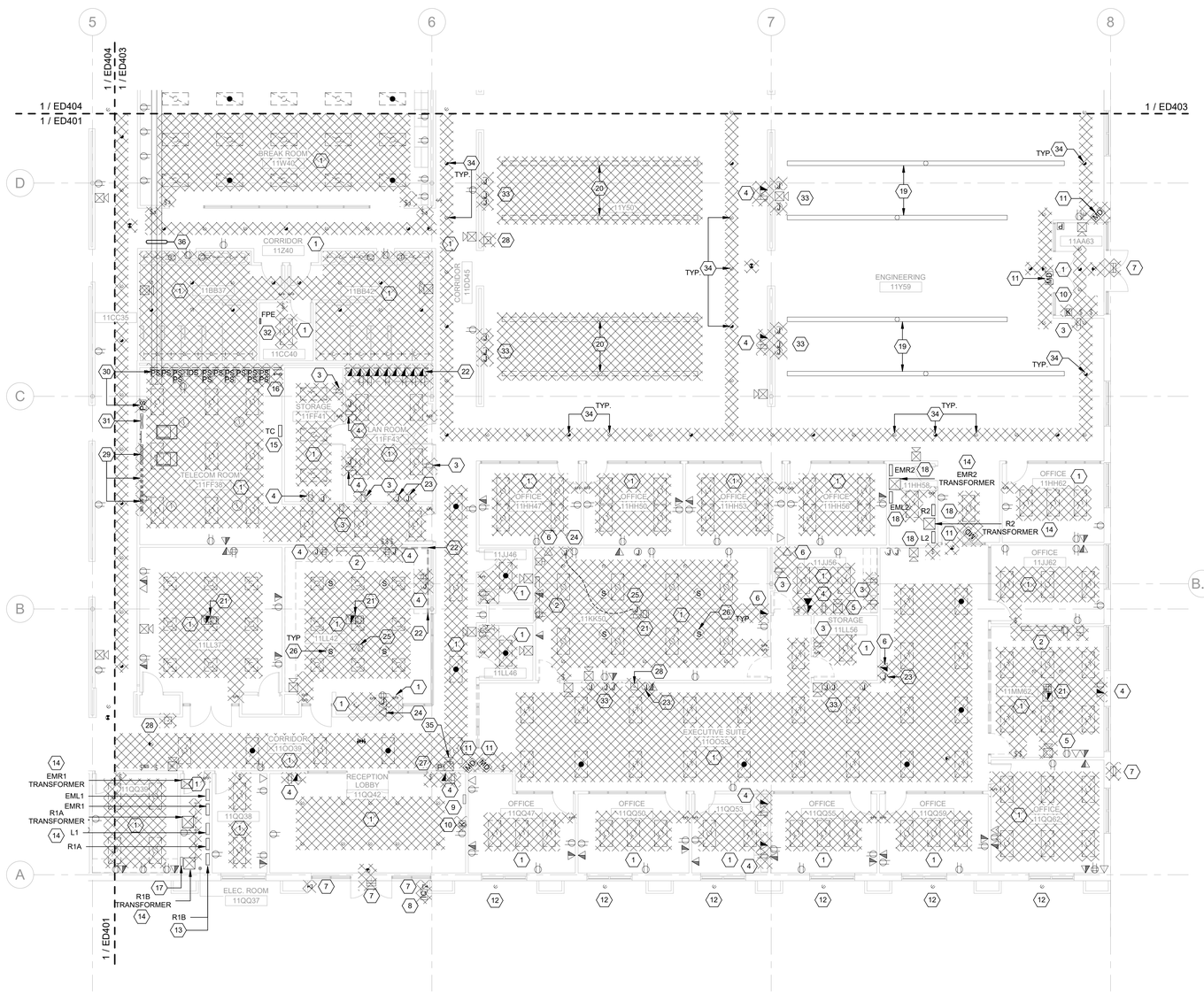

GENERAL NOTES:

1	AN EFFORT HAS BEEN MADE TO DOCUMENT MAJOR ELECTRICAL EQUIPMENT / DEVICES FOR REMOVAL; HOWEVER, CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND PROPER DISPOSAL OF THE INDICATED PANELBOARDS, DISCONNECTS, LIGHTING, LIGHTING CONTROLS, ACCESS CONTROL DEVICES, INTRUSION DETECTION DEVICES, AND ELECTRICAL CONNECTIONS TO HVAC / PLUMBING EQUIPMENT WITHIN THE RENOVATED AREAS.
2	CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3	ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4	WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5	EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6	WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN", WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7	REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1	REMOVE AND PROPERLY DISPOSE OF LUMINAIRES AND ASSOCIATED LIGHTING CONTROLS WITHIN THIS SPACE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
2	REMOVE AND PROPERLY DISPOSE OF EXISTING PROJECTOR SCREEN AND ASSOCIATED UP/DOWN/STOP CONTROL STATION. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
3	REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE(S). REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
4	REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE(S) AND TELECOMMUNICATIONS OUTLET(S). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE.
5	REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM AUDIO/VISUAL DEVICE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
6	REMOVE AND PROPERLY DISPOSE OF EXISTING TELECOMMUNICATIONS OUTLET. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO ASSOCIATED EQUIPMENT RACK.
7	REMOVE AND PROPERLY DISPOSE OF EXISTING EXTERIOR LIGHTING. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
8	REMOVE AND PROPERLY DISPOSE OF EXISTING INTERCOM STATION. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
9	EXISTING FIRE ALARM REMOTE ANNUNCIATOR PANEL TO BE RELOCATED. REFER TO SHEET TY402 FOR NEW LOCATION.
10	REMOVE AND PROPERLY DISPOSE OF EXISTING SECURITY SYSTEM KEYPAD. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
11	REMOVE AND PROPERLY DISPOSE OF EXISTING SECURITY SYSTEM MOTION DETECTOR. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
12	EXISTING DOWNLIGHT SHALL REMAIN; HOWEVER CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING LAMP AND REFLECTOR AS REQUIRED FOR NEW LED RETROFIT KIT. REFER TO SHEET EL402 FOR ADDITIONAL INFORMATION.
13	EXISTING FIVE (5) PANELBOARDS SHALL REMAIN - PANEL DESIGNATION IS SHOWN ADJACENT TO PANEL.
14	EXISTING TRANSFORMER SHALL REMAIN - TRANSFORMER DESIGNATION IS SHOWN ADJACENT TO TRANSFORMER.
15	EXISTING PANELBOARD TC SHALL REMAIN; HOWEVER, THIS PANELBOARD IS NOT CURRENTLY ENERGIZED DUE TO THE PREVIOUSLY REMOVED UPS. REFER TO NEW WORK PLANS FOR THE NEW ELECTRICAL FEEDER FOR PANELBOAD TC.
16	AN EXISTING UPS HAS BEEN PREVIOUSLY REMOVED FROM THIS APPROXIMATE LOCATION, THE ASSOCIATED 125A, 480V, 3-PHASE ELECTRICAL FEDER HAS BEEN DISCONNECTED AND ABANDONED BELOW THE EXISTING RAISED FLOOR. CONTRACTOR SHALL REMOVE THE ASSOCIATED CONDUCTORS BACK TO EXISTING EMERGENCY MAIN DISTRIBUATION PANELBARD, EMDP (SHEET ED403).
17	REMOVE AND PROPERLY DISPOSE OF EXISTING LIGHTING CONTROL PANEL, WHICH SERVED LIGHTING FOR SALES & MARKETING RM 11FF29 (SHEET ED401).
18	EXISTING PANELBOARD SHALL REMAIN - PANEL DESIGNATION IS SHOWN ADJACENT TO PANEL.
19	EXISTING LINEAR PENDANT LUMINAIRE TO REMAIN. REFER TO NEW WORK PLANS FOR RETROFFITING WITH LED REPLACEMENT KIT.
20	REMOVE AND PROPERLY DISPOSE OF EXISTING LINEAR PENDANT LUMINAIRE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
21	REMOVE AND PROPERLY DISPOSE OF EXISTING FLOOR BOXES (POWER AND TELECOMMUNICATIONS). REMOVE ASSOCIATED WIRING/CABLING BACK TO SOURCE. PATCH FLOOR SLAB BACK TO MATCH SURROUNDINGS.
22	REMOVE AND PROPERLY DISPOSE OF EXISTING SURFACE-MOUNTED WIREWAY (POWER AND TELECOMMUNICATIONS OUTLETS). REMOVE ASSOCIATED CONDUIT/WIRING/CABLINE BACK TO SOURCE.
23	REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE (OR JUNCTION BOX). REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. EXISTING CONDUIT MAY BE REUSED TO SERVE NEW RECEPTACLES.
24	REMOVE AND PROPERLY DISPOSE OF EXISTING AUDIO/VISUAL OUTLET AND ALL ASSOCIATED CABLING.
25	REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE, AUDIO/VISUAL OUTLET, ETC. AND ALL ASSOCIATED CABLING.
26	REMOVE AND PROPERLY DISPOSE OF EXISTING CEILING-MOUNTED SPEAKERS. REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
27	REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM PULL STATION. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
28	REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM REMOTE TEST SWITCH AND ASSOCIATED DUCT SMOKE DETECTOR. DUCT SMOKE DETECTOR NOT SHOWN.
29	REMOVE AND PROPERLY DISPOSE OF EXISTING 100-PAIR ENTRANCE PROTECTORS, 66-PUNCHDOWN BLOCKS, 110-PUNCHDOWN BLOCKS, AND ASSOCIATED CABLING. REFER TO SHEET ET601 FOR ADDITIONAL INFORMATION.
30	REMOVE AND PROPERLY DISPOSE OF EXISTING ACCESS CONTROL PANELS, POWER SUPPLIES, AND WIREWAY.
31	REMOVE AND PROPERLY DISPOSE OF EXISTING CAT 3/5 HORIZONTAL CABLING [WHITE] THROUGHOUT THE FACILITY. EXISTING CAT 6 HORIZONTAL CABLING [BLUE AND YELLOW] SHALL REMAIN, EXCEPT CABLING ASSOCIATED WITH TELECOMMUNICATIONS OUTLETS REMOVED.
32	EXISTING FIRE ALARM NAC POWER EXTENDER TO REMAIN.
33	REMOVE AND PROPERLY DISPOSE OF EXISTING BACKBOXES (QTY 3) FOR POWER AND DATA CONNECTIONS TO PREVIOUSLY REMOVED MODULAR FURNITURE (3-120V CIRCUITS AND X DATA/VOICE CABLES). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE. PATCH WALL BACK TO MATCH EXISTING.
34	REMOVE AND PROPERLY DISPOSE OF EXISTING DOWNLIGHTS AND ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
35	EXISTING FIRE ALARM AUDIO/VISUAL DEVICE TO BE RELOCATED. REFER TO SHEET TY402 FOR NEW LOCATION.
36	APPROXIMATE ROUTING OF EXISTING TELECOMMUNICATIONS CONDUITS ROUTED THROUGH THE FACILITY (CONTRACTOR TO FIELD VERIFY) FOR ENTRANCE SERVICES. CONTRACTOR SHALL REMOVE CABLING, COORDINATE REMOVAL WITH THE LFUCG.

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - ELECTRICAL DEMOLITION - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

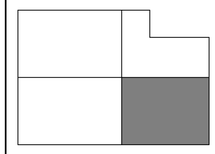
REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ED402 01

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION PLAN - AREA B

SCALE: 1/8" = 1'-0"

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GENERAL NOTES:

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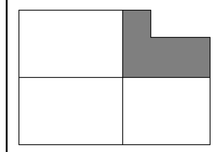
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3. ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4. WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5. EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6. WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN", WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1. REMOVE AND PROPERLY DISPOSE OF LUMINAIRES AND ASSOCIATED LIGHTING CONTROLS WITHIN THIS SPACE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
2. EXISTING LINEAR PENDANT LUMINAIRE TO REMAIN. REFER TO NEW WORK PLANS FOR RETROFITTING WITH LED REPLACEMENT KIT.
3. REMOVE AND PROPERLY DISPOSE OF EXISTING LINEAR PENDANT LUMINAIRE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
4. REMOVE AND PROPERLY DISPOSE OF EXISTING BACKBOXES (QTY 2) FOR POWER AND DATA CONNECTIONS TO PREVIOUSLY REMOVED MODULAR FURNITURE (3-120V CIRCUITS AND X DATA/VOICE CABLES). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE. PATCH WALL BACK TO MATCH EXISTING.
5. REMOVE AND PROPERLY DISPOSE OF EXISTING SURFACE-MOUNTED WIREWAY (POWER AND TELECOMMUNICATIONS OUTLETS). REMOVE ASSOCIATED CONDUIT/WIRING/CABLINE BACK TO SOURCE.
6. REMOVE AND PROPERLY DISPOSE OF EXISTING EMERGENCY LIGHT. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
7. REMOVE AND PROPERLY DISPOSE OF EXISTING BACKBOXES (QTY 3) FOR POWER AND DATA CONNECTIONS TO PREVIOUSLY REMOVED MODULAR FURNITURE (3-120V CIRCUITS AND X DATA/VOICE CABLES). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE. PATCH WALL BACK TO MATCH EXISTING.
8. REMOVE AND PROPERLY DISPOSE OF EXISTING INTRUSION DETECTION DEVICES ON EXTERIOR DOOR. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
9. REMOVE AND PROPERLY DISPOSE OF EXISTING DOOR BELL AND ASSOCIATED DOOR BELL PUSHBUTTON.
10. REMOVE AND PROPERLY DISPOSE OF EXISTING EXTERIOR LIGHTING. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
11. REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE(S). REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
12. EXISTING FIRE ALARM DEVICES FOR EXISTING DRY PIPE FIRE SUPPRESSION SYSTEM RISER TO REMAIN.
13. REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE(S) AND TELECOMMUNICATIONS OUTLET(S). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE.
14. REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM PULL STATION. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
15. REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM AUDIO/VISUAL DEVICE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
16. EXISTING FIRE ALARM AUDIO/VISUAL DEVICE TO BE RELOCATED. REFER TO SHEET TY403 FOR NEW LOCATION.
17. EXISTING FIRE ALARM AUDIO/VISUAL DEVICE SHALL BE REPLACED WITH A VISUAL ONLY DEVICE.
18. DISCONNECT EXISTING OVERHEAD DOOR OPERATOR. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ASSOCIATED DISCONNECT, CONTROLS, AND CONDUIT/WIRING BACK TO SOURCE.
19. EXISTING HYDRAULIC LIFT AND ASSOCIATED RAISE/LOWER PUSHBUTTON TO REMAIN.
20. EXISTING STARTERS AND PUMPS FOR HYDRAULIC LIFTS SHALL REMAIN.
21. REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM REMOTE TEST SWITCH AND ASSOCIATED DUCT SMOKE DETECTOR. DUCT SMOKE DETECTOR NOT SHOWN.
22. REMOVE AND PROPERLY DISPOSE OF EXISTING TELECOMMUNICATIONS OUTLET. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO ASSOCIATED EQUIPMENT RACK.
23. REMOVE AND PROPERLY DISPOSE OF EXISTING SECURITY SYSTEM KEYPAD. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
24. APPROXIMATE ROUTING OF EXISTING TELECOMMUNICATIONS CONDUITS ROUTED THROUGH THE FACILITY (CONTRACTOR TO FIELD VERIFY) FOR ENTRANCE SERVICES. CONTRACTOR SHALL REMOVE CABLING. COORDINATE REMOVAL WITH THE LFUCG.
25. REMOVE AND PROPERLY DISPOSE OF EXISTING SATELITTE DISH AND ASSOCIATED MOUNTING BRACKET.
26. MAINTAIN ELECTRICAL CONNECTION TO EXISTING UNIT HEATER.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION PLAN - AREA C
SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN — STATE OF KENTUCKY — LICENSED PROFESSIONAL ENGINEER — 8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - ELECTRICAL DEMOLITION - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	REVISION DESCRIPTION	DATE

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK
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DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ED403 01

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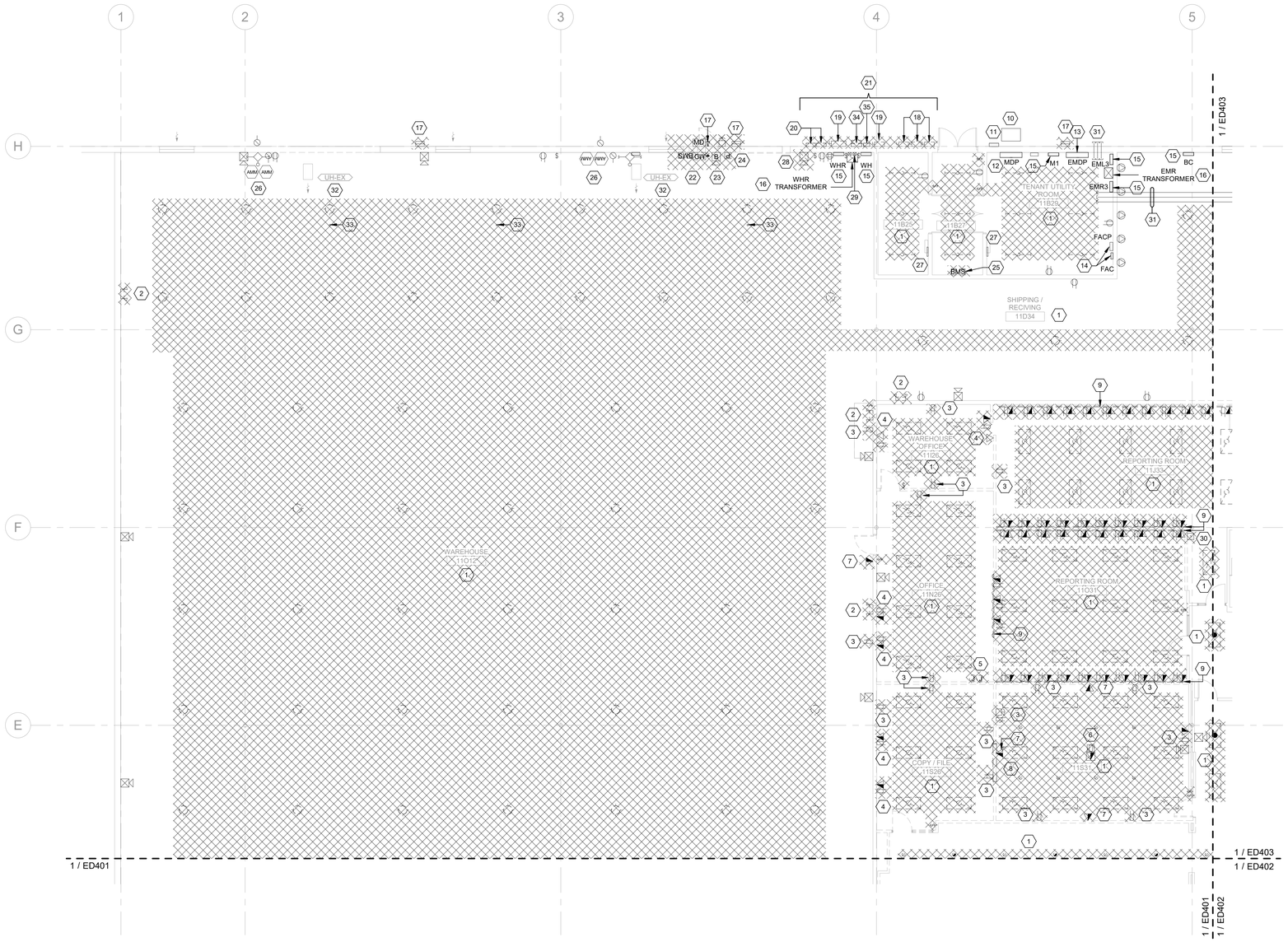


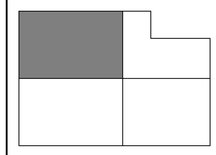
GENERAL NOTES:

1	AN EFFORT HAS BEEN MADE TO DOCUMENT MAJOR ELECTRICAL EQUIPMENT / DEVICES FOR REMOVAL; HOWEVER, CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND PROPER DISPOSAL OF THE INDICATED PANELBOARDS, DISCONNECTS, LIGHTING, LIGHTING CONTROLS, ACCESS CONTROL DEVICES, INTRUSION DETECTION DEVICES, AND ELECTRICAL CONNECTIONS TO HVAC / PLUMBING EQUIPMENT WITHIN THE RENOVATED AREAS.
2	CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3	ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4	WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5	EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6	WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN"; WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7	REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1	REMOVE AND PROPERLY DISPOSE OF LUMINAIRES AND ASSOCIATED LIGHTING CONTROLS WITHIN THIS SPACE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
2	REMOVE AND PROPERLY DISPOSE OF EXISTING EMERGENCY LIGHT. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
3	REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE(S). REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
4	REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE(S) AND TELECOMMUNICATIONS OUTLET(S). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE.
5	REMOVE AND PROPERLY DISPOSE OF EXISTING BACKBOXES (QTY 2) FOR POWER AND DATA CONNECTIONS TO PREVIOUSLY REMOVED MODULAR FURNITURE (3-120V CIRCUITS AND X DATA/VOICE CABLES). REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE. PATCH WALL BACK TO MATCH EXISTING.
6	REMOVE AND PROPERLY DISPOSE OF EXISTING FLOOR BOXES (POWER AND TELECOMMUNICATIONS). REMOVE ASSOCIATED WIRING/CABLING BACK TO SOURCE. PATCH FLOOR SLAB BACK TO MATCH SURROUNDINGS.
7	REMOVE AND PROPERLY DISPOSE OF EXISTING TELECOMMUNICATIONS OUTLET. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO ASSOCIATED EQUIPMENT RACK.
8	REMOVE AND PROPERLY DISPOSE OF EXISTING PROJECTOR SCREEN AND ASSOCIATED UP/DOWN/STOP CONTROL STATION. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
9	REMOVE AND PROPERLY DISPOSE OF EXISTING SURFACE-MOUNTED WIREWAY (POWER AND TELECOMMUNICATIONS OUTLETS). REMOVE ASSOCIATED CONDUIT/WIRING/CABLINE BACK TO SOURCE.
10	EXISTING 1200A ENCLOSED CIRCUIT BREAKER (SERVICE ENTRANCE RATED) SHALL REMAIN.
11	EXISTING ELECTRICAL METER SHALL REMAIN.
12	EXISTING MAIN DISTRIBUTION PANELBOARD, MDP SHALL REMAIN.
13	EXISTING EMERGENCY MAIN DISTRIBUTION PANELBOARD, EMDP SHALL REMAIN.
14	EXISTING FIRE ALARM CONTROL PANEL AND ASSOCIATED FIRE ALARM COMMUNICATOR SHALL REMAIN.
15	EXISTING PANELBOARD SHALL REMAIN - PANEL DESIGNATION IS SHOWN ADJACENT TO PANEL.
16	EXISTING TRANSFORMER SHALL REMAIN - TRANSFORMER DESIGNATION IS SHOWN ADJACENT TO TRANSFORMER.
17	REMOVE AND PROPERLY DISPOSE OF EXISTING EXTERIOR LIGHTING. REMOVE ASSOCIATED CONDUIT/CABLING BACK TO SOURCE.
18	REMOVE AND PROPERLY DISPOSE OF THREE (3) EXISTING SERVICE ENTRANCE DISCONNECT SWITCHES AND ASSOCIATED ELECTRICAL FEEDERS.
19	REMOVE AND PROPERLY DISPOSE OF EXISTING SERVICE ENTRANCE DISCONNECT SWITCH AND ASSOCIATED ELECTRICAL FEEDERS.
20	REMOVE AND PROPERLY DISPOSE OF TWO (2) EXISTING ELECTRICAL METERS AND ASSOCIATED CONDUIT/WIRING COMPLETE.
21	CONTRACTOR SHALL COORDINATE WITH KENTUCKY UTILITIES TO HAVE ALL ELECTRICAL SERVICES DISCONNECTED WITH EXCEPTION OF THE 1200AMP SERVICE. CONTRACTOR SHALL REMOVE ALL ASSOCIATED WIREWAYS, DISCONNECT SWITCHES, PANELBOARD, AND CONDUIT AND WIRING COMPLETE. REFER TO ELECTRICAL ONE-LINE DIAGRAMS ON SHEET E-601 AND E-602 FOR ADDITIONAL INFORMATION.
22	REMOVE AND PROPERLY DISPOSE OF EXISTING INTRUSION DETECTION DEVICES ON EXTERIOR DOOR. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
23	REMOVE AND PROPERLY DISPOSE OF EXISTING DOOR BELL AND ASSOCIATED DOOR BELL PUSHBUTTON.
24	EXISTING FIRE ALARM MANUAL PULL STATION TO BE RELOCATED. REFER TO SHEET TY404 FOR NEW LOCATION.
25	REMOVE AND PROPERLY DISPOSE OF EXISTING INTRUSION DETECTION SYSTEM DOOR CONTACT SWITCH MOUNTED ON HATCH. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
26	EXISTING FIRE ALARM DEVICES FOR EXISTING WET PIPE FIRE SUPPRESSION SYSTEM RISER TO REMAIN.
27	EXISTING-TO-REMAIN WALL-MOUNTED ELECTRIC HEATER.
28	REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM AUDIO/VISUAL DEVICE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
29	REMOVE AND PROPERLY DISPOSE OF EXISTING STARTERS AND SWITCHES FOR WAREHOUSE EXHAUST FANS (LOCATED ABOVE WHR TRANSFORMER). REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
30	REMOVE AND PROPERLY DISPOSE OF EXISTING FIRE ALARM REMOTE TEST SWITCH AND ASSOCIATED DUCT SMOKE DETECTOR. DUCT SMOKE DETECTOR NOT SHOWN.
31	APPROXIMATE ROUTING OF EXISTING TELECOMMUNICATIONS CONDUITS ROUTED THROUGH THE FACILITY (CONTRACTOR TO FIELD VERIFY) FOR ENTRANCE SERVICES. CONTRACTOR SHALL REMOVE CABLING, COORDINATE REMOVAL WITH THE LFUCG.
32	MAINTAIN ELECTRICAL CONNECTION TO EXISTING UNIT HEATER.
33	REMOVE AND PROPERLY DISPOSE OF EXISTING TELE-POWER POLE. REMOVE ASSOCIATED CONDUIT/WIRING/CABLING BACK TO SOURCE.
34	EXISTING BRANCH CIRCUITS WITHIN PANELBOARD HOUSE SHALL BE REFED FROM PANELBOARD M1. MAINTAIN CONNECTIONS TO EXISTING LIGHTING CONTACTOR.
35	EXISTING LIGHTING CONTACTOR SHALL REMAIN. CONTRACTOR SHALL RELOCATE PHOTOCELL TO CONTACTOR ENCLOSURE.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - DEMOLITION PLAN - AREA D

SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
21012
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - ELECTRICAL DEMOLITION - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ED404 01

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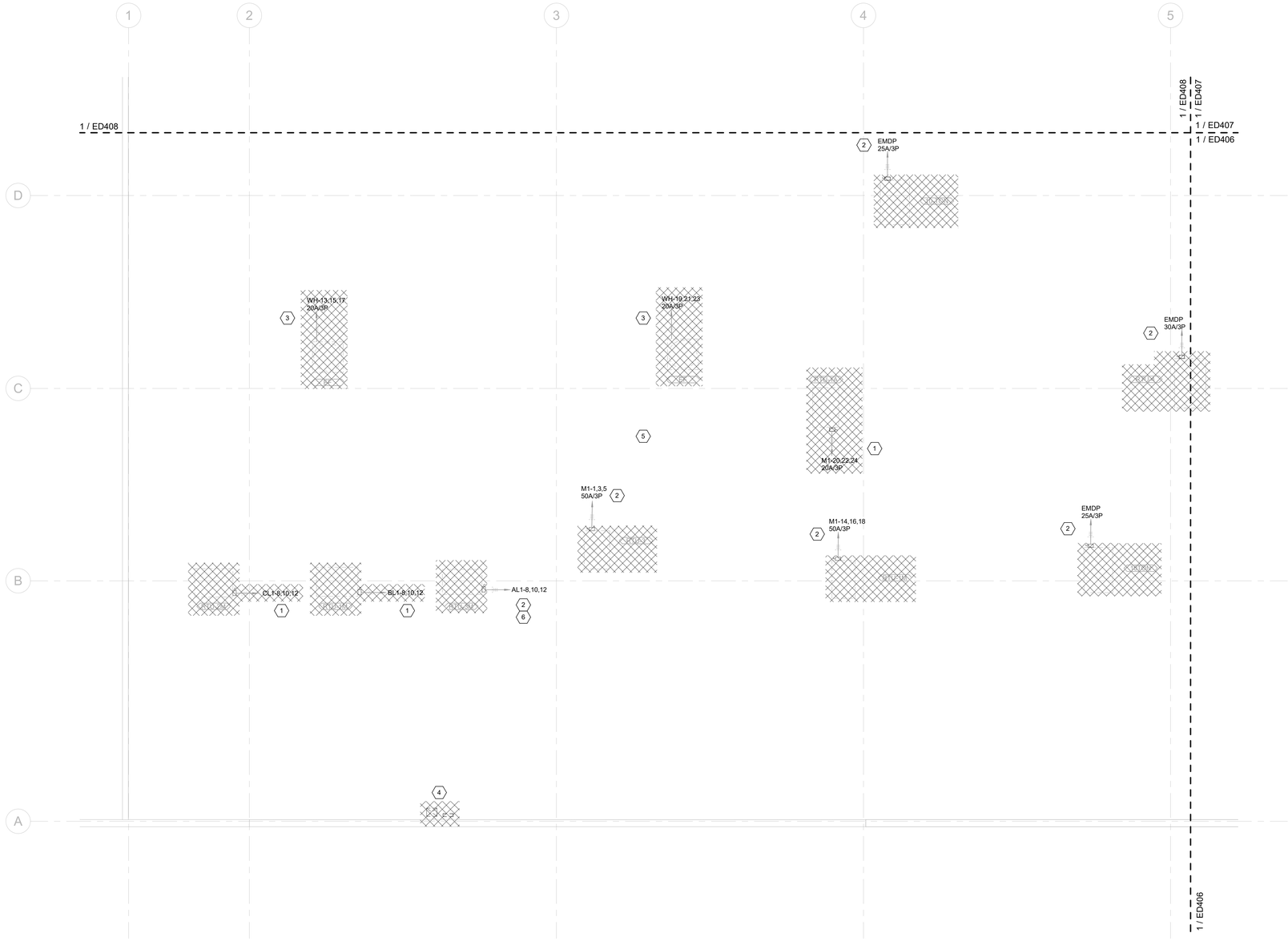


1 ROOF LEVEL - DEMOLITION PLAN - AREA A

SCALE: 1/8" = 1'-0"

PLAN NORTH

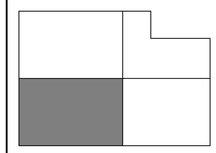
GENERAL NOTES:

1	AN EFFORT HAS BEEN MADE TO DOCUMENT MAJOR ELECTRICAL EQUIPMENT / DEVICES FOR REMOVAL; HOWEVER, CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND PROPER DISPOSAL OF THE INDICATED PANELBOARDS, DISCONNECTS, LIGHTING, LIGHTING CONTROLS, ACCESS CONTROL DEVICES, INTRUSION DETECTION DEVICES, AND ELECTRICAL CONNECTIONS TO HVAC / PLUMBING EQUIPMENT WITHIN THE RENOVATED AREAS.
2	CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3	ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4	WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5	EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6	WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN", WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7	REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1	DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH AND ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
2	DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH. CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER FOR CONNECTION TO THE NEW HVAC UNIT (REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION).
3	DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
4	REMOVE AND PROPERLY DISPOSE OF EXISTING PANELBOARD AND TRANSFORMER ON ROOF. REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUITS AND CONDUCTORS.
5	NOT SHOWN; HOWEVER, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLES ON ROOF. REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUIT/ WIRING BACK TO SOURCE.
6	TERMINATE EXISTING CONDUCTORS TO A NEW CIRCUIT BREAKER INSTALLED IN SPACE OF EXISTING PANELBOARD. EXISTING BREAKER SERVING SERVING THIS HVAC UNIT WILL BE REUSED FOR A NEW TRANSFORMER FEEDER.

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - ELECTRICAL DEMOLITION - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
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SHEET NO.: ED405 01

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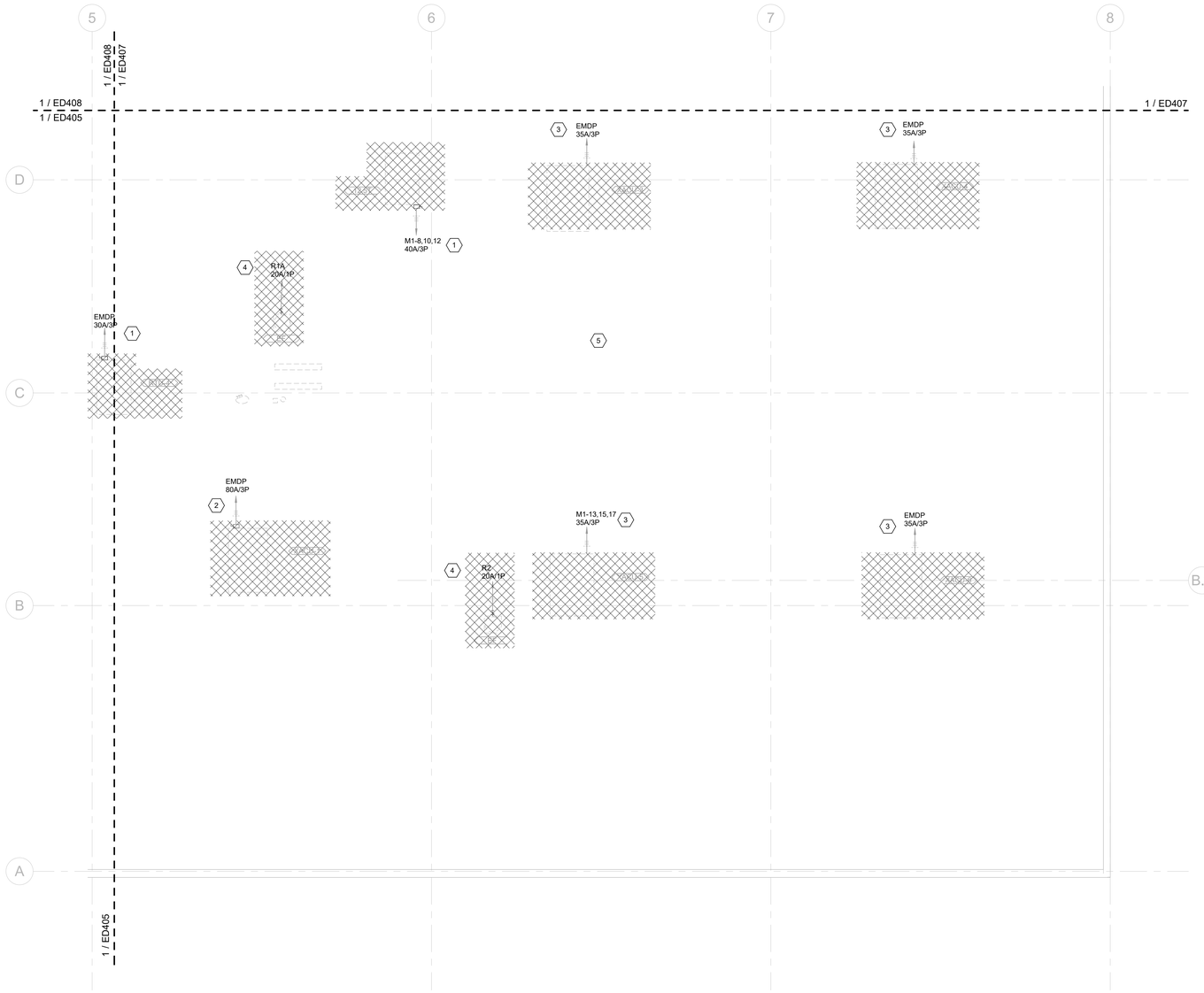


1 ROOF LEVEL - DEMOLITION PLAN - AREA B

SCALE: 1/8" = 1'-0"

PLAN NORTH

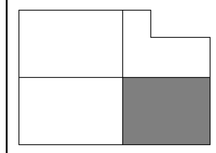
GENERAL NOTES:

1. AN EFFORT HAS BEEN MADE TO DOCUMENT MAJOR ELECTRICAL EQUIPMENT / DEVICES FOR REMOVAL; HOWEVER, CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND PROPER DISPOSAL OF THE INDICATED PANELBOARDS, DISCONNECTS, LIGHTING, LIGHTING CONTROLS, ACCESS CONTROL DEVICES, INTRUSION DETECTION DEVICES, AND ELECTRICAL CONNECTIONS TO HVAC / PLUMBING EQUIPMENT WITHIN THE RENOVATED AREAS.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3. ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4. WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5. EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6. WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN", WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1. DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH. CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER FOR CONNECTION TO THE NEW HVAC UNIT (REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION).
2. DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH. CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER CONDUIT; HOWEVER SHALL PROVIDE NEW CONDUCTORS FOR CONNECTION TO THE NEW HVAC UNIT (REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION).
3. DISCONNECT EXISTING HVAC UNIT. CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER FOR CONNECTION TO THE NEW HVAC UNIT (REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION).
4. DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH AND ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
5. NOT SHOWN; HOWEVER, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLES ON ROOF. REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUIT/ WIRING BACK TO SOURCE.

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRH PROJECT NO. 0524T-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - ELECTRICAL DEMOLITION - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

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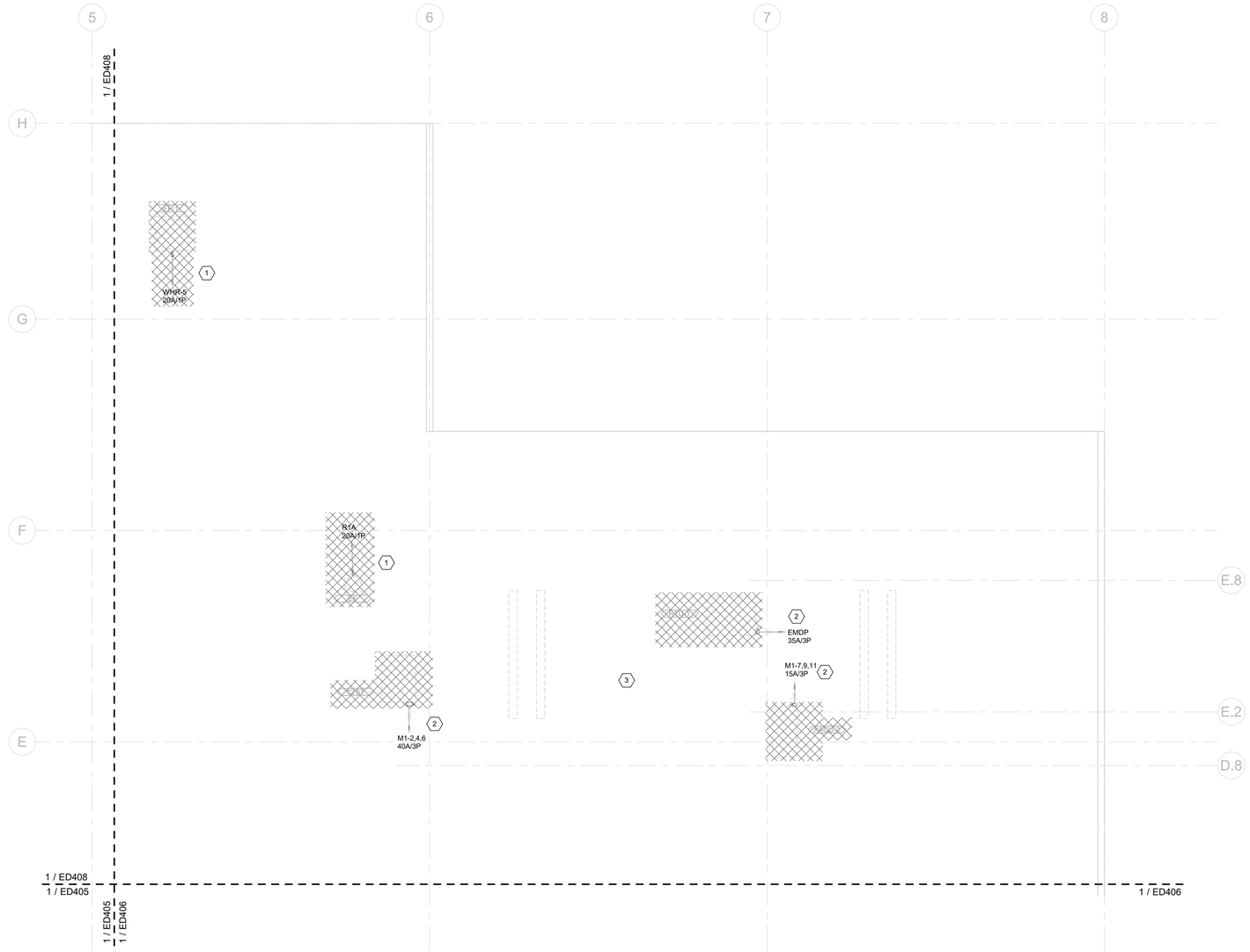


1 ROOF LEVEL - DEMOLITION PLAN - AREA C

SCALE: 1/8" = 1'-0"

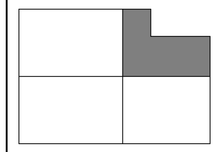
GENERAL NOTES:

1. AN EFFORT HAS BEEN MADE TO DOCUMENT MAJOR ELECTRICAL EQUIPMENT / DEVICES FOR REMOVAL; HOWEVER, CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND PROPER DISPOSAL OF THE INDICATED PANELBOARDS, DISCONNECTS, LIGHTING, LIGHTING CONTROLS, ACCESS CONTROL DEVICES, INTRUSION DETECTION DEVICES, AND ELECTRICAL CONNECTIONS TO HVAC / PLUMBING EQUIPMENT WITHIN THE RENOVATED AREAS.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3. ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4. WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5. EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6. WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN", WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7. REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1. DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH AND ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
2. DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH. CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER FOR CONNECTION TO THE NEW HVAC UNIT (REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION).
3. NOT SHOWN; HOWEVER, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLES ON ROOF. REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUIT/ WIRING BACK TO SOURCE.

AREA KEY PLAN



PLAN NORTH

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ROOF LEVEL - ELECTRICAL DEMOLITION - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ED407 01

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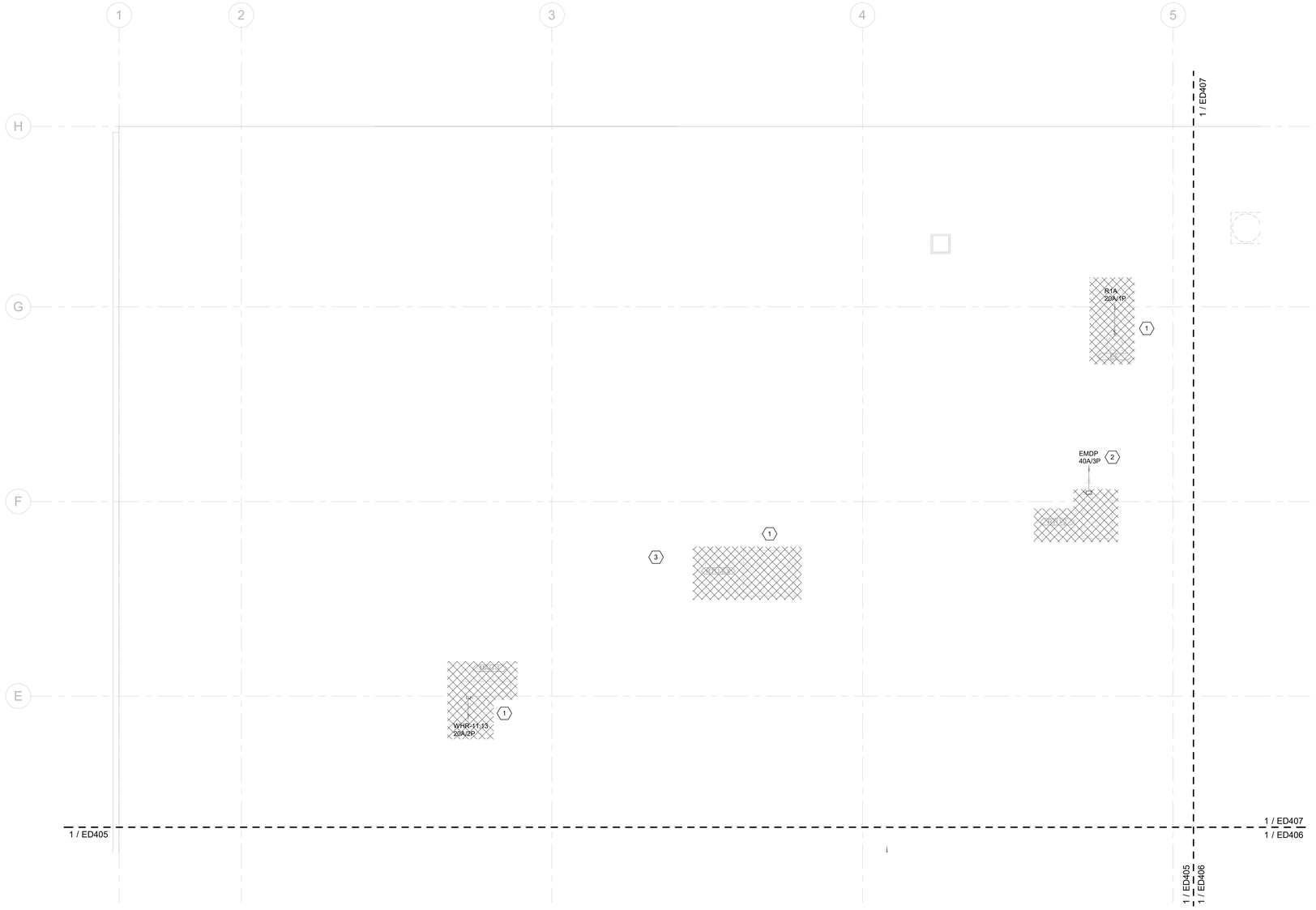


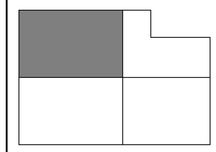
GENERAL NOTES:

1	AN EFFORT HAS BEEN MADE TO DOCUMENT MAJOR ELECTRICAL EQUIPMENT / DEVICES FOR REMOVAL; HOWEVER, CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND PROPER DISPOSAL OF THE INDICATED PANELBOARDS, DISCONNECTS, LIGHTING, LIGHTING CONTROLS, ACCESS CONTROL DEVICES, INTRUSION DETECTION DEVICES, AND ELECTRICAL CONNECTIONS TO HVAC / PLUMBING EQUIPMENT WITHIN THE RENOVATED AREAS.
2	CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3	ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4	WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5	EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6	WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN", WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7	REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1	DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH AND ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
2	DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH. CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER FOR CONNECTION TO THE NEW HVAC UNIT (REFER TO NEW WORK PLANS FOR ADDITIONAL INFORMATION).
3	NOT SHOWN; HOWEVER, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLES ON ROOF. REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUIT/ WIRING BACK TO SOURCE.

AREA KEY PLAN



PLAN NORTH

1 ROOF LEVEL - DEMOLITION PLAN - AREA D

SCALE: 1/8" = 1'-0"

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ROOF LEVEL - ELECTRICAL DEMOLITION - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ED408 01

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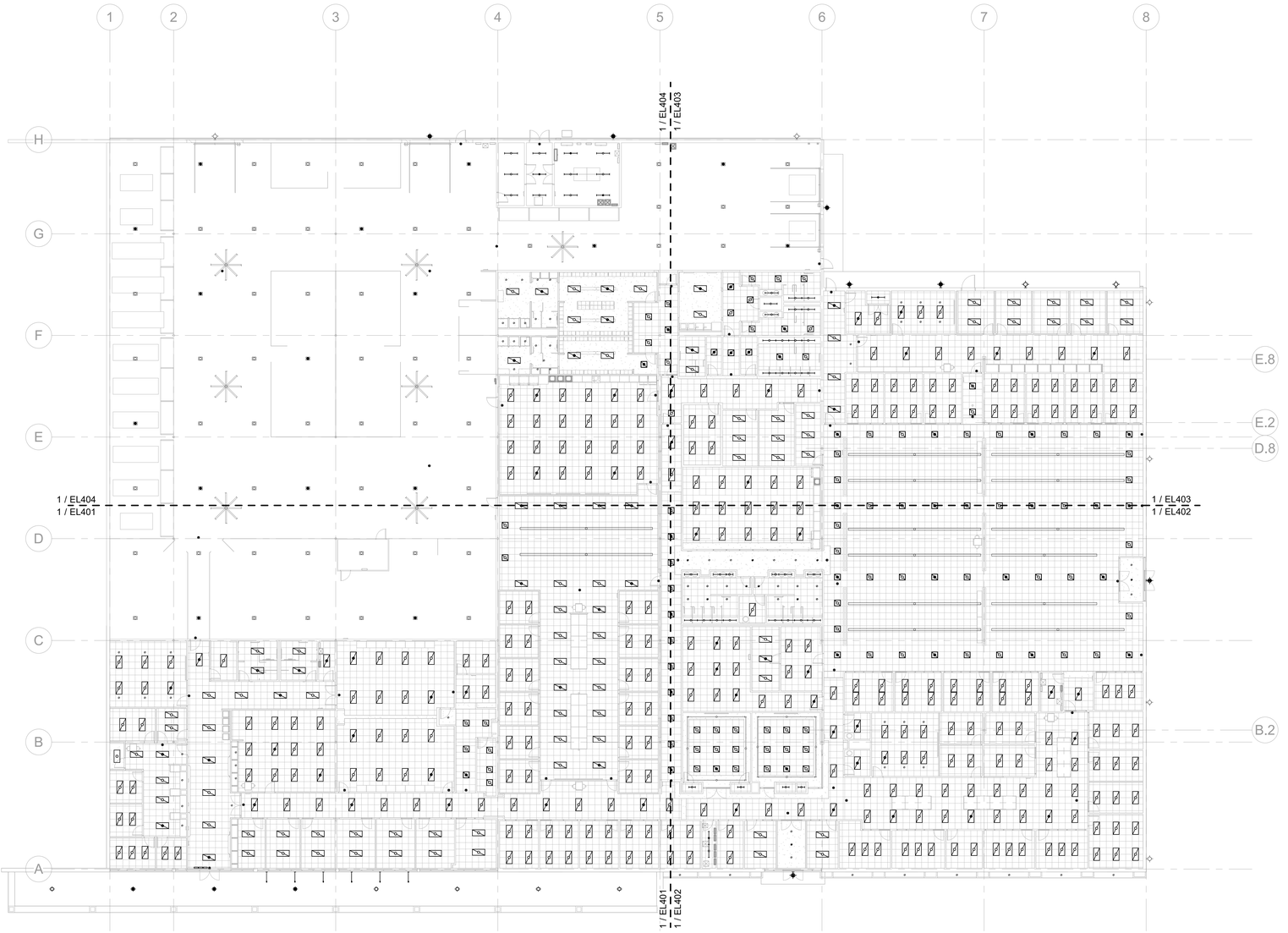


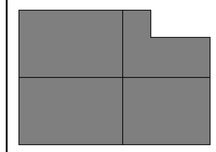
GENERAL NOTES:

1	SHEET IS PROVIDED FOR REFERENCE ONLY.

1 FIRST LEVEL - LIGHTING PLAN
SCALE: 1/16" = 1'-0"

PLAN NORTH

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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FIRST LEVEL - LIGHTING PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	BY	DATE

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO.: EL101 01

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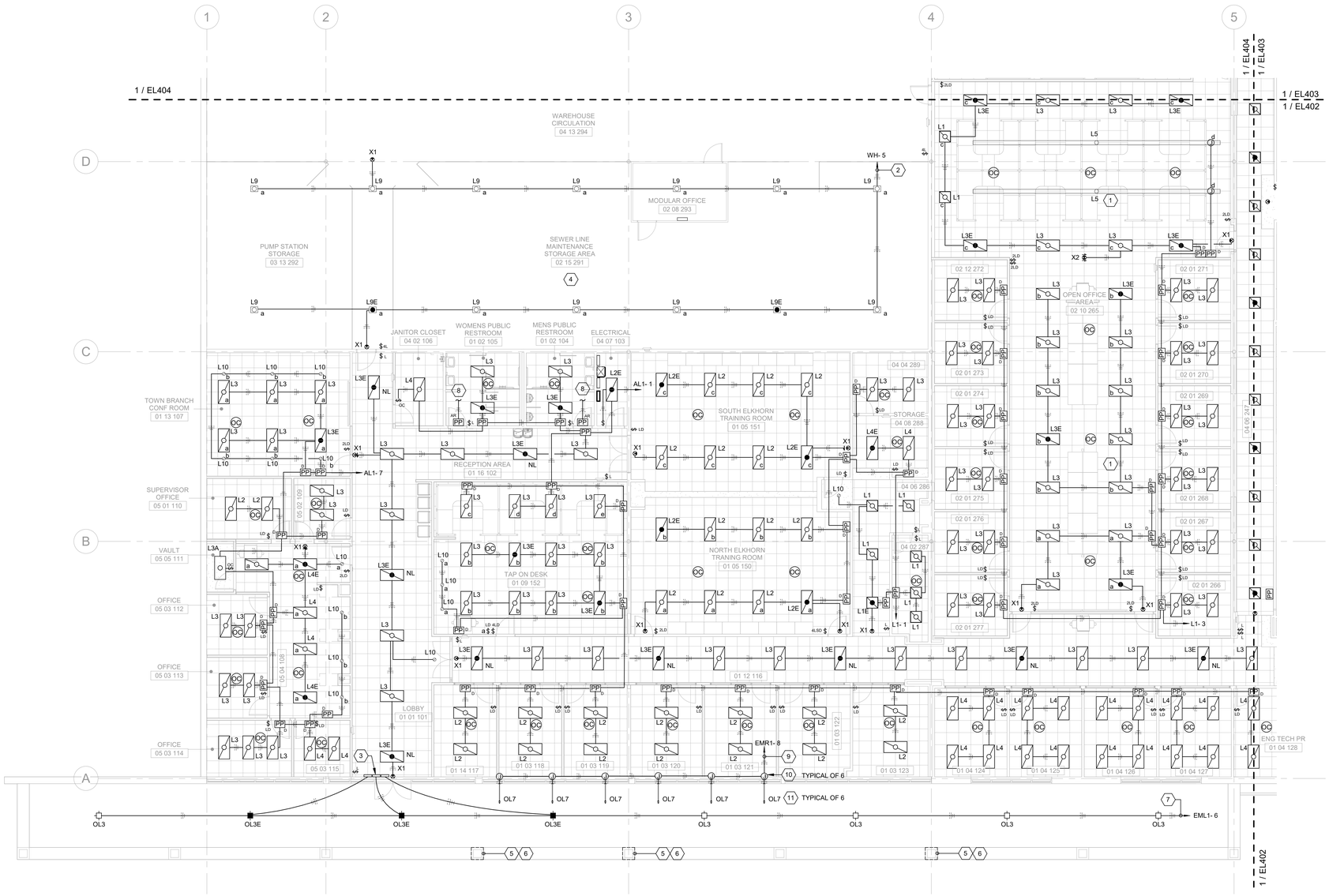


1 FIRST LEVEL - LIGHTING PLAN - AREA A
SCALE: 1/8" = 1'-0"

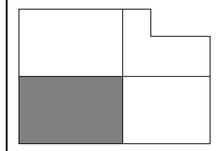
GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
3	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
4	0-10VDC DIMMING CONDUCTORS (CLASS 2) HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BY SHEET KEYNOTES AND/OR THE CONTROL DETAILS FOR EACH ROOM / AREA. DIMMING CONDUCTORS SHALL BE ROUTED IN SEPARATE CONDUIT FROM POWER CONDUCTORS.
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.
6	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.
7	LUMINAIRES DESIGNATED AS "NL" SHALL BE CONSTANT ON LUMINAIRES, ALL OTHER EGRESS LUMINAIRES SHALL BE SWITCHED WITH THE NORMAL LIGHTING WITHIN THE SAME SPACE.

SHEET KEYNOTES

1	EXISTING LUMINAIRE SHALL BE REINSTALLED IN NEW CEILING. IN ADDITION, LUMINAIRE SHALL BE RETROFITTED WITH LED LIGHTBAR KITS (QUANTITY AS REQUIRED BASED ON LUMINAIRE LENGTH). REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
2	ROUTE CIRCUIT THROUGH A DEDICATED LIGHTING RELAY PACK MOUNTED ADJACENT TO PANELBOARD WH (REFER TO LOCATION ON SHEET EL404).
3	REMOTE MOUNTED BATTERY INVERTER FOR OL3E LUMINAIRE. TYPICAL OF 3.
4	PROVIDE AIRCRAFT CABLE AS REQUIRED FOR SUSPENDING LUMINAIRES L9/L9E AT 17' 0" AFF.
5	REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILANCE, AND GATE BRANCH POWER ENTERING THE BUILDING VIA THE INDICATED COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED (COORDINATE WITH GENERAL CONTRACTOR).
6	EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
7	ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR (ELECTRICAL ROOM 129). PROVIDE UNSWITCHED CONDUCTOR FOR BATTERY INVERTERS.
8	AS PART OF THE LIGHITNG CONTROLS, PROVIDE AN AUXILARY RELAY WITH "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261). COORDINATE REQUIREMENTS WITH THE TEMPERATURE CONTROLS CONTRACTOR.
9	ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR (ELECTRICAL ROOM 129).
10	JUNCTION BOXES FOR OL7 LUMINAIRES WILL BE LOCATED BEHIND PARAPET WALL ON ROOF.
11	MOUNT OL7 LUMINAIRES 2' AFF TOP OF BUILDING SIGNAGE.

AREA KEY PLAN



PLAN NORTH

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/11/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - LIGHTING PLAN - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EL401 01

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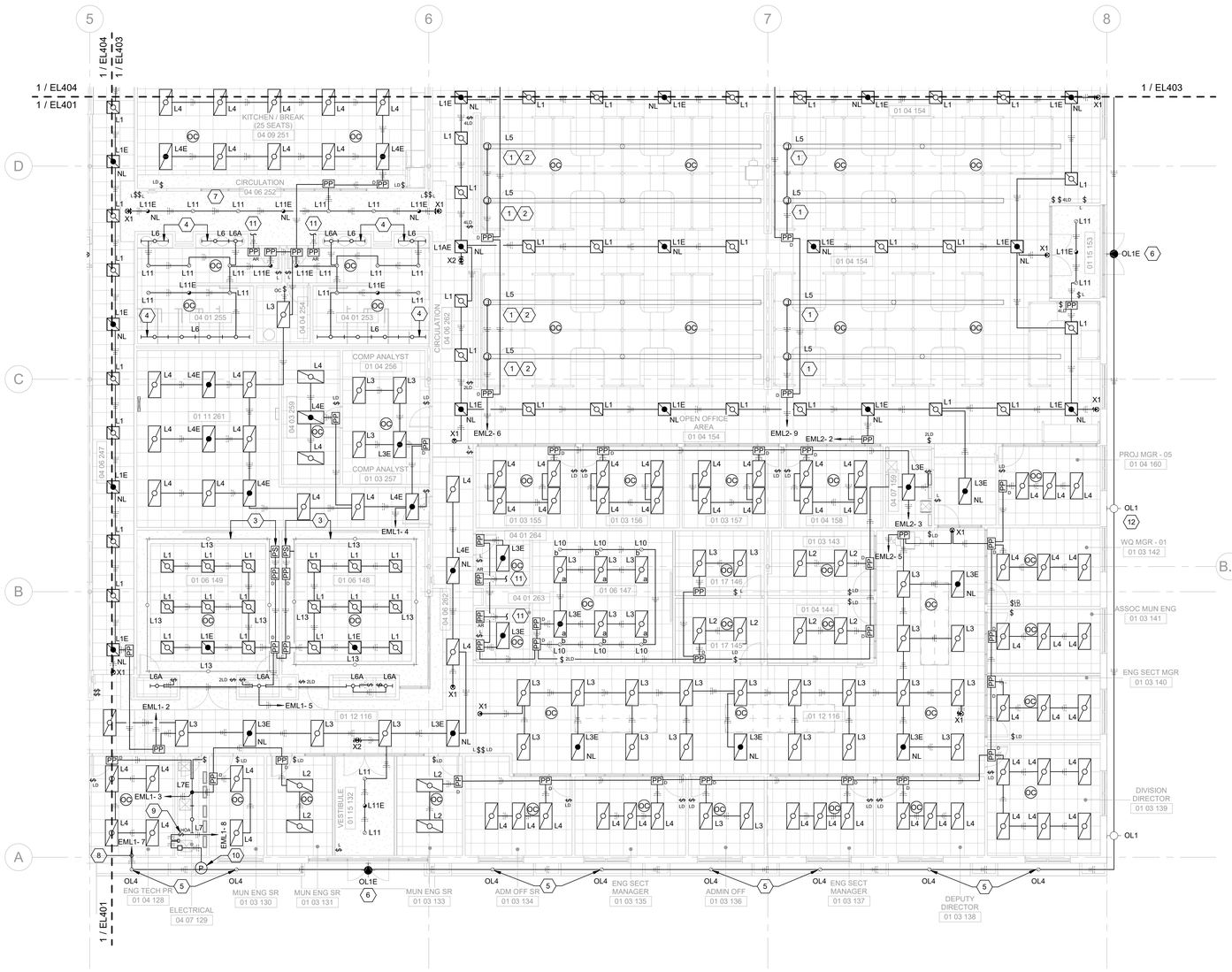
GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
3	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
4	0-10VDC DIMMING CONDUCTORS (CLASS 2) HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BY SHEET KEYNOTES AND/OR THE CONTROL DETAILS FOR EACH ROOM / AREA. DIMMING CONDUCTORS SHALL BE ROUTED IN SEPARATE CONDUIT FROM POWER CONDUCTORS.
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.
6	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.
7	LUMINAIRES DESIGNATED AS "NL" SHALL BE CONSTANT ON LUMINAIRES, ALL OTHER EGRESS LUMINAIRES SHALL BE SWITCHED WITH THE NORMAL LIGHTING WITHIN THE SAME SPACE.

SHEET KEYNOTES

1	EXISTING LUMINAIRE SHALL BE RETROFITTED WITH LED LIGHTBAR KITS (QUANTITY AS REQUIRED BASED ON LUMINAIRE LENGTH). REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
2	EXISTING LUMINAIRE SHALL BE RELOCATED FROM EXISTING SALES & MARKETING ROOM 11FF29 (REFER TO SHEET ED401).
3	TAPE LIGHT W/ MOUNTING CHANNEL (MOUNT ABOVE SOFFIT). PROVIDE POWER SUPPLY AND CONNECTORS AS REQUIRED.
4	MOUNT L6/L6A LUMINAIRES ABOVE THE EXISTING PARABOLIC LOUVERS.
5	PROVIDE LED DOWNLIGHT RETROFIT KIT FOR EXISTING DOWNLIGHT HOUSING.
6	MOUNT OL1E LUMINAIRE AT 12' 6" AFF (TO CENTERLINE).
7	REPAIR, PATCH AND PAINT CEILING AFTER INSTALLATION OF NEW DOWNLIGHTS.
8	ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR (ELECTRICAL ROOM 129). PROVIDE UNSWITCHED CONDUCTOR FOR BATTERY INVERTERS.
9	EXTERIOR LIGHTING CONTROLS (3-POSITION SWITCH, 8-POLE LIGHTING CONTACTOR, AND ASTRONOMICAL TIME CLOCK). REFER TO LIGHTING CONTROL CIRCUIT DETAIL ON SHEET EL503.
10	PHOTOCELL FOR EXTERIOR LIGHTING CONTROLS. MOUNT IN EXISTING SOFFIT (AIM ACCORDINGLY DUE TO LOCATION).
11	AS PART OF THE LIGHITNG CONTROLS, PROVIDE AN AUXILIARY RELAY WITH "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261). COORDINATE REQUIREMENTS WITH THE TEMPERATURE CONTROLS CONTRACTOR.
12	MOUNT OL1/OL1E LUMINAIRE AT 16' 6" AFF.

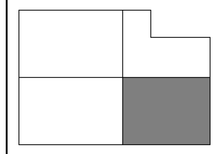


1 FIRST LEVEL - LIGHTING PLAN - AREA B

SCALE: 1/8" = 1'-0"

PLAN NORTH

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
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FIRST LEVEL - LIGHTING PLAN - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE	BY

REVISION DESCRIPTION

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: EL402 01

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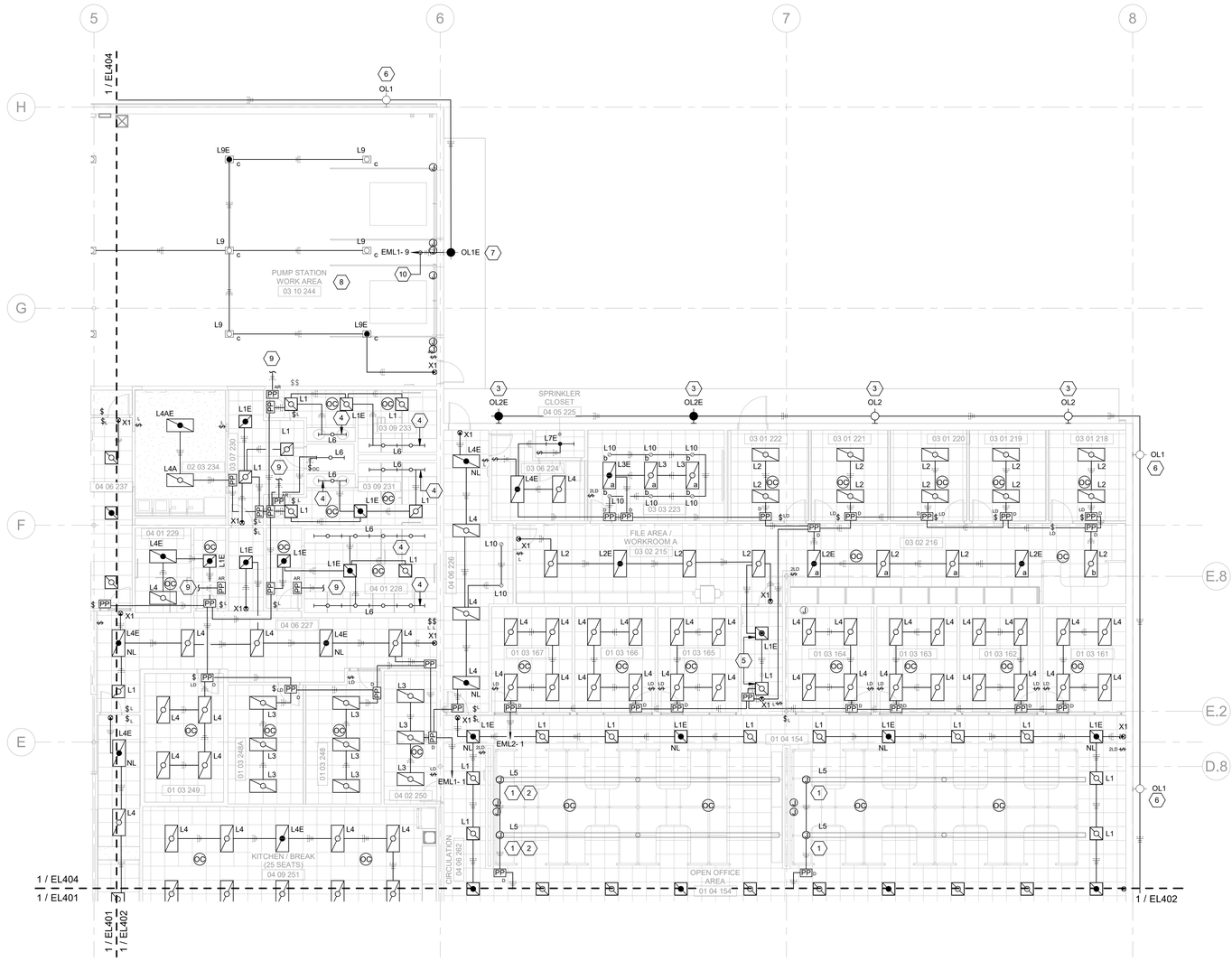


1 FIRST LEVEL - LIGHTING PLAN - AREA C

SCALE: 1/8" = 1'-0"

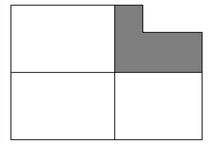
GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
3	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
4	0-10VDC DIMMING CONDUCTORS (CLASS 2) HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BY SHEET KEYNOTES AND/OR THE CONTROL DETAILS FOR EACH ROOM / AREA. DIMMING CONDUCTORS SHALL BE ROUTED IN SEPARATE CONDUIT FROM POWER CONDUCTORS.
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.
6	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.
7	LUMINAIRES DESIGNATED AS "NL" SHALL BE CONSTANT ON LUMINAIRES, ALL OTHER EGRESS LUMINAIRES SHALL BE SWITCHED WITH THE NORMAL LIGHTING WITHIN THE SAME SPACE.

SHEET KEYNOTES

1	EXISTING LUMINAIRE SHALL BE RETROFITTED WITH LED LIGHTBAR KITS (QUANTITY AS REQUIRED BASED ON LUMINAIRE LENGTH). REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
2	EXISTING LUMINAIRE SHALL BE RELOCATED FROM EXISTING SALES & MARKETING ROOM 11FF29 (REFER TO SHEET ED401).
3	MOUNT OL2/OL2E LUMINAIRES AS HIGH AS POSSIBLE BELOW EXISTING CANOPY.
4	MOUNT L6/L6A LUMINAIRES ABOVE THE EXISTING PARABOLIC LOUVERS.
5	SWITCH L1/L1E LUMINAIRES WITH LUMINAIRES IN FILE AREA/WORKROOM 215.
6	MOUNT OL1/OL1E LUMINAIRE AT 16' 6" AFF.
7	MOUNT OL1E LUMINAIRES AS HIGH AS POSSIBLE BELOW EXISTING CANOPY.
8	PROVIDE AIRCRAFT CABLE AS REQUIRED FOR SUSPENDING LUMINAIRES L9/L9E AT 17' 0" AFF.
9	AS PART OF THE LIGHITNG CONTROLS, PROVIDE AN AUXILARY RELAY WITH "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261). COORDINATE REQUIREMENTS WITH THE TEMPERATURE CONTROLS CONTRACTOR.
10	ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR (ELECTRICAL ROOM 129). PROVIDE UNSWITCHED CONDUCTOR FOR BATTERY INVERTERS.

AREA KEY PLAN



PLAN NORTH

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - LIGHTING PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	DESCRIPTION	DATE

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EL403 01

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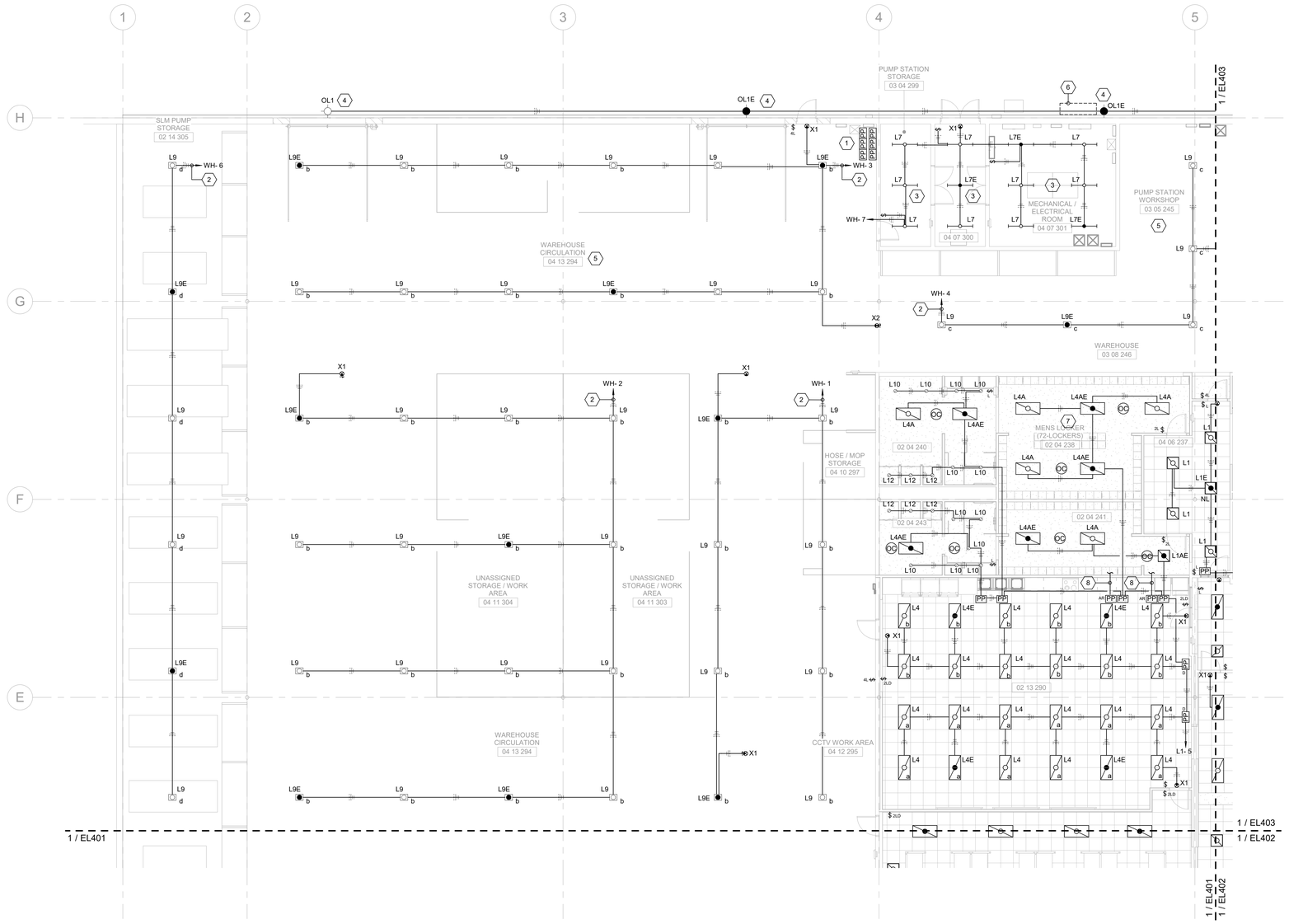


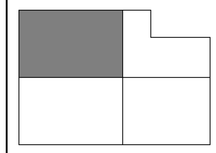
GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
3	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
4	0-10VDC DIMMING CONDUCTORS (CLASS 2) HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BY SHEET KEYNOTES AND/OR THE CONTROL DETAILS FOR EACH ROOM / AREA. DIMMING CONDUCTORS SHALL BE ROUTED IN SEPARATE CONDUIT FROM POWER CONDUCTORS.
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.
6	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.
7	LUMINAIRES DESIGNATED AS "NL" SHALL BE CONSTANT ON LUMINAIRES, ALL OTHER EGRESS LUMINAIRES SHALL BE SWITCHED WITH THE NORMAL LIGHTING WITHIN THE SAME SPACE.

SHEET KEYNOTES

1	SIX (6) LIGHTING RELAY PACKS FOR CONTROL OF LIGHTING WITHIN THE WAREHOUSE AREA (SHEETS EL401, EL403, AND EL404).
2	ROUTE CIRCUIT THROUGH A DEDICATED LIGHTING RELAY PACK MOUNTED ADJACENT TO PANELBOARD WH.
3	MOUNT LUMINAIRES WITHIN THIS SPACE AT 10' 0" AFF.
4	MOUNT OL1/OL1E LUMINAIRE AT 16' 6" AFF.
5	PROVIDE AIRCRAFT CABLE AS REQUIRED FOR SUSPENDING LUMINAIRES L9/L9E AT 17' 0" AFF.
6	REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILLANCE, AND GATE BRANCH POWER ENTERING THE BUILDING WITHIN THIS AREA. LB CONDUIT INTO BUILDING. PATCHSEAL CONDUIT PENETRATIONS ON EXTERIOR WALL.
7	EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
8	AS PART OF THE LIGHITNG CONTROLS, PROVIDE AN AUXILIARY RELAY WITH "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTERSERVER 261). COORDINATE REQUIREMENTS WITH THE TEMPERATURE CONTROLS CONTRACTOR.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - LIGHTING PLAN - AREA D

SCALE: 1/8" = 1'-0"

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - LIGHTING PLAN - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

SCALE CHECK 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. EL404 01

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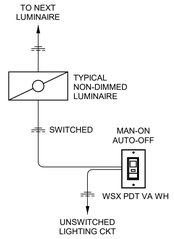
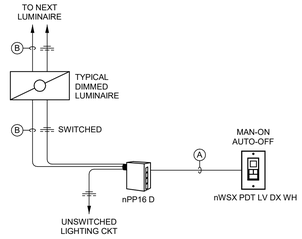


LC-01 WALL SWITCH VACANCY SENSOR

NOT TO SCALE



LC-02 WALL SWITCH VACANCY SENSOR WITH DIMMING

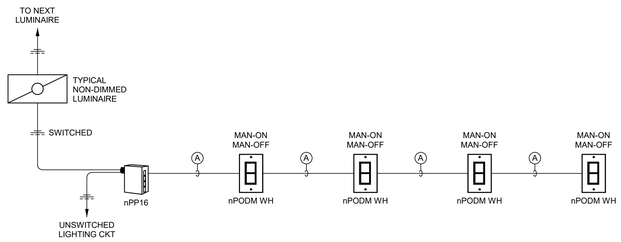
NOT TO SCALE

PROGRAMMING/GENERAL NOTES:

1. ALL AREAS SHALL BE PROGRAMMED FOR AUTOMATIC-OFF AFTER 30 MINUTES OF INACTIVITY.
2. WALL MOUNTED LIGHTING CONTROL DEVICES SHALL BE WHITE WITH WHITE NYLON THERMOPLASTIC PLATE. TYPICAL.
3. LIGHTING CONTROLS SHALL BE AS DEFINED BY SPECIFICATION SECTION 260943.

WIRING LEGEND:

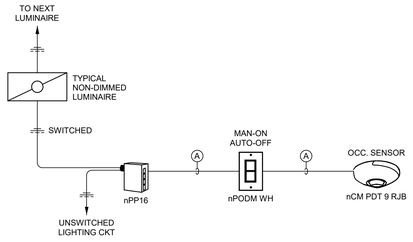
- (A) #24 AWG, 4 PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL WHITE JACKET. TERMINATE ALL ENDS WITH A NON-BOOTED RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
- (B) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 0-10 VDC DRIVER DIMMING CONTROL.
- (C) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR CLASS II PHOTOCELL CONNECTION.
- (D) TWO (2) #18 AWG INSIDE JUNCTION BOX.
- (E) #18 AWG, 4 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 24V DC OCCUPANCY CONTROL.



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

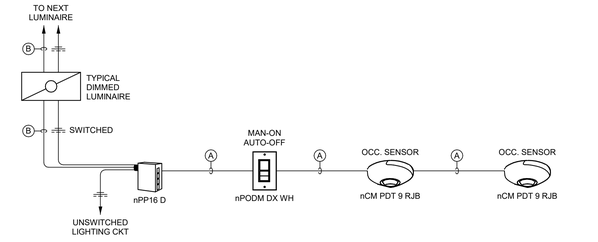
LC-03 CORRIDOR - MANUAL CONTROL ONLY

NOT TO SCALE



LC-04 SINGLE ENTRY ROOM - OCCUPANCY ONLY

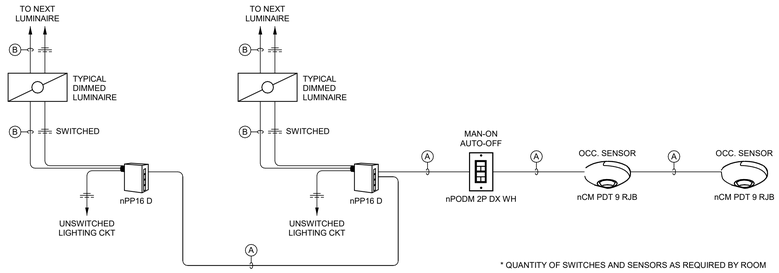
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-05 SINGLE ENTRY OFFICE - OCCUPANCY AND DIMMING

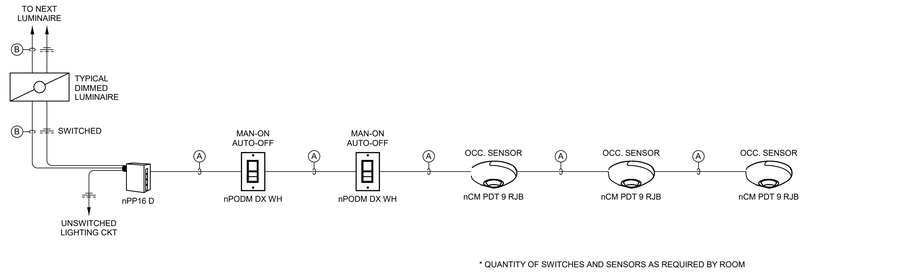
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-06 SINGLE ENTRY / TWO-ZONE OFFICE - OCCUPANCY AND DIMMING

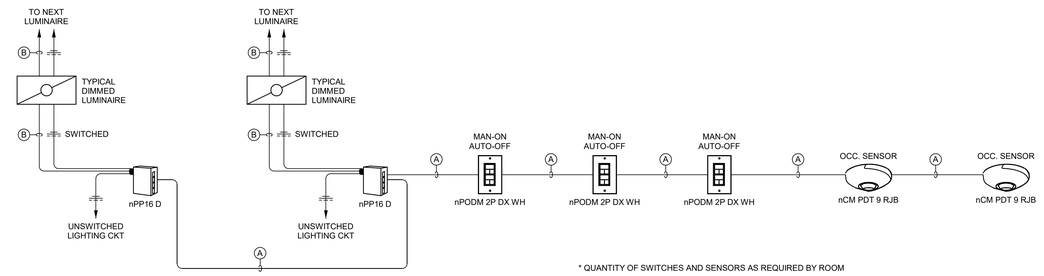
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-07 MULTI-ENTRY - OCCUPANCY AND DIMMING

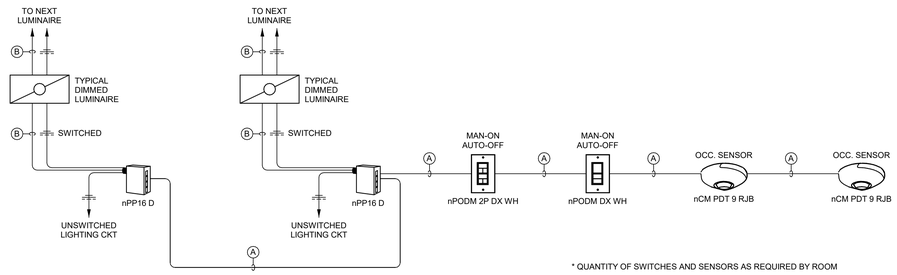
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-08 MULTI-PURPOSE TRAINING ROOM - OCCUPANCY AND DIMMING

NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-09 MULTI-ENTRY / TWO-ZONE - OCCUPANCY AND DIMMING

NOT TO SCALE

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8/19/25

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LIGHTING CONTROL DETAILS I

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: EL501 01

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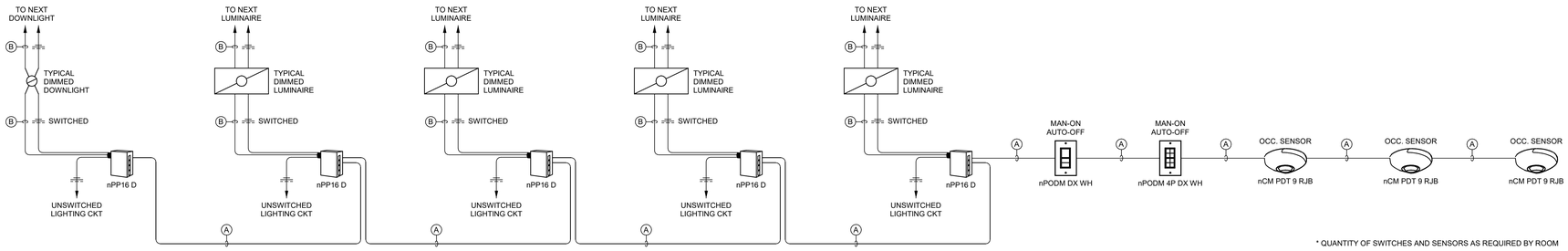
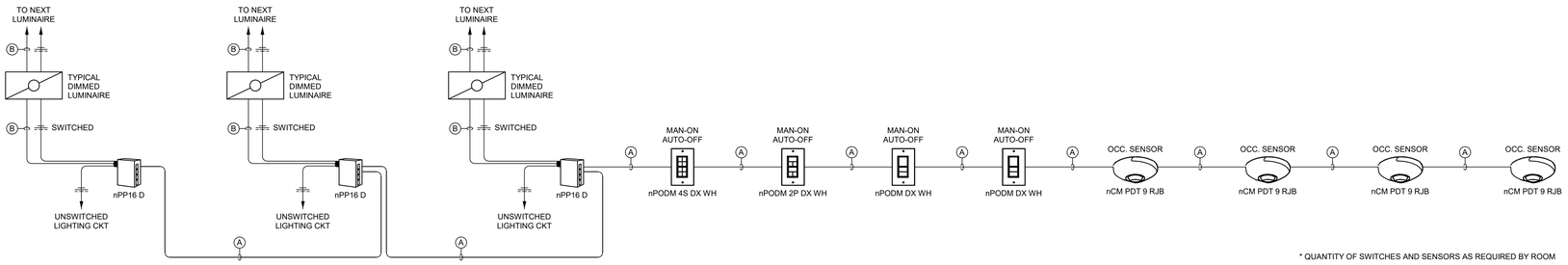


* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-10 TAP ON DESK - OCCUPANCY AND DIMMING

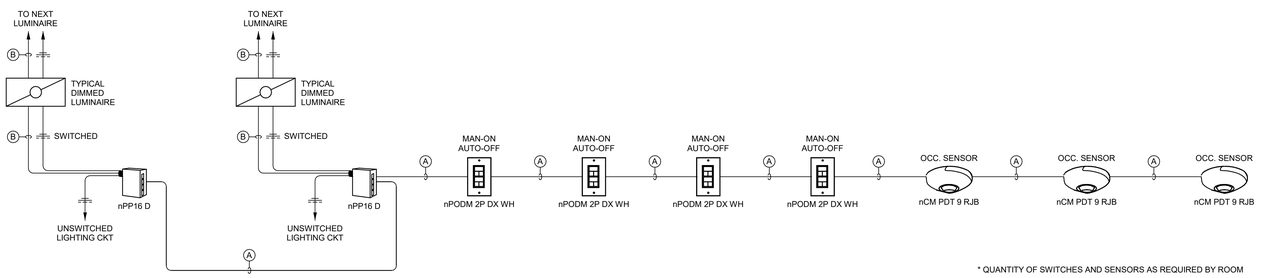
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-11 TRAINING ROOM - OCCUPANCY AND DIMMING

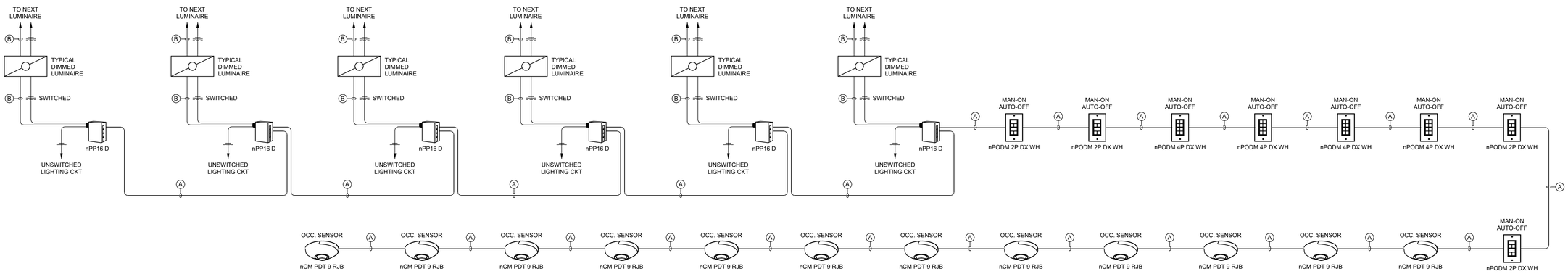
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-12 MULTI-ENTRY / TWO-ZONE OPEN OFFICE - OCCUPANCY AND DIMMING

NOT TO SCALE



LC-13 MULTI-ENTRY / MULTI-ZONE OPEN OFFICE - OCCUPANCY AND DIMMING

NOT TO SCALE

PROGRAMMING/GENERAL NOTES:

1. ALL AREAS SHALL BE PROGRAMMED FOR AUTOMATIC-OFF AFTER 30 MINUTES OF INACTIVITY.
2. WALL MOUNTED LIGHTING CONTROL DEVICES SHALL BE WHITE WITH WHITE NYLON THERMOPLASTIC PLATE. TYPICAL.
3. LIGHTING CONTROLS SHALL BE AS DEFINED BY SPECIFICATION SECTION 260943.

WIRING LEGEND:

- (A) #24 AWG, 4 PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL WHITE JACKET. TERMINATE ALL ENDS WITH A NON-BOOTED RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
- (B) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 0-10 VDC DRIVER DIMMING CONTROL.
- (C) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR CLASS II PHOTOCELL CONNECTION.
- (D) TWO (2) #18 AWG INSIDE JUNCTION BOX.
- (E) #18 AWG, 4 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 24V DC OCCUPANCY CONTROL.

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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LIGHTING CONTROL DETAILS II

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO	DESCRIPTION	DATE

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: EL502 01

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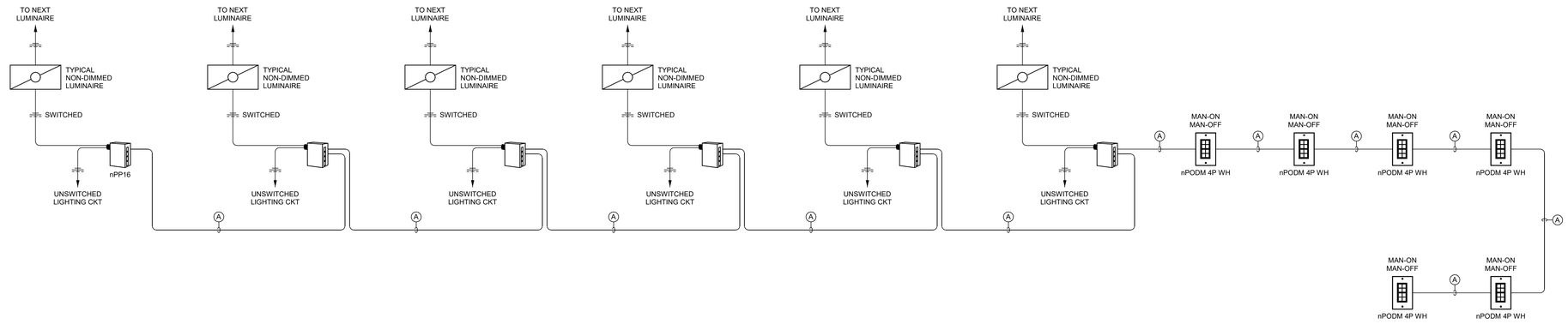


* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

PROGRAMMING/GENERAL NOTES:

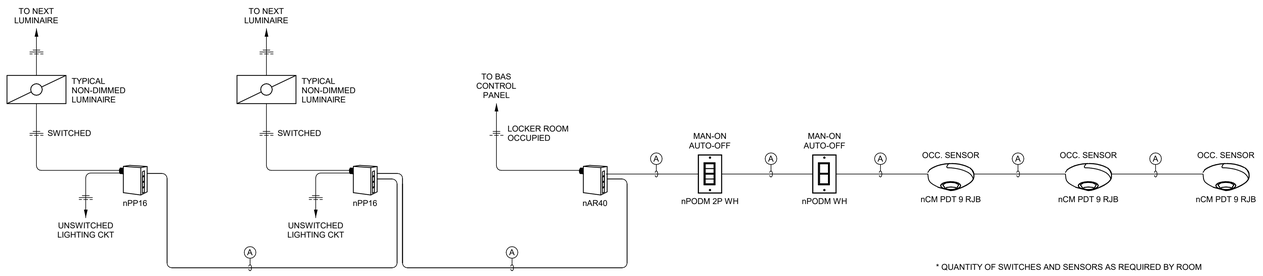
1. ALL AREAS SHALL BE PROGRAMMED FOR AUTOMATIC-OFF AFTER 30 MINUTES OF INACTIVITY.
2. WALL MOUNTED LIGHTING CONTROL DEVICES SHALL BE WHITE WITH WHITE NYLON THERMOPLASTIC PLATE. TYPICAL.
3. LIGHTING CONTROLS SHALL BE AS DEFINED BY SPECIFICATION SECTION 260943.

WIRING LEGEND:

- (A) #24 AWG, 4 PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL WHITE JACKET. TERMINATE ALL ENDS WITH A NON-BOOTED RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
- (B) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 0-10 VDC DRIVER DIMMING CONTROL.
- (C) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR CLASS II PHOTOCELL CONNECTION.
- (D) TWO (2) #18 AWG INSIDE JUNCTION BOX.
- (E) #18 AWG, 4 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 24V DC OCCUPANCY CONTROL.

LC-14 WAREHOUSE - MANUAL ONLY

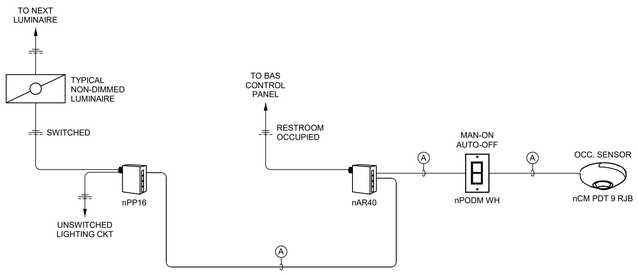
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

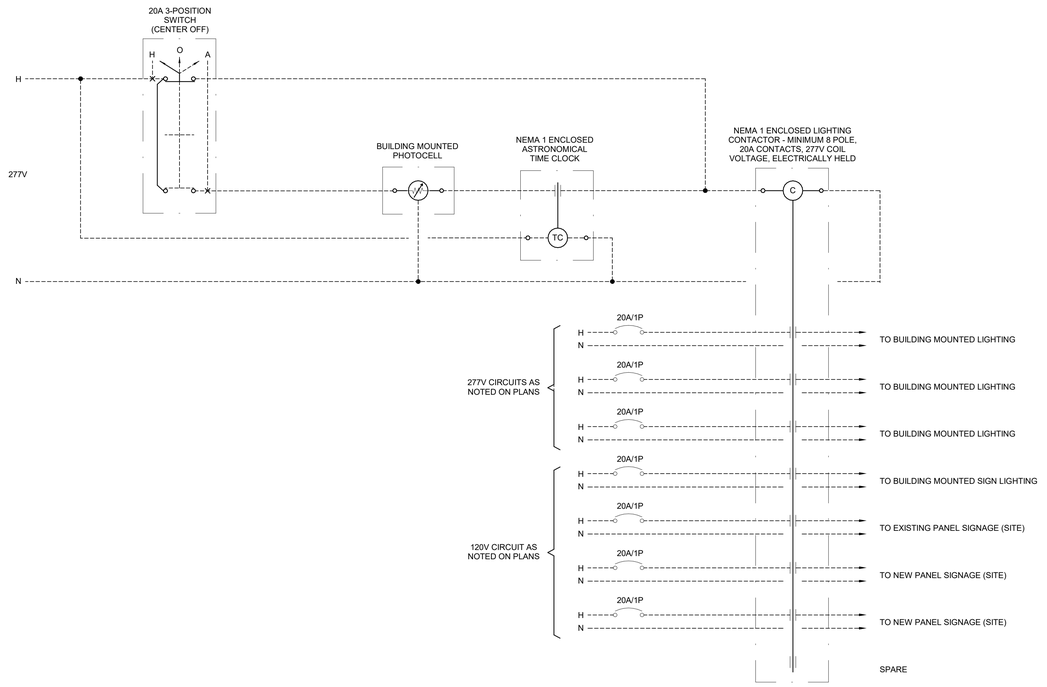
LC-15 TWO-ZONE - OCCUPANCY ONLY

NOT TO SCALE



LC-16 SINGLE ENTRY ROOM - OCCUPANCY ONLY W/ BAS INTERFACE

NOT TO SCALE



LC-17 EXTERIOR LIGHTING CONTROLS

NOT TO SCALE

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8/11/25
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CONSTRUCTION DOCUMENTS

LIGHTING CONTROL DETAILS III

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: EL503 01

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LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	COLOR TEMP	LAMP TYPE	LUMENS	WATTS	VOLTAGE	MOUNTING TYPE	MOUNTING HEIGHT	MANUFACTURER	MODEL NUMBER	EQUIVALENT MANUFACTURER
L1	2' X 2' FLAT PANEL WITH DIMMING	4000 K	LED	4504	36 W	277 V	<varies>	VARIOUS	LITHONIA LIGHTING	CPX 2X2 4000LM 80CRI 40K SWL MIN1 EZT MVOLT	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L1AE	2' X 2' FLAT PANEL WITH DIMMING, DRYWALL GRID ADAPTER, AND EMERGENCY BATTERY PACK	4000 K	LED	4504	36 W	277 V	RECESSED	VARIOUS	LITHONIA LIGHTING	CPX 2X2 4000LM 80CRI 40K SWL MIN1 EZT MVOLT E7W DGA22	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L1E	2' X 2' FLAT PANEL WITH DIMMING AND EMERGENCY BATTERY PACK	4000 K	LED	4504	36 W	277 V	LAY-IN	VARIOUS	LITHONIA LIGHTING	CPX 2X2 4000LM 80CRI 40K SWL MIN1 EZT MVOLT E7W	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L2	2' X 4' FLAT PANEL WITH DIMMING	4000 K	LED	7807	57 W	277 V	LAY-IN	VARIOUS	LITHONIA LIGHTING	CPX 2X4 7200LM 80CRI 40K SWL MIN1 EZT MVOLT	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L2E	2' X 4' FLAT PANEL WITH DIMMING AND EMERGENCY BATTERY PACK	4000 K	LED	7807	57 W	277 V	LAY-IN	VARIOUS	LITHONIA LIGHTING	CPX 2X4 7200LM 80CRI 40K SWL MIN1 EZT MVOLT E2W	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L3	2' X 4' FLAT PANEL WITH DIMMING	4000 K	LED	6091	42 W	277 V	LAY-IN	VARIOUS	LITHONIA LIGHTING	CPX 2X4 6000LM 80CRI 40K SWL MIN1 EZT MVOLT	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L3A	2' X 4' FLAT PANEL WITH DIMMING AND SURFACE MOUNT KIT	4000 K	LED	6091	42 W	277 V	LAY-IN	VARIOUS	LITHONIA LIGHTING	CPX 2X4 6000LM 80CRI 40K SWL MIN1 EZT MVOLT 2X4SMKSH	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L3E	2' X 4' FLAT PANEL WITH DIMMING AND EMERGENCY BATTERY PACK	4000 K	LED	6091	42 W	277 V	LAY-IN	VARIOUS	LITHONIA LIGHTING	CPX 2X4 6000LM 80CRI 40K SWL MIN1 EZT MVOLT E7W	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L4	2' X 4' FLAT PANEL WITH DIMMING	4000 K	LED	4936	37 W	277 V	LAY-IN	VARIOUS	LITHONIA LIGHTING	CPX 2X4 4000LM 80CRI 40K SWL MIN1 EZT MVOLT	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L4A	2' X 4' FLAT PANEL WITH DIMMING AND DRYWALL GRID ADAPTER	4000 K	LED	4936	37 W	277 V	RECESSED	VARIOUS	LITHONIA LIGHTING	CPX 2X4 4000LM 80CRI 40K SWL MIN1 EZT MVOLT DGA24	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L4AE	2' X 4' FLAT PANEL WITH DIMMING, DRYWALL GRID ADAPTER, AND EMERGENCY BATTERY PACK	4000 K	LED	4936	37 W	277 V	RECESSED	VARIOUS	LITHONIA LIGHTING	CPX 2X4 4000LM 80CRI 40K SWL MIN1 EZT MVOLT DGA24 E7W	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L4E	2' X 4' FLAT PANEL WITH DIMMING AND EMERGENCY BATTERY PACK	4000 K	LED	4936	37 W	277 V	LAY-IN	VARIOUS	LITHONIA LIGHTING	CPX 2X4 4000LM 80CRI 40K SWL MIN1 EZT MVOLT E7W	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L5	EXISTING PENDANT LUMINAIRE (CONTRACTOR SHALL RETROFIT WITH LED LIGHTBAR KIT)	4000 K	LED	6025	37 W	277 V	SUSPENDED	EXISTING	FOCAL POINT	FV2S PS 3T8 1C 277 S C24 L835 WH (NOTE 4)	EXISTING
L6	4' LINEAR LED	4000 K	LED	2955	19 W	277 V	SURFACE	AS NOTED	LITHONIA LIGHTING	CLX L48 3000LM SEF FDL MVOLT 40K 80CRI WH	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L6A	2' LINEAR LED	4000 K	LED	1395	11 W	277 V	SURFACE	AS NOTED	LITHONIA LIGHTING	CLX L24 1500LM SEF FDL MVOLT 40K 80CRI WH	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L7	4' LINEAR LED	4000 K	LED	4940	32 W	277 V	SUSPENDED	AS NOTED	LITHONIA LIGHTING	CLX L48 5000LM SEF FDL MVOLT 40K 80CRI WH	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L7E	4' LINEAR LED WITH EMERGENCY BATTERY PACK	4000 K	LED	4940	32 W	277 V	SUSPENDED	AS NOTED	LITHONIA LIGHTING	CLX L48 5000LM SEF FDL MVOLT 40K 80CRI WH E10W	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L8	REFER TO "VOLUME 2 - LFUCG EXTERIOR STRUCTURES"	4000 K	LED	7156	47 W	277 V	SURFACE	VARIOUS	LITHONIA LIGHTING	CLX L48 7000LM SEF FDL MVOLT 40K 80CRI WH	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L8E	REFER TO "VOLUME 2 - LFUCG EXTERIOR STRUCTURES"	4000 K	LED	7156	47 W	277 V	SURFACE	VARIOUS	LITHONIA LIGHTING	CLX L48 7000LM SEF FDL MVOLT 40K 80CRI WH E10W	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L9	LED HIGH BAY	4000 K	LED	18936	127 W	277 V	SUSPENDED	AS NOTED	LITHONIA LIGHTING	CPHB 18000LM HEF GCL MD MVOLT 40K 80CRI	ORION, H.E. WILLIAMS OR APPROVED EQUIVALENT
L9E	LED HIGH BAY WITH EMERGENCY BATTERY PACK	4000 K	LED	18936	127 W	277 V	SUSPENDED	AS NOTED	LITHONIA LIGHTING	CPHB 18000LM HEF GCL MD MVOLT 40K 80CRI E10W	ORION, H.E. WILLIAMS OR APPROVED EQUIVALENT
L10	6" ROUND DOWNLIGHT	4000 K	LED	950	10 W	277 V	RECESSED	VARIOUS	LITHONIA LIGHTING	LDN6 40/10 L06 AR LSS TRW MVOLT GZ1	PRESCOLITE, H.E. WILLIAMS OR APPROVED EQUIVALENT
L11	6" ROUND DOWNLIGHT	4000 K	LED	1514	18 W	277 V	RECESSED	VARIOUS	LITHONIA LIGHTING	LDN6 40/15 L06 AR LSS TRW MVOLT GZ1	PRESCOLITE, H.E. WILLIAMS OR APPROVED EQUIVALENT
L11E	6" ROUND DOWNLIGHT WITH EMERGENCY BATTERY PACK	4000 K	LED	1514	18 W	277 V	RECESSED	VARIOUS	LITHONIA LIGHTING	LDN6 40/15 L06 AR LSS TRW MVOLT GZ1 ELSD	PRESCOLITE, H.E. WILLIAMS OR APPROVED EQUIVALENT
L12	6" ROUND SHOWER DOWNLIGHT	4000 K	LED	950	10 W	277 V	RECESSED	VARIOUS	GOTHAM LIGHTING	EVO6SH 40/10 DFF SOL MVOLT	PRESCOLITE, H.E. WILLIAMS OR APPROVED EQUIVALENT
L13	24V LED TAPE LIGHT	4000 K	LED	132	1 W	24 V	SURFACE	ABOVE SOFFIT	KELVIX LIGHTING	M40K-24V (NOTE 3)	LUMENWARM, JESCO OR APPROVED EQUIVALENT
OL1	LED WALL LUMINAIRE	4000 K	LED	4177	47 W	277 V	SURFACE	AS NOTED	LITHONIA LIGHTING	WDGE2 LED P4 40K 80CRI T4M MVOLT SRM (NOTE 1)	BEACON, COOPER, ILP OR APPROVED EQUIVALENT
OL1E	LED WALL LUMINAIRE WITH EMERGENCY BATTERY BACKUP	4000 K	LED	4177	47 W	277 V	SURFACE	AS NOTED	LITHONIA LIGHTING	WDGE2 LED P4 40K 80CRI T4M MVOLT SRM E20WC (NOTE 1)	BEACON, COOPER, ILP OR APPROVED EQUIVALENT
OL2	LED WALL LUMINAIRE	4000 K	LED	1289	10 W	277 V	SURFACE	AS NOTED	LITHONIA LIGHTING	WDGE2 LED P1 40K 80CRI T2M MVOLT SRM (NOTE 1)	BEACON, COOPER, ILP OR APPROVED EQUIVALENT
OL2E	LED WALL LUMINAIRE WITH EMERGENCY BATTERY BACKUP	4000 K	LED	1289	10 W	277 V	SURFACE	AS NOTED	LITHONIA LIGHTING	WDGE2 LED P1 40K 80CRI T2M MVOLT SRM E20WC (NOTE 1)	BEACON, COOPER, ILP OR APPROVED EQUIVALENT
OL3	CANOPY MOUNTED LED	4000 K	LED	3527	43 W	277 V	SURFACE	BOTTOM OF SOFFIT	LUMINAIRE LED	SWP1212 MIN10 40W 40K 277 OP CAB (NOTE 1)	KENALL, FAIL-SAFE, DURAGUARD OR APPROVED EQUIVALENT
OL3E	CANOPY MOUNTED LED WTIH REMOTE MOUNTED BATTERY INVERTER	4000 K	LED	3527	43 W	277 V	SURFACE	BOTTOM OF SOFFIT	LUMINAIRE LED	SWP1212 MIN10 40W 40K 277 OP CAB EMB125R (NOTE 1)	KENALL, FAIL-SAFE, DURAGUARD OR APPROVED EQUIVALENT
OL4	6" OPEN LED DOWNLIGHT RETROFIT	4000 K	LED	1085	11 W	277 V	RECESSED	EXISTING	LITHONIA LIGHTING	LDNERV 40/10 LR6WR MVOLT GZ10	ELITE, H.E. WILLIAMS, OR APPROVED EQUIVALENT
OL5	REFER TO "VOLUME 2 - LFUCG EXTERIOR STRUCTURES"	4000 K	LED	4891	34 W	120 V	SURFACE	VARIOUS	LITHONIA LIGHTING	VCPG LED V4 P2 40K 80CRI T5W MVOLT SRM NLTAIR2 PIR (NOTE 1 AND 2)	BEACON, IKIO OR APPROVED EQUIVALENT
OL6	REFER TO "VOLUME 2 - LFUCG EXTERIOR STRUCTURES"	4000 K	LED	6205	43 W	120 V	SURFACE	VARIOUS	LITHONIA LIGHTING	VCPG LED V4 P3 40K 80CRI T5W MVOLT SRM NLTAIR2 PIR (NOTE 1 AND 2)	BEACON, IKIO OR APPROVED EQUIVALENT
OL7	LED SIGN LUMINAIRE WITH 180"/48" STEM	4000 K	LED	641	11 W	120 V	SURFACE	AS NOTED	HYDREL	PLACER A P1 80CRI 40K 120 SSDEG WSL WMSA S18048 L1 C3 (NOTE 1)	BEGA, WE-EF, OR APPROVED EQUIVALENT
SL1	LED AREA LUMINAIRE W/ TYPE III MEDIUM DISTRIBUTION AND 25' SQUARE STEEL POLE	4000 K	LED	20539	165 W	277 V	POLE	28' - 0" AFG	LITHONIA LIGHTING	DSX1 LED P6 40K 80CRI T3M MVOLT SPA NLTAIR2 PIRHN / SSS 25 5G DM19AS (NOTE 1 & 2)	BEACON, VISIONAIRE OR APPROVED EQUIVALENT
SL2	LED AREA LUMINAIRE W/ TYPE IV MEDIUM DISTRIBUTION AND 25' SQUARE STEEL POLE	4000 K	LED	28448	216 W	277 V	POLE	28' - 0" AFG	LITHONIA LIGHTING	DSX1 LED P8 40K 80CRI T4M MVOLT SPA NLTAIR2 PIRHN / SSS 25 5G DM19AS (NOTE 1 & 2)	BEACON, VISIONAIRE OR APPROVED EQUIVALENT
SL3	THREE (3) LED AREA LUMINAIRES W/ TYPE IV MEDIUM DISTRIBUTION AND 25' SQUARE STEEL POLE	4000 K	LED	28448	216 W	277 V	POLE	28' - 0" AFG	LITHONIA LIGHTING	(3) DSX1 LED P8 40K 80CRI T4M MVOLT SPA NLTAIR2 PIRHN / SSS 25 5G DM39AS (NOTE 1 & 2)	BEACON, VISIONAIRE OR APPROVED EQUIVALENT
SL4	TWO (2) LED AREA LUMINAIRES W/ TYPE IV MEDIUM DISTRIBUTION AND 25' SQUARE STEEL POLE	4000 K	LED	28448	216 W	277 V	POLE	28' - 0" AFG	LITHONIA LIGHTING	(2) DSX1 LED P8 40K 80CRI T4M MVOLT SPA NLTAIR2 PIRHN / SSS 25 5G DM28AS (NOTE 1 & 2)	BEACON, VISIONAIRE OR APPROVED EQUIVALENT
X1	SINGLE FACE EXIT SIGN WITH EMERGENCY BATTERY PACK	4000 K	LED	0	3 W	277 V	UNIVERSAL	VARIOUS	LITHONIA LIGHTING	LE S W 1 R EL N SD	DUAL-LITE, H.E. WILLIAMS OR APPROVED EQUIVALENT
X2	DOUBLE FACE EXIT SIGN WITH EMERGENCY BATTERY PACK	4000 K	LED	0	4 W	277 V	UNIVERSAL	VARIOUS	LITHONIA LIGHTING	LE S W 2 R EL N SD	DUAL-LITE, H.E. WILLIAMS OR APPROVED EQUIVALENT

NOTES:

1. ARCHITECT TO SELECT COLOR/FINISH DURING SHOP DRAWING PHASE.
2. INTEGRAL CONTROLS SHALL INCLUDE PHOTOCELL FOR ON/OFF CONTROL AND MOTION SENSOR FOR AUTOMATICALLY DIMMING. LIGHTING POWER SHALL DIM BY 30% WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME NO LONGER THAN 15 MINUTES.
3. PROVIDE 24VDC LED TAPE LIGHT (LENGTH AS REQUIRED) WITH POWER SUPPLY (ULV96), WIRE LEAD CONNECTORS (UNI-WL-I-WL12-6), CORNER CONNECTORS (UNI-WL-I-CC12-3I), AND EXTRUDED ALUMINUM MOUNTING CHANNEL (CH-014-C).
4. MODEL NUMBER REFERENCED IS BASED OFF THE ORIGINAL CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL REPLACE EXISTING LAMPS AND BALLASTS WITH A 4FT, 3 BAR, 40K LED LIGHTBAR KIT - EQUIVALENT TO LITHONIA LIGHTING #LBK 4FT 3 6000LMHE 80CRI 40K MIN1 EZT MVOLT. PROVIDE QUANTITY AS REQUIRED BASED ON LUMINAIRE LENGTH.

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 052417-01

CLIENT PROJECT NO. RFP 70-2025

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LUMINAIRE SCHEDULE

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE:

SHEET NO.: EL701 01

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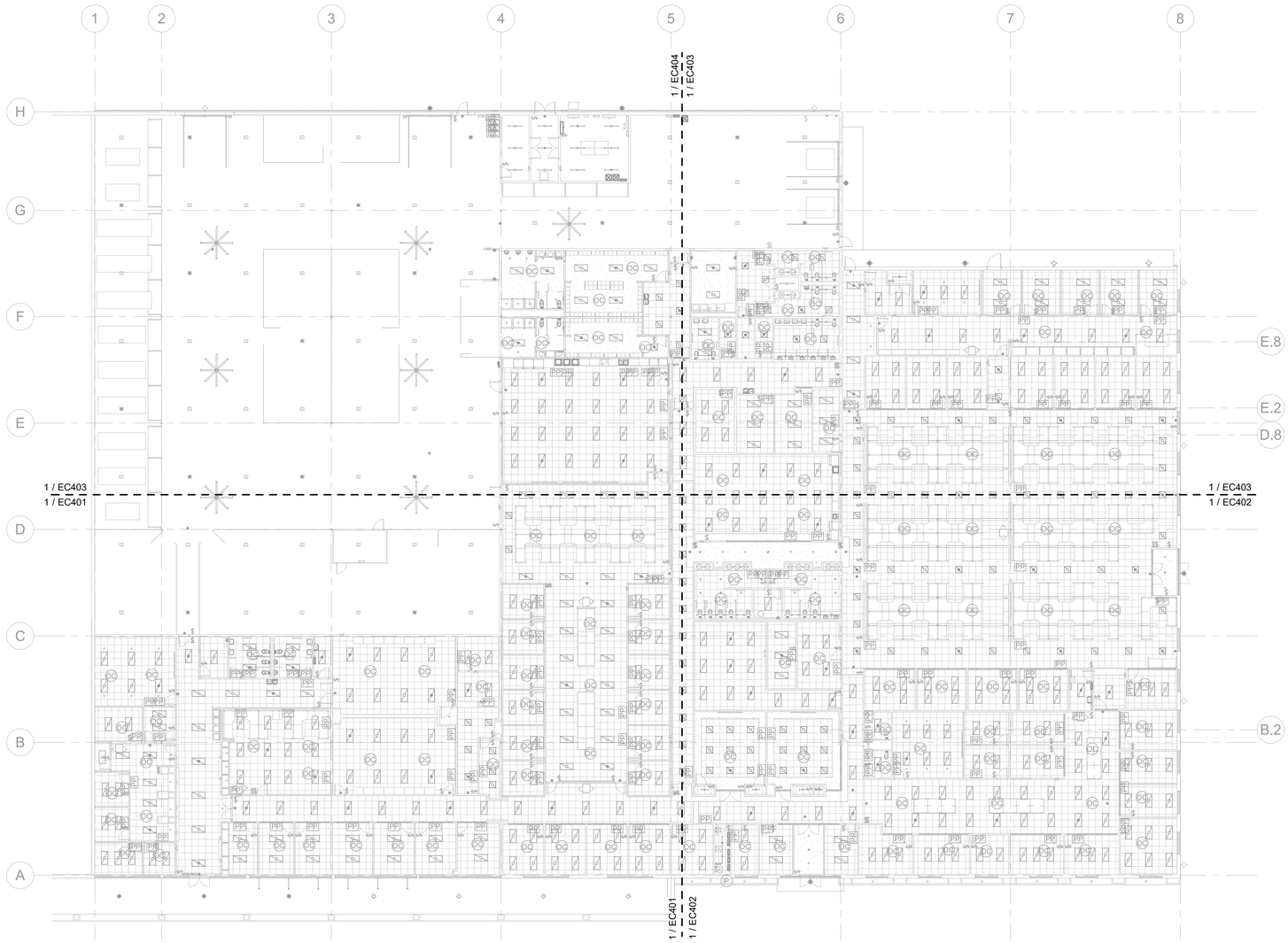
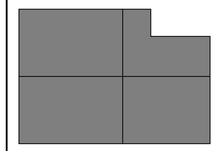


GENERAL NOTES:

1	SHEET IS PROVIDED FOR REFERENCE ONLY.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - LIGHTING CONTROL PLAN
SCALE: 1/16" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - LIGHTING CONTROL PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	DESCRIPTION	DATE

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO.: EC101 01

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1 FIRST LEVEL - LIGHTING CONTROL PLAN - AREA A

SCALE: 1/8" = 1'-0"

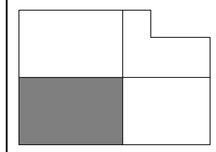
GENERAL NOTES:

1	LIGHTING CONTROL IS DESIGNATED WITH A CIRCULAR SYMBOL WITH "LC-#". REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
2	LIGHTING CONTROL CABLES HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BASED ON SPECIFIC LIGHTING CONTROL UTILIZED.
3	LIGHTING CONTROL CABLES SHALL BE CAT 6 WITHIN AN OVERALL WHITE COLORED JACKET. RJ45 MODULAR JACKS SHALL BE CRIMPED ON AND TESTED FOR OPENS, CROSS CONNECTS, AND MISMATCHED PAIRS. COLOR CONFIGURATION SHALL BE ACCORDING TO TIA/EIA 568B COLOR CODING STANDARD.
4	LIGHTING CONTROL CABLES SHALL BE "DAISY CHAINED" BETWEEN LIGHTING CONTROL DEVICES (OCCUPANCY SENSOR, POWER/RELAY PACKS, WALLPODS, ETC.) WITHIN EACH ROOM. CABLING SHALL BE ROUTED ABOVE CEILING AND SECURED BY BRIDAL RINGS (OR EQUIVALENT).
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.

SHEET KEYNOTES

1	ROOM/AREA CONTROLLED BY LINE VOLTAGE SWITCH.
2	AUXILIARY RELAY FOR "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261).

AREA KEY PLAN



PLAN NORTH

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - LIGHTING CONTROL PLAN - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EC401 01

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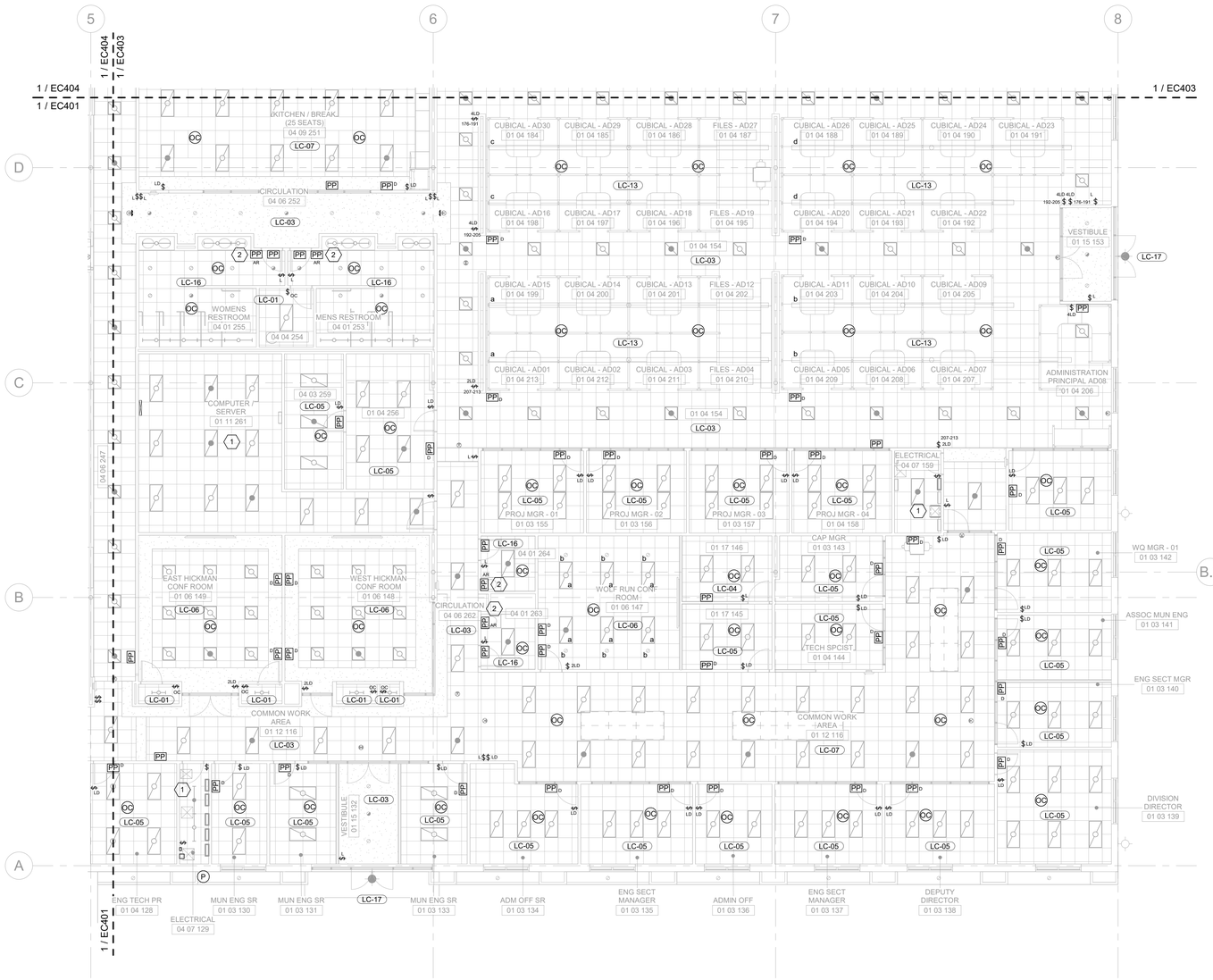
GENERAL NOTES:

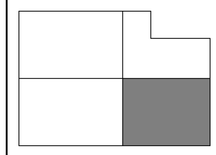
1	LIGHTING CONTROL IS DESIGNATED WITH A CIRCULAR SYMBOL WITH "LC-#". REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
2	LIGHTING CONTROL CABLES HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BASED ON SPECIFIC LIGHTING CONTROL UTILIZED.
3	LIGHTING CONTROL CABLES SHALL BE CAT 6 WITHIN AN OVERALL WHITE COLORED JACKET. RJ45 MODULAR JACKS SHALL BE CRIMPED ON AND TESTED FOR OPENS, CROSS CONNECTS, AND MISMATCHED PAIRS. COLOR CONFIGURATION SHALL BE ACCORDING TO TIA/EIA 568B COLOR CODING STANDARD.
4	LIGHTING CONTROL CABLES SHALL BE "DAISY CHAINED" BETWEEN LIGHTING CONTROL DEVICES (OCCUPANCY SENSOR, POWER/RELAY PACKS, WALLPODS, ETC.) WITHIN EACH ROOM. CABLING SHALL BE ROUTED ABOVE CEILING AND SECURED BY BRIDAL RINGS (OR EQUIVALENT).
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.

SHEET KEYNOTES

1	ROOM/AREA CONTROLLED BY LINE VOLTAGE SWITCH.
2	AUXILIARY RELAY FOR "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261).



AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - LIGHTING CONTROL PLAN - AREA B
SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - LIGHTING CONTROL PLAN - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EC402 01

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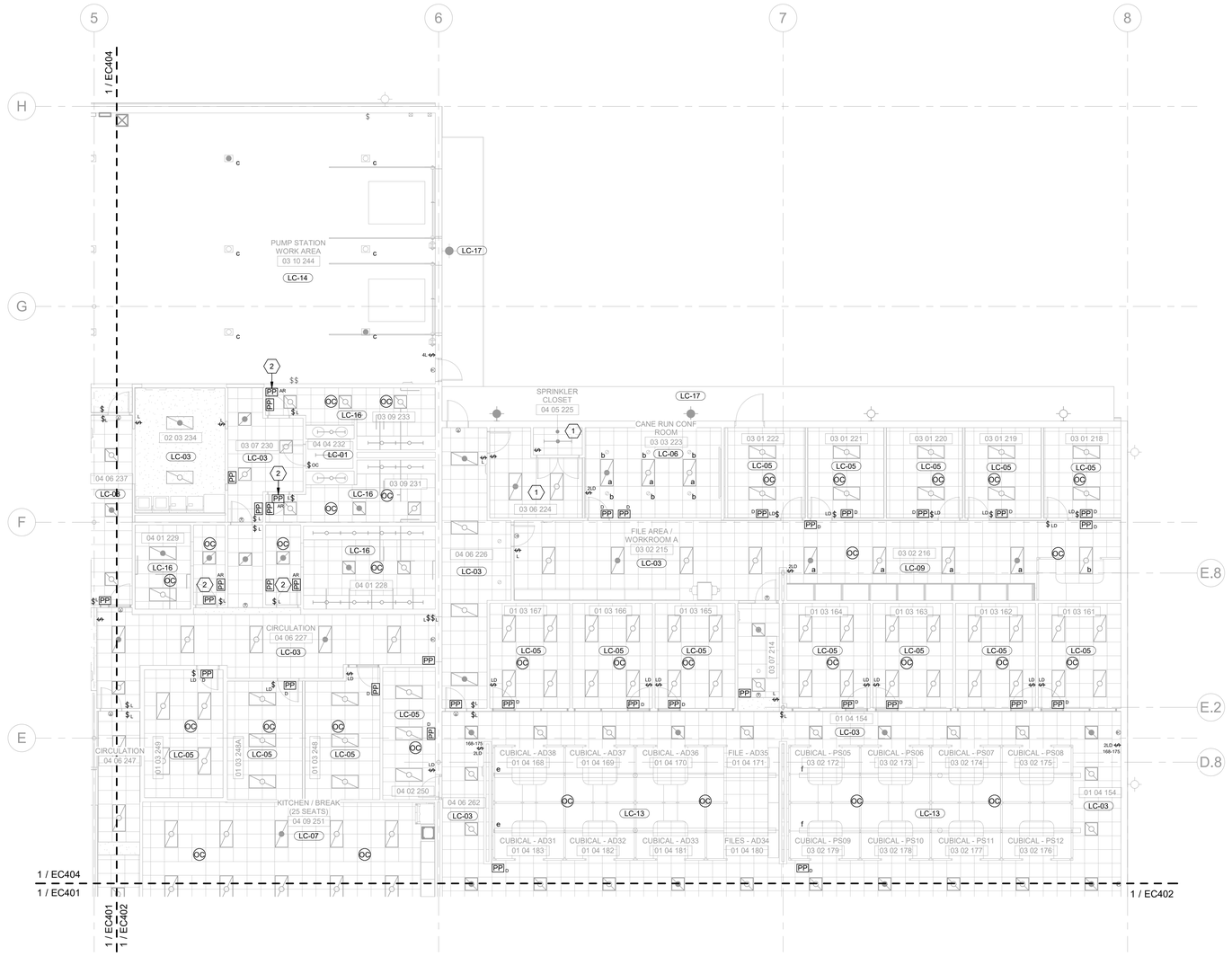

1 FIRST LEVEL - LIGHTING CONTROL PLAN - AREA C

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1	LIGHTING CONTROL IS DESIGNATED WITH A CIRCULAR SYMBOL WITH "LC-#". REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
2	LIGHTING CONTROL CABLES HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BASED ON SPECIFIC LIGHTING CONTROL UTILIZED.
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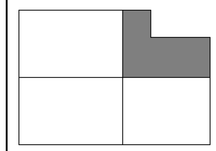
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.

SHEET KEYNOTES

1	ROOM/AREA CONTROLLED BY LINE VOLTAGE SWITCH.
2	AUXILIARY RELAY FOR "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261).

AREA KEY PLAN



PLAN NORTH

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

CONSTRUCTION DOCUMENTS

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CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - LIGHTING CONTROL PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	8/11/25

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EC403 01

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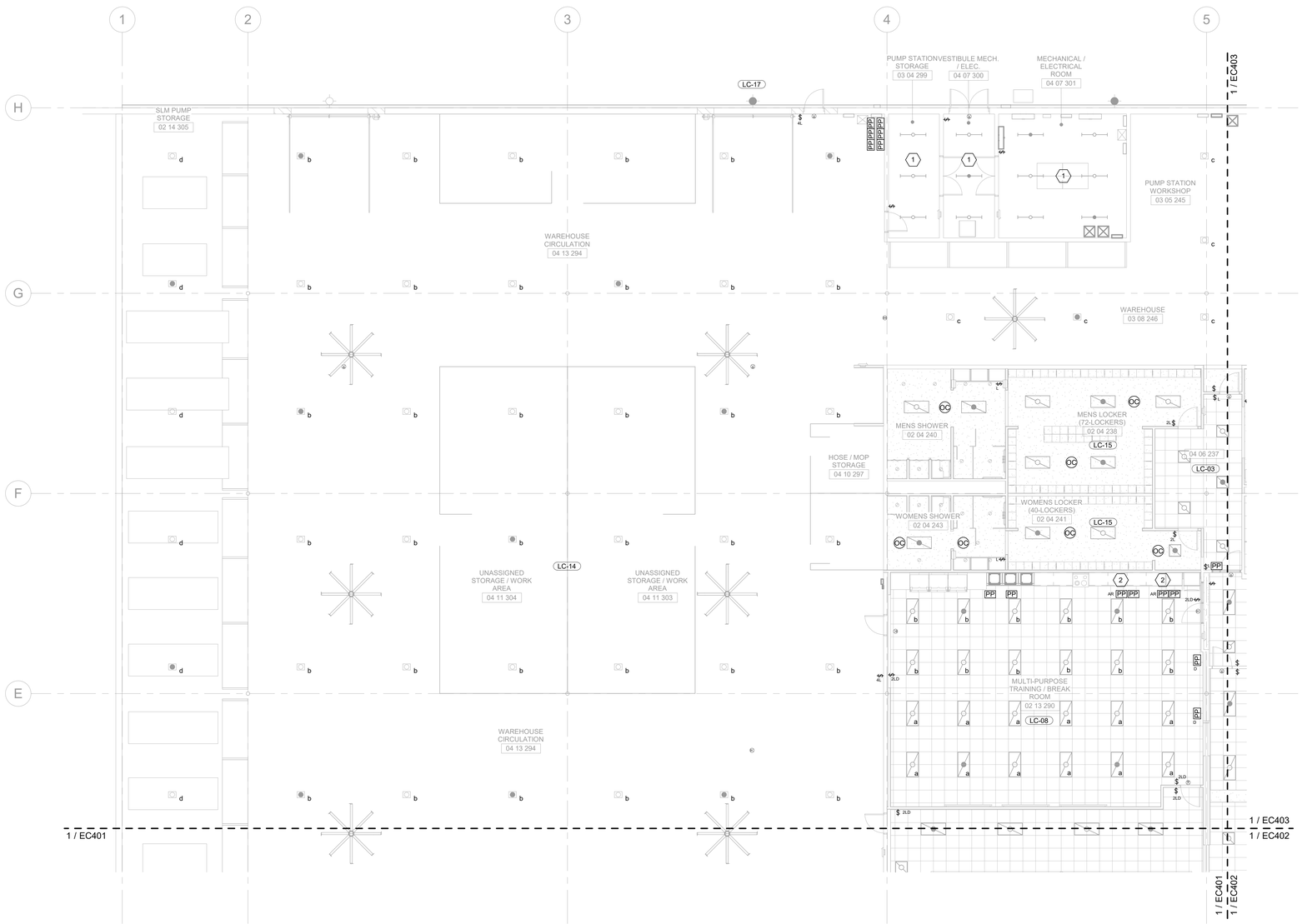


GENERAL NOTES:

1	LIGHTING CONTROL IS DESIGNATED WITH A CIRCULAR SYMBOL WITH "LC-#". REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
2	LIGHTING CONTROL CABLES HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BASED ON SPECIFIC LIGHTING CONTROL UTILIZED.
3	LIGHTING CONTROL CABLES SHALL BE CAT 6 WITHIN AN OVERALL WHITE COLORED JACKET. RJ45 MODULAR JACKS SHALL BE CRIMPED ON AND TESTED FOR OPENS, CROSS CONNECTS, AND MISMATCHED PAIRS. COLOR CONFIGURATION SHALL BE ACCORDING TO TIA/EIA 568B COLOR CODING STANDARD.
4	LIGHTING CONTROL CABLES SHALL BE "DAISY CHAINED" BETWEEN LIGHTING CONTROL DEVICES (OCCUPANCY SENSOR, POWER/RELAY PACKS, WALLPODS, ETC.) WITHIN EACH ROOM. CABLING SHALL BE ROUTED ABOVE CEILING AND SECURED BY BRIDAL RINGS (OR EQUIVALENT).
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.

SHEET KEYNOTES

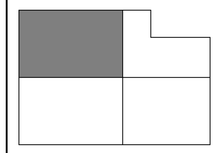
1	ROOM/AREA CONTROLLED BY LINE VOLTAGE SWITCH.
2	AUXILIARY RELAY FOR "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261).

1 FIRST LEVEL - LIGHTING CONTROL PLAN - AREA D

SCALE: 1/8" = 1'-0"

PLAN NORTH

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - LIGHTING CONTROL PLAN - AREA D
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EC404 01

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CONSTRUCTION DOCUMENTS

DESIGNED	PJB
DRAWN	PJB
REVIEWED	PJB
APPROVED	PJB

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO: EP101 01

FIRST LEVEL - POWER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

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CLIENT PROJECT NO. RFP 70-2025

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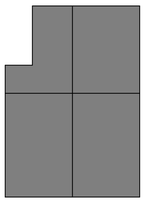
PATRICK J. BOGGS — LICENSED PROFESSIONAL ENGINEER — COMMONWEALTH OF KENTUCKY

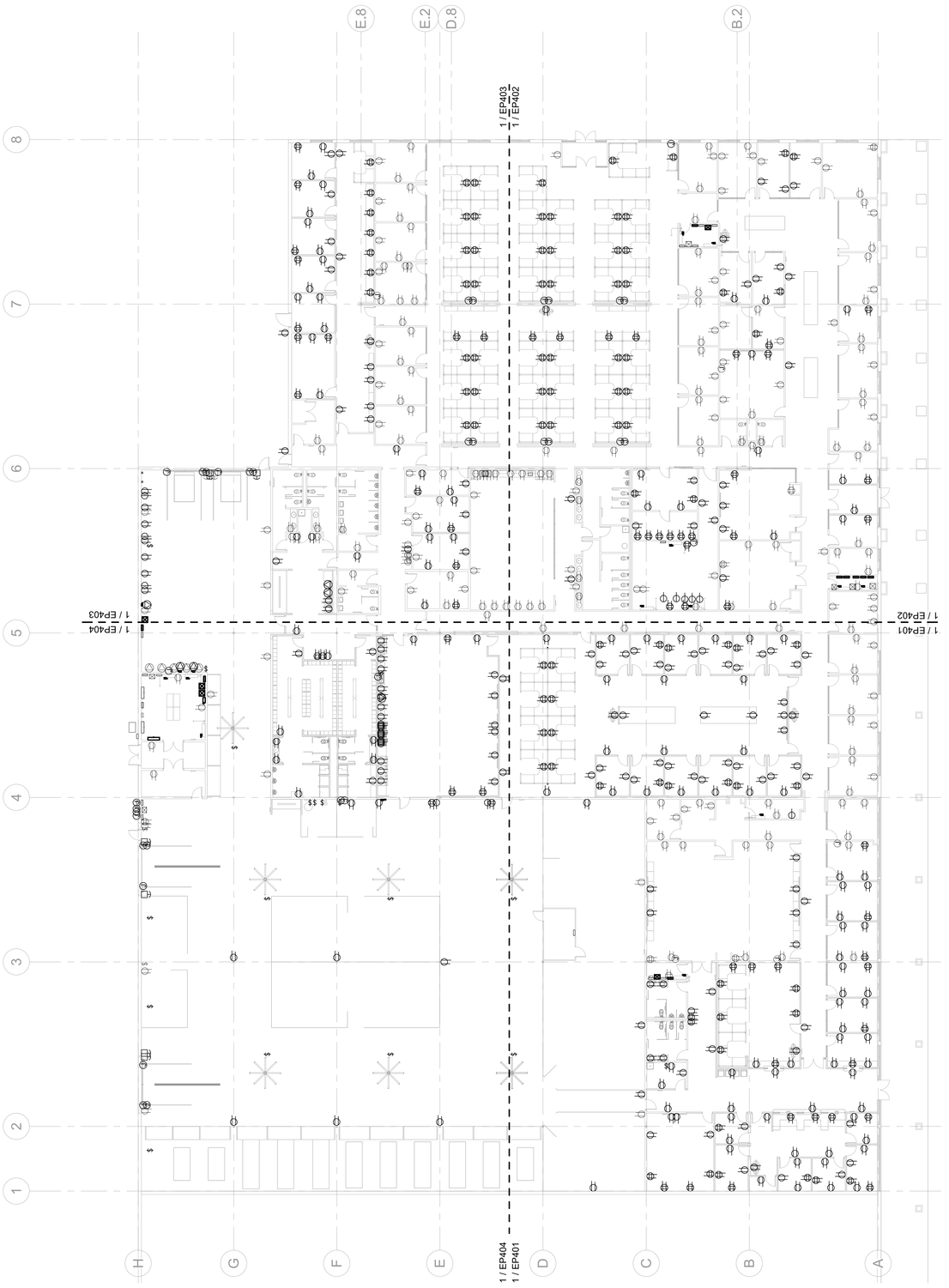
AREA KEY PLAN



PLAN NORTH

GENERAL NOTES:

1. SHEET IS PROVIDED FOR REFERENCE ONLY



1 FIRST LEVEL - POWER PLAN
SCALE 1/16" = 1'-0"

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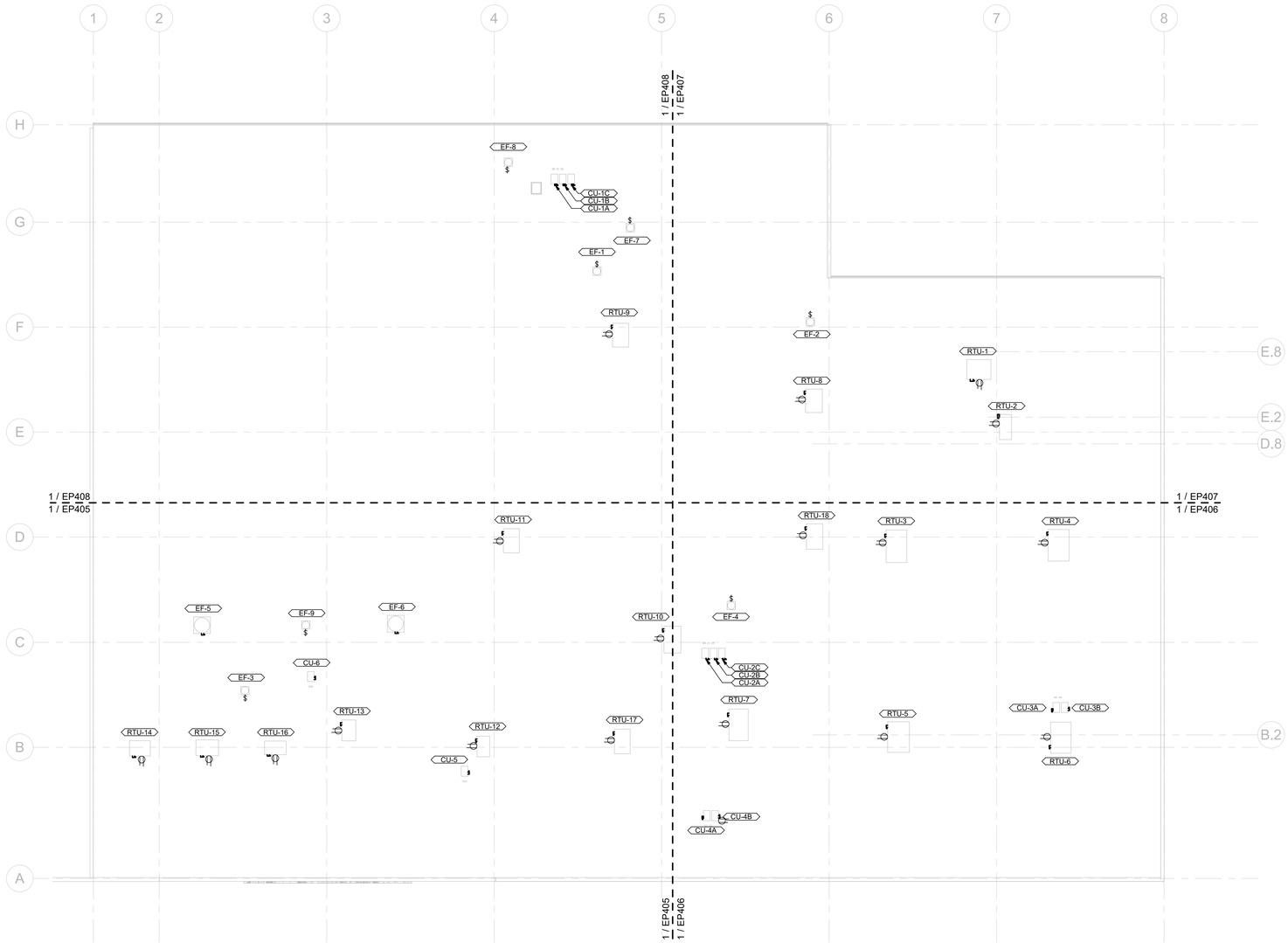


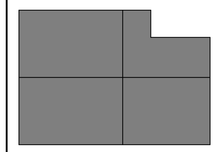
GENERAL NOTES:

1	SHEET IS PROVIDED FOR REFERENCE ONLY.

1 ROOF LEVEL - POWER PLAN
SCALE: 1/16" = 1'-0"

PLAN NORTH

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - POWER PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/16" = 1'-0"
SHEET NO.: EP102 01

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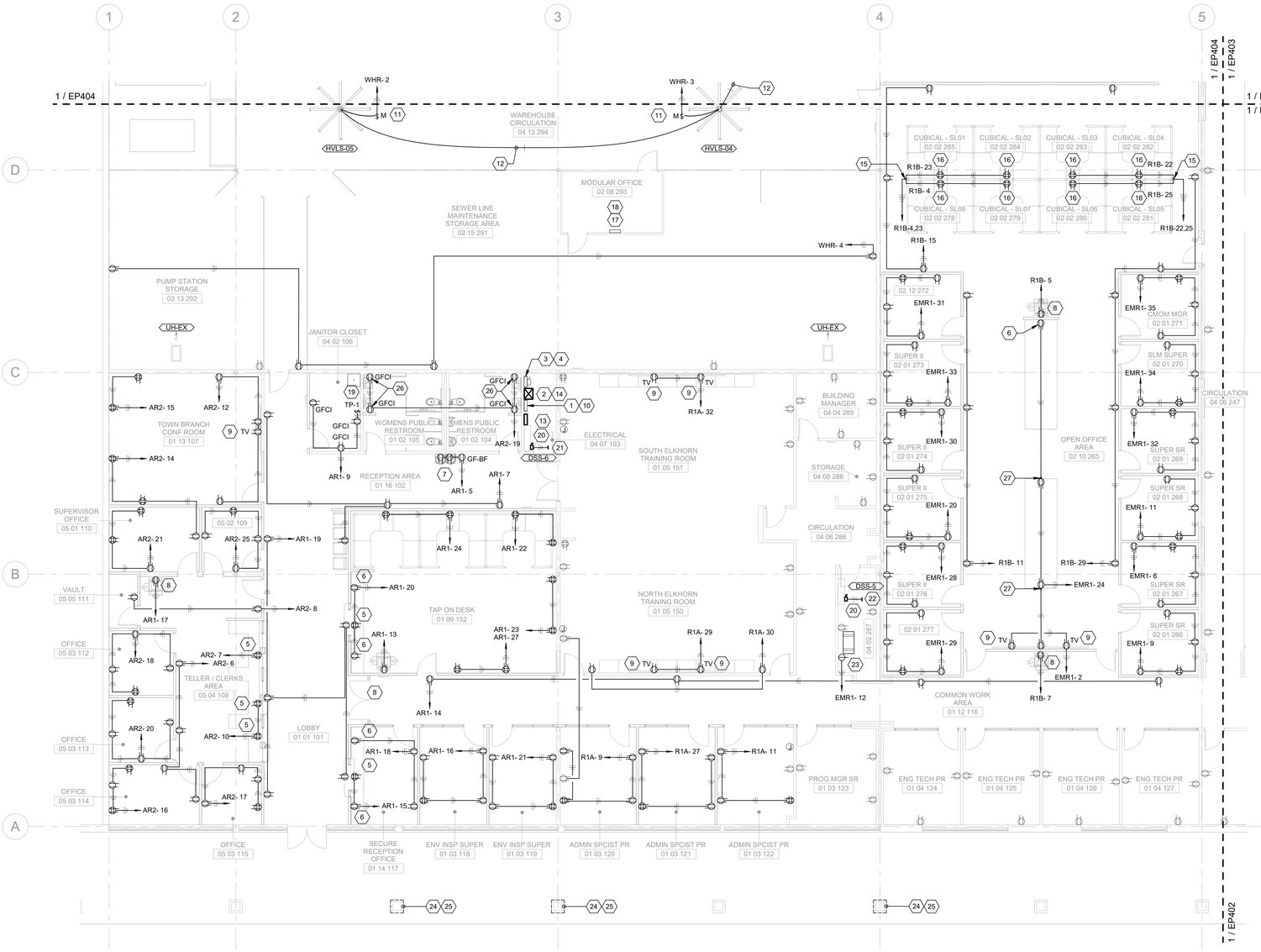


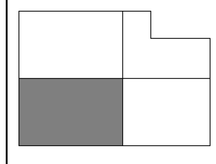
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
3	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
4	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5	COORDINATE EXACT LOCATION OF RECEPTACLES, EQUIPMENT CONNECTIONS, DEVICES, ETC. WITH ARCHITECT APPROVED CASEWORK / EQUIPMENT SHOP DAWINGS PRIOR TO ROUGH-IN.
6	PROVIDE FIRE STOP FOR PENETRATIONS OF FIRE RATED WALLS AND FLOORS. REFER TO LOCATIONS ON ARCITECTURAL DRAWINGS.

SHEET KEYNOTES

1	EXISTING PANELBOARD AL1 (225A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
2	EXISTING PANELBOARD AR1 TRANSFORMER (30KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
3	EXISTING PANELBOARD AR1 (100A MLO, 208Y/120V, 3-PHASE, 4-WIRE).
4	EXISTING 100A DISCONNET SWITCH.
5	MOUNT RECEPTACLE IN KNEESPACE OF CASEWORK. COORDINATE WITH ARCHITECTURAL DRAWINGS AND ARCHITECT APPROVED CASEWORK SHOP DRAWINGS.
6	MOUNT RECEPTACLE 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
7	DEDICATED RECEPTACLES FOR ELECTRIC WATER COOLER. COORDINATE REQUIREMENTS AND MOUNTING HEIGHT WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. REFER TO DETAIL 6, SHEET 501 FOR ADDITIONAL INFORMATION.
8	DEDICATED RECEPTACLE FOR COPIER MACHINE.
9	DEDICATED RECEPTACLE FOR WALL-MOUNTED TV. MOUNT RECEPTACLE AT 72" AFF.
10	PANELBOARD AL1 SHALL BE REFED FROM THE NEW DISTRIBUTION PANELBOARD, DP. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-604.
11	MANUAL MOTOR STARTER FOR HVLS FAN (LOCATE OUTSIDE FOOTPRINT OF FAN'S BLADES). CONTRACTOR SHALL PROVIDE FINAL CONNECTION.
12	INSTALL AND TERMINATE CONTROL CABLING BETWEEN HVLS FANS. ROUTE IN 3/4"C. CONTROL CABLING (SHIELDED CAT 5E CABLE) IS PROVIDED WITH FANS.
13	NEW BRANCH PANELBOARD AR2 (110A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
14	NEW PANELBOARD AR2 TRANSFORMER (30KVA, 480V X 208/120V, 3-PHASE, 4-WIRE DRY-TYPE TRANSFORMER - RACK MOUNT ABOVE THE EXISTING AR1 TRANSFORMER). REFER TO DETAIL 4, SHEET E-502.
15	CONTRACTOR SHALL PROVIDE AN ALUMINUM TELE-POWER POLE FOR SERVING THE ADJACENT WORKSTATIONS/DESKS. PROVIDE FLEXIBLE CONNECTION FROM POWER TELE-POWER POLE TO WORKSTATION RECEPTACLES (UTILIZE CIRCUITS SHOWN). TELE-POWER POLE SHALL INCLUDE MOUNTING HARDWARE, KO FOR WORKSTATION CONNECTIONS, ENTRANCE END CAPS, AND CEILING TRIM PLATES (EQUIVALENT TO WIREMOLD AMTC-4).
16	PROVIDE AND INSTALL RECEPTACLE WITHIN WORKSTATION/DESK. COORDINATE WITH APPROVED WORKSTATION SHOP DRAWINGS.
17	EXISTING PANELBOARD MOR (100A MLO, 120/240V, 1-PHASE, 3-WIRE). PANELBOARD WILL BE PROVIDED WITH THE PRE-MANUFACTURERED STORAGE UNIT.
18	PROVIDE AND INSTALL A NEW PANELBOARD MOR ELECTRICAL FEEDER FROM NEW PANELBOARD WHR2 (SHEET EP404). REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-606.
19	PROVIDE 120V CONNECTION TO TRAP PRIMER. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
20	30A/240V/1-PHASE NON-FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE).
21	INDOOR UNIT, DSS-6 SHALL BE FED ELECTRICALLY FROM THE CORRESPONDING OUTDOOR UNIT, CU-6. UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
22	INDOOR UNIT, DSS-5 SHALL BE FED ELECTRICALLY FROM THE CORRESPONDING OUTDOOR UNIT, CU-5. UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
23	PROVIDE DEDICATED RECEPTACLE (NEMA L5-20R) FOR TELECOMMUNICATIONS EQUIPMENT.
24	REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILLANCE, AND GATE BRANCH POWER ENTERING THE BUILDING VIA THE INDICATED COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED (COORDINATE WITH GENERAL CONTRACTOR).
25	EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
26	MOUNT INDICATED RECEPTACLE AT 46" AFF.
27	CONTRACTOR SHALL PROVIDE AN ALUMINUM TELE-POWER POLE. PROVIDE RECEPTACLE MOUNTED AT 46" AFF. TELE-POWER POLE SHALL INCLUDE MOUNTING HARDWARE, KO FOR WORKSTATION CONNECTIONS, ENTRANCE END CAPS, AND CEILING TRIM PLATES (EQUIVALENT TO WIREMOLD AMTC-4).

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - POWER PLAN - AREA A
SCALE: 1/8" = 1'-0"

STATE OF KENTUCKY — PATRICK J. BAISDEN — 22812 — LICENSED PROFESSIONAL ENGINEER — 8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - POWER PLAN - AREA A
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	PJB
DRAWN	PJB
REVIEWED	PJB
APPROVED	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EP401 01

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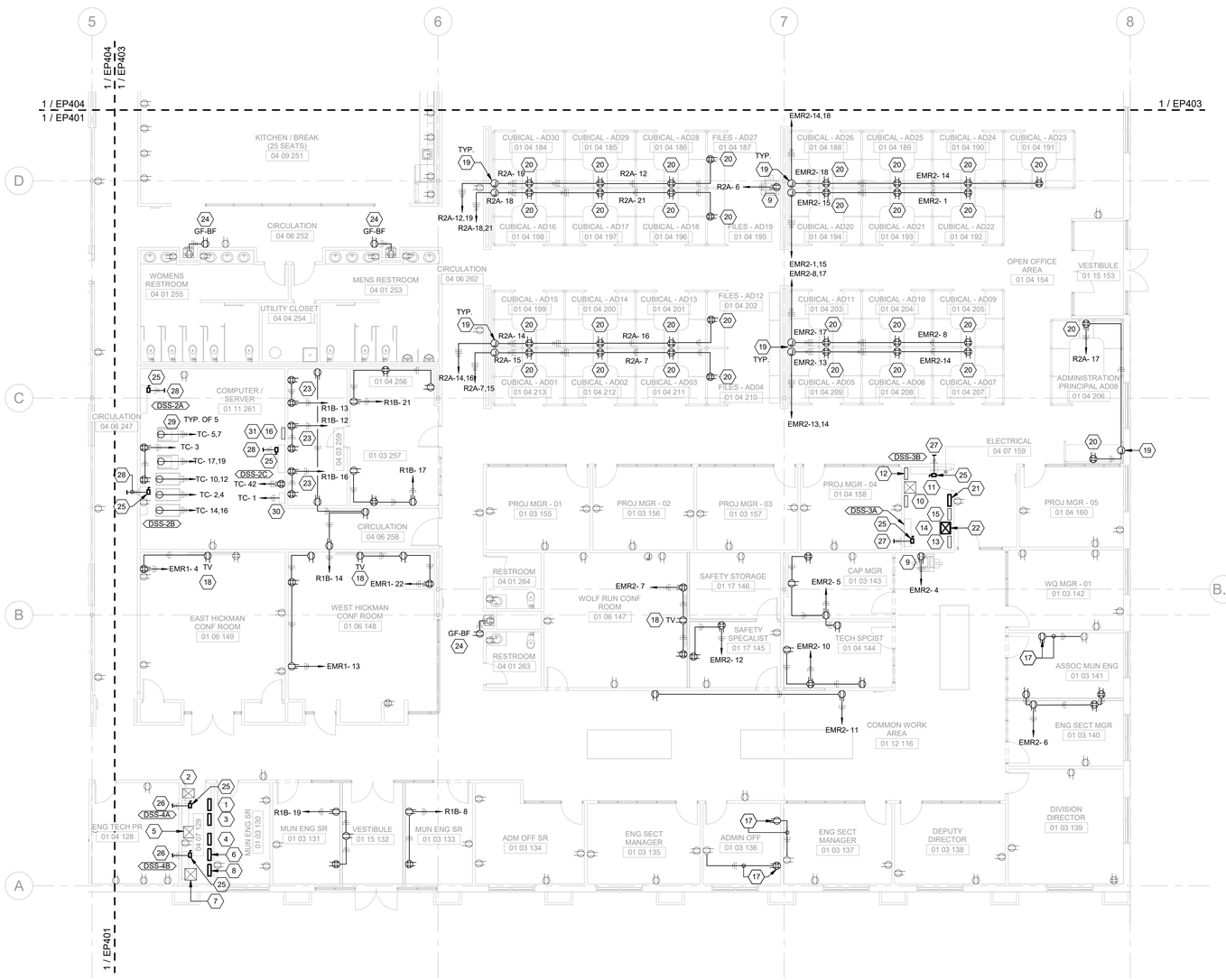

1 FIRST LEVEL - POWER PLAN - AREA B

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
3	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
4	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5	COORDINATE EXACT LOCATION OF RECEPTACLES, EQUIPMENT CONNECTIONS, DEVICES, ETC. WITH ARCHITECT APPROVED CASEWORK / EQUIPMENT SHOP DAWINGS PRIOR TO ROUGH-IN.
6	PROVIDE FIRE STOP FOR PENETRATIONS OF FIRE RATED WALLS AND FLOORS. REFER TO LOCATIONS ON ARCITECTURAL DRAWINGS.

SHEET KEYNOTES

1	EXISTING PANELBOARD EML1 (100A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
2	EXISTING PANELBOARD EMR1 TRANSFORMER (30KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
3	EXISTING PANELBOARD EMR1 (100A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
4	EXISTING PANELBOARD L1 (225A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
5	EXISTING PANELBOARD R1A TRANSFORMER (45KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
6	EXISTING PANELBOARD R1A (150A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
7	EXISTING PANELBOARD R1B TRANSFORMER (45KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
8	EXISTING PANELBOARD R1B (150A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
9	DEDICATED RECEPTACLE FOR COPIER MACHINE.
10	EXISTING PANELBOARD EML2 (125A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
11	EXISTING PANELBOARD EMR2 TRANSFORMER (30KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
12	EXISTING PANELBOARD EMR2 (100A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
13	EXISTING PANELBOARD L2 (100A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
14	EXISTING PANELBOARD R2 TRANSFORMER (45KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
15	EXISTING PANELBOARD R2 (150A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
16	EXISTING PANELBOARD TC (200A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
17	CONNECT NEW RECEPTACLE TO EXISTING RECEPACLE CIRCUIT AS SHOWN.
18	DEDICATED RECEPTACLE FOR WALL-MOUNTED TV. MOUNT RECEPTACLE AT 72" AFF.
19	CONTRACTOR SHALL PROVIDE RECESSED JUNCTION BOX WITH BLANK COVERPLATE. PROVIDE COVERPLATE WITH KO FOR FLEXIBLE CONNECTION TO WORKSTATION RECEPTACLES (UTILIZE CIRCUITS SHOWN).
20	PROVIDE AND INSTALL RECEPTACLE WITHIN WORKSTATION/DESK. COORDINATE WITH APPROVED WORKSTATION SHOP DRAWINGS.
21	NEW BRANCH PANELBOARD R2A (110A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
22	NEW PANELBOARD R2A TRANSFORMER (30KVA, 480V X 208/120V, 3-PHASE, 4-WIRE DRY-TYPE TRANSFORMER - RACK MOUNT ABOVE THE EXSTING R2 TRANSFORMER). REFER TO DETAIL 4, SHEET E-502.
23	MOUNT RECEPTACLE 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
24	THE EXISTING EWC DOES NOT APPEAR TO BE GFCI PROTECTED. PROVIDE A BLANK FACE GFCI RECEPTACLE. INTERCEPT THE EXISTING CIRCUIT AND REFED THE EXISTING RECEPTACLE(S) FROM THIS NEW GFCI RECEPTACLE.
25	30A/240V/1-PHASE NON-FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE).
26	INDOOR UNIT, DSS-4A (OR DSS-4B) SHALL BE FED ELECTRICALLY FROM THE CORRESPONDING OUTDOOR UNIT, CU-4A (OR CU-4B). UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
27	INDOOR UNIT, DSS-3A (OR DSS-3B) SHALL BE FED ELECTRICALLY FROM THE CORRESPONDING OUTDOOR UNIT, CU-3A (OR CU-3B). UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
28	INDOOR UNIT, DSS-2A (OR DSS-2B/2C) SHALL BE FED ELECTRICALLY FROM THE CORRESPONDING OUTDOOR UNIT, CU-2A (OR CU-2B/2C). UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
29	PROVIDE DEDICATED RECEPTACLE (NEMA L6-30R) FOR TELECOMMUNICATIONS EQUIPMENT. LOCATE BELOW RAISED FLOOR.
30	PROVIDE 120V CONNECTION TO THE BAS CONTROL PANEL. COORDINATE LOCATION OF CONTROL PANEL WITH MECHANICAL CONTROLS CONTRACTOR.
31	PANELBOARD TC SHALL BE REFED FROM PANELBOARD DP. ROUTE VIA TRANSFORMER AND DISCONNECT SWITCH (SHEET EP404).

AREA KEY PLAN

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 8/19/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - POWER PLAN - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

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SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: EP402 01

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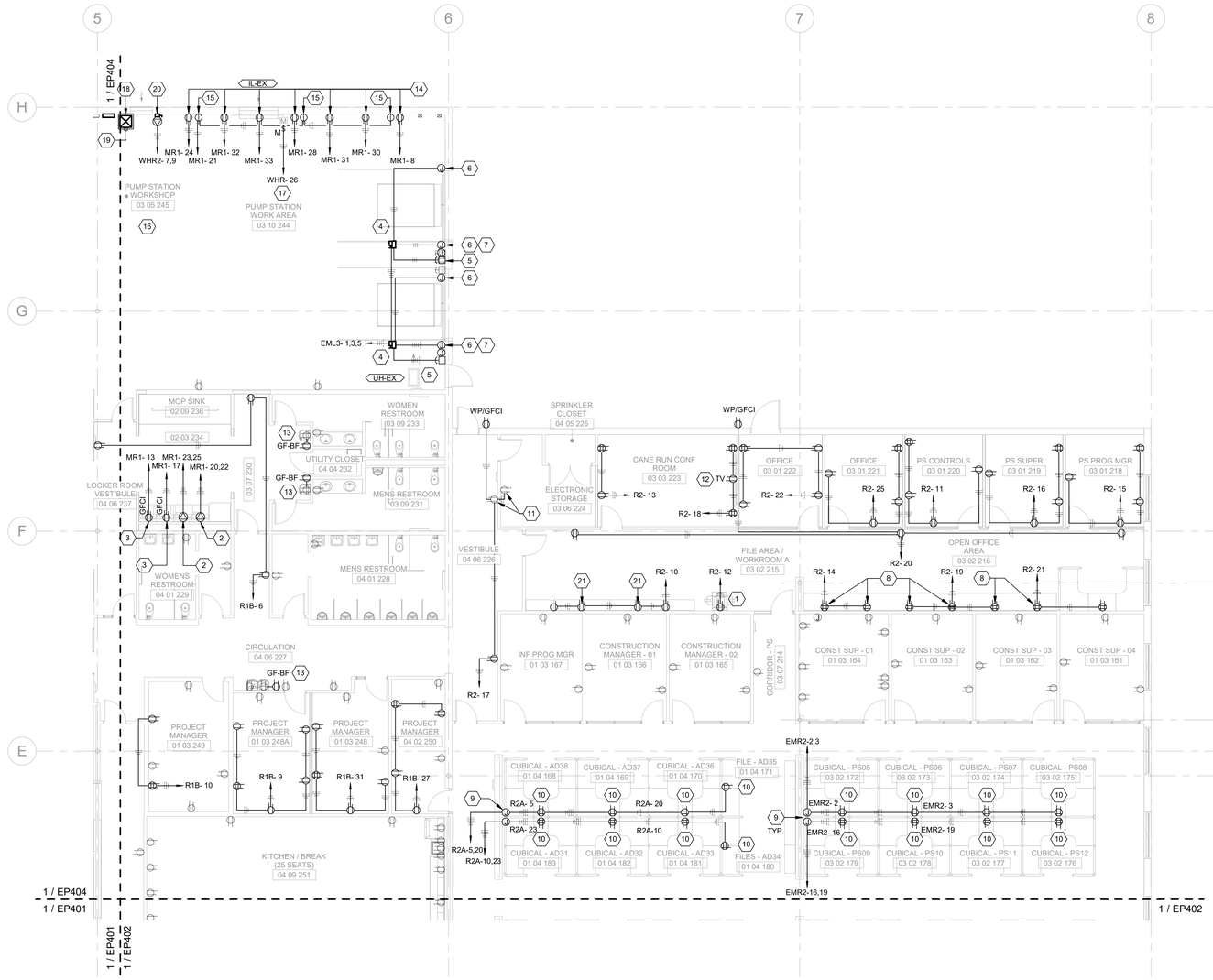


1 FIRST LEVEL - POWER PLAN - AREA C

SCALE: 1/8" = 1'-0"

PLAN NORTH

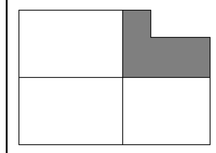
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
3	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
4	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5	COORDINATE EXACT LOCATION OF RECEPTACLES, EQUIPMENT CONNECTIONS, DEVICES, ETC. WITH ARCHITECT APPROVED CASEWORK / EQUIPMENT SHOP DAWINGS PRIOR TO ROUGH-IN.
6	PROVIDE FIRE STOP FOR PENETRATIONS OF FIRE RATED WALLS AND FLOORS. REFER TO LOCATIONS ON ARCITECTURAL DRAWINGS.

SHEET KEYNOTES

1	DEDICATED RECEPTACLE FOR COPIER MACHINE.
2	DRYER RECEPTACLE - PROVIDE 30AMP, 125/250V, 3-POLE, 4-WIRE RECEPTACLE (NEMA 14-30R). CONTRACTOR SHALL PROVIDE MATCHING DRYER POWER SUPPLY CORD COMPLETE WITH PLUG (NEMA 14-30P).
3	DEDICATED WASHER RECEPTACLE.
4	30A/600V/3-PHASE NON-FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE). PROVIDE CONNECTION TO OVERHEAD DOOR CONTROLLER, AS REQUIRED. COORDINATE REQUIREMENTS WITH OVERHEAD DOOR INSTALLER. REFER TO FIELD CONNECTION DETAIL 1 ON SHEET E-504 FOR ADDITIONAL INFORMATION.
5	UP/DOWN/STOP PUSHBUTTON FOR OVERHEAD DOOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
6	PROVIDE CONNECTION TO OVERHEAD DOOR SAFETY BEAM PHOTO SENSOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
7	PROVIDE CONNECTION TO OVERHEAD DOOR SENSING EDGE. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
8	MOUNT RECEPTACLE 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
9	CONTRACTOR SHALL PROVIDE RECESSED JUNCTION BOX WITH BLANK COVERPLATE. PROVIDE COVERPLATE WITH KO FOR FLEXIBLE CONNECTION TO WORKSTATION RECEPTACLES (UTILIZE CIRCUITS SHOWN).
10	PROVIDE AND INSTALL RECEPTACLE WITHIN WORKSTATION/DESK. COORDINATE WITH APPROVED WORKSTATION SHOP DRAWINGS.
11	BACKFEED EXISTING RECEPTACLES FROM A NEW 120V CIRCUIT.
12	DEDICATED RECEPTACLE FOR WALL-MOUNTED TV. MOUNT RECEPTACLE AT 72" AFF.
13	THE EXISTING EWC DOES NOT APPEAR TO BE GFCI PROTECTED. PROVIDE A BLANK FACE GFCI RECEPTACLE. INTERCEPT THE EXISTING CIRCUIT AND REFED THE EXISTING RECEPTACLE(S) FROM THIS NEW GFCI RECEPTACLE.
14	DEDICATED RECEPTACLE FOR WORKBENCH. MOUNT RECEPTACLE AT 48" AFF.
15	DEDICATED SIMPLEX RECEPTACLE (NEMA L5-30R) FOR WORKBENCH. MOUNT RECEPTACLE AT 48" AFF.
16	WELDING / HOT WORK AREA - COORDINATE RECEPTACLES AND DISCONNECT SWITCHES FOR AIR COMPRESSOR, WELDERS, AND WORKBENCH TOOLS WITH LFUCG PRIOR TO ROUGH-IN.
17	ROUTE THE 120V CIRCUIT THROUGH A CONTROL MODULE PROVIDED AS PART OF THE BAS SYSTEM.
18	NEW PANELBOARD WHR2 TRANSFORMER (45KVA, 480V X 240Y/120V, 3-PHASE, 4-WIRE).
19	4" CONCRETE HOUSEKEEPING PAD.
20	MIG WELDER - 60A/240V/3-PHASE FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE). FUSED AT 40 AMPS. ALSO, PROVIDE 50A, 250V, 2-POLE, 3-WIRE RECEPTACLE (NEMA 6-50R).
21	MOUNT INDICATED RECEPTACLE AT 72" AFF.

AREA KEY PLAN



PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 8/11/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - POWER PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: EP403 01

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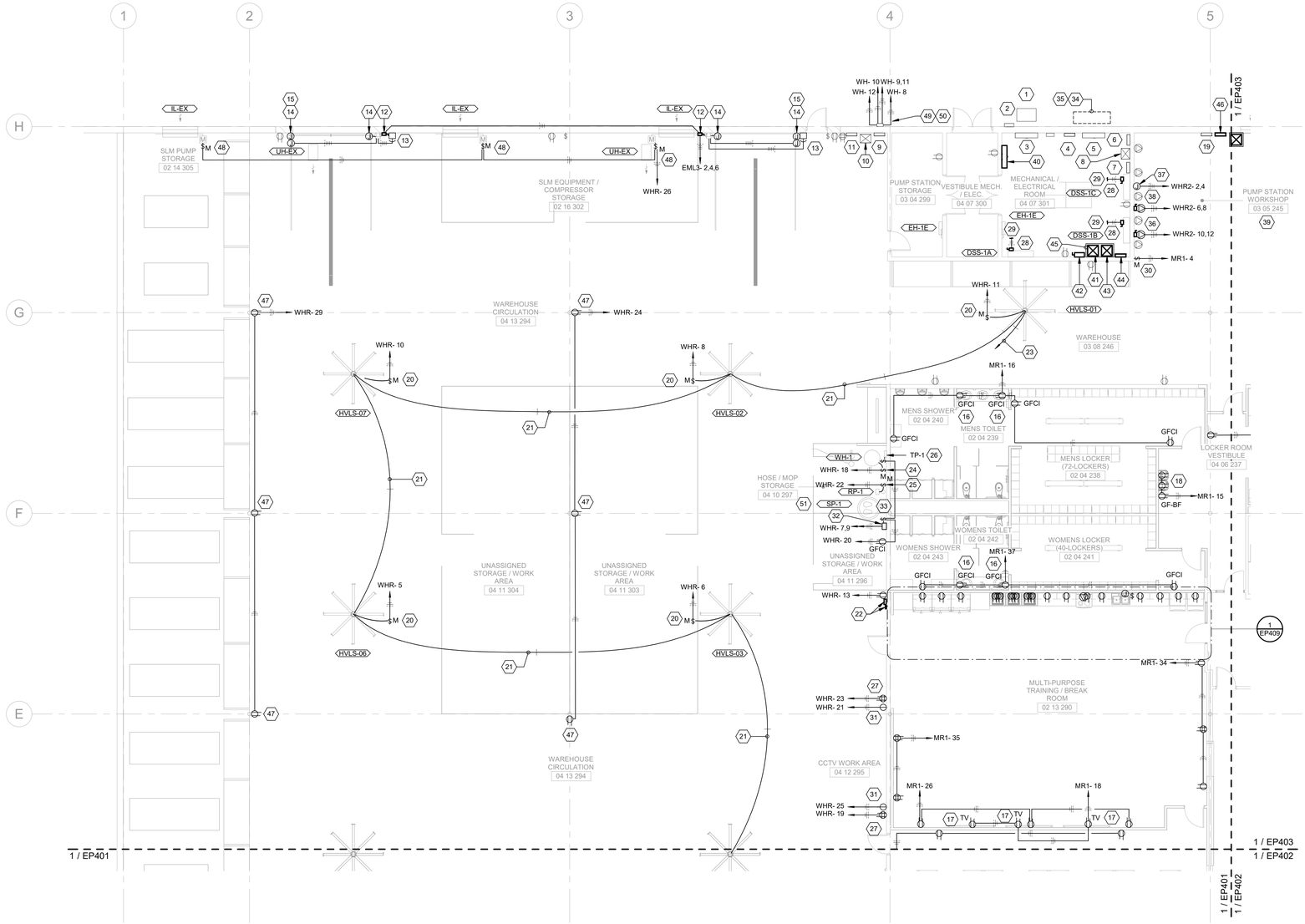

GENERAL NOTES:

1. WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK. HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2. REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
3. INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
4. COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5. COORDINATE EXACT LOCATION OF RECEPTACLES, EQUIPMENT CONNECTIONS, DEVICES, ETC. WITH ARCHITECT APPROVED CASEWORK / EQUIPMENT SHOP DAWINGS PRIOR TO ROUGH-IN.
6. PROVIDE FIRE STOP FOR PENETRATIONS OF FIRE RATED WALLS AND FLOORS. REFER TO LOCATIONS ON ARCITECTURAL DRAWINGS.

SHEET KEYNOTES

1. EXISTING 1200A, 480Y/277V, 3-PHASE SERVICE ENTRANCE RATED CIRCUIT BREAKER W/ NEMA 3R ENCLOSURE.
2. EXISTING UTILITY METER.
3. EXISTING MAIN DISTRIBUTION BOARD, MDB (1200A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
4. EXISTING PANELBOARD M1 (200A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
5. EXISTING EMERGENCY MAIN DISTRIBUTION PANELBOARD, EMDP (600A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
6. EXISTING PANELBOARD EML3 (125A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
7. EXISTING PANELBOARD EMR3 (100A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
8. EXISTING PANELBOARD EMR3 TRANSFORMER (30KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
9. EXISTING PANELBOARD WH (400A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
10. EXISTING PANELBOARD WHR TRANSFORMER (30KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
11. EXISTING PANELBOARD WHR (125A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
12. 30A/600V/3-PHASE NON-FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE). PROVIDE CONNECTION TO OVERHEAD DOOR CONTROLLER, AS REQUIRED. COORDINATE REQUIREMENTS WITH OVERHEAD DOOR INSTALLER. REFER TO FIELD CONNECTION DETAIL 1 ON SHEET E-504 FOR ADDITIONAL INFORMATION.
13. UP/DOWN/STOP PUSHBUTTON FOR OVERHEAD DOOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
14. PROVIDE CONNECTION TO OVERHEAD DOOR SAFETY BEAM PHOTO SENSOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
15. PROVIDE CONNECTION TO OVERHEAD DOOR SENSING EDGE. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
16. MOUNT INDICATED RECEPTACLE AT 46" AFF.
17. DEDICATED RECEPTACLE FOR WALL-MOUNTED TV. MOUNT RECEPTACLE AT 72" AFF.
18. DEDICATED RECEPTACLES FOR ELECTRIC WATER COOLER. COORDINATE REQUIREMENTS AND MOUNTING HEIGHT WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN. REFER TO DETAIL 6, SHEET 501 FOR ADDITIONAL INFORMATION.
19. EXISTING PANELBOARD BC (125A MLO, 480Y/277V, 3-PHASE, 4-WIRE).
20. MANUAL MOTOR STARTER FOR HVLS FAN (LOCATE OUTSIDE FOOTPRINT OF FAN'S BLADES). CONTRACTOR SHALL PROVIDE FINAL CONNECTION.
21. INSTALL AND TERMINATE CONTROL CABLING BETWEEN HVLS FANS. ROUTE IN 3/4"C. CONTROL CABLING (SHIELDED CAT 5E CABLE) IS PROVIDED WITH FANS.
22. HVLS FAN CONTROL PANEL AND TOUCHSCREEN.
23. EXTEND THE HVLS FAN CONTROL CABLING (CAT 5E CABLE) TO THE HVLS FAN CONTROL PANEL. ROUTE IN 3/4"C. CONTROL CABLING (SHIELDED CAT 5E CABLE) IS PROVIDED WITH FANS.
24. PROVIDE 120V CONNECTION TO WATER HEATER. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
25. PROVIDE 120V CONNECTION TO RECIRCULATION PUMP. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
26. PROVIDE 120V CONNECTION TO TRAP PRIMER. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
27. DEDICATED RECEPTACLE FOR TV TRUCKS.
28. 30A/240V/1-PHASE NON-FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE).
29. INDOOR UNIT, DSS-1A (OR DSS-1B/1C) SHALL BE FED ELECTRICALLY FROM THE CORRESPONDING OUTDOOR UNIT, CU-1A (OR CU-1B/1C). UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
30. SWITCH FOR CONTROL OF EXHAUST FAN, EF-7. LABEL SWITCH AS "FAN CONTROL".
31. PROVIDE DEDICATED RECEPTACLE (NEMA L5-30R) FOR TV TRUCK.
32. SUMP PUMP CONTROL PANEL (FURNISHED/INSTALLED BY DIV 23). PROVIDE TWO (2) 120V CIRCUITS FOR PUMP POWER.
33. PROVIDE 120V CONNNECTION TO SUMP PUMP CONTROL PANEL FOR CONTROL/ALARM POWER. ROUTE THROUGH ADJACENT SWITCH.
34. REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILLANCE, AND GATE BRANCH POWER ENTERING THE BUILDING WITHIN THIS AREA. LB CONDUIT INTO BUILDING. PATCH/SEAL CONDUIT PENETRATIONS ON EXTERIOR WALL.
35. EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
36. PLASMA CUTTER - 100A/240V/3-PHASE FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE). FUSED AT 80 AMPS. ALSO, PROVIDE RECEPTACLE (COORDINATE RECEPTACLE CONFIGURATION WITH LFUCG).
37. AIR COMPREESOR - PROVIDE DIRECT CONNECTION.
38. TIG WELDER - 60A/240V/3-PHASE FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE). FUSED AT 50 AMPS. ALSO, PROVIDE RECEPTACLE (COORDINATE CONFIGURATION WITH LFUCG).
39. WELDING / HOT WORK AREA - COORDINATE RECEPTACLES AND DISCONNECT SWITCHES FOR AIR COMPRESSOR, WELDERS, AND WORKBENCH TOOLS WITH LFUCG PRIOR TO ROUGH-IN.
40. NEW DISTRIBUTION PANELBOARD DP (400A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
41. NEW PANELBOARD TC TRANSFORMER (75KVA, 480V X 208/120V, 3-PHASE, 4-WIRE DRY-TYPE TRANSFORMER - FLOOR MOUNTED).
42. 200A/240V/3-PHASE FUSIBLE DISCONNECT SWITCH (NEMA 1 ENCLOSURE) FOR SECONDARY OVERCURRENT PROTECTION OF PANELBOARD TC TRANSFORMER. FUSE AT 200 AMPS.
43. NEW PANELBOARD MR1 TRANSFORMER (75KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE).
44. NEW BRANCH PANELBOARD MR1 (200A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
45. 4" CONCRETE HOUSEKEEPING PAD.
46. NEW BRANCH PANELBOARD WHR2 (150A, 240/120V, 3-PHASE, 4-WIRE).
47. RECEPTACLE MOUNTED ON COLUMN. CONTRACTOR SHALL COORDINATE ORIENTATION AND HEIGHT WITH LFUCG.
48. ROUTE THE 120V CIRCUIT THROUGH A CONTROL MODULE PROVIDED AS PART OF THE BAS SYSTEM.
49. EXISTING CONTACTOR AND PHOTOCELL TO REMAIN. REFED FROM EXISTING PANELBOARD WH.
50. REFED EXISTING CIRCUITS WHICH WERE FED FROM PANELBOARD HOUSE. IT IS ASSUMED THE EXISTING CIRCUITS WERE CONTROLLED BY THE EXISTING LIGHTING CONTACTOR. CONTRACTOR TO FIELD VERIFY WHETHER ALL CIRCUITS ARE REQUIRED.
51. PROVIDE 2" CONDUIT FROM SUMP PUMP BASIN TO SUMP PUMP CONTROL PANEL (COORDINATE WITH PLUMBING CONTRACTOR). PROVIDE SEAL OFF FITTING IN CONDUIT WITH FIBER FILLER AND SEALING CEMENT (INSTALL PER NEC 500 AND 502). CONDUIT SHALL BE USED FOR FACTORY PUMP AND FLOAT CABLES.

PATRICK J. BAISDEN
STATE OF KENTUCKY
LICENSED PROFESSIONAL ENGINEER
8/11/25

GRW PROJECT NO. 052417-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - POWER PLAN - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

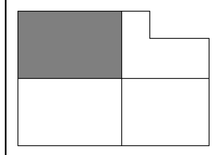
DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

AREA KEY PLAN



PLAN NORTH

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EP404 01

1 FIRST LEVEL - POWER PLAN - AREA D
SCALE: 1/8" = 1'-0"

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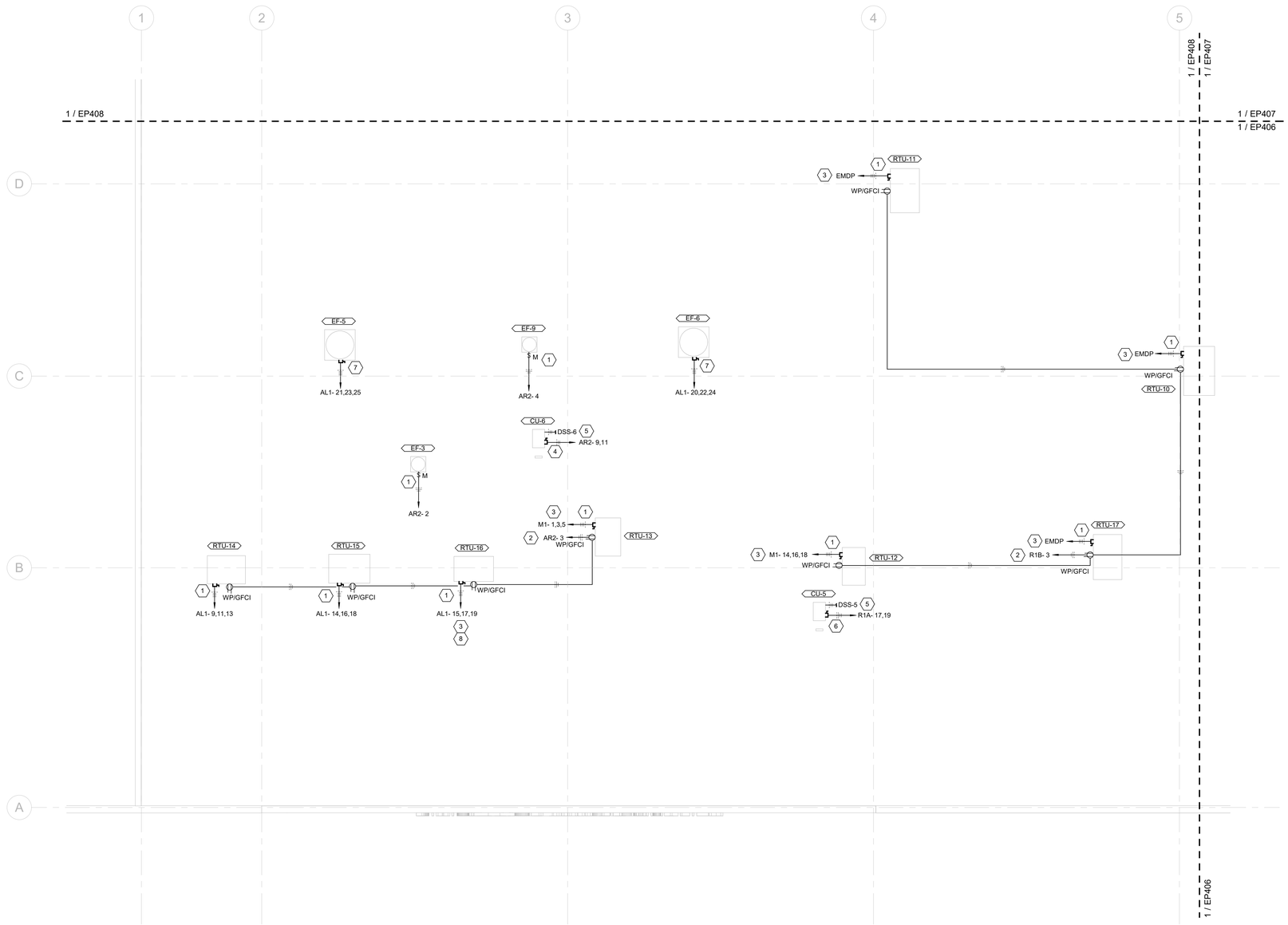

1 ROOF LEVEL - POWER PLAN - AREA A

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

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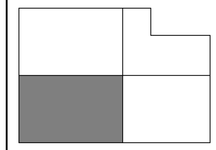
2	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
3	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
4	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5	COORDINATE EXACT LOCATION OF RECEPTACLES, EQUIPMENT CONNECTIONS, DEVICES, ETC. WITH ARCHITECT APPROVED CASEWORK / EQUIPMENT SHOP DAWINGS PRIOR TO ROUGH-IN.
6	PROVIDE FIRE STOP FOR PENETRATIONS OF FIRE RATED WALLS AND FLOORS. REFER TO LOCATIONS ON ARCITECTURAL DRAWINGS.

SHEET KEYNOTES

1	HVAC UNIT IS PROVIDED WITH FACTORY MOUNTED DISCONNECT SWITCH.
2	PROVIDE 120V CIRCUIT AND CONNECT TO HVAC UNIT RECEPTACLES. RECEPTACLES SHOWN AT RTUs ARE INTEGRAL TO UNIT, OTHERWISE CONTRACTOR SHALL PROVIDE AND INSTALL. ROUTE CONDUIT ABOVE LAY-IN CEILING AND NOT ON ROOF.
3	CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER WHICH SERVED THE REMOVED HVAC UNIT.
4	30A/240V/1-PHASE FUSIBLE DISCONNECT SWITCH (NEMA 4X ENCLOSURE). FUSE AT 20AMPS. MOUNT SIMILAR TO DETAIL 1, SHEET E-501.
5	OUTDOOR UNIT SHALL PROVIDE POWER TO THE INDICATED INDOOR UNIT. UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
6	30A/240V/1-PHASE FUSIBLE DISCONNECT SWITCH (NEMA 4X ENCLOSURE). FUSE AT 15AMPS. MOUNT SIMILAR TO DETAIL 1, SHEET E-501.
7	HVAC UNIT PROVIDED WITH STARTER AND DISCONNECT.
8	EXISTING CONDUCTORS SHALL BE RETERMINATED ON A NEW BREAKER IN SPACE OF THE EXISTING PANELBOARD.

AREA KEY PLAN



PLAN NORTH

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ROOF LEVEL - POWER PLAN - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE	BY
1	8/19/2025	SDP

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EP405 01

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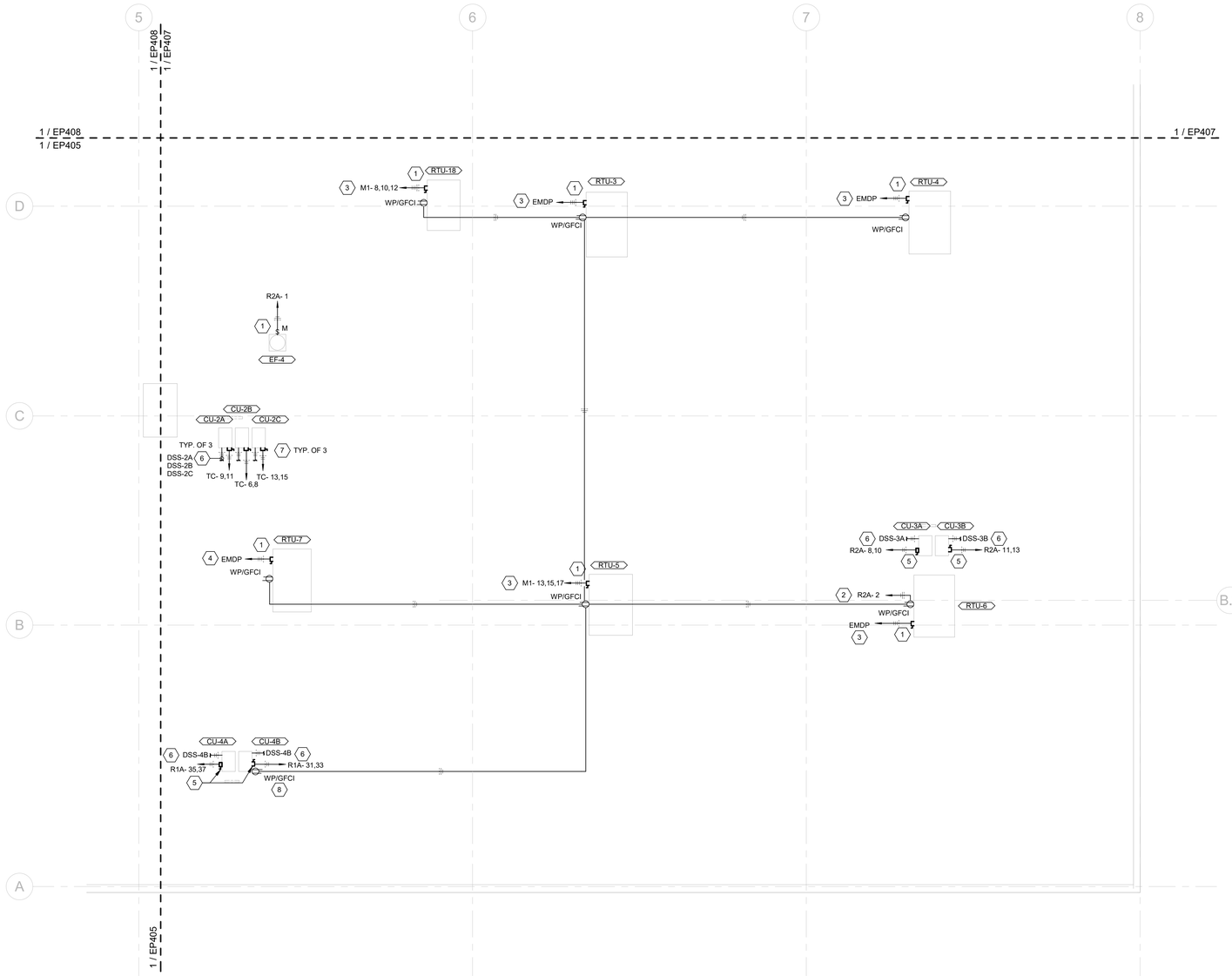

1 ROOF LEVEL - POWER PLAN - AREA B

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
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4	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5	COORDINATE EXACT LOCATION OF RECEPTACLES, EQUIPMENT CONNECTIONS, DEVICES, ETC. WITH ARCHITECT APPROVED CASEWORK / EQUIPMENT SHOP DAWINGS PRIOR TO ROUGH-IN.
6	PROVIDE FIRE STOP FOR PENETRATIONS OF FIRE RATED WALLS AND FLOORS. REFER TO LOCATIONS ON ARCITECTURAL DRAWINGS.

SHEET KEYNOTES

1	HVAC UNIT IS PROVIDED WITH FACTORY MOUNTED DISCONNECT SWITCH.
2	PROVIDE 120V CIRCUIT AND CONNECT TO HVAC UNIT RECEPTACLES. RECEPTACLES SHOWN AT RTUs ARE INTEGRAL TO UNIT, OTHERWISE CONTRACTOR SHALL PROVIDE AND INSTALL. ROUTE CONDUIT ABOVE LAY-IN CEILING AND NOT ON ROOF.
3	CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER WHICH SERVED THE REMOVED HVAC UNIT.
4	CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER CONDUIT; HOWEVER, SHALL PROVIDE NEW CONDUCTORS FOR CONNECTION TO THE NEW HVAC UNIT.
5	30A/240V/1-PHASE FUSIBLE DISCONNECT SWITCH (NEMA 4X ENCLOSURE). FUSE AT 15AMPS. MOUNT SIMILAR TO DETAIL 1, SHEET E-501.
6	OUTDOOR UNIT SHALL PROVIDE POWER TO THE INDICATED INDOOR UNIT. UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
7	30A/240V/1-PHASE FUSIBLE DISCONNECT SWITCH (NEMA 4X ENCLOSURE). FUSE AT 20AMPS. MOUNT SIMILAR TO DETAIL 1, SHEET E-501.
8	CONTRACTOR SHALL PROVIDE AND INSTALL WEATHERPROOF GFCI RECEPTACLE. MOUNT ON EQUIPMENT RACK WITH DISCONNECT SWITCH.

AREA KEY PLAN

PLAN NORTH

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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ROOF LEVEL - POWER PLAN - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EP406 01

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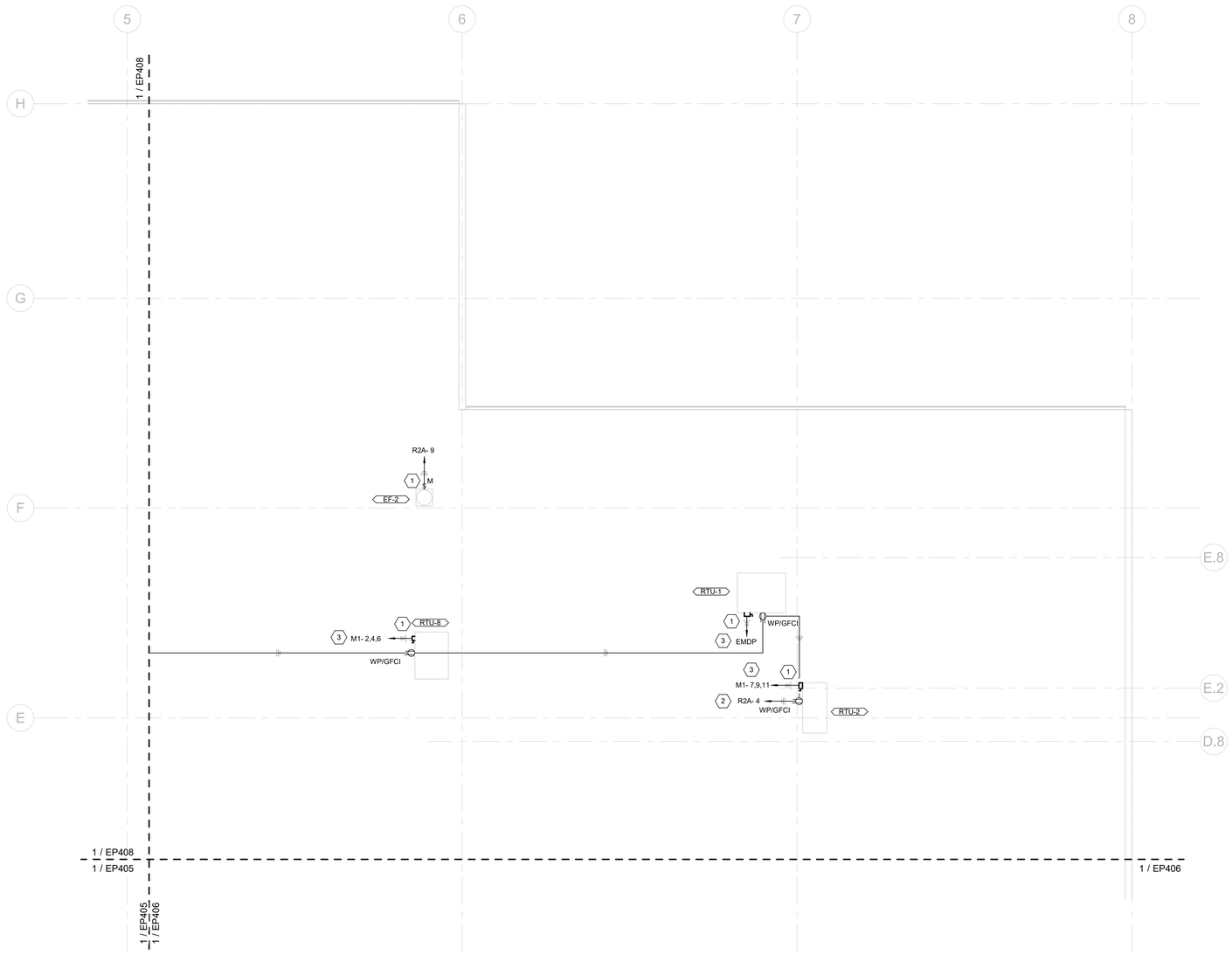

1 ROOF LEVEL - POWER PLAN - AREA C

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

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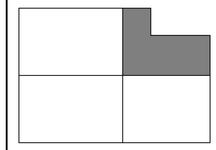
AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - POWER PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	DESCRIPTION	DATE
1	ADD ESIGN & DESCRIPTION	8/19/25

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EP407 01

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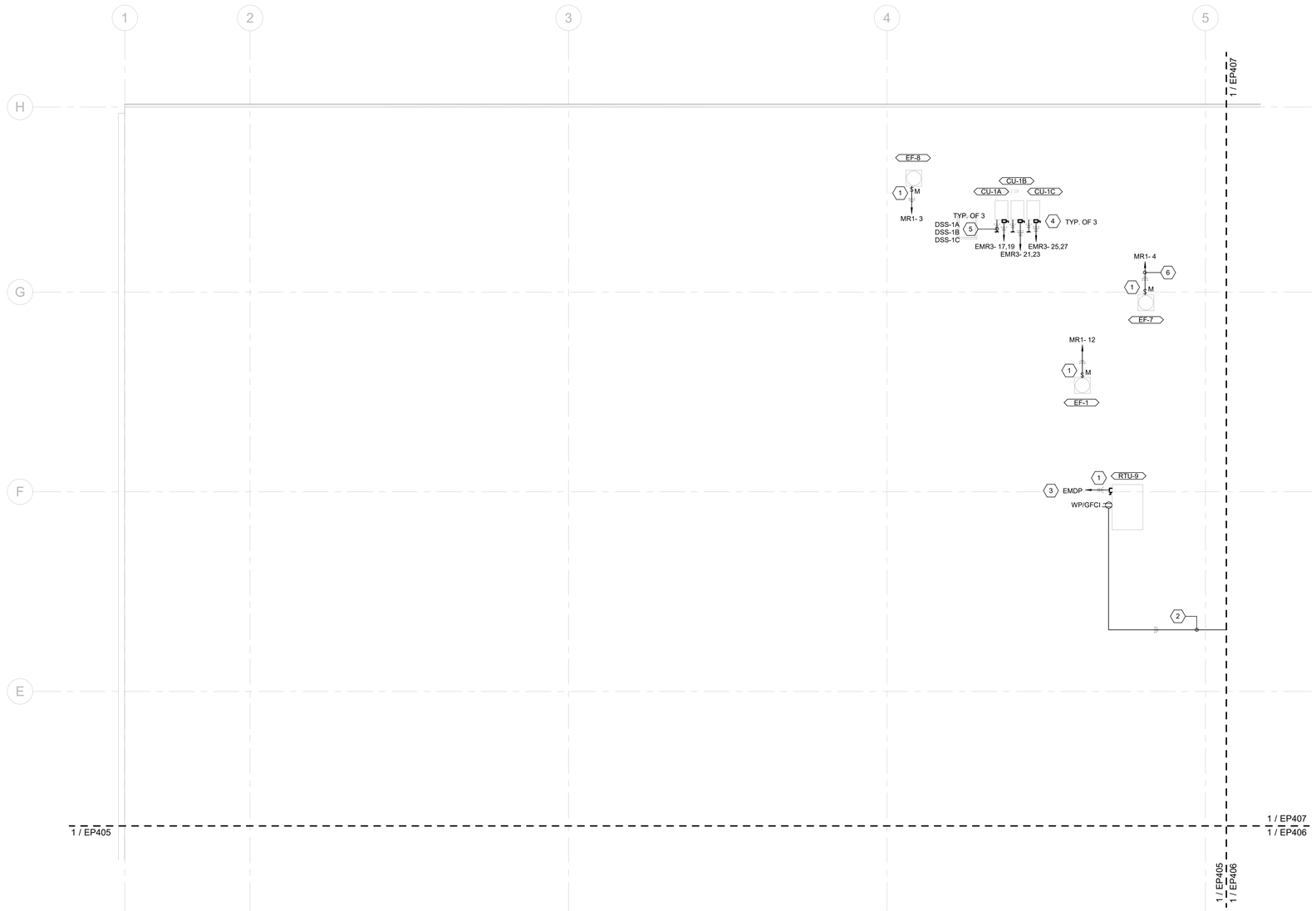

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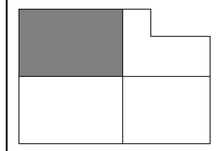
1	HVAC UNIT IS PROVIDED WITH FACTORY MOUNTED DISCONNECT SWITCH.
2	PROVIDE 120V CIRCUIT AND CONNECT TO HVAC UNIT RECEPTACLES. RECEPTACLES SHOWN AT RTUs ARE INTEGRAL TO UNIT, OTHERWISE CONTRACTOR SHALL PROVIDE AND INSTALL. ROUTE CONDUIT ABOVE LAY-IN CEILING AND NOT ON ROOF.
3	CONTRACTOR MAY REUSE EXISTING ELECTRICAL FEEDER WHICH SERVED THE REMOVED HVAC UNIT.
4	30A/240V/1-PHASE FUSIBLE DISCONNECT SWITCH (NEMA 4X ENCLOSURE). FUSE AT 20AMPS. MOUNT SIMILAR TO DETAIL 1, SHEET E-501.
5	OUTDOOR UNIT SHALL PROVIDE POWER TO THE INDICATED INDOOR UNIT. UTILIZE 2#12, 1#12 GND, 3/4"C AND TERMINATE ON TERMINAL BLOCKS WITHIN BOTH UNITS.
6	ROUTE CIRCUIT THROUGH SWITCH LOCATED IN WELDING AREA (SHEET EP404).

AREA KEY PLAN



PLAN NORTH

1 ROOF LEVEL - POWER PLAN - AREA D
SCALE: 1/8" = 1'-0"

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ROOF LEVEL - POWER PLAN - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE	BY
1	08/20/2025	SCOTT DESPAIN

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EP408 01

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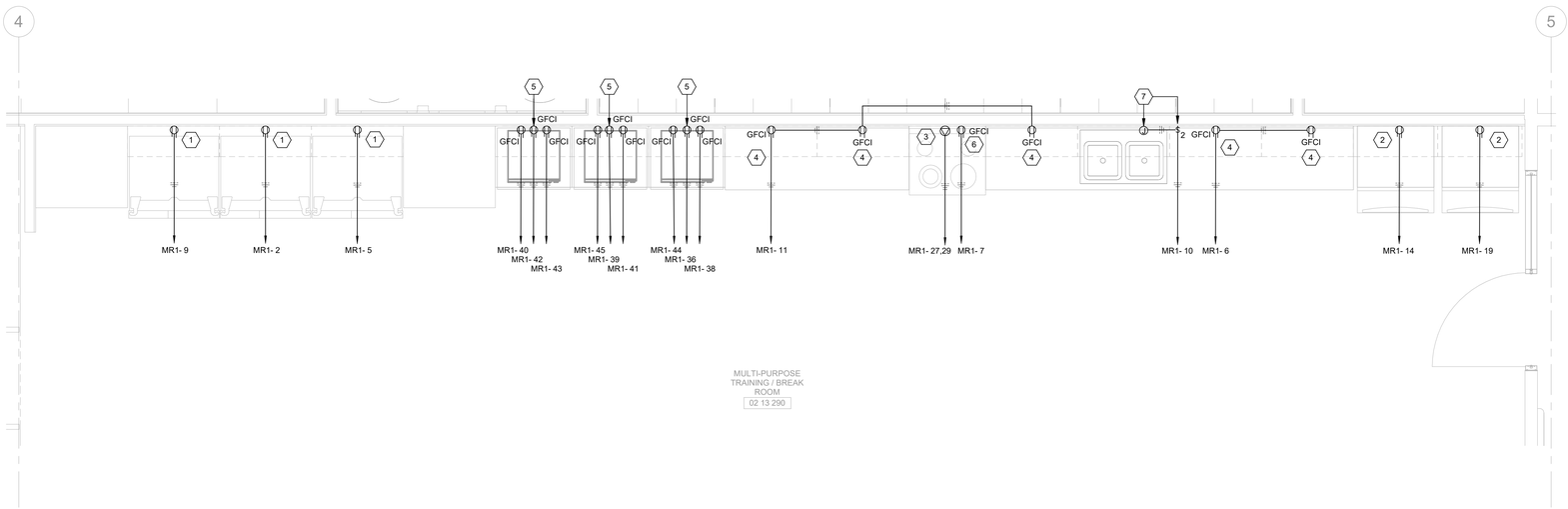


1 FIRST LEVEL - ENLARGED POWER PLAN - MULTI-PURPOSE TRAINING / BREAK ROOM

SCALE: 1/2" = 1'-0"

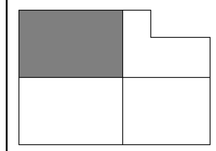
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
3	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
4	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5	COORDINATE EXACT LOCATION OF RECEPTACLES, EQUIPMENT CONNECTIONS, DEVICES, ETC. WITH ARCHITECT APPROVED CASEWORK / EQUIPMENT SHOP DAWINGS PRIOR TO ROUGH-IN.
6	PROVIDE FIRE STOP FOR PENETRATIONS OF FIRE RATED WALLS AND FLOORS. REFER TO LOCATIONS ON ARCITECTURAL DRAWINGS.

SHEET KEYNOTES

1	DEDICATED RECEPTACLE FOR REFRIGERATOR.
2	DEDICATED RECEPTACLE FOR ICE MACHINE.
3	RANGE RECEPTACLE - PROVIDE 50AMP, 125/250V, 3-POLE, 4-WIRE RECEPTACLE (NEMA 14-50R). CONTRACTOR SHALL PROVIDE MATCHING RANGE POWER SUPPLY CORD COMPLETE WITH PLUG (NEMA 14-50P).
4	MOUNT RECEPTACLE 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
5	RECEPTACLES FOR MICROWAVES. MOUNT RECEPTACLES 4" ABOVE EACH SHELF (APROX 2'-4", 3'-8", 5'-0" AFF). COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
6	PROVIDE DEDICATED RECEPTACLE FOR RANGE HOOD. CONTRACTOR SHALL PROVIDE 120V RANGE HOOD CORD CORD WITH PLUG. COORDINATE REQUIREMENTS WITH EQUIPMENT PROVIDER.
7	PROVIDE 120V CONNECTION TO GARBAGE DISPOSAL. ROUTE CIRCUIT THROUGH 2-POLE SWITCH. MOUNT SWITCH 4" ABOVE COUNTERTOP/BACKSPLASH, COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS.

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - ENLARGED POWER PLAN - MULTI-PURPOSE TRAINING
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/2" = 1'-0"
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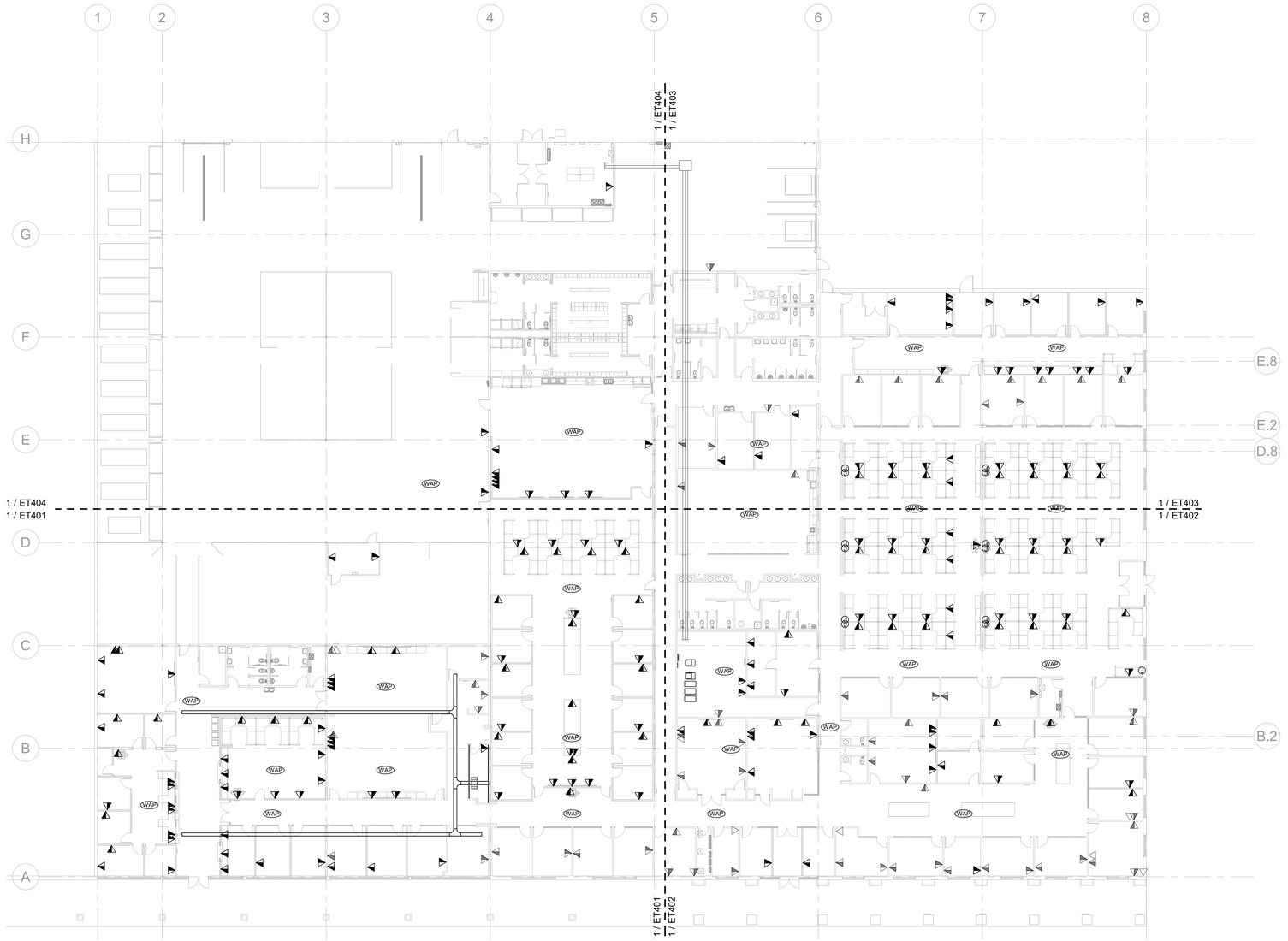


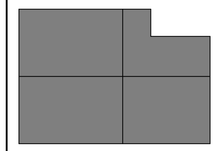
1 FIRST LEVEL - TELECOMMUNICATIONS PLAN
SCALE: 1/16" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	SHEET IS PROVIDED FOR REFERENCE ONLY.

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

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CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - TELECOMMUNICATIONS PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	PJB
DRAWN	PJB
REVIEWED	PJB
APPROVED	PJB

REVISIONS

NO	DESCRIPTION	DATE
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1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
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DATE: AUGUST 15, 2025
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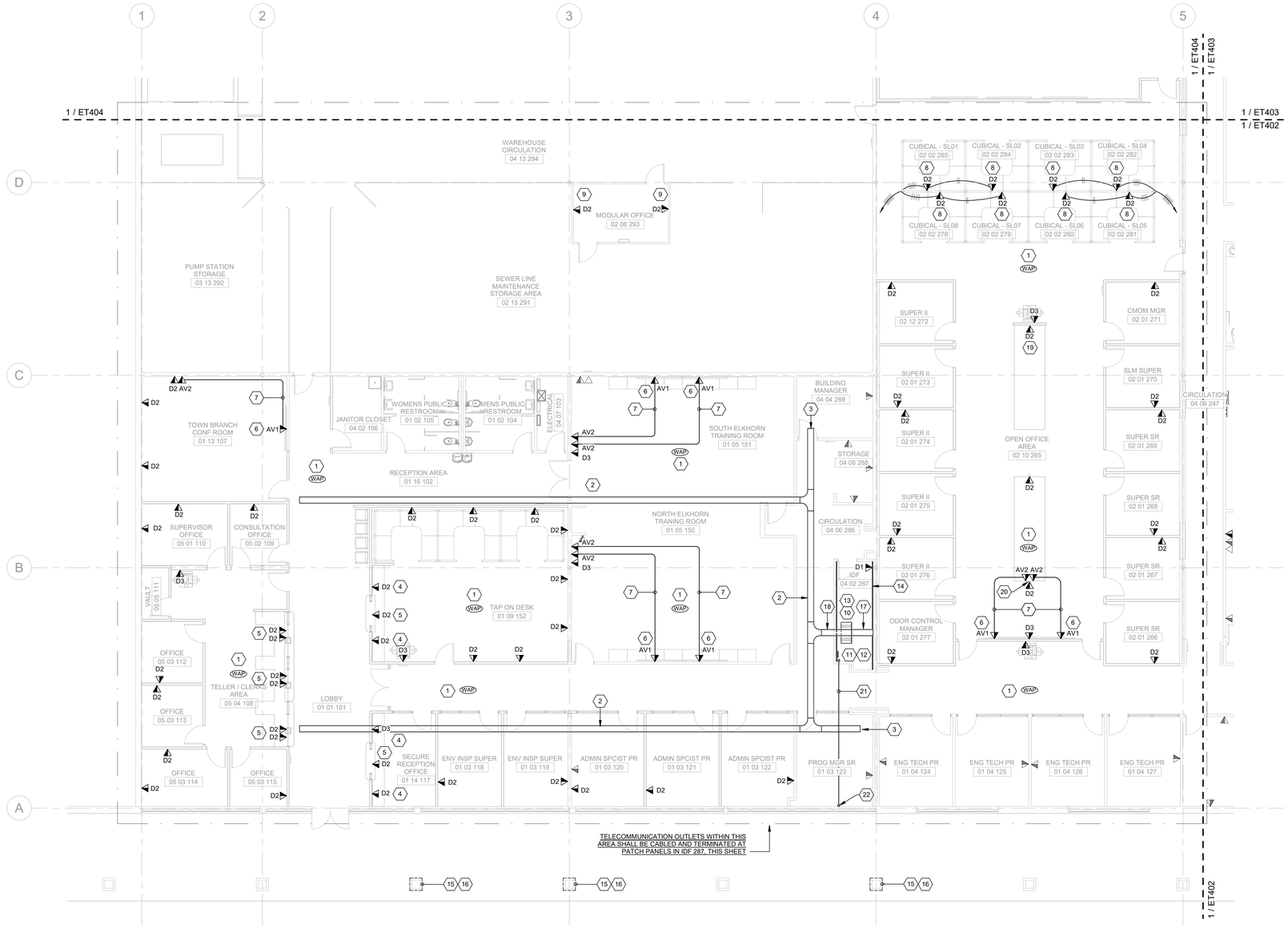

GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	TELECOMMUNICATION DEVICE TAGS INDICATE THE ASSOCIATED CONFIGURATION TYPE. REFER TO SHEET ET501 FOR ADDITIONAL INFORMATION.
3	CONDUIT SHALL BE UTILIZED FOR HORIZONTAL CABLING TO ABOVE LAY-IN CEILINGS. CONTRACTOR SHALL TRANSITION FROM CONDUIT TO J-HOOKS / BRIDAL RINGS FOR ROUTING TO CABLE TRAY OR EQUIPMENT ROOM. CABLE TRAY AND J-HOOK / BRIDAL RING PATH SHALL BE COORDINATED WITH OTHER TRADES.
4	THE ENTIRE TELECOMMUNICATIONS SYSTEM INCLUDING OUTLETS, PATCH PANELS, ETC. SHALL BE LABELED IN ACCORANCE WITH TIA/EIA-606-A. LABELS SHALL BE MACHINE GENERATED.
5	CONDUIT ONLY SHALL BE UTILIZED ABOVE INACCESSIBLE CEILINGS AND EXPOSED STRUCTURES.
6	INSTALL NYLON BUSHINGS ON ALL CONDUITS TERMINATIONS FOR CABLE PROTECTION.
7	REFER TO DIVISION 27 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES

1	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX ABOVE CEILING.
2	12" WIDE X 6" DEEP CABLE TRAY - MOUNTED ABOVE CEILING. COORDINATE ROUTING WITH OTHER TRADES AND EXISTING CONDITIONS.
3	ROUTE NEW CABLE TRAY UP TO AND CONNECT TO THE EXISTING CABLE TRAY. CONTRACTOR SHALL FIELD COORDINATE EXISTING CABLE TRAY LAYOUT.
4	MOUNT TELECOMMUNICATIONS OUTLET 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
5	MOUNT TELECOMMUNICATIONS OUTLET IN KNEESPACE OF CASEWORK. COORDINATE WITH ARCHITECTURAL DRAWINGS AND ARCHITECT APPROVED CASEWORK SHOP DRAWINGS.
6	TELECOMMUNICATIONS OUTLET FOR WALL-MOUNTED TV. MOUNT OUTLET AT 72" AFF.
7	PROVIDE 1-1/2"C WITH HDMI AND CAT 6 CABLES BETWEEN THE TELECOMMUNICATIONS OUTLETS (AV1/AV2).
8	PROVIDE AND INSTALL TELECOMMUNICATIONS OUTLET WITHIN WORKSTATION/DESK. COORDINATE WITH APPROVED WORKSTATION SHOP DRAWINGS.
9	LOCATE TELECOMMUNICATIONS OUTLET WITHIN THE MODULAR OFFICE. COORDINATE FINAL LOCATION WITH EXISTING FURNITURE LAYOUT.
10	45RU HIGH FOUR-POST TELECOMMUNICATIONS EQUIPMENT RACK WITH VERTICAL AND HORIZONTAL CABLE MANAGEMENT. REFER TO SHEET ET603 FOR ADDITIONAL INFORMATION.
11	PROVIDE A 1/4" X 4" X 24" (MIN.) TELECOMMUNICATIONS GROUND BAR (TGB). MOUNT TO WALL WITH NON-CONDUCTIVE MATERIAL.
12	PROVIDE #3/0 AWG (MIN.) GROUND FROM THE TGB TO THE TMGB (COMPUTER / SERVER, SHEET ET402).
13	PROVIDE TWO (2) 2" TELECOMMUNICATIONS CONDUIT SLEEVE FROM TELECOMMUNICATIONS EQUIPMENT CABINET TO CABLE TRAY. UTILIZE FOR OPTICAL FIBER BACKBONE CABLING FROM THE COMPUTER / SERVER 261, SHEET ET402. REFER TO SHEET ET504 FOR OPTICAL FIBER CABLE REQUIREMENTS.
14	TELECOMMUNICATIONS PLYWOOD BACKBOARD COVERING AND RIGIDLY ATTACHED TO ALL WALLS. PLYWOOD SHALL BE FIRE-RATED AND TIA/EIA APPROVED.
15	REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILLANCE, AND GATE BRANCH POWER ENTERING THE BUILDING VIA THE INDICATED COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED (COORDINATE WITH GENERAL CONTRACTOR).
16	EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
17	12" CABLE RUNWAY - REFER TO DETAILS ON SHEET ET502. EXTEND BETWEEN WALLS AND BELOW CEILING.
18	TERMINATE CABLE TRAY ABOVE CEILING AND ABOVE EQUIPMENT RACK. TRANSITION CABLING FROM CABLE TRAY TO CABLE RUNWAY BELOW CEILING. BUNDLE CABLING TOGETHER FOR ROUTING THROUGH LAY-IN CEILING.
19	MOUNT TELECOMMUNICATIONS OUTLET AT 40" AFF.
20	CONTRACTOR SHALL PROVIDE AN ALUMINUM TELE-POWER POLE. PROVIDE INDICATED TELECOMMUNICATIONS OUTLETS (D2 AND 2-AV2) MOUNTED AT 46" AFF. REFER TO TELE-POWER POLE REQUIREMENTS ON "FIRST LEVEL - POWER PLAN - AREA A", SHEET EP401.
21	PROVIDE 2" CONDUIT WITH PULL STRING FROM IDF 287 TO ROOF FOR FUTURE ANTENNA CABLING.
22	STUB CONDUIT UP THROUGH ROOF ON BACKSIDE OF PARAPET WALL.

AREA KEY PLAN

PLAN NORTH

1 FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA A
SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN — STATE OF KENTUCKY — LICENSED PROFESSIONAL ENGINEER — 8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE:	BY:

REVISION DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED — SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ET401 01

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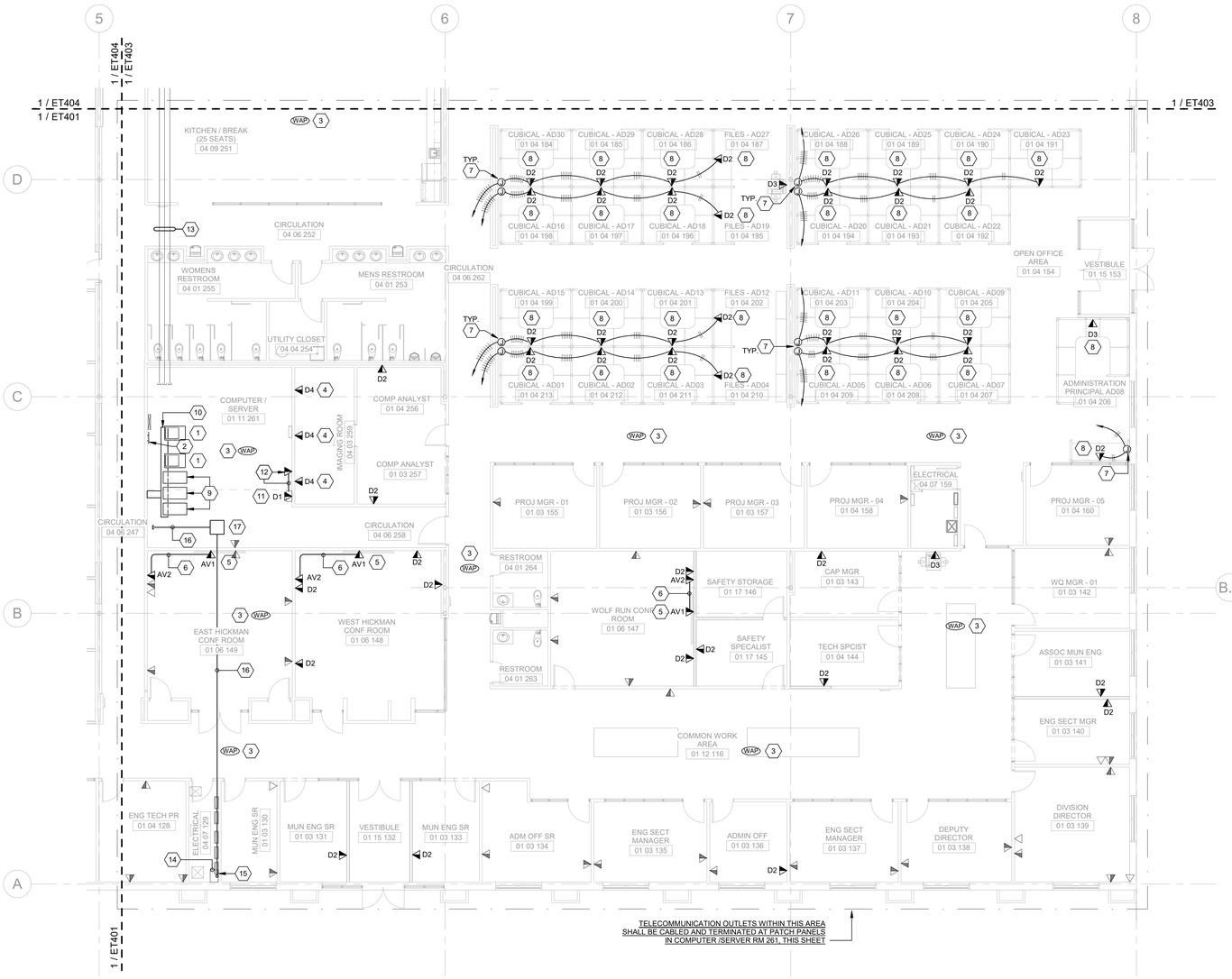


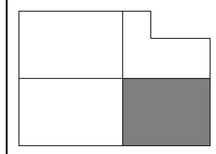
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	TELECOMMUNICATION DEVICE TAGS INDICATE THE ASSOCIATED CONFIGURATION TYPE. REFER TO SHEET ET501 FOR ADDITIONAL INFORMATION.
3	CONDUIT SHALL BE UTILIZED FOR HORIZONTAL CABLING TO ABOVE LAY-IN CEILINGS. CONTRACTOR SHALL TRANSITION FROM CONDUIT TO J-HOOKS / BRIDAL RINGS FOR ROUTING TO CABLE TRAY OR EQUIPMENT ROOM. CABLE TRAY AND J-HOOK / BRIDAL RING PATH SHALL BE COORDINATED WITH OTHER TRADES.
4	THE ENTIRE TELECOMMUNICATIONS SYSTEM INCLUDING OUTLETS, PATCH PANELS, ETC. SHALL BE LABELED IN ACCORANCE WITH TIA/EIA-606-A. LABELS SHALL BE MACHINE GENERATED.
5	CONDUIT ONLY SHALL BE UTILIZED ABOVE INACCESSIBLE CEILINGS AND EXPOSED STRUCTURES.
6	INSTALL NYLON BUSHINGS ON ALL CONDUITS TERMINATIONS FOR CABLE PROTECTION.
7	REFER TO DIVISION 27 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES

1	APPROXIMATE LOCATION OF EXISTING TELECOMMUNICATIONS EQUIPMENT RACK.
2	EXISTING TELECOMMUNICATIONS GROUNDING BUSBAR (TGB).
3	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX ABOVE CEILING.
4	MOUNT TELECOMMUNICATIONS OUTLET 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
5	TELECOMMUNICATIONS OUTLET FOR WALL-MOUNTED TV. MOUNT OUTLET AT 72" AFF.
6	PROVIDE 1-1/2"C WITH HDMI AND CAT 6 CABLES BETWEEN THE TELECOMMUNICATIONS OUTLETS (AV1/AV2).
7	CONTRACTOR SHALL PROVIDE RECESSED JUNCTION BOX WITH BLANK COVERPLATE. PROVIDE COVERPLATE WITH KO FOR FLEXIBLE CONNECTION TO WORKSTATION TELECOMMUNICATIONS OUTLETS.
8	PROVIDE AND INSTALL TELECOMMUNICATIONS OUTLET WITHIN WORKSTATION/DESK. COORDINATE WITH APPROVED WORKSTATION SHOP DRAWINGS.
9	45RU HIGH FOUR-POST TELECOMMUNICATIONS EQUIPMENT RACK WITH VERTICAL AND HORIZONTAL CABLE MANAGEMENT. REFER TO SHEET ET602 FOR ADDITIONAL INFORMATION. REFER TO DETAIL 4, SHEET ET502 FOR RACK SUPPORTS.
10	12" WIDE X 4" DEEP CABLE TRAY - MOUNTED BELOW ACCESS FLOORING. COORDINATE ROUTING WITH EXISTING CONDITIONS. REFER TO DETAIL 3, SHEET ET502 FOR ADDITONAL INFORMATION.
11	PROVIDE DATA NETWORK CONNECTION TO BAS CONTROL PANEL.
12	PROVIDE DATA OUTLET FOR A BAS WORKSTATION. PROVIDE A TELECOMMUNICATIONS OUTLET WITH ONE (1) RJ45 JACK AND CAT 6 CABLING TO THE BAS NETWORK CONTROLLER (LOCATED WITHIN THE BAS CONTROL PANEL). COORDINATE COLOR OF CABLING AND JACK WITH LFUCG.
13	APPROXIMATE ROUTING OF THREE (3) EXISTING TELECOMMUNICATIONS CONDUITS (4"). CONTRACTOR MAY UTILIZE FOR THE 12-STRAND SINGLE-MODE OPTICAL FIBER (OS2) ROUTED TO THE "LFUCG VACTOR BUILDING". REFER TO SITE PLAN - ELECTRICAL NEW WORK, SHEET ES102 AND "LFUCG VACTOR BUILDING" - FIRST LEVEL - TELECOMMUNICATIONS PLAN, SHEET ET101 03 FOR CONTINUATION.
14	CONTRACTOR SHALL SAW CUT FLOOR AS REQUIRED FOR INSTALLATION OF THE 4" CONDUIT (OPTICAL FIBER).
15	STUB UP LOCATION OF 4" CONDUIT (OPTICAL FIBER) FROM SITE PLAN. REFER TO SHEET ES 102 FOR CONTINUATION.
16	PROVIDE 4" CONDUIT WITH PULL STRING FROM ELECTRICAL ROOM 129 TO COMPUTER / SERVER 261 FOR OPTICAL FIBER SERVICE. LFUCG WILL PROVIDE AND INSTALL OPTICAL FIBER CABLE.
17	PROVIDE PULLBOX FOR NEW OPTICAL FIBER CONDUIT. SIZE PER NEC.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA B

SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/19/25

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FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
P.JB	P.JB	P.JB	P.JB

REVISIONS

NO.	DATE	BY
	REVISION DESCRIPTION	

SCALE CHECK | THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. ET402 01

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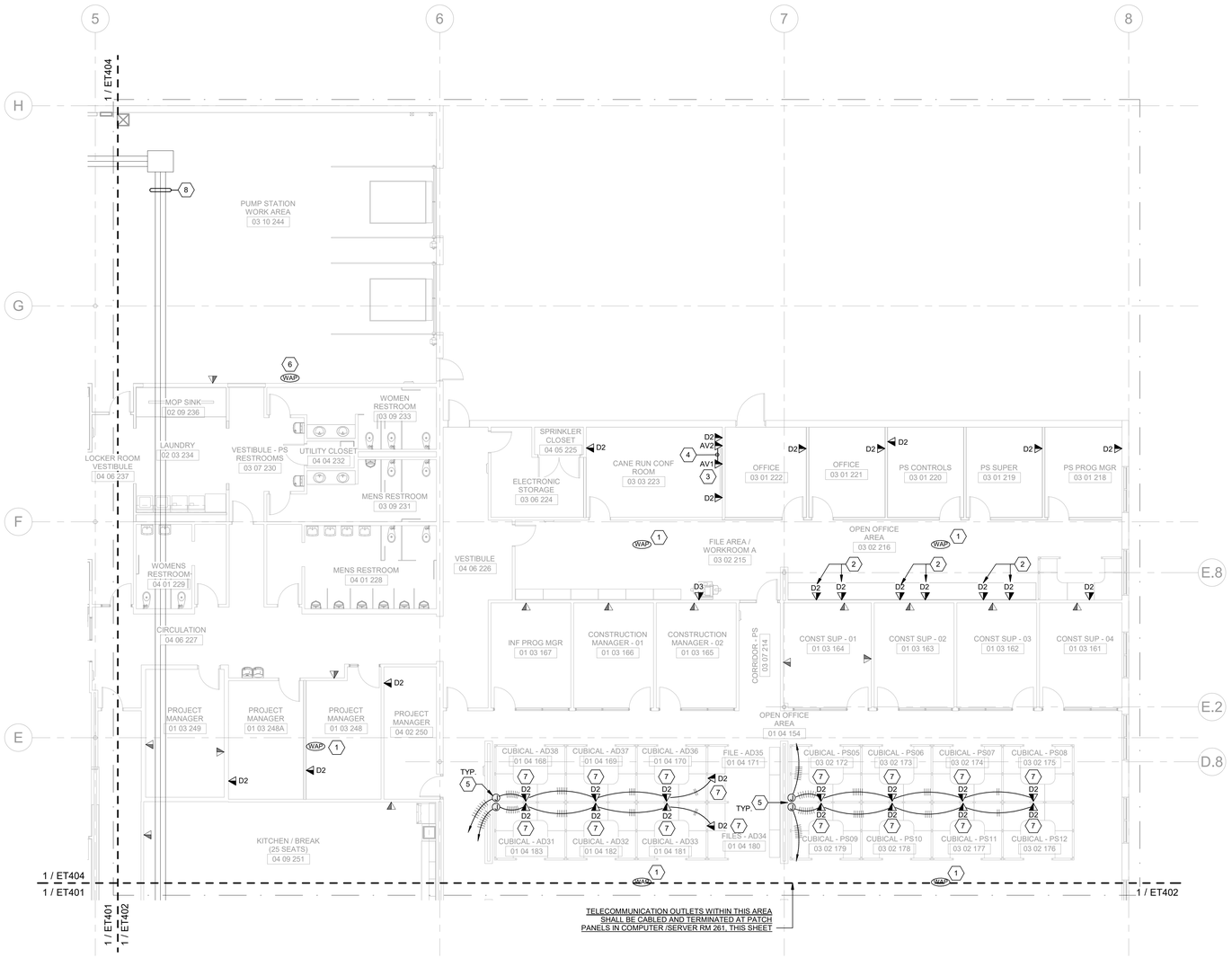

GENERAL NOTES:

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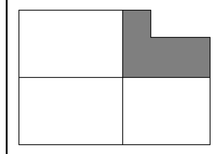
2	TELECOMMUNICATION DEVICE TAGS INDICATE THE ASSOCIATED CONFIGURATION TYPE. REFER TO SHEET ET501 FOR ADDITIONAL INFORMATION.
3	CONDUIT SHALL BE UTILIZED FOR HORIZONTAL CABLING TO ABOVE LAY-IN CEILINGS. CONTRACTOR SHALL TRANSITION FROM CONDUIT TO J-HOOKS / BRIDAL RINGS FOR ROUTING TO CABLE TRAY OR EQUIPMENT ROOM. CABLE TRAY AND J-HOOK / BRIDAL RING PATH SHALL BE COORDINATED WITH OTHER TRADES.
4	THE ENTIRE TELECOMMUNICATIONS SYSTEM INCLUDING OUTLETS, PATCH PANELS, ETC. SHALL BE LABELED IN ACCORANCE WITH TIA/EIA-606-A. LABELS SHALL BE MACHINE GENERATED.
5	CONDUIT ONLY SHALL BE UTILIZED ABOVE INACCESSIBLE CEILINGS AND EXPOSED STRUCTURES.
6	INSTALL NYLON BUSHINGS ON ALL CONDUITS TERMINATIONS FOR CABLE PROTECTION.
7	REFER TO DIVISION 27 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES

1	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX ABOVE CEILING.
2	MOUNT TELECOMMUNICATIONS OUTLET 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
3	TELECOMMUNICATIONS OUTLET FOR WALL-MOUNTED TV. MOUNT OUTLET AT 72" AFF.
4	PROVIDE 1-1/2"C WITH HDMI AND CAT 6 CABLES BETWEEN THE TELECOMMUNICATIONS OUTLETS (AV1/AV2).
5	CONTRACTOR SHALL PROVIDE RECESSED JUNCTION BOX WITH BLANK COVERPLATE. PROVIDE COVERPLATE WITH KO FOR FLEXIBLE CONNECTION TO WORKSTATION TELECOMMUNICATIONS OUTLETS.
6	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX - MOUNT TO BOTTOM OF STRUCTURE.
7	PROVIDE AND INSTALL TELECOMMUNICATIONS OUTLET WITHIN WORKSTATION/DESK. COORDINATE WITH APPROVED WORKSTATION SHOP DRAWINGS.
8	APPROXIMATE ROUTING OF THREE (3) EXISTING TELECOMMUNICATIONS CONDUITS (4"). CONTRACTOR MAY UTILIZE FOR THE 12-STRAND SINGLE-MODE OPTICAL FIBER (OS2) ROUTED TO THE "LFUCG VACTOR BUILDING". REFER TO SITE PLAN - ELECTRICAL NEW WORK, SHEET ES102 AND "LFUCG VACTOR BUILDING" - FIRST LEVEL - TELECOMMUNICATIONS PLAN, SHEET ET101 03 FOR CONTINUATION.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA C
SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/14/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA C
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	DATE	BY	REVISION DESCRIPTION

SCALE CHECK: 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ET403 01

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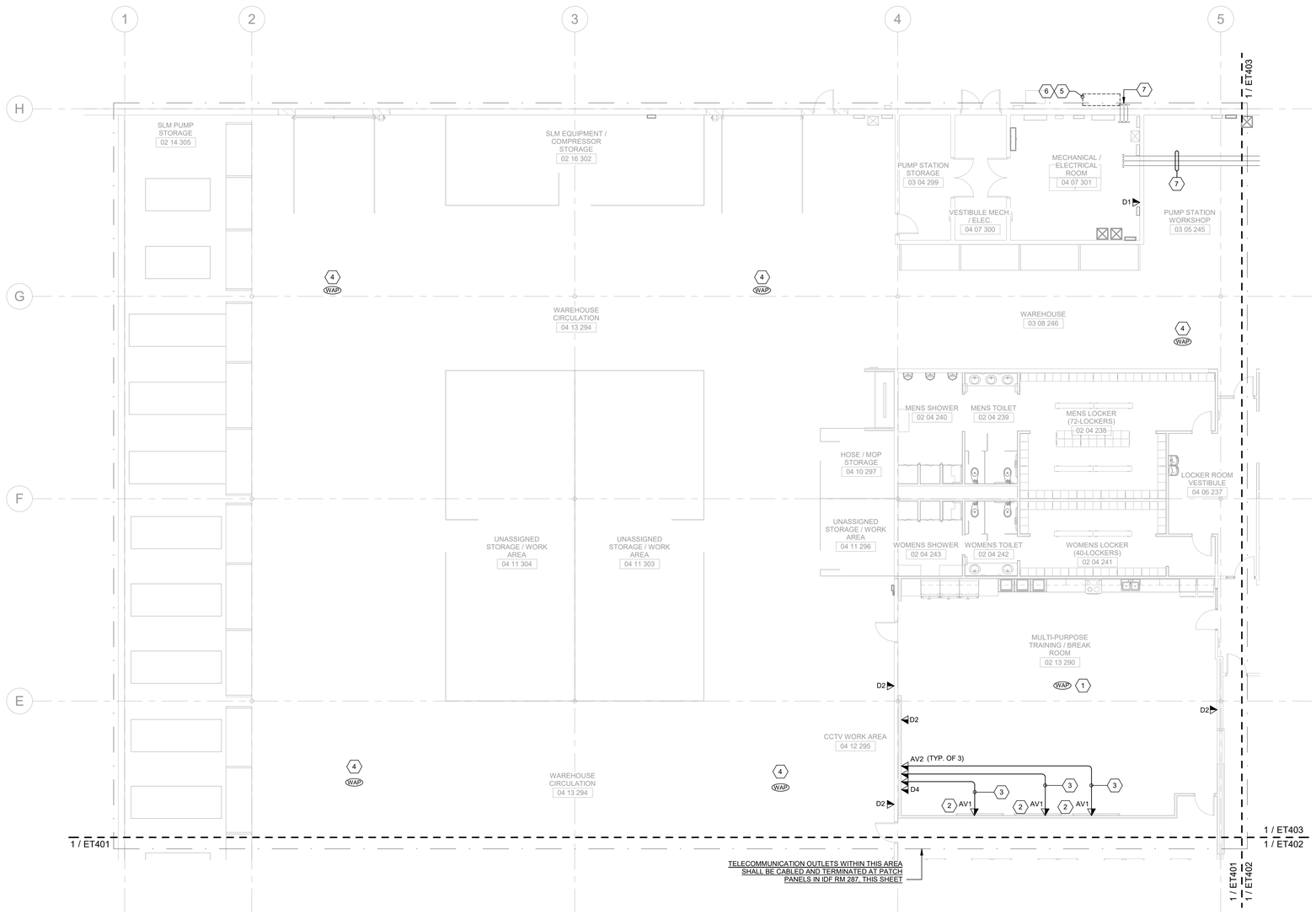


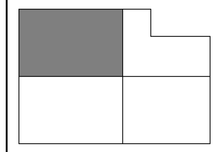
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	TELECOMMUNICATION DEVICE TAGS INDICATE THE ASSOCIATED CONFIGURATION TYPE. REFER TO SHEET ET501 FOR ADDITIONAL INFORMATION.
3	CONDUIT SHALL BE UTILIZED FOR HORIZONTAL CABLING TO ABOVE LAY-IN CEILINGS. CONTRACTOR SHALL TRANSITION FROM CONDUIT TO J-HOOKS / BRIDAL RINGS FOR ROUTING TO CABLE TRAY OR EQUIPMENT ROOM. CABLE TRAY AND J-HOOK / BRIDAL RING PATH SHALL BE COORDINATED WITH OTHER TRADES.
4	THE ENTIRE TELECOMMUNICATIONS SYSTEM INCLUDING OUTLETS, PATCH PANELS, ETC. SHALL BE LABELED IN ACCORANCE WITH TIA/EIA-606-A. LABELS SHALL BE MACHINE GENERATED.
5	CONDUIT ONLY SHALL BE UTILIZED ABOVE INACCESSIBLE CEILINGS AND EXPOSED STRUCTURES.
6	INSTALL NYLON BUSHINGS ON ALL CONDUITS TERMINATIONS FOR CABLE PROTECTION.
7	REFER TO DIVISION 27 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES

1	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX ABOVE CEILING.
2	TELECOMMUNICATIONS OUTLET FOR WALL-MOUNTED TV. MOUNT OUTLET AT 72" AFF.
3	PROVIDE 1-1/2"C WITH HDMI AND CAT 6 CABLES BETWEEN THE TELECOMMUNICATIONS OUTLETS (AV1/AV2).
4	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX - MOUNT TO BOTTOM OF STRUCTURE.
5	REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILLANCE, AND GATE BRANCH POWER ENTERING THE BUILDING WITHIN THIS AREA. LB CONDUIT INTO BUILDING. PATCHSEAL CONDUIT PENETRATIONS ON EXTERIOR WALL.
6	EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
7	APPROXIMATE ROUTING OF THREE (3) EXISTING TELECOMMUNICATIONS CONDUITS (4"). CONTRACTOR MAY UTILIZE FOR THE 12-STRAND SINGLE-MODE OPTICAL FIBER (OS2) ROUTED TO THE "LFUCG VACTOR BUILDING". REFER TO SITE PLAN - ELECTRICAL NEW WORK, SHEET ES102 AND "LFUCG VACTOR BUILDING" - FIRST LEVEL - TELECOMMUNICATIONS PLAN, SHEET ET101 03 FOR CONTINUATION.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA D

SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM 1	8/19/25

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DATE: AUGUST 15, 2025
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SHEET NO.: ET404 01

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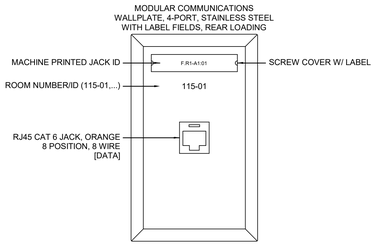
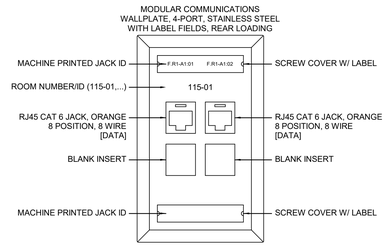


1 COMM. OUTLET - TYPE 'D1'

NOT TO SCALE



2 COMM. OUTLET - TYPE 'D2'

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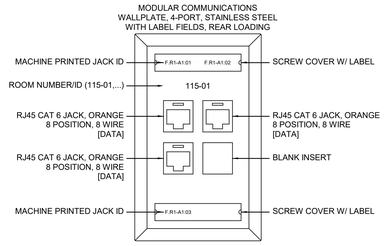

3 COMM. OUTLET - TYPE 'D3'

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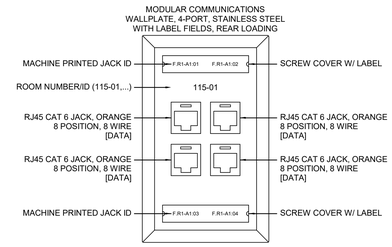

4 COMM. OUTLET - TYPE 'D4'

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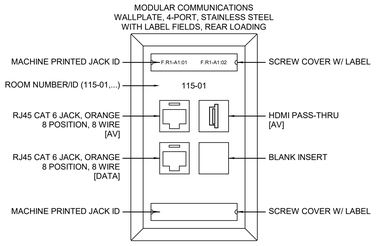
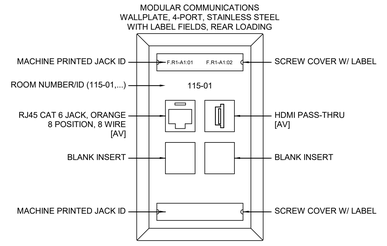


5 COMM. OUTLET - TYPE 'AV1'

NOT TO SCALE



6 COMM. OUTLET - TYPE 'AV2'

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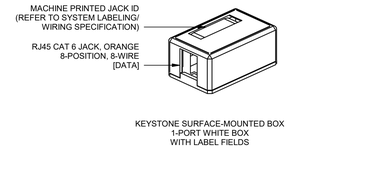


7 COMM. OUTLET - TYPE 'WAP'

NOT TO SCALE

SYSTEM LABELING / WIRING SPECIFICATION

DATA LABELING:

F:XY-R:P

F = IDENTIFIES FLOOR OF TELECOMMUNICATION SPACE
XY = RACK IDENTIFIER
R = PATCH PANEL IDENTIFER
P = PATCH PANEL PORT IDENTIFIER

PATCH PANEL TYPES:

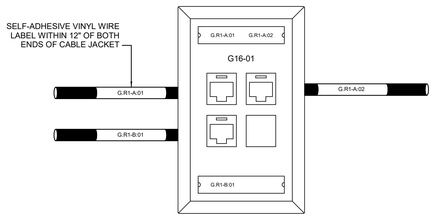
TYPE A - FOR TERMINATION OF DATA CABLES ONLY (ORANGE JACKS)
TYPE B - FOR TERMINATON OF VOICE CABLES ONLY (ORANGE JACKS)
TYPE C - FOR TERMINATION OF SECURITY CABLES ONLY (PURPLE JACKS)

COLOR CODE TELECOMMUNICATION OUTLETS AND CABLING AS FOLLOWS:

DATA - BLUE CABLING (ORANGE JACKS)
WAP - BLUE CABLING (ORANGE JACKS)
SECURITY - PURPLE CABLING (PURPLE JACKS)
AUDIO/VISUAL - BLACK

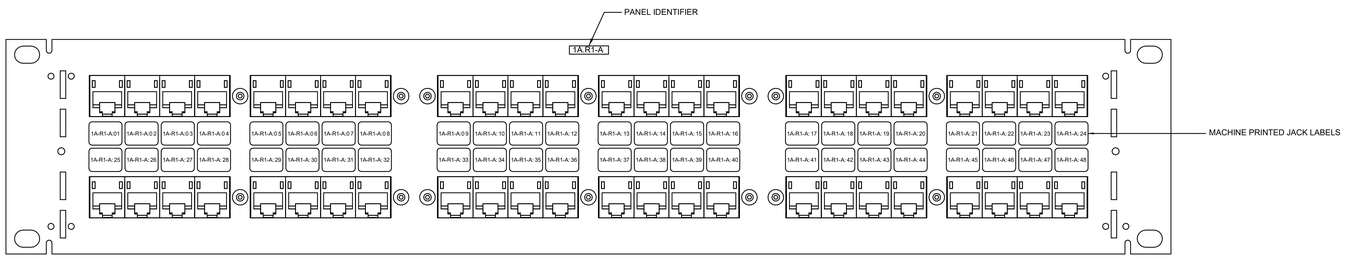
NOTES:

1. DATA/VOICE: CATEGORY 6 UTP CABLE (JACKET COLOR AS INDICATED OR SPECIFIED ELSEWHERE)
2. HDMI CABLING: HIGH DEFINITION MULTIMEDIA CABLE (BLACK JACKET)



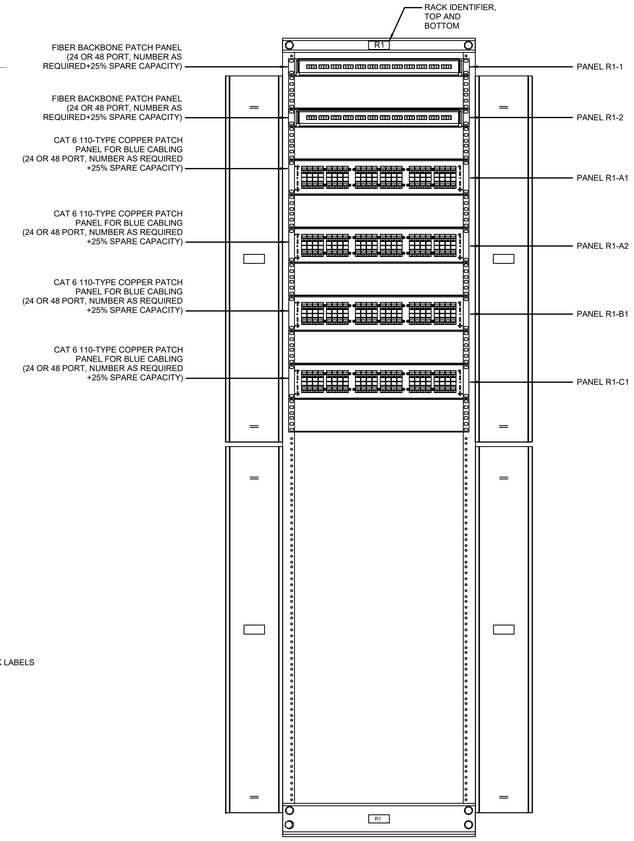
8 TYPICAL CABLE IDENTIFICATION

NOT TO SCALE



9 TYPICAL 48-PORT PATCH PANEL FOR COMM. RACK

NOT TO SCALE



10 TYPICAL COMM. RACK/CABINET DETAIL

NOT TO SCALE

CONSTRUCTION DOCUMENTS

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

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CLIENT PROJECT NO. RFP 70-2025

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TELECOMMUNICATIONS DETAILS I

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED	PJB
DRAWN	PJB
REVIEWED	PJB
APPROVED	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

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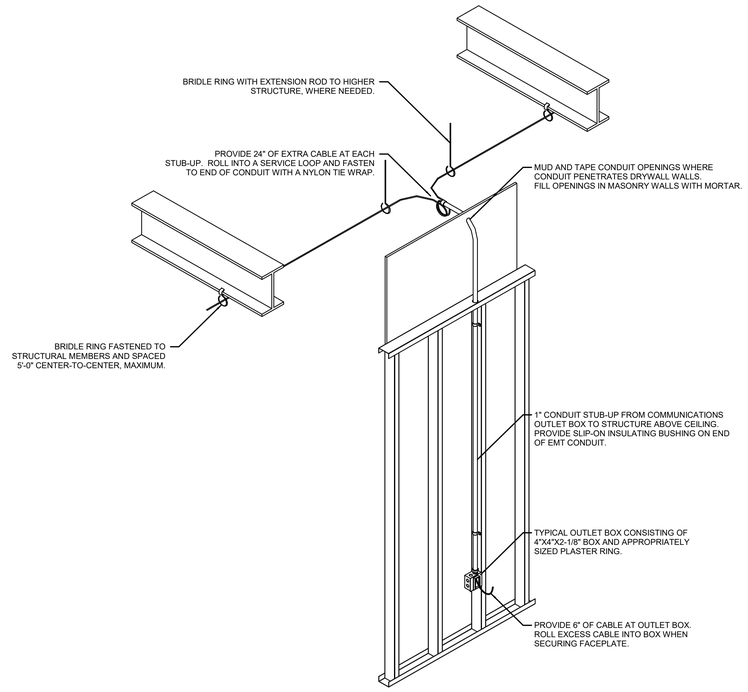
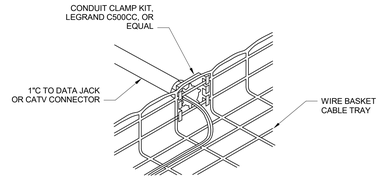


1 COMMUNICATIONS ROUGH-IN FOR LIGHT GAUGE FRAMING SYSTEMS

NOT TO SCALE

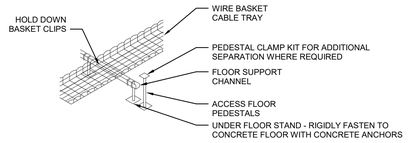


NOTES:

1. PROVIDE BONDING JUMPER BETWEEN CONDUIT CLAMP AND CABLE TRAY.

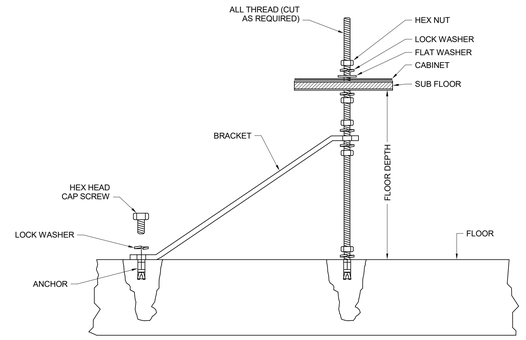
2 CABLE TRAY CONDUIT CLAMP

NOT TO SCALE



3 TYPICAL CABLE TRAY UNDERFLOOR SUPPORT

NOT TO SCALE



NOTES:

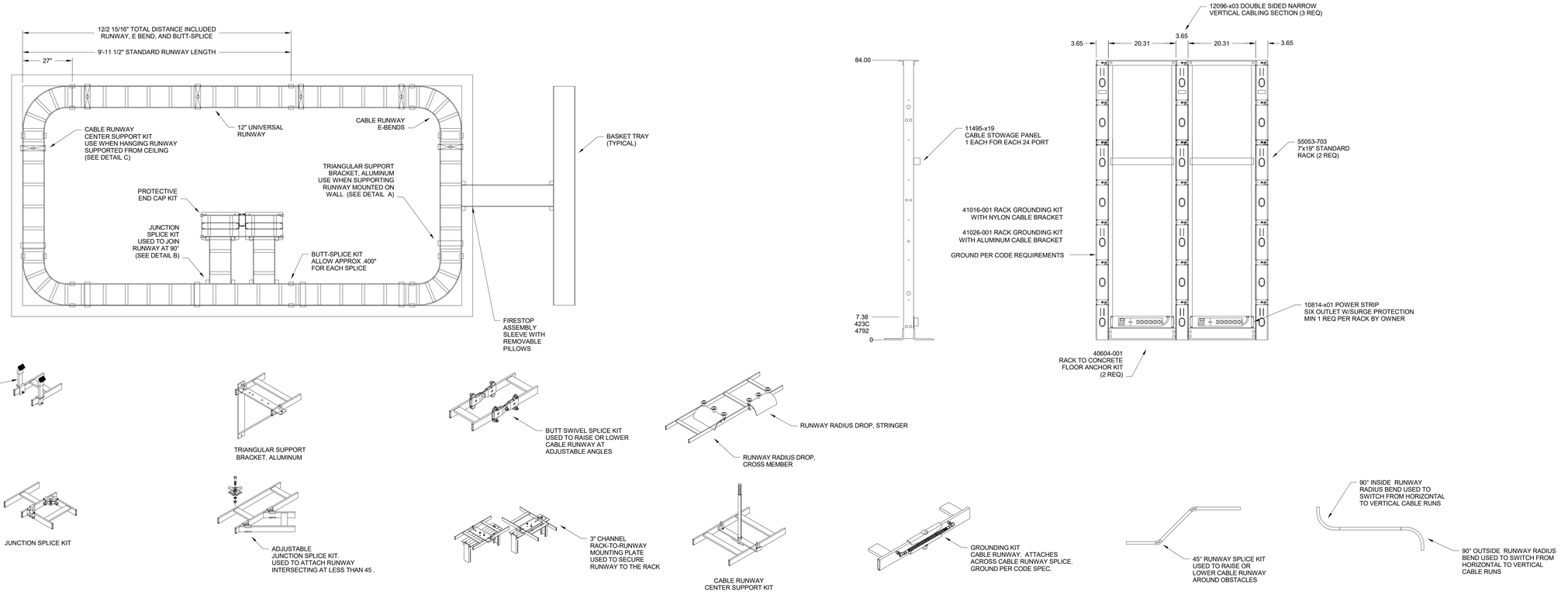
1. PROVIDE EQUIPMENT RACK SUPPORT AT EACH OF FOUR (4) CORNERS OF THE EQUIPMENT RACK. REFER TO PLANS FOR RACK LOCATIONS.

4 EQUIPMENT RACK SUPPORT (RAISED FLOOR)

NOT TO SCALE

GENERAL NOTES:

1. IN LIEU OF SQUARE THROUGH WALL SLEEVE FIRESTOP ASSEMBLY, THE CONTRACTOR MAY UTILIZE MULTIPLE 4" CONDUIT SLEEVE TYPE FITTINGS OR COLLARS AS APPROPRIATE.



5 TYPICAL TELECOMMUNICATIONS ROOM CABLE TRAY LAYOUT AND DETAILS1

SCALE: 12" = 1'-0"

STATE OF KENTUCKY
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8/19/25

CONSTRUCTION DOCUMENTS

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CLIENT PROJECT NO. RFP 70-2025

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TELECOMMUNICATIONS DETAILS II

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

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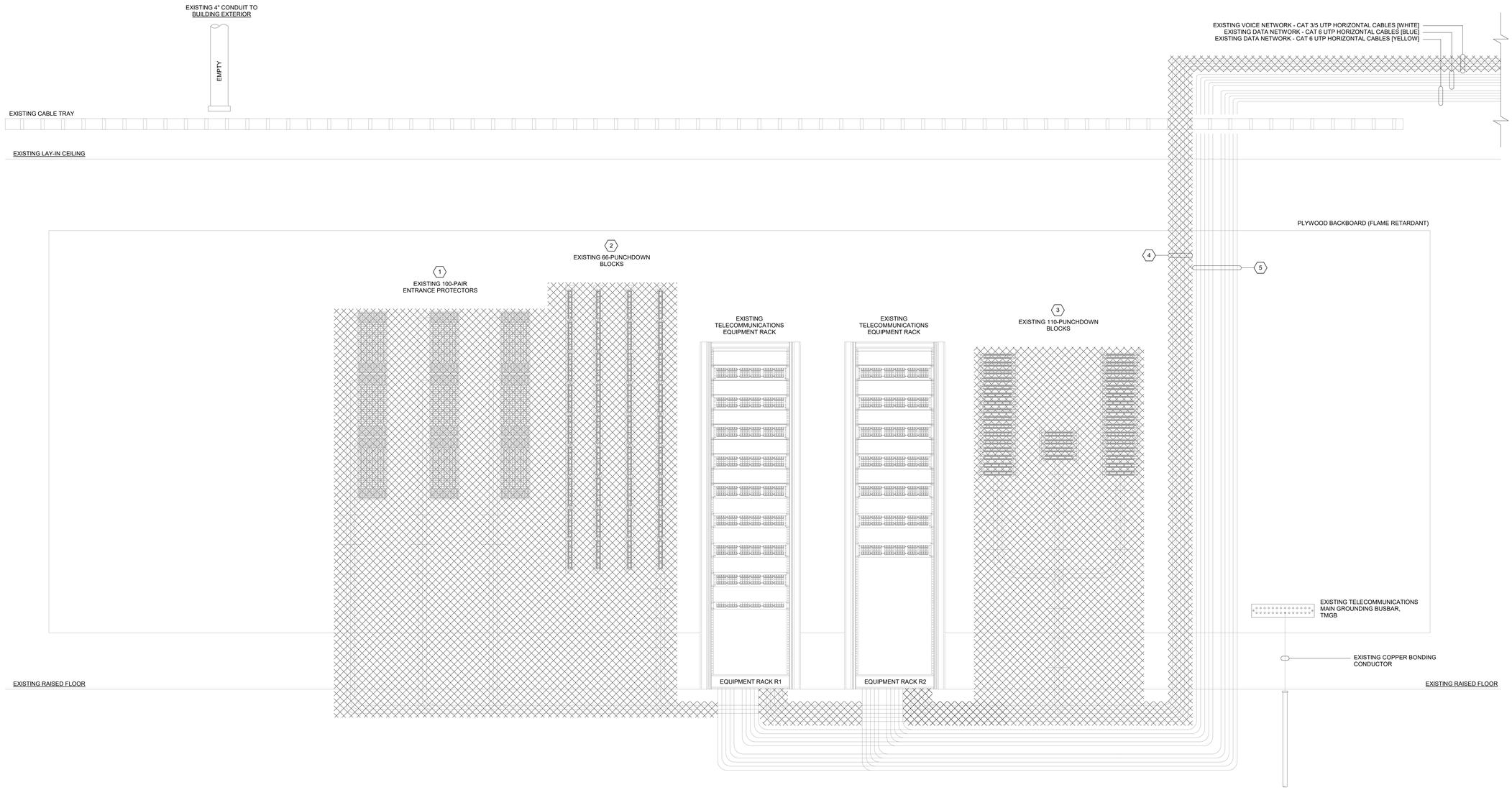
SHEET KEYNOTES:

1	REMOVE AND PROPERLY DISPOSE OF EXISTING 100-PAIR ENTRANCE PROTECTORS AND ASSOCIATED CABLING.
2	REMOVE AND PROPERLY DISPOSE OF EXISTING 66-PUNCHDOWN BLOCKS AND ASSOCIATED CABLING.
3	REMOVE AND PROPERLY DISPOSE OF EXISTING 110-PUNCHDOWN BLOCKS AND ASSOCIATED CABLING.
4	REMOVE AND PROPERLY DISPOSE OF EXISTING CAT 3/5 HORIZONTAL CABLING [WHITE] THROUGHOUT THE FACILITY (FROM RJ-45 PORT TO PUNCHDOWN BLOCKS / PATCH PANELS).
5	EXISTING CAT 6 HORIZONTAL CABLING [BLUE AND YELLOW] SHALL REMAIN EXCEPT FOR CABLING ASSOCIATED WITH TELECOMMUNICATIONS OUTLETS BEING DEMOLISHED (REFER TO ED401 THROUGH ED404).



1 TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER ROOM 261 - DEMOLITION

NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER ROOM 261 - DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

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GENERAL NOTES:

1	CONTRACTOR SHALL FURNISH AND INSTALL ALL DATA/WAP/SECURITY CABLING, CABLE TRAYS, JUNCTION BOXES, FACEPLATES, MODULAR JACKS, TERMINATIONS, ETC. AS REQUIRED FOR A FULLY OPERATIONAL SYSTEM.
2	CONTRACTOR SHALL GROUND/BOND EVERYTHING METALLIC (RACKS, CONDUITS, CABLE TRAYS, ETC.) WITHIN THE COMPUTER / SERVER ROOM TO THE TMGB.
3	REFER TO FACEPLATE DETAILS ON SHEET ET501 FOR CONFIGURATION TYPE AND QUANTITY OF CABLES REQUIRED FOR EACH TELECOMMUNICATIONS OUTLET.
4	EXISTING-TO-REMAIN DATA NETWORK CABLING SHALL BE TESTED AND INSPECTED AS REQUIRED FOR NEW CABLING. ANY EXISTING CABLING THAT DOES NOT PASS TESTS AND INSPECTIONS SHALL BE DEEMED DEFECTIVE AND SHALL BE REMOVED COMPLETELY. CONTRACTOR SHALL UTILIZE CABLING THAT IS SCHEDULED TO BE DEMOLISHED TO REPLACE EXISTING CABLING THAT IS FOUND TO BE DEFECTIVE.
5	EXISTING-TO-REMAIN DATA NETWORK CABLING, PATCH PANELS, AND FACEPLATES SHALL BE PROVIDED WITH NEW LABELING TO MATCH THE LABELING SCHEME OF NEW CABLING.
6	PROVIDE DEDICATED PATCH PANELS FOR THE "DATA NETWORK", DEDICATED PATCH PANELS FOR THE "WAP NETWORK", AND DEDICATED PATCH PANELS FOR THE "SECURITY NETWORK".
7	RACK-MOUNTED POWER DISTRIBUTION UNITS (PDUs) SHALL BE OWNER PROVIDED / CONTRACTOR INSTALLED.

2" CONDUIT + 1" CONDUIT TO IDF 287
4" CONDUIT TO PROPERTY LINE
2" CONDUIT TO SITE CABINET
EXISTING 4" CONDUIT TO BUILDING EXTERIOR
FIBER BACKBONE
FIBER BACKBONE
GROUNDING
FIBER BACKBONE
FIBER BACKBONE
12-STRAND SINGLE-MODE OPTICAL FIBER (OS2) - BLUE (LFUCG VACTOR BUILDING)
OSP OPTICAL FIBER - OWNER FURNISHED / OWNER INSTALLED
12-STRAND SINGLE-MODE OPTICAL FIBER (OS2) - BLUE (IDF ROOM 287)
12-STRAND SINGLE-MODE OPTICAL FIBER (OS2) - BLUE (SITE)
FIBER MAINTENANCE LOOP - 20' (TYPICAL)
IDF OPTICAL FIBER
VACTOR BUILDING OPTICAL FIBER
OSP OPTICAL FIBER
SITE OPTICAL FIBER
RECEPTACLE (TYPICAL)
4" CONDUIT SLEEVE
EXISTING RAISED FLOOR
FIBER BACKBONE
CABLING ROUTED IN NEW/EXISTING CABLE TRAY BELOW RAISED FLOOR
HORIZONTAL CABLE MANAGEMETNT PANEL (QUANTITY AS REQUIRED) TYPICAL
VERTICAL CABLE MANAGEMENT PANELS (QUANTITY AS REQUIRED) TYPICAL
EMPTY RACK FOR OWNER FURNISHED AND INSTALLED NETWORK EQUIPMENT
EQUIPMENT RACK R1
EQUIPMENT RACK R2
EQUIPMENT RACK R3
FIBER TERMINATION PANELS (QUANTITY AS REQUIRED)
48-PORT CAT 6 PATCH PANELS [SECURITY NETWORK] (QUANTITY AS REQUIRED)
48-PORT CAT 6 PATCH PANELS [DATA NETWORK] (QUANTITY AS REQUIRED)
48-PORT CAT 6 PATCH PANELS [WAP NETWORK] (QUANTITY AS REQUIRED)
EXISTING TELECOMMUNICATIONS EQUIPMENT RACK
EXISTING TELECOMMUNICATIONS EQUIPMENT RACK
EX. EQUIPMENT RACK
EX. EQUIPMENT RACK
RACK-MOUNTED POWER DISTRIBUTION UNIT, PDU (TYP)
CABLING ROUTED IN NEW/EXISTING CABLE TRAY BELOW RAISED FLOOR
EXISTING DATA NETWORK - CAT 6 UTP HORIZONTAL CABLES [YELLOW]
EXISTING DATA NETWORK - CAT 6 UTP HORIZONTAL CABLES [BLUE]
DATA NETWORK - CAT 6 UTP HORIZONTAL CABLES [BLUE]
WAP NETWORK - CAT 6 UTP HORIZONTAL CABLES [BLUE]
SECURITY NETWORK - CAT 6 UTP HORIZONTAL CABLES [PURPLE]
CAT 6 UTP IN 1"C (REFER TO FLOOR PLANS FOR TELECOMMUNICATIONS OUTLET LOCATIONS, DESIGNATIONS, AND QUANTITY CABLES REQUIRED FOR EACH); STUB CONDUIT OUT TO ABOVE CEILING AND ROUTE CABLING IN J-HOOKS TO CABLE TRAY OR WITHIN CONDUIT
EXISTING CABLE TRAY
EXISTING LAY-IN CEILING
PLYWOOD BACKBOARD (FLAME RETARDANT)
RECEPTACLE (TYPICAL)
#3/0 INSULATED COPPER CONDUCTOR TO TELECOMMUNICATIONS GROUND BAR (TGB) IN IDF 287
EXISTING TELECOMMUNICATIONS MAIN GROUNDING BUSBAR, TMGB
EXISTING COPPER BONDING CONDUCTOR
#6 INSULATED COPPER BONDING CONDUCTOR TO EQUIPMENT RACKS, TYP.
EXISTING RAISED FLOOR

1 TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER ROOM 261 - NEW WORK

NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER ROOM 261 - NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

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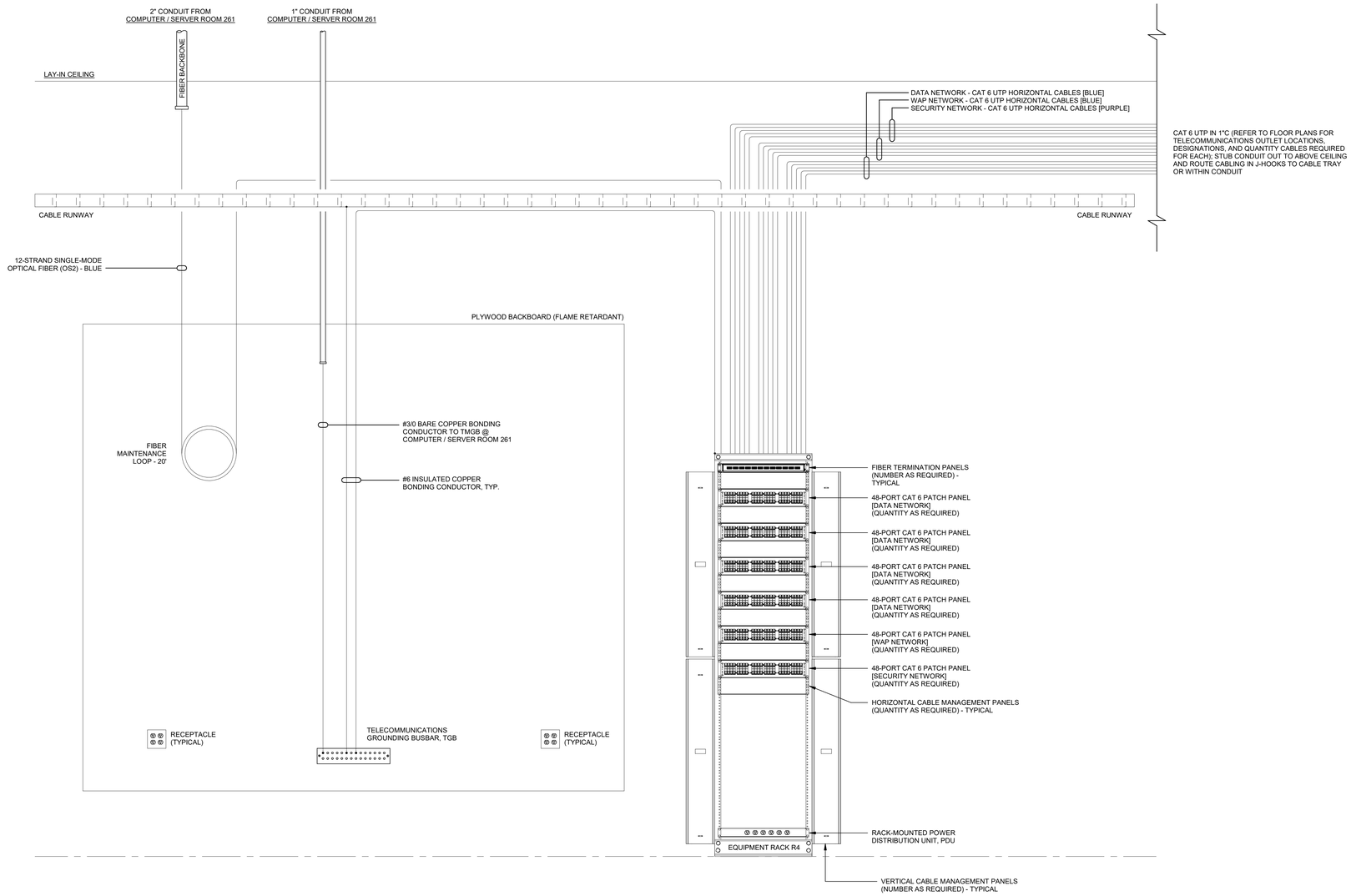
GENERAL NOTES:

1	CONTRACTOR SHALL FURNISH AND INSTALL ALL DATA/WAP/SECURITY CABLING, CABLE TRAYS, JUNCTION BOXES, FACEPLATES, MODULAR JACKS, TERMINATIONS, ETC. AS REQUIRED FOR A FULLY OPERATIONAL SYSTEM.
2	CONTRACTOR SHALL GROUND/BOND EVERYTHING METALLIC (RACKS, CONDUITS, CABLE TRAYS, ETC.) WITHIN IDF TO THE TGB.
3	REFER TO FACEPLATE DETAILS ON SHEET ET501 FOR CONFIGURATION TYPE AND QUANTITY OF CABLES REQUIRED FOR EACH TELECOMMUNICATIONS OUTLET.
4	PROVIDE DEDICATED PATCH PANELS FOR THE "DATA NETWORK", DEDICATED PATCH PANELS FOR THE "WAP NETWORK", AND DEDICATED PATCH PANELS FOR THE "SECURITY NETWORK".
5	RACK-MOUNTED POWER DISTRIBUTION UNIT (PDU) SHALL BE OWNER PROVIDED / CONTRACTOR INSTALLED.



1 TELECOMMUNICATIONS RISER DIAGRAM - IDF 287 - NEW WORK

NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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TELECOMMUNICATIONS RISER DIAGRAM - IDF 287 - NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE
00		8"

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO. ET603 01

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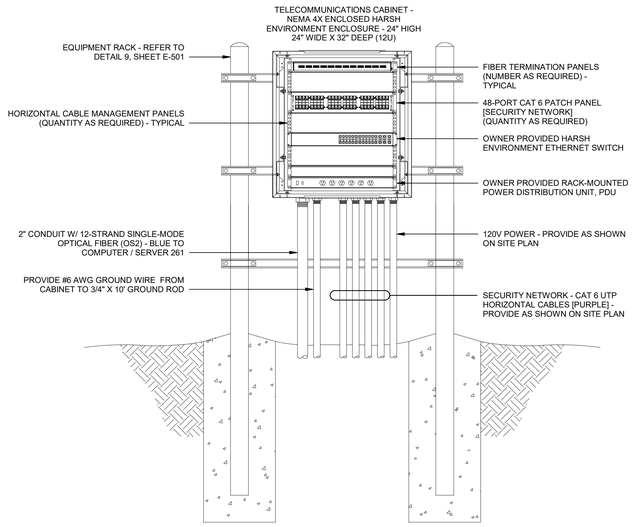
GENERAL NOTES:

1	CONTRACTOR SHALL FURNISH AND INSTALL ALL DATA/WAP/SECURITY CABLING, CABLE TRAYS, JUNCTION BOXES, FACEPLATES, MODULAR JACKS, TERMINATIONS, ETC. AS REQUIRED FOR A FULLY OPERATIONAL SYSTEM.
2	CONTRACTOR SHALL GROUND/BOND EVERYTHING METALLIC (RACKS, CONDUITS, CABLE TRAYS, ETC.) WITHIN THE TELECOMMUNICATIONS CABINET.
3	REFER TO ELECTRICAL SITE PLAN FOR CABLING REQUIRED FOR INTERCOM STATIONS AND CAMERAS.
4	RACK-MOUNTED POWER DISTRIBUTION UNIT (PDU) SHALL BE OWNER PROVIDED / CONTRACTOR INSTALLED.



1 TELECOMMUNICATIONS RISER DIAGRAM - SITE - NEW WORK

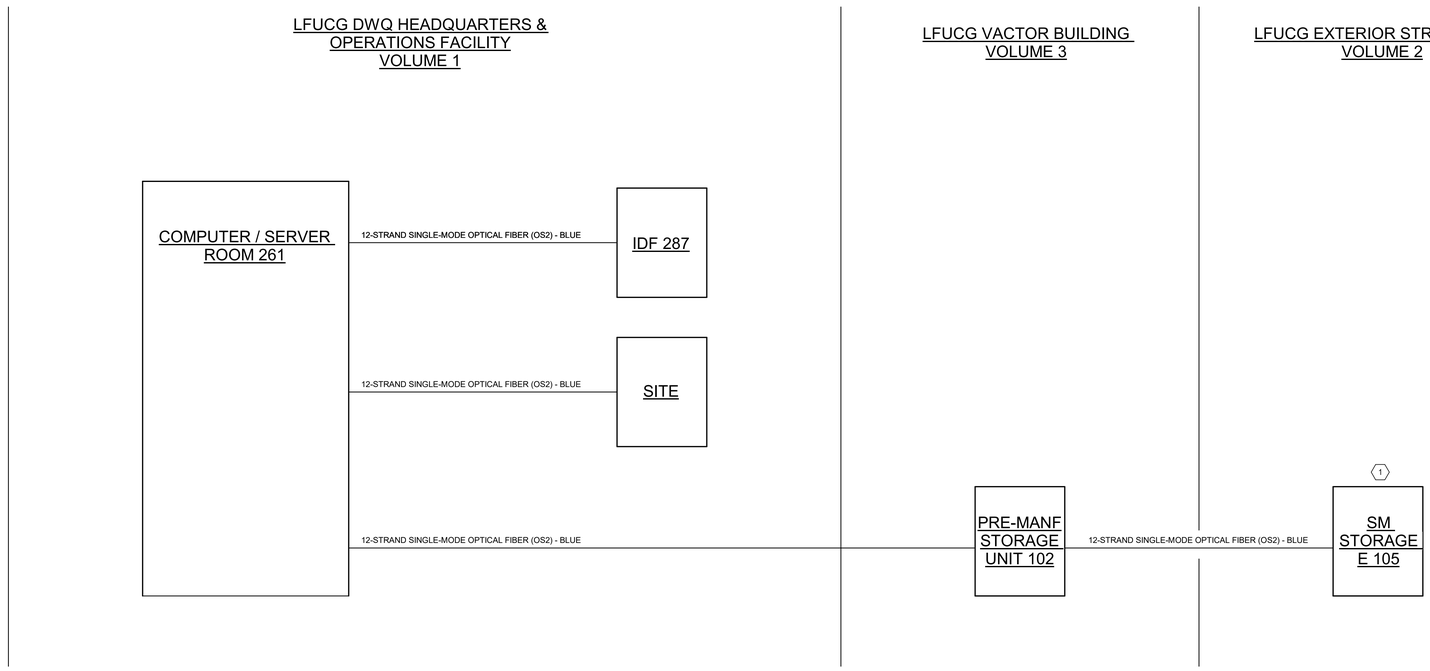
NOT TO SCALE

GENERAL NOTES:

1	REFER TO TELECOMMUNICATIONS PLANS FOR ALL HORIZONTAL CABLING (CAT 6).

KEYNOTES:

1	AS PART OF ADDITIVE ALTERNATE #1 - PROVIDE OPTICAL FIBER FOR LFUCG EXTERIOR STRUCTURES (VOLUME 2).



2 TELECOMMUNICATIONS BLOCK DIAGRAM

NOT TO SCALE

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STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 0524T-01

CLIENT PROJECT NO. RFP 70-2025

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TELECOMMUNICATIONS RISER DIAGRAM - SITE - NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	REVISION/DESCRIPTION	DATE	BY

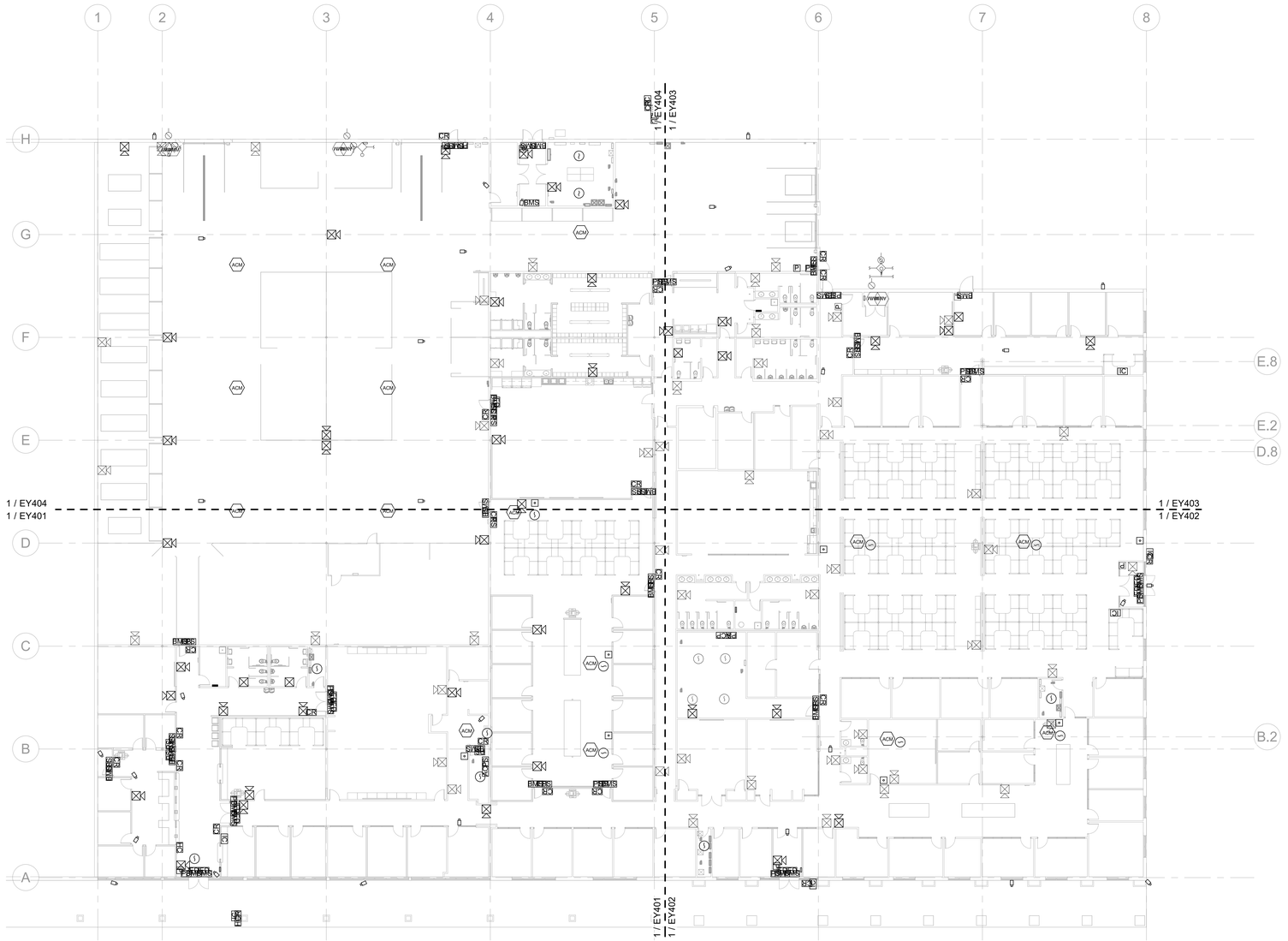
SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.

ET604 01



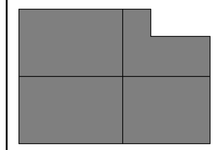
1 FIRST LEVEL - FIRE ALARM AND SECURITY PLAN

SCALE: 1/16" = 1'-0"

GENERAL NOTES:

1	SHEET IS PROVIDED FOR REFERENCE ONLY.

AREA KEY PLAN



PLAN NORTH

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

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FIRST LEVEL - FIRE ALARM AND SECURITY PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/16" = 1'-0"

SHEET NO. EY101 01

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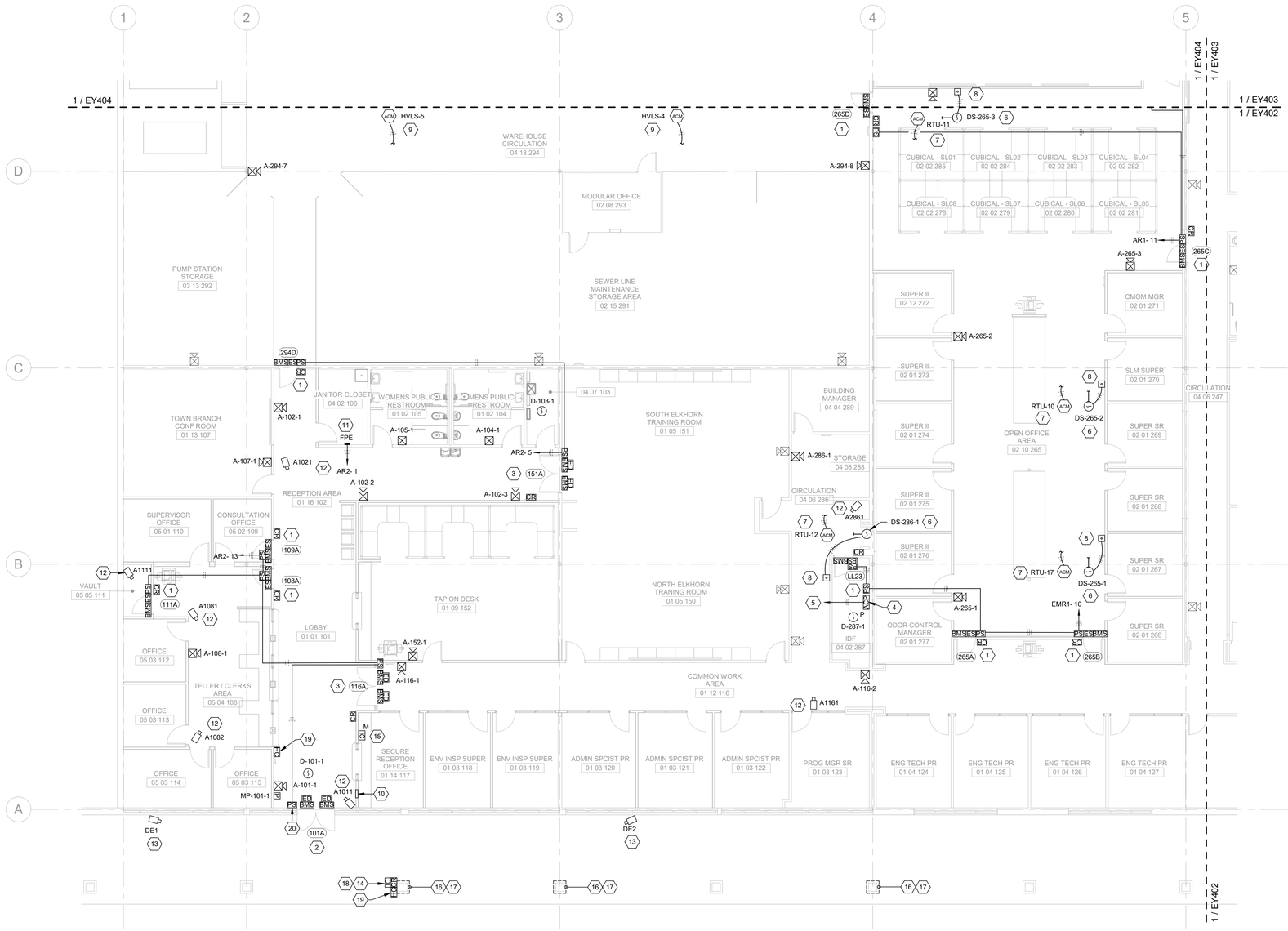


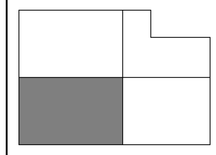
GENERAL NOTES:

1. WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2. FIRE ALARM SYSTEM SHALL BE CONNECTED AS SHOWN ON THE MANUFACTURER'S SUBMITTAL DRAWINGS, WITH NUMBER OF WIRES AND CONDUIT SIZED AS REQUIRED.
3. THE FIRE ALARM SYSTEM SHALL BE MONITORED BY A U.L. APPROVED CENTRAL MONITORING STATION. THE MONITORING STATION INFORMATION AND CORRESPONDING U.L. FILE NUMBER SHALL BE PROVIDED TO THE PROPER APPROVAL AGENCIES BY THE SUCCESSFUL FIRE ALARM MANUFACTURER / SUPPLIER.
4. ANY DUCT SMOKE DETECTOR FOR A HVAC UNIT THAT IS NOT DIRECTLY ACCESSIBLE SHALL BE PROVIDED WITH A REMOTE-MOUNTED TEST SWITCH THAT IS MOUNTED IN AN ACCESSIBLE LOCATION AND LABELED AS TO WHICH UNIT THEY MONITOR.
5. ALL FIRE ALARM INDICATING DEVICES ARE TO BE INSTALLED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.
6. MANUAL PULL STATIONS ARE TO BE INSTALLED NOT LESS THAN 42" AFF OR MORE THAN 48" AFF (TO OPERATING HANDLE).
7. ALL FIRE ALARM CABLING SHALL BE INSTALLED IN CONDUIT.
8. UNLESS OTHERWISE NOTED, SECURITY EQUIPMENT/DEVICES AND INTERCOM EQUIPMENT/DEVICES WILL BE PROVIDED AS PART OF A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS, AND PATCH PANELS.
9. ALL ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTERCOM SYSTEM CABLING SHALL BE INSTALLED IN CONDUIT.
10. REFER TO ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTERCOM SYSTEM RISER DIAGRAMS ON SHEETS EY602 THROUGH EY609 FOR ADDITIONAL REQUIREMENTS.
11. COORDINATE WITH DOOR HARDWARE INSTALLER FOR ALL REQUIRED ACCESS CONTROL SYSTEM CONNECTIONS AND ROUGH-IN REQUIREMENTS.

SHEET KEYNOTES

1. SINGLE DOOR WITH ELECTRIC STRIKE. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 1, SHEET EY501.
2. DOUBLE DOOR WITH ELECTRIFIED EXIT DEVICE AND HANDICAP OPERATOR. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 4, SHEET EY503.
3. DOUBLE DOOR WITH ELECTRIFIED EXIT DEVICE. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 3, SHEET EY501.
4. ACCESS CONTROL PANEL AND POWER SUPPLY. REFER TO ACCESS CONTROL SYSTEM RISER DIAGRAM ON SHEET EY601 FOR ADDITIONAL INFORMATION.
5. PROVIDE CAT 6, 1"C FROM ACCESS CONTROL PANEL TO TELECOMMUNICATIONS EQUIPMENT RACK, IDF 287.
6. PROVIDE AND INSTALL DUCT SMOKE DETECTOR INSTALLED IN RETURN AIR DUCT OF INDICATED HVAC UNIT. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.
7. ADDRESSABLE FIRE ALARM CONTROL RELAY MODULE FOR DUCT SMOKE DETECTOR. PROVIDE FIRE ALARM SIGNALING LINE CIRCUIT (SLC WIRING) TO THE FIRE ALARM CONTROL PANEL. PROVIDE CONDUIT/WIRING TO HVAC UNIT CONTROLS FOR UNIT SHUTDOWN UPON ACTIVATION OF ASSOCIATED DUCT SMOKE DETECTOR.
8. PROVIDE AND INSTALL REMOTE TEST STATION FOR DUCT SMOKE DETECTOR. PROVIDE CONDUIT/WIRING AS REQUIRED.
9. ADDRESSABLE FIRE ALARM CONTROL RELAY MODULE FOR HVLS FAN. PROVIDE FIRE ALARM SIGNALING LINE CIRCUIT (SLC WIRING) TO THE FIRE ALARM CONTROL PANEL. PROVIDE CONDUIT/WIRING TO HVLS FAN (FIRE ALARM INPUT) FOR UNIT SHUTDOWN UPON WATER FLOW SIGNAL FROM SPRINKLER FLOW SWITCH (SERVING THE AREA WHERE THE HVLS ARE LOCATED).
10. PROVIDE AND INSTALL A NEW SEMI-RECESSED FIRE ALARM REMOTE ANNUNCIATOR PANEL. PROVIDE CONDUIT/WIRING AND CONNECTION TO THE EXISTING FIRE ALARM CONTROL PANEL (REFER TO LOCATION ON SHEET EY404).
11. PROVIDE AND INSTALL A NEW FIRE ALARM NAC BOOSTER POWER SUPPLY.
12. OWNER FURNISHED/OWNER INSTALLED CEILING-MOUNTED CAMERA (REFER TO DETAIL 4, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (IDF 287).
13. OWNER FURNISHED/OWNER INSTALLED SOFFIT-MOUNTED CAMERA (SIMILAR TO DETAIL 4, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (IDF 287).
14. INTERCOM/VIDEO STATION. MOUNT AT 46" AFF TO CENTERLINE. PROVIDE CAT 6 CABLING, 1"C TO NEAREST TELECOMMUNICATIONS ROOM.
15. IP INTERCOM/VIDEO MASTER STATION - DESK MOUNTED. PROVIDE CAT 6, 1"C TO NEAREST TELECOMMUNICATIONS ROOM.
16. REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILLANCE, AND GATE BRANCH POWER ENTERING THE BUILDING VIA THE INDICATED COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED (COORDINATE WITH GENERAL CONTRACTOR).
17. EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
18. PROVIDE CONDUIT/WIRING BETWEEN INTERCOM STATION (SECURITY RELAY) AND ASSOCIATED ACCESS CONTROL PANEL FOR REMOTE CONTROL OF DOOR.
19. HANDICAP DOOR ACTUATOR.
20. PROVIDE 120V POWER TO POWER SUPPLY FOR ELECTRIFIED DOOR HARDWARE AND HANDICAP DOOR OPERATORS.

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA A
SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN — STATE OF KENTUCKY — LICENSED PROFESSIONAL ENGINEER — 8/19/25

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CLIENT PROJECT NO. RFP 70-2025
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FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA A

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EY401 01

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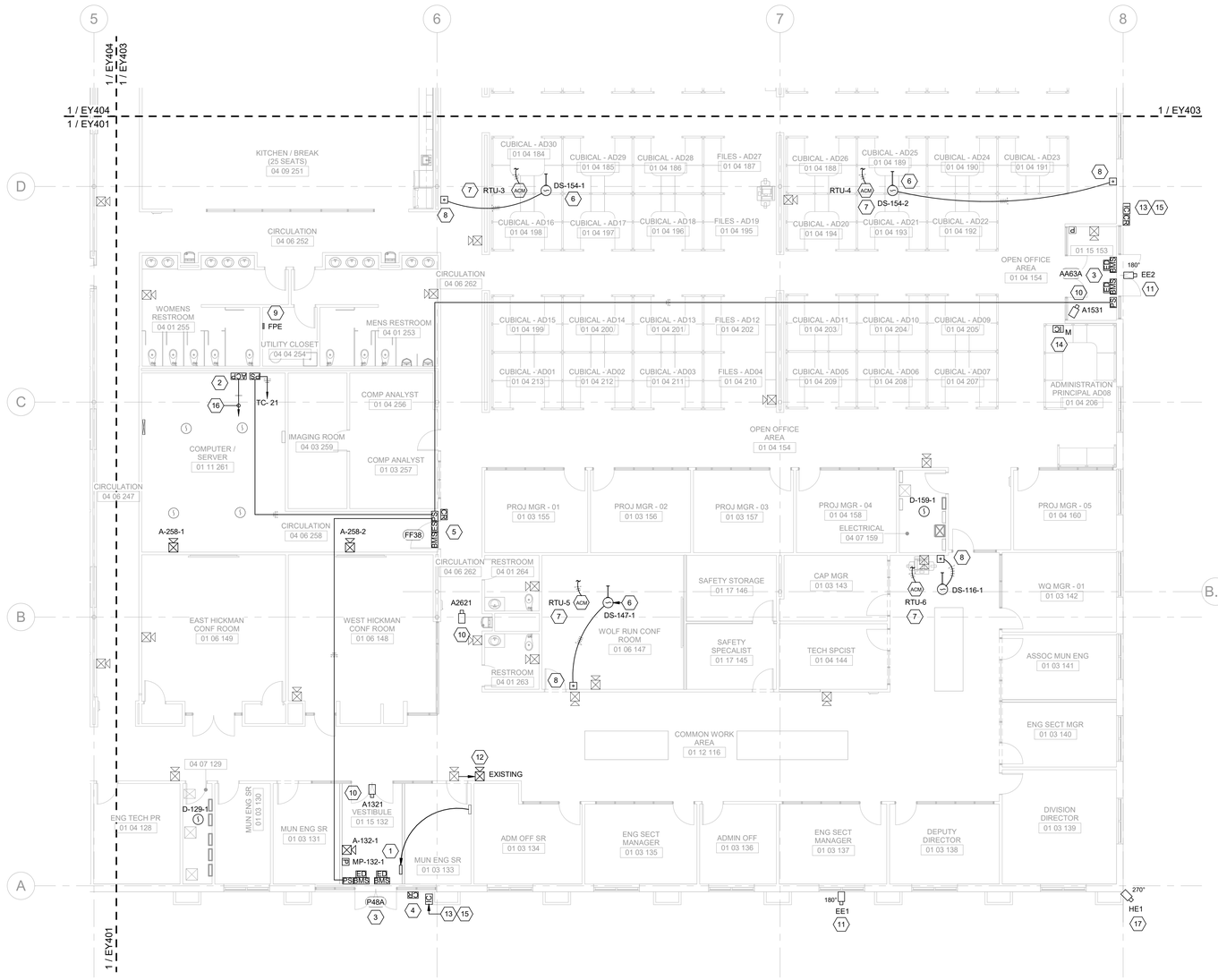


1 FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA B

SCALE: 1/8" = 1'-0"

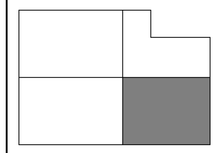
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	FIRE ALARM SYSTEM SHALL BE CONNECTED AS SHOWN ON THE MANUFACTURER'S SUBMITTAL DRAWINGS, WITH NUMBER OF WIRES AND CONDUIT SIZED AS REQUIRED.
3	THE FIRE ALARM SYSTEM SHALL BE MONITORED BY A U.L. APPROVED CENTRAL MONITORING STATION. THE MONITORING STATION INFORMATION AND CORRESPONDING U.L. FILE NUMBER SHALL BE PROVIDED TO THE PROPER APPROVAL AGENCIES BY THE SUCCESSFUL FIRE ALARM MANUFACTURER / SUPPLIER.
4	ANY DUCT SMOKE DETECTOR FOR A HVAC UNIT THAT IS NOT DIRECTLY ACCESSIBLE SHALL BE PROVIDED WITH A REMOTE-MOUNTED TEST SWITCH THAT IS MOUNTED IN AN ACCESSIBLE LOCATION AND LABELED AS TO WHICH UNIT THEY MONITOR.
5	ALL FIRE ALARM INDICATING DEVICES ARE TO BE INSTALLED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.
6	MANUAL PULL STATIONS ARE TO BE INSTALLED NOT LESS THAN 42" AFF OR MORE THAN 48" AFF (TO OPERATING HANDLE).
7	ALL FIRE ALARM CABLING SHALL BE INSTALLED IN CONDUIT.
8	UNLESS OTHERWISE NOTED, SECURITY EQUIPMENT/DEVICES AND INTERCOM EQUIPMENT/DEVICES WILL BE PROVIDED AS PART OF A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS, AND PATCH PANELS.
9	ALL ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTERCOM SYSTEM CABLING SHALL BE INSTALLED IN CONDUIT.
10	REFER TO ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTERCOM SYSTEM RISER DIAGRAMS ON SHEETS EY602 THROUGH EY609 FOR ADDITIONAL REQUIREMENTS.
11	COORDINATE WITH DOOR HARDWARE INSTALLER FOR ALL REQUIRED ACCESS CONTROL SYSTEM CONNECTIONS AND ROUGH-IN REQUIREMENTS.

SHEET KEYNOTES

1	NEW LOCATION OF EXISTING FIRE ALARM REMOTE ANNUNCIATOR PANEL. PROVIDE CONDUIT/CABLING AS REQUIRED FOR NEW LOCATION.
2	ACCESS CONTROL PANEL AND POWER SUPPLY. REFER TO ACCESS CONTROL SYSTEM RISER DIAGRAM ON SHEET EY602 FOR ADDITIONAL INFORMATION.
3	DOUBLE DOOR WITH ELECTRIFIED EXIT DEVICE. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 3, SHEET EY501.
4	MULLION-MOUNTED CARD READER.
5	SINGLE DOOR WITH ELECTRIC STRIKE. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 1, SHEET EY501.
6	PROVIDE AND INSTALL DUCT SMOKE DETECTOR INSTALLED IN RETURN AIR DUCT OF INDICATED HVAC UNIT. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.
7	ADDRESSABLE FIRE ALARM CONTROL RELAY MODULE FOR DUCT SMOKE DETECTOR. PROVIDE FIRE ALARM SIGNALING LINE CIRCUIT (SLC WIRING) TO THE FIRE ALARM CONTROL PANEL. PROVIDE CONDUIT/WIRING TO HVAC UNIT CONTROLS FOR UNIT SHUTDOWN UPON ACTIVATION OF ASSOCIATED DUCT SMOKE DETECTOR.
8	PROVIDE AND INSTALL REMOTE TEST STATION FOR DUCT SMOKE DETECTOR. PROVIDE CONDUIT/WIRING AS REQUIRED.
9	EXISTING FIRE ALARM NAC POWER EXTENDER.
10	OWNER FURNISHED/OWNER INSTALLED CEILING-MOUNTED CAMERA (REFER TO DETAIL 4, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261).
11	OWNER FURNISHED/OWNER INSTALLED WALL-MOUNTED EXTERIOR CAMERA (REFER TO DETAIL 5, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261).
12	NEW LOCATION OF EXISTING FIRE ALARM AUDIO/VISUAL DEVICE. PROVIDE CONDUIT/WIRING AS REQUIRED FOR NEW LOCATION.
13	INTERCOM/VIDEO STATION. MOUNT AT 46" AFF TO CENTERLINE. PROVIDE CAT 6 CABLING, 1"C TO NEAREST TELECOMMUNICATIONS ROOM.
14	IP INTERCOM/VIDEO MASTER STATION - DESK MOUNTED. PROVIDE CAT 6, 1"C TO NEAREST TELECOMMUNICATIONS ROOM.
15	PROVIDE CONDUIT/WIRING BETWEEN INTERCOM STATION (SECURITY RELAY) AND ASSOCIATED ACCESS CONTROL PANEL FOR REMOTE CONTROL OF DOOR.
16	PROVIDE CAT 6, 1"C FROM ACCESS CONTROL PANEL TO TELECOMMUNICATIONS EQUIPMENT RACK IN COMPUTER / SERVER 261.
17	OWNER FURNISHED/OWNER INSTALLED CORNER-MOUNTED EXTERIOR CAMERA (REFER TO DETAIL 6, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261).

AREA KEY PLAN



PLAN NORTH

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA B

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DATE:	REVISION DESCRIPTION

SCALE CHECK: 1"=1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EY402 01

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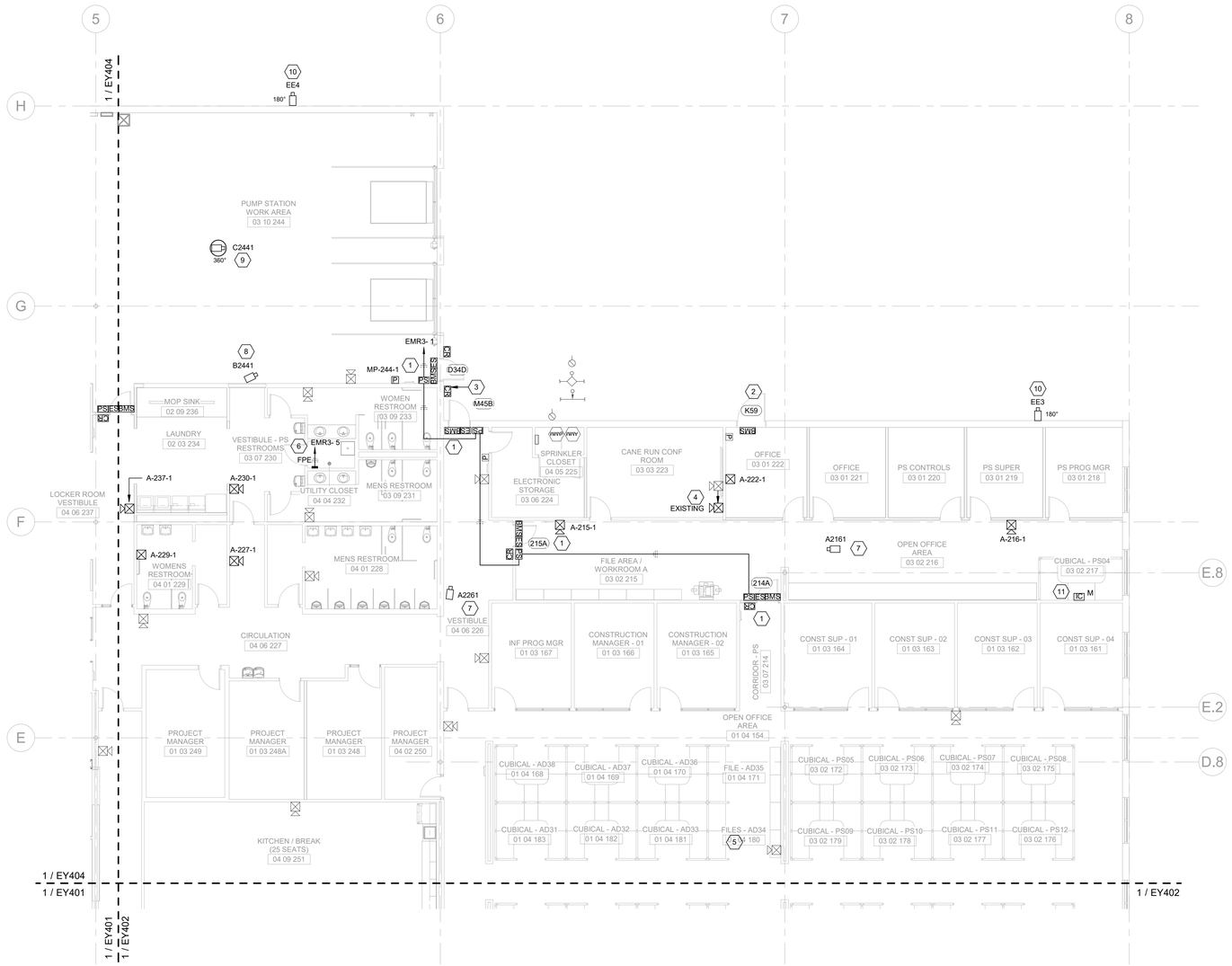


1 FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA C

SCALE: 1/8" = 1'-0"

PLAN NORTH

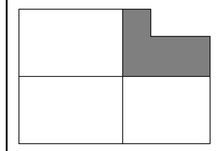
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	FIRE ALARM SYSTEM SHALL BE CONNECTED AS SHOWN ON THE MANUFACTURER'S SUBMITTAL DRAWINGS, WITH NUMBER OF WIRES AND CONDUIT SIZED AS REQUIRED.
3	THE FIRE ALARM SYSTEM SHALL BE MONITORED BY A U.L. APPROVED CENTRAL MONITORING STATION. THE MONITORING STATION INFORMATION AND CORRESPONDING U.L. FILE NUMBER SHALL BE PROVIDED TO THE PROPER APPROVAL AGENCIES BY THE SUCCESSFUL FIRE ALARM MANUFACTURER / SUPPLIER.
4	ANY DUCT SMOKE DETECTOR FOR A HVAC UNIT THAT IS NOT DIRECTLY ACCESSIBLE SHALL BE PROVIDED WITH A REMOTE-MOUNTED TEST SWITCH THAT IS MOUNTED IN AN ACCESSIBLE LOCATION AND LABELED AS TO WHICH UNIT THEY MONITOR.
5	ALL FIRE ALARM INDICATING DEVICES ARE TO BE INSTALLED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.
6	MANUAL PULL STATIONS ARE TO BE INSTALLED NOT LESS THAN 42" AFF OR MORE THAN 48" AFF (TO OPERATING HANDLE).
7	ALL FIRE ALARM CABLING SHALL BE INSTALLED IN CONDUIT.
8	UNLESS OTHERWISE NOTED, SECURITY EQUIPMENT/DEVICES AND INTERCOM EQUIPMENT/DEVICES WILL BE PROVIDED AS PART OF A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS, AND PATCH PANELS.
9	ALL ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTERCOM SYSTEM CABLING SHALL BE INSTALLED IN CONDUIT.
10	REFER TO ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTERCOM SYSTEM RISER DIAGRAMS ON SHEETS EY602 THROUGH EY609 FOR ADDITIONAL REQUIREMENTS.
11	COORDINATE WITH DOOR HARDWARE INSTALLER FOR ALL REQUIRED ACCESS CONTROL SYSTEM CONNECTIONS AND ROUGH-IN REQUIREMENTS.

SHEET KEYNOTES

1	SINGLE DOOR WITH ELECTRIC STRIKE. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 1, SHEET EY501.
2	SINGLE DOOR WITH MONITORING ONLY. PROVIDE CONDUIT/WIRING BACK TO ACCESS CONTROL PANEL. REFER TO DETAIL 2, SHEET EY501.
3	CARD READER SHALL CONTROL ADJACENT DOORS (D34D AND M45B).
4	NEW LOCATION OF EXISTING FIRE ALARM AUDIO/VISUAL DEVICE. PROVIDE CONDUIT/WIRING AS REQUIRED FOR NEW LOCATION.
5	NEW FIRE ALARM VISUAL ONLY DEVICE TO REPLACE EXISTING AUDIO/VISUAL DEVICE.
6	PROVIDE AND INSTALL A NEW FIRE ALARM NAC BOOSTER POWER SUPPLY.
7	OWNER FURNISHED/OWNER INSTALLED CEILING-MOUNTED CAMERA (REFER TO DETAIL 4, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261).
8	OWNER FURNISHED/OWNER INSTALLED WALL-MOUNTED CAMERA (REFER TO DETAIL 5, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261).
9	OWNER FURNISHED/OWNER INSTALLED PENDANT-MOUNTED CAMERA (REFER TO DETAIL 3, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261).
10	OWNER FURNISHED/OWNER INSTALLED WALL-MOUNTED EXTERIOR CAMERA (REFER TO DETAIL 5, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261).
11	IP INTERCOM/VIDEO MASTER STATION - DESK MOUNTED. PROVIDE CAT 6, 1"C TO NEAREST TELECOMMUNICATIONS ROOM.

AREA KEY PLAN



STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	DESCRIPTION	DATE
1	PER MARK-UP/HOLD MEASURE EXACTLY 1" PER PLOTTER	9/5/25

SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EY403 01

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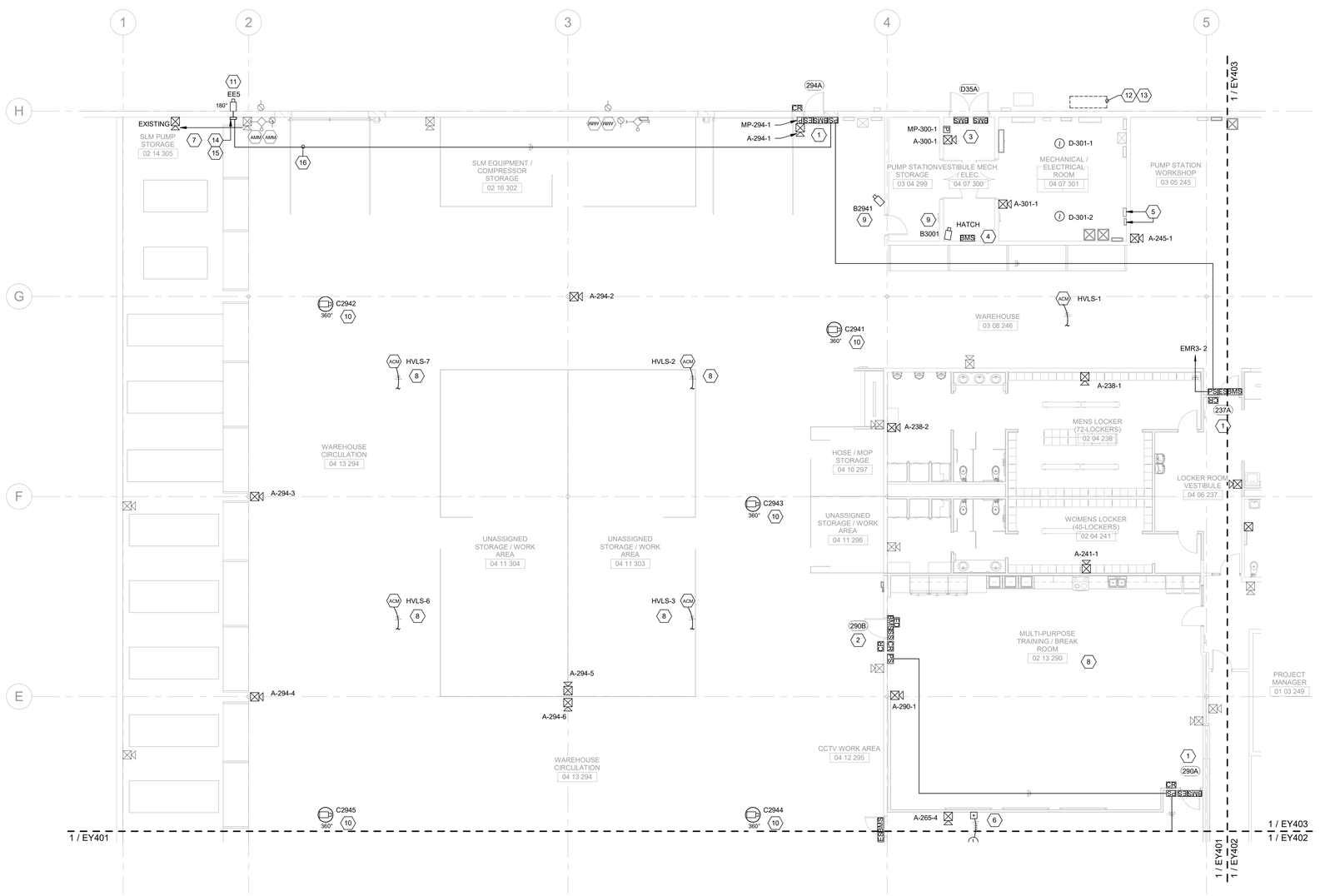


1 FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA D

SCALE: 1/8" = 1'-0"

PLAN NORTH

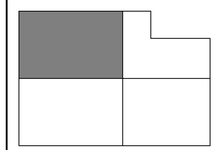
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	FIRE ALARM SYSTEM SHALL BE CONNECTED AS SHOWN ON THE MANUFACTURER'S SUBMITTAL DRAWINGS, WITH NUMBER OF WIRES AND CONDUIT SIZED AS REQUIRED.
3	THE FIRE ALARM SYSTEM SHALL BE MONITORED BY A U.L. APPROVED CENTRAL MONITORING STATION. THE MONITORING STATION INFORMATION AND CORRESPONDING U.L. FILE NUMBER SHALL BE PROVIDED TO THE PROPER APPROVAL AGENCIES BY THE SUCCESSFUL FIRE ALARM MANUFACTURER / SUPPLIER.
4	ANY DUCT SMOKE DETECTOR FOR A HVAC UNIT THAT IS NOT DIRECTLY ACCESSIBLE SHALL BE PROVIDED WITH A REMOTE-MOUNTED TEST SWITCH THAT IS MOUNTED IN AN ACCESSIBLE LOCATION AND LABELED AS TO WHICH UNIT THEY MONITOR.
5	ALL FIRE ALARM INDICATING DEVICES ARE TO BE INSTALLED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER.
6	MANUAL PULL STATIONS ARE TO BE INSTALLED NOT LESS THAN 42" AFF OR MORE THAN 48" AFF (TO OPERATING HANDLE).
7	ALL FIRE ALARM CABLING SHALL BE INSTALLED IN CONDUIT.
8	UNLESS OTHERWISE NOTED, SECURITY EQUIPMENT/DEVICES AND INTERCOM EQUIPMENT/DEVICES WILL BE PROVIDED AS PART OF A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS, AND PATCH PANELS.
9	ALL ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTERCOM SYSTEM CABLING SHALL BE INSTALLED IN CONDUIT.
10	REFER TO ACCESS CONTROL, VIDEO SURVEILLANCE, AND INTERCOM SYSTEM RISER DIAGRAMS ON SHEETS EY602 THROUGH EY609 FOR ADDITIONAL REQUIREMENTS.
11	COORDINATE WITH DOOR HARDWARE INSTALLER FOR ALL REQUIRED ACCESS CONTROL SYSTEM CONNECTIONS AND ROUGH-IN REQUIREMENTS.

SHEET KEYNOTES

1	SINGLE DOOR WITH ELECTRIC STRIKE. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 1, SHEET EY501.
2	SINGLE DOOR WITH WITH LOCAL ALARM (INCLUDES CARD READER BOTH SIDES). PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 4, SHEET EY501.
3	DOUBLE DOOR WITH MONITORING ONLY. PROVIDE CONDUIT/WIRING BACK TO ACCESS CONTROL PANEL. REFER TO DETAIL 5, SHEET EY501.
4	PROVIDE BALANCED MAGNETIC SWITCH FOR ROOF HATCH. PROVIDE CONDUIT/WIRING BACK TO ACCESS CONTROL PANEL.
5	EXISTING FIRE ALARM CONTROL PANEL (EDWARDS EST) AND ASSOCIATED FIRE ALARM COMMUNICATOR (HONEYWELL HW-AV-LTE-M). PROVIDE EXPANSION MODULES, ETC. AS REQUIRED FOR NEW DEVICES. REPROGRAM AND RECERTIFY THE FIRE ALARM CONTROL PANEL.
6	PROVIDE AND INSTALL REMOTE TEST STATION FOR DUCT SMOKE DETECTOR. PROVIDE CONDUIT/WIRING AS REQUIRED.
7	NEW LOCATION OF EXISTING FIRE ALARM AUDIO/VISUAL DEVICE. PROVIDE CONDUIT/WIRING AS REQUIRED FOR NEW LOCATION.
8	ADDRESSABLE FIRE ALARM CONTROL RELAY MODULE FOR HVLS FAN. PROVIDE FIRE ALARM SIGNALING LINE CIRCUIT (SLC WIRING) TO THE FIRE ALARM CONTROL PANEL. PROVIDE CONDUIT/WIRING TO HVLS FAN (FIRE ALARM INPUT) FOR UNIT SHUTDOWN UPON WATER FLOW SIGNAL FROM SPRINKLER FLOW SWITCH (SERVING THE AREA WHERE THE HVLS ARE LOCATED).
9	OWNER FURNISHED/OWNER INSTALLED WALL-MOUNTED CAMERA (REFER TO DETAIL 5, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (IDF 287).
10	OWNER FURNISHED/OWNER INSTALLED PENDANT-MOUNTED CAMERA (REFER TO DETAIL 3, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (IDF 287).
11	OWNER FURNISHED/OWNER INSTALLED WALL-MOUNTED EXTERIOR CAMERA (REFER TO DETAIL 5, SHEET EY502). CONTRACTOR SHALL PROVIDE CAT 6 CABLE, 1"C BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (IDF 287).
12	REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILLANCE, AND GATE BRANCH POWER ENTERING THE BUILDING WITHIN THIS AREA. LB CONDUIT INTO BUILDING. PATCH/SEAL CONDUIT PENETRATIONS ON EXTERIOR WALL.
13	EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
14	PROVIDE NEMA 1 SURVEILLANCE CABINET WITH MEDIA CONVERTER SWITCH, POE INJECTOR, AND 12VDC POWER SUPPL.Y.
15	PROVIDE 4-STRAND SINGLEMODE (OS2) OPTICAL FIBER IN 1"CONDUIT BACK TO A DEDICATED SECURITY PATCH PANEL IN TELECOMMUNICATIONS EQUIPMENT RACK (IDF 287).
16	PROVIDE 120V CONNECTION TO MEDIA CONVERTER SWITCH AND POWER SUPPLY IN SURVEILLANCE CABINET.

AREA KEY PLAN



PATRICK J. BAISDEN LICENSED PROFESSIONAL ENGINEER STATE OF KENTUCKY 8/11/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - FIRE ALARM AND SECURITY PLAN - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. EY404 01

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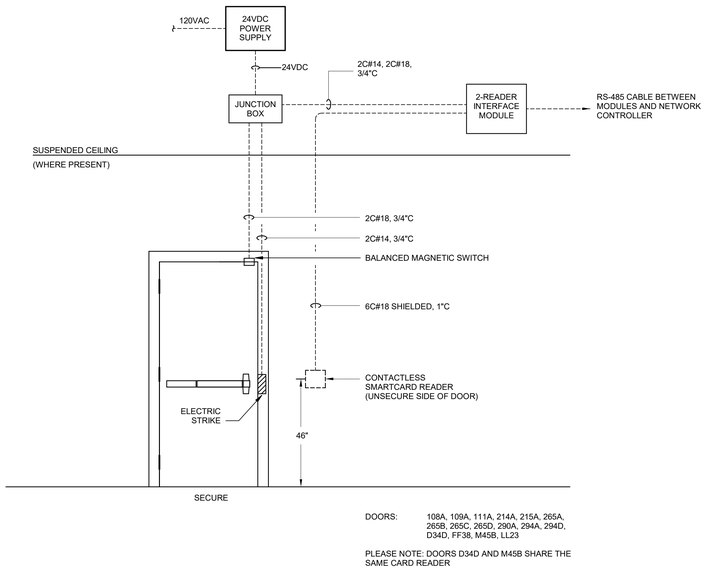
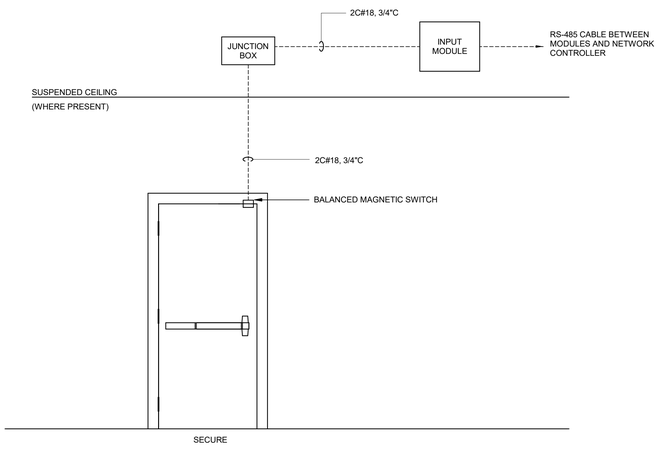


DOORS: 108A, 109A, 111A, 214A, 215A, 265A, 265B, 265C, 265D, 290A, 294A, 294D, D34D, FF38, M45B, LL23

PLEASE NOTE: DOORS D34D AND M45B SHARE THE SAME CARD READER

1 TYPICAL SINGLE DOOR WITH ELECTRIC STRIKE DETAIL

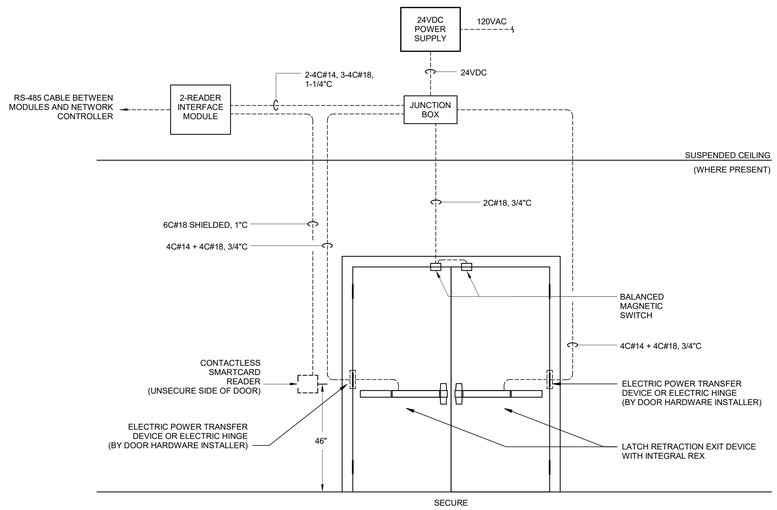
NOT TO SCALE



DOORS: K59

2 TYPICAL SINGLE DOOR WITH MONITORING ONLY

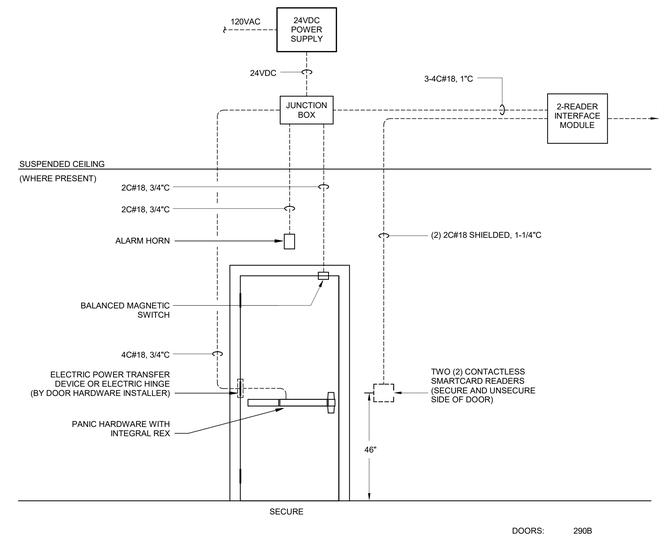
NOT TO SCALE



DOORS: 116A, 151A, AA63A, P48A

3 TYPICAL DOUBLE DOOR WITH ELECTRIFIED EXIT DETAIL

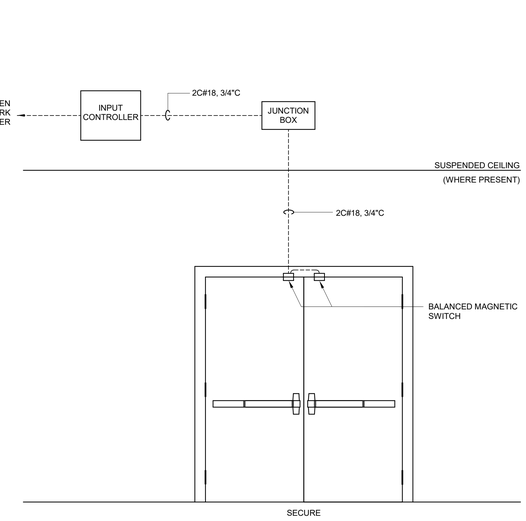
NOT TO SCALE



DOORS: 290B

4 TYPICAL DOUBLE DOOR WITH LOCAL ALARM DETAIL

NOT TO SCALE



DOORS: D35A

5 TYPICAL DOUBLE DOOR WITH MONITORING ONLY DETAIL

NOT TO SCALE

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STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 0524T-01

CLIENT PROJECT NO. RFP 70-2025

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SECURITY DETAILS I

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
P.JB	P.JB	P.JB	P.JB

REVISIONS

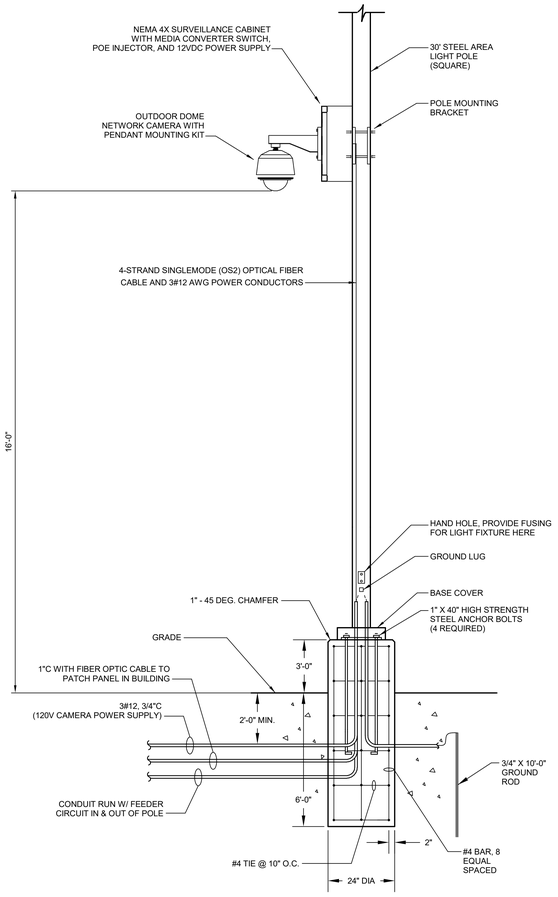
NO.	REVISION/ISSUE/DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

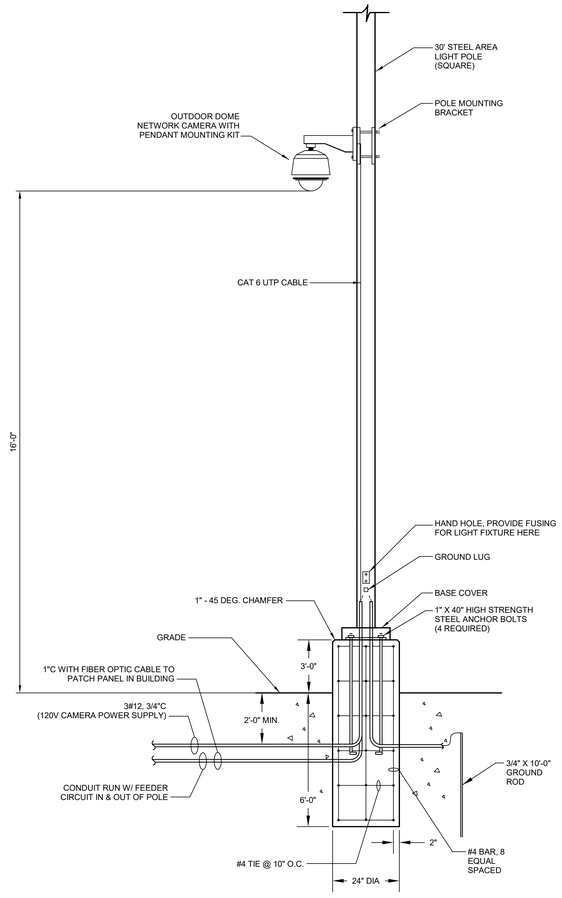
SCALE: NOT TO SCALE

SHEET NO. EY501 01



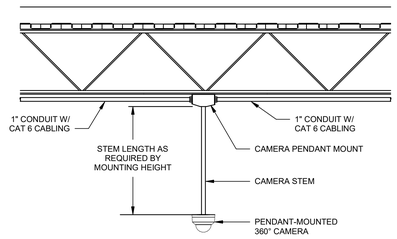
1 POLE-MOUNTED CAMERA DETAIL (OPTICAL FIBER)

NOT TO SCALE



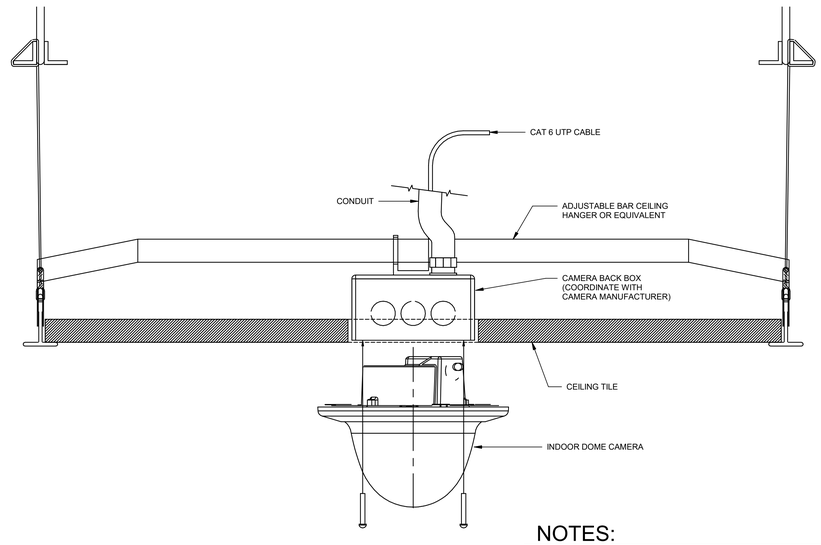
2 POLE-MOUNTED CAMERA DETAIL (CAT 6)

NOT TO SCALE



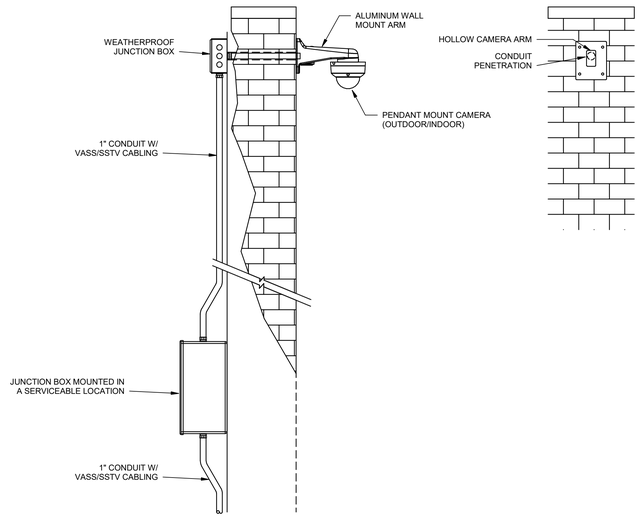
3 PENDANT-MOUNTED CAMERA

NOT TO SCALE



NOTES:

SUPPORT WIRE TO BE ATTACHED SECURELY TO BUILDING SUPERSTRUCTURE. EACH SUPPORT TO BE TESTED TO SUPPORT A MINIMUM OF 35 LBS. CEILING TILE IS NO WAY PERMITTED TO SUPPORT WEIGHT OF CAMERA OR MOUNTING EQUIPMENT. TYPICAL OF ALL CAMERAS.



5 TYPICAL WALL-MOUNTED CAMERA (INDOOR/OUTDOOR)

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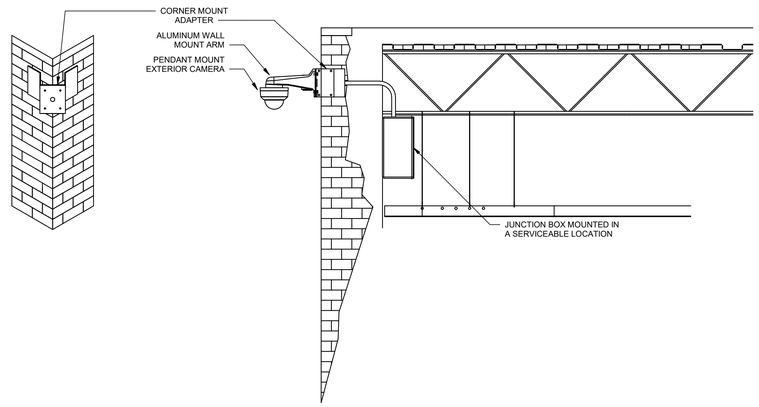

4 TYPICAL SUSPENDED CEILING FIXED MINI-DOME

NOT TO SCALE

6 CORNER MOUNT CAMERA

NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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CLIENT PROJECT NO. RFP 70-2025

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SECURITY DETAILS II
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: EY502 01

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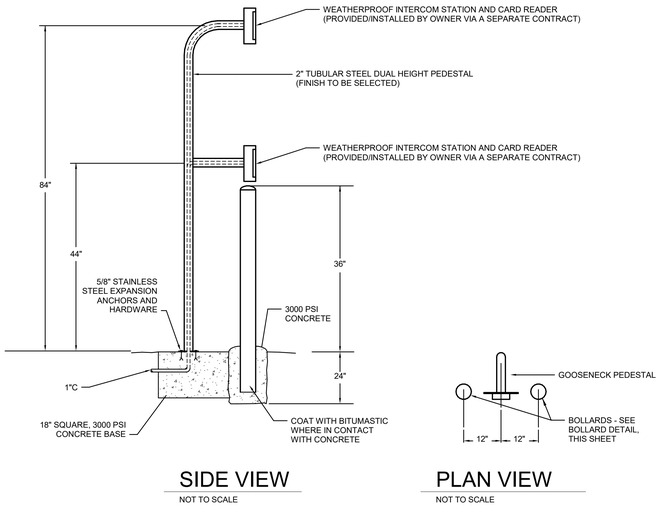


SIDE VIEW

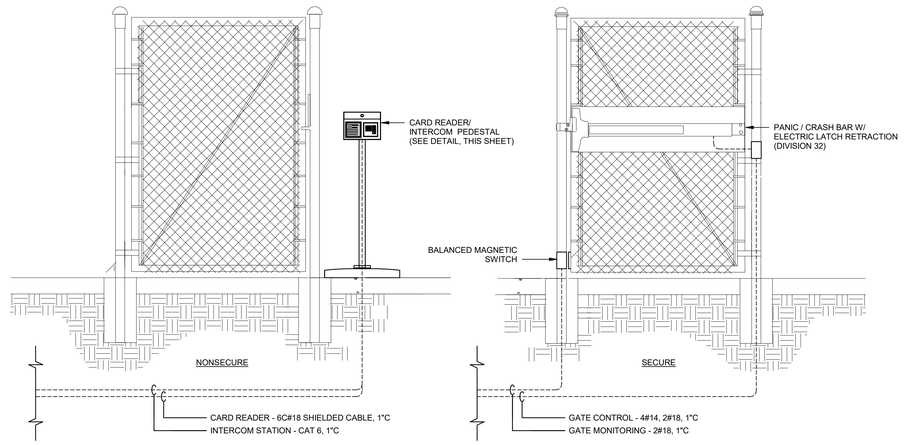
NOT TO SCALE

PLAN VIEW

NOT TO SCALE

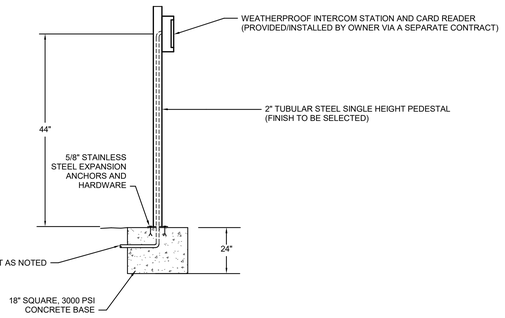
1 DUAL HEIGHT PEDESTAL MOUNT WITH TWO (2) WEATHERPROOF INTERCOM STATIONS AND CARD READERS

NOT TO SCALE



2 PEDESTRIAN GATE

NOT TO SCALE



3 PEDESTAL MOUNT WITH INTERCOM AND CARD READER

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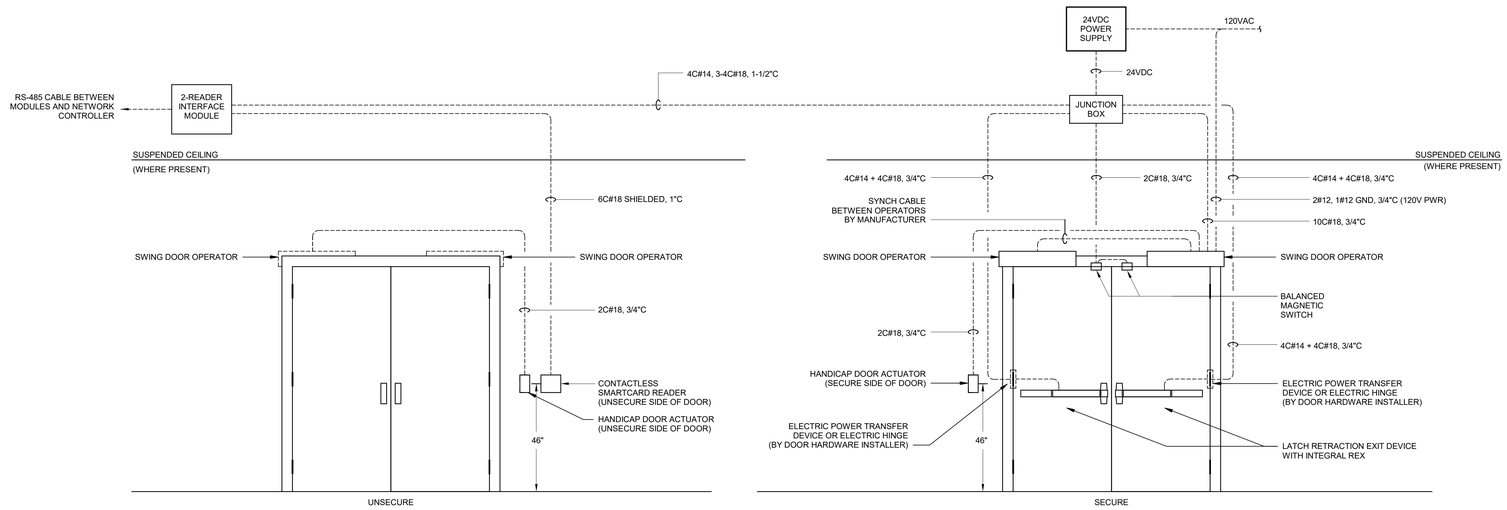

DOORS: 101A

4 TYPICAL DOUBLE DOOR WITH ELECTRIFIED EXIT AND HANDICAP OPERATOR DETAIL

NOT TO SCALE

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PATRICK J. BAISDEN
12012
LICENSED PROFESSIONAL ENGINEER
8/7/25

CONSTRUCTION DOCUMENTS

GRH PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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SECURITY DETAILS III

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

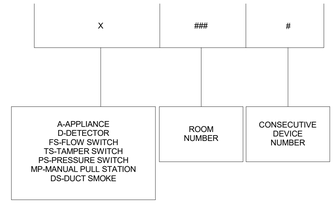
NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO. EY503 01



FIRE ALARM ADDRESS DESIGNATIONS

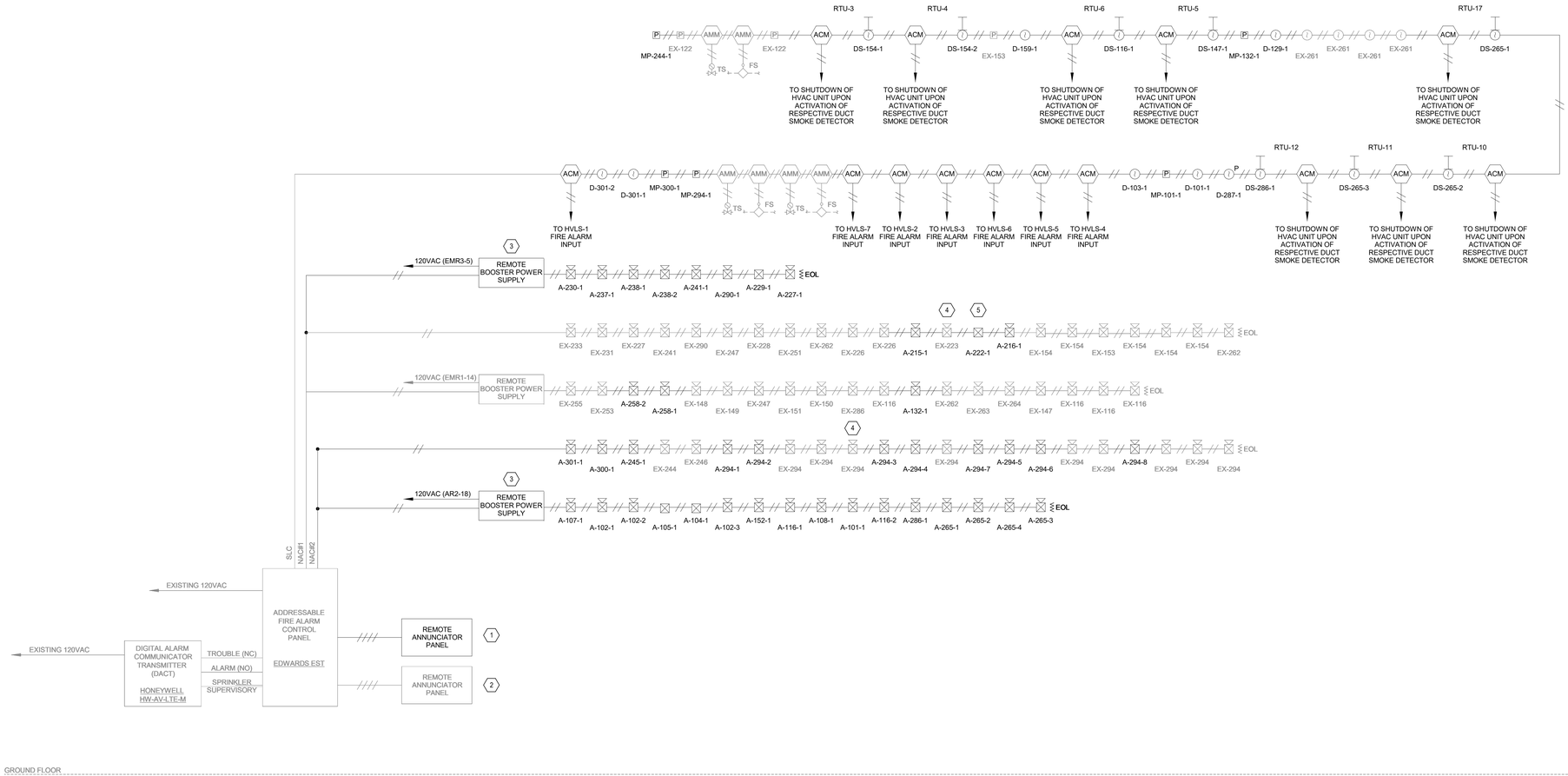
GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 283103 FIRE ALARM SYSTEM MODIFICATIONS FOR ADDITIONAL INFORMATION.
2. THE FIRE ALARM RISER DIAGRAM IS AN ATTEMPT TO PROVIDE INFORMATION WITH REGARD TO EXISTING FIRE ALARM SYSTEM. THE EXISTING WIRING CONFIGURATION IS NOT KNOWN; HOWEVER THIS RISER DIGRAM IS AN ATTEMPT TO SHOW HOW NEW DEVICES WILL NEED TO BE INCORPORATED INTO THE EXISTING FIRE ALARM SYSTEM.

   WORK SHOWN IN LIGH PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT/DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK.
3. ACTUAL WIRING CONFIGURATION AND TYPE/SIZE OF CONDUCTORS SHALL BE AS RECOMMENDED BY THE FIRE ALARM MANUFACTURER WITH MINIMUM REQUIREMENTS STATED WITHIN THE SPECIFICATIONS.
4. PROVIDE ALL NECESSARY PROGRAMMING, MODULES, ACCESSORIES, ETC., AS REQUIRED TO ACHIEVE CORRECT OPTION OF THE FIRE ALARM SYSTEM. PROVIDE RECERTIFICATION OF SYSTEM AS REQUIRED.
5. PROVIDE SURGE SUPPRESSION FOR ALL EXTERIOR CIRCUITS.
6. CANDELA RATINGS OF ALL VISUAL NOTIFICATION APPLIANCES SHALL BE AS DETERMINED BY THE FIRE ALARM MANUFACTURER/SUPPLIER WITH MINIMUM REQUIRMENTS STATED WITHIN THE SPECIFICATIONS.

SHEET KEYNOTES:

1. PROVIDE AND INSTALL A NEW REMOTE ANNUNCIATOR PANEL. PROVIDE CONNECTION TO EXISTING FIRE ALARM CONTROL PANEL.
2. THE EXISTING REMOTE ANNUNCIATOR PANEL WILL NEED TO BE RELOCATED AS A RESULT OF THIS PROJECT.
3. PROVIDE A NEW NAC BOOSTER POWER SUPPLY .
4. EXISTING FIRE ALARM AUDIO/VISUAL DEVICE WILL NEED TO BE RELOCATED AS A RESULT OF THIS PROJECT.
5. EXISTING FIRE ALARM AUDIO/VISUAL DEVICE TO BE REPLACED WITH A NEW VISUAL ONLY DEVICE AT SAME LOCATION.



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CONSTRUCTION DOCUMENTS

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/7/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRE ALARM RISER DIAGRAM

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

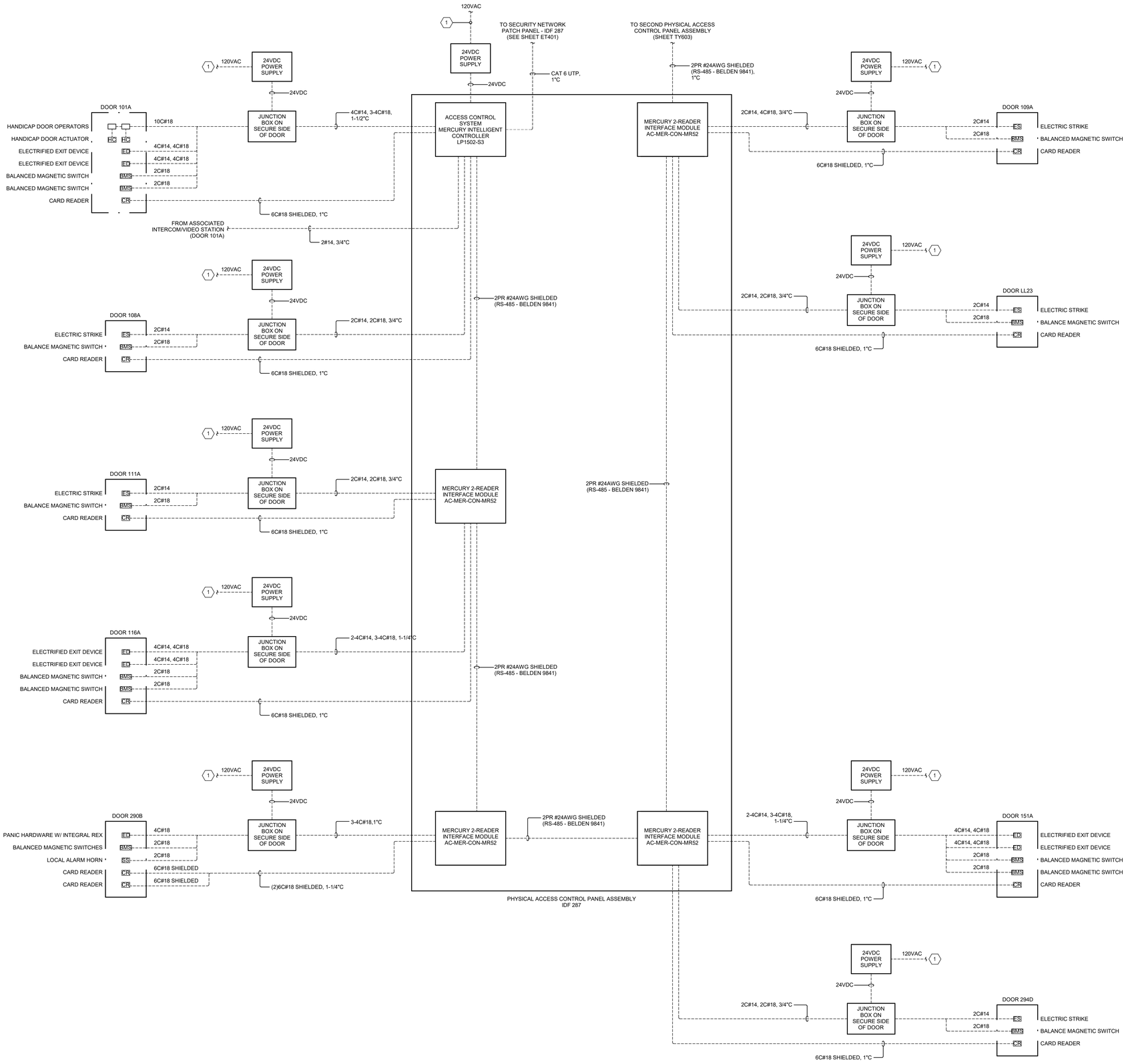
DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: EY601 01



1 ACCESS CONTROL SYSTEM RISER DIAGRAM - AREA A

NOT TO SCALE

GENERAL NOTES:

1. ACCESS CONTROL EQUIPMENT/DEVICES (ACCESS CONTROL PANELS, CARD READERS, BALANCED MAGNETIC SWITCHES, REX PUSHBUTTONS, REX MOTION SENSORS, AND ASSOCIATED POWER SUPPLIES) SHALL BE PROVIDED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE ACCESS CONTROL EQUIPMENT/DEVICES AND SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
2. ACTUAL WIRING CONFIGURATION AND TYPE/SIZE OF CONDUCTORS SHALL BE AS RECOMMENDED BY THE ACS MANUFACTURER/SUPPLIER WITHIN MINIMUM REQUIREMENTS STATED IN SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH THE ACCESS CONTROL SYSTEM MANUFACTURER/SUPPLIER FOR REQUIREMENTS.
3. ACS COMPONENTS SHOWN CONSTITUTE THE TYPE, PRODUCT QUALITY, MATERIAL AND DESIRED OPERATING FEATURES REQUIRED. CONTRACTOR SHALL COORDINATE WITH THE ACCESS CONTROL SYSTEM MANUFACTURER/SUPPLIER FOR ANY ADDITIONAL REQUIREMENTS.
4. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION RELATING TO ELECTRIFIED DOOR HARDWARE. EXIT DEVICES, ELECTRIC LOCKS, LATCHBOLT/DOOR STATUS SWITCHES, POWER SUPPLIES, ETC. ARE FURNISHED AND INSTALLED BY THE DOOR HARDWARE CONTRACTOR. WIRING FROM ELECTRIFIED DOOR HARDWARE WILL BE INSTALLED COMPLETE TO JUNCTION BOX LOCATED ABOVE CEILING. CONTRACTOR SHALL PROVIDE ALL OTHER REQUIRED CONNNECTIONS.
6. ACS MANUFACTURER/SUPPLIER SHALL INTEGRATE THE NEW ACS CONTROLLERS AND FIELD DEVICES INTO THE OWNER'S EXISTING SECURITY NETWORK AS REQUIRED FOR ALL MONITORING, CONTROLLING, PROGRAMMING AND SERVICE.
7. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
8. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - IDF 287, SHEET ET603.

SHEET KEYNOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR CIRCUIT INFORMATION.

CONSTRUCTION DOCUMENTS

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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ACCESS CONTROL SYSTEM RISER DIAGRAM I

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DATE	BY	DESCRIPTION

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: EY602 01

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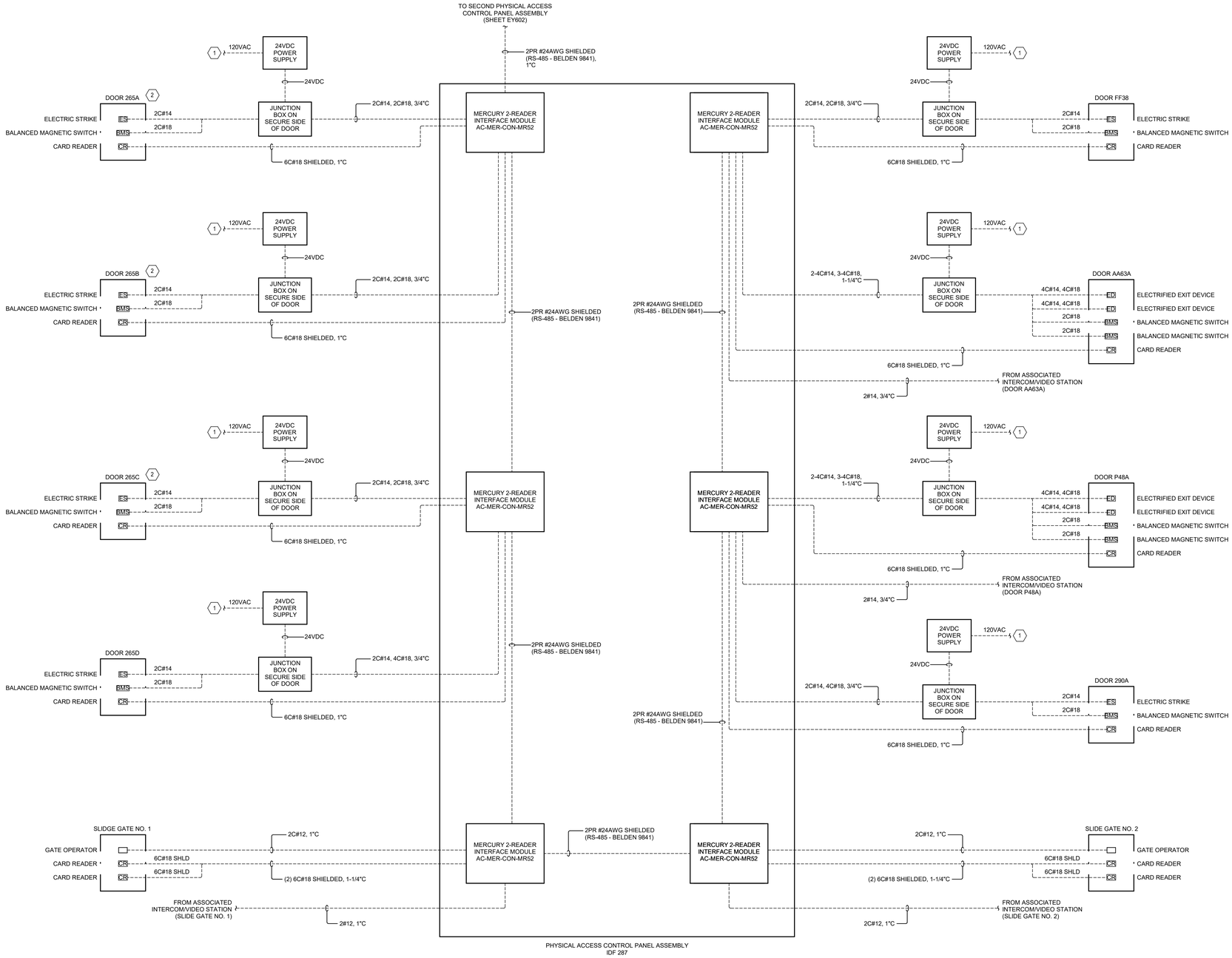

GENERAL NOTES:

1. ACCESS CONTROL EQUIPMENT/DEVICES (ACCESS CONTROL PANELS, CARD READERS, BALANCED MAGNETIC SWITCHES, REX PUSHBUTTONS, REX MOTION SENSORS, AND ASSOCIATED POWER SUPPLIES) SHALL BE PROVIDED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE ACCESS CONTROL EQUIPMENT/DEVICES AND SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
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6. ACS MANUFACTURER/SUPPLIER SHALL INTEGRATE THE NEW ACS CONTROLLERS AND FIELD DEVICES INTO THE OWNER'S EXISTING SECURITY NETWORK AS REQUIRED FOR ALL MONITORING, CONTROLLING, PROGRAMMING AND SERVICE.
7. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.

SHEET KEYNOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR CIRCUIT INFORMATION.
2. DOOR SHALL BE PROGRAMMED AS FREE ACCESS DURING NORMAL WORKING HOURS AND SECURE DURING AFTER HOURS (COORDINATE WITH OWNER FOR SCHEDULE).

1 ACCESS CONTROL SYSTEM RISER DIAGRAM - AREA B

NOT TO SCALE

PATRICK J. BAISDEN — STATE OF KENTUCKY — LICENSED PROFESSIONAL ENGINEER — 22012 — 8/14/25

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ACCESS CONTROL SYSTEM RISER DIAGRAM II

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION

SCALE CHECK | THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: EY603 01

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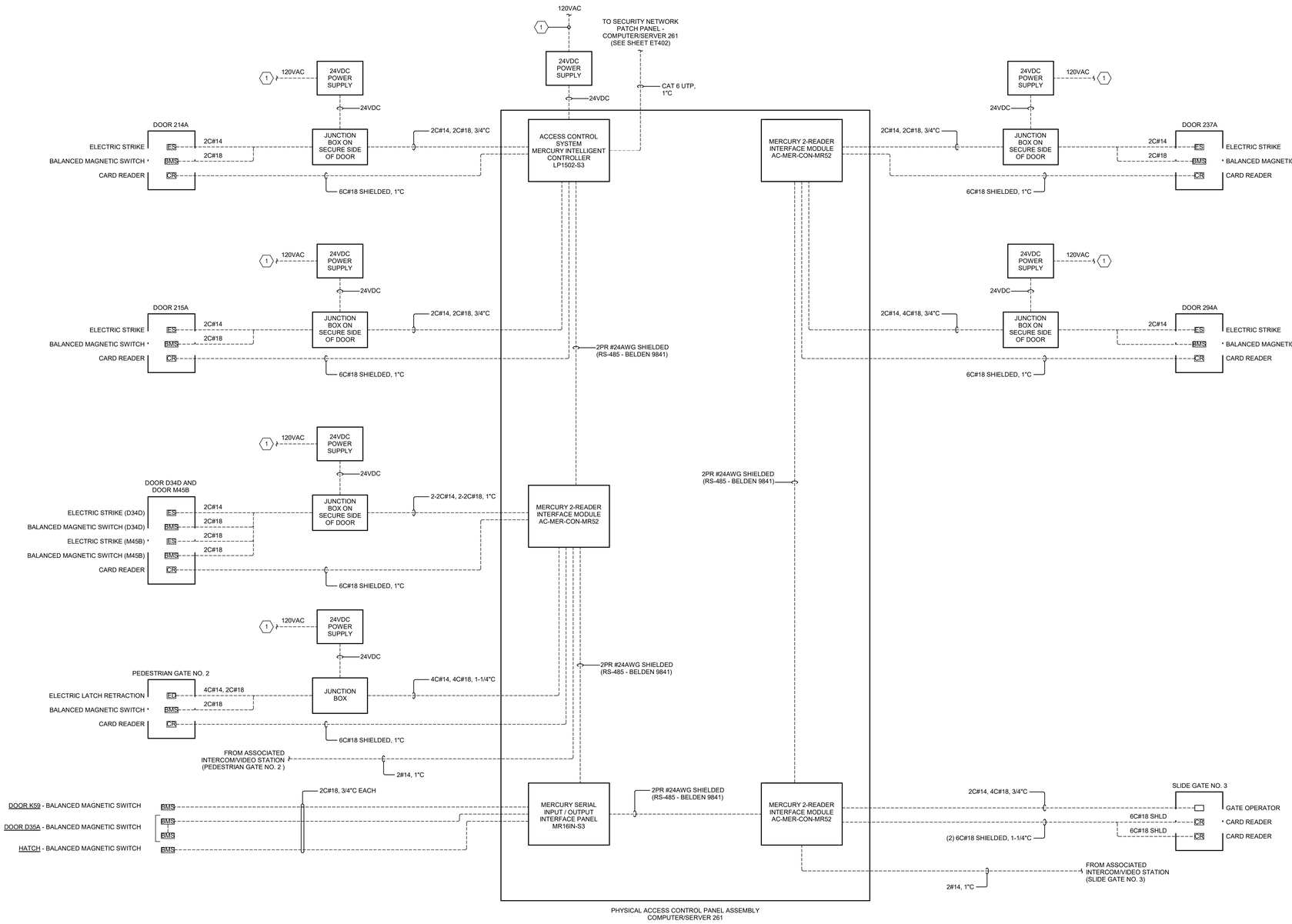

GENERAL NOTES:

1. ACCESS CONTROL EQUIPMENT/DEVICES (ACCESS CONTROL PANELS, CARD READERS, BALANCED MAGNETIC SWITCHES, REX PUSHBUTTONS, REX MOTION SENSORS, AND ASSOCIATED POWER SUPPLIES) SHALL BE PROVIDED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE ACCESS CONTROL EQUIPMENT/DEVICES AND SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
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8. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER ROOM 261, SHEET ET602.

SHEET KEYNOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR CIRCUIT INFORMATION.

1 ACCESS CONTROL SYSTEM RISER DIAGRAM - AREA C & D

NOT TO SCALE

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PATRICK J. BAISDEN 22012 LICENSED PROFESSIONAL ENGINEER 8/14/25

GRW PROJECT NO. 0524T-01
CLIENT PROJECT NO. RFP 70-2025

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ACCESS CONTROL SYSTEM RISER DIAGRAM III

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
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DATE: AUGUST 15, 2025
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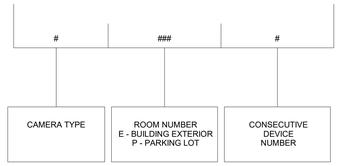
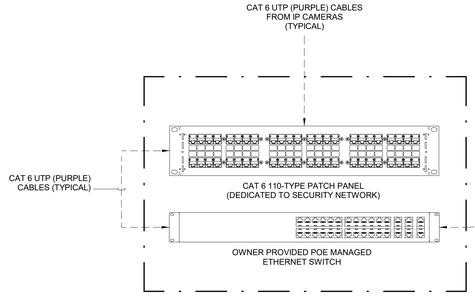


VIDEO SURVEILLANCE SYSTEM ADDRESS DESIGNATONS



GENERAL NOTES:

1. ETHERNET SWITCH AND CAMERAS SHALL BE PROVIDED AND INSTALLED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
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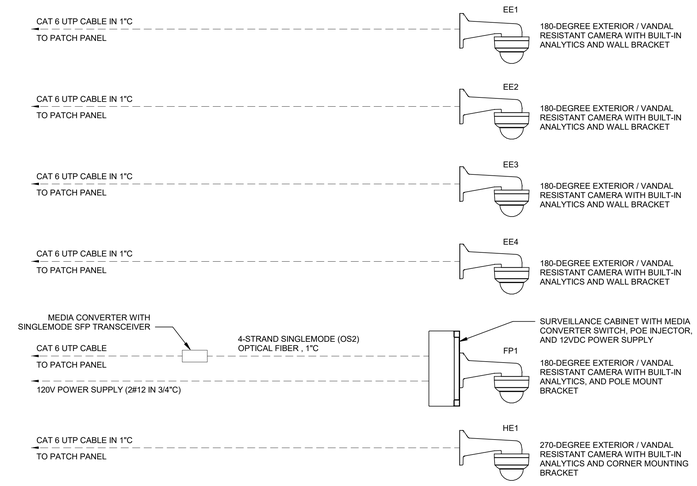
4. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.
6. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER ROOM 261 - NEW WORK, SHEET ET602.



1 VIDEO SURVEILLANCE RISER DIAGRAM I

NOT TO SCALE

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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CLIENT PROJECT NO. RFP 70-2025

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VIDEO SURVEILLANCE RISER DIAGRAM I

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

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SCALE: NOT TO SCALE
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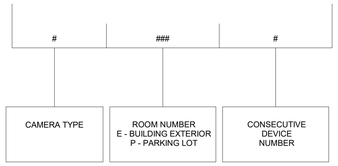
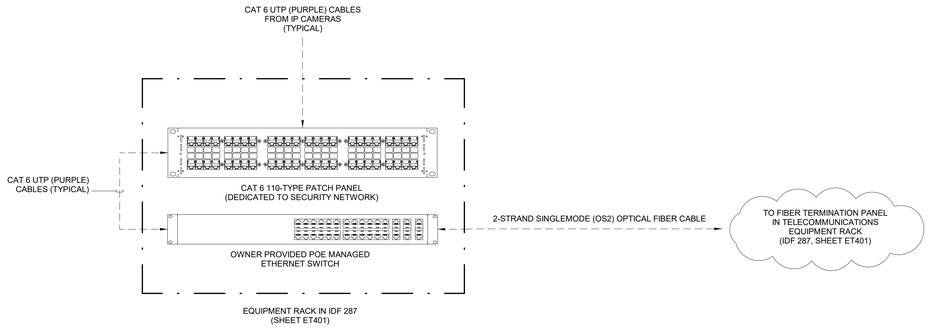


VIDEO SURVEILLANCE SYSTEM ADDRESS DESIGNATONS



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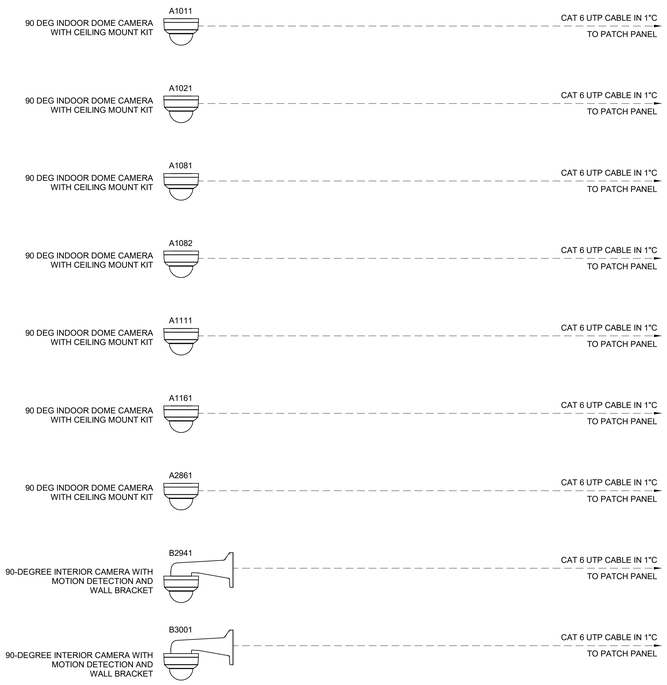
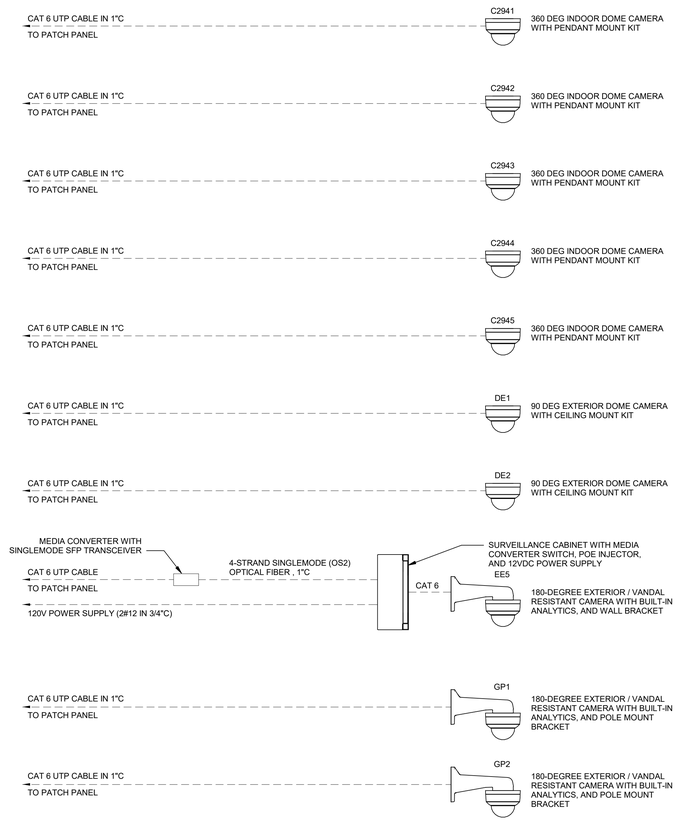
5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.
6. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - IDF 287 - NEW WORK, SHEET ET603.





1 VIDEO SURVEILLANCE RISER DIAGRAM II

NOT TO SCALE

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PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/7/25

CONSTRUCTION DOCUMENTS

GRH PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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VIDEO SURVEILLANCE RISER DIAGRAM II

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DATE	BY
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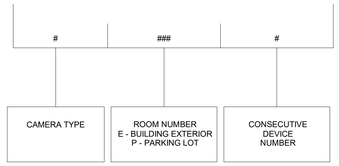
1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: EY606 01



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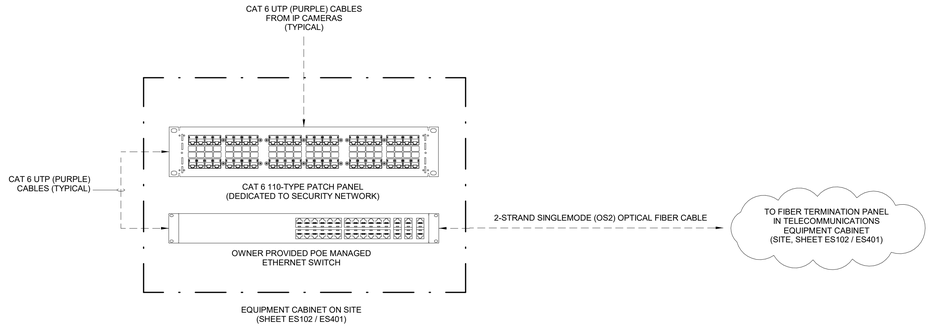

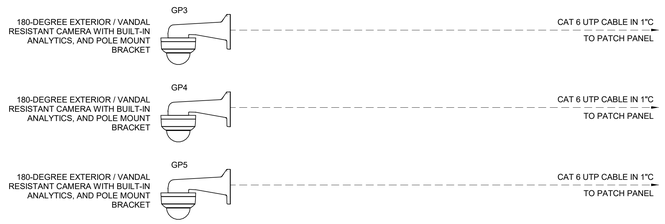

GENERAL NOTES:

1. ETHERNET SWITCH AND CAMERAS SHALL BE PROVIDED AND INSTALLED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
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3. VASS MANUFACTURER/SUPPLIER SHALL INTEGRAGE THE NEW VASS CAMERAS INTO THE OWNER'S EXISTING SECURITY NETWORK AS REQUIRED FOR MONITORING, CONTROLLING, PROGRAMMING, AND SERVICE.
4. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.
6. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - SITE - NEW WORK, SHEET ET604.

1 VIDEO SURVEILLANCE RISER DIAGRAM III

NOT TO SCALE

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PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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VIDEO SURVEILLANCE RISER DIAGRAM III

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

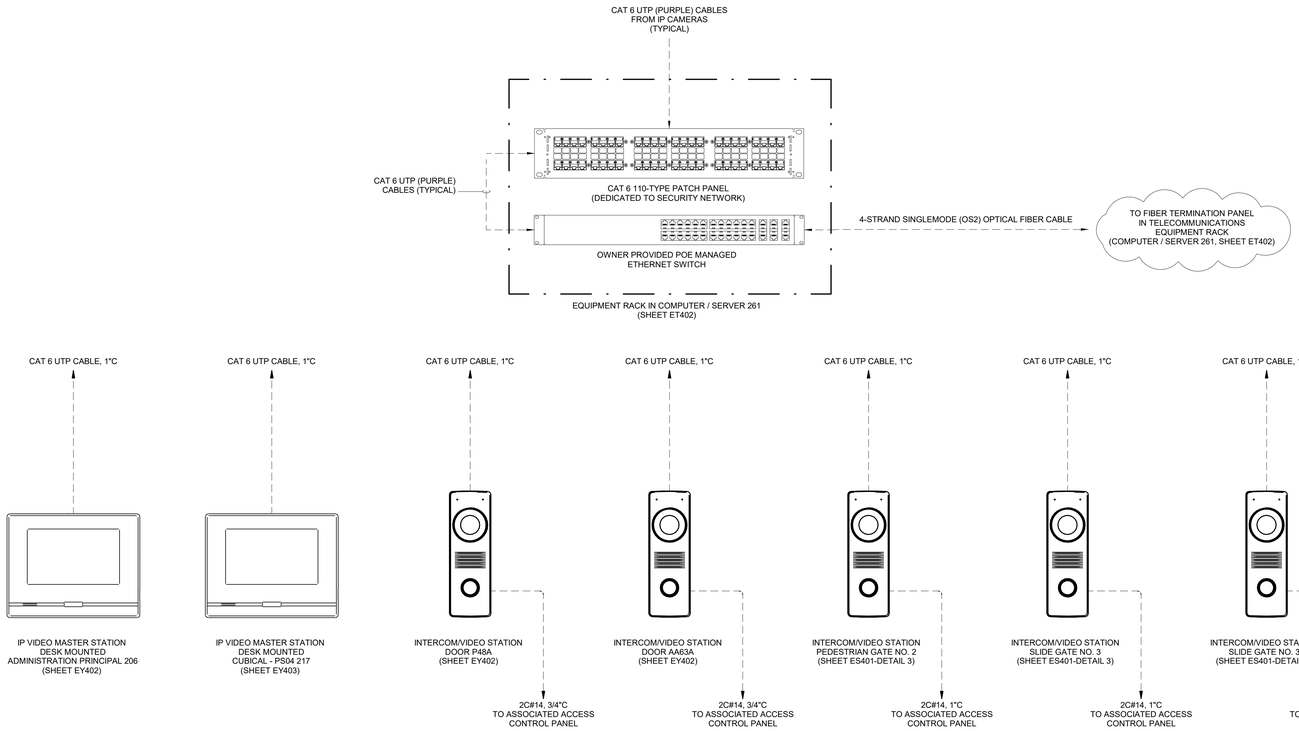
NO.	REVISION DESCRIPTION	DATE	BY

SCALE: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: EY607 01

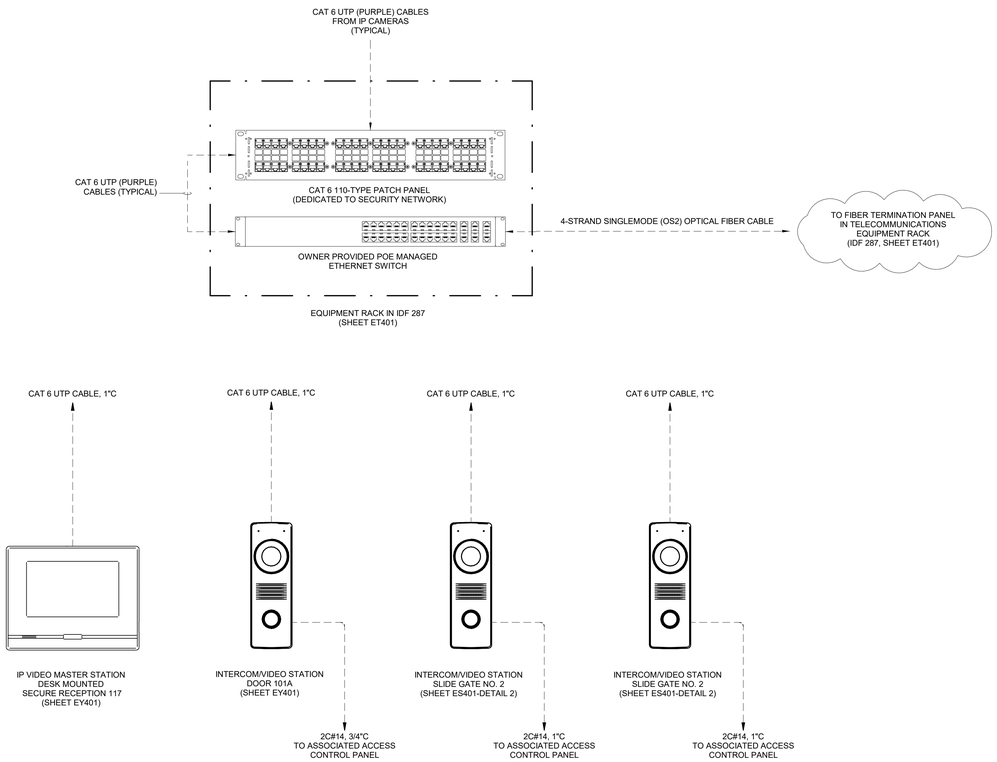


1 INTERCOM SYSTEM RISER DIAGRAM I

NOT TO SCALE

GENERAL NOTES:

1. ETHERNET SWITCH, INTERCOM/VIDEO STATIONS STATIONS, AND MULTI-PURPOSE ADAPTER SHALL BE PROVIDED AND INSTALLED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
2. ACTUAL WIRING CONFIGURATION AND TYPE/SIZE OF CABLING SHALL BE AS RECOMMENDED BY THE INTERCOM MANUFACTURER/ SUPPLIER WITHIN MINIMUM REQUIREMENTS STATED IN SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH THE INTERCOM SYSTEM MANUFACTURER/SUPPLIER FOR REQUIREMENTS.
3. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.
6. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - COMPUTER / SERVER - NEW WORK, SHEET ET603.



2 INTERCOM SYSTEM RISER DIAGRAM II

NOT TO SCALE

GENERAL NOTES:

1. ETHERNET SWITCH, INTERCOM/VIDEO STATIONS STATIONS, AND MULTI-PURPOSE ADAPTER SHALL BE PROVIDED AND INSTALLED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
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3. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.
6. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - IDF 287 - NEW WORK, SHEET ET603.

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PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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INTERCOM SYSTEM RISER DIAGRAM I

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

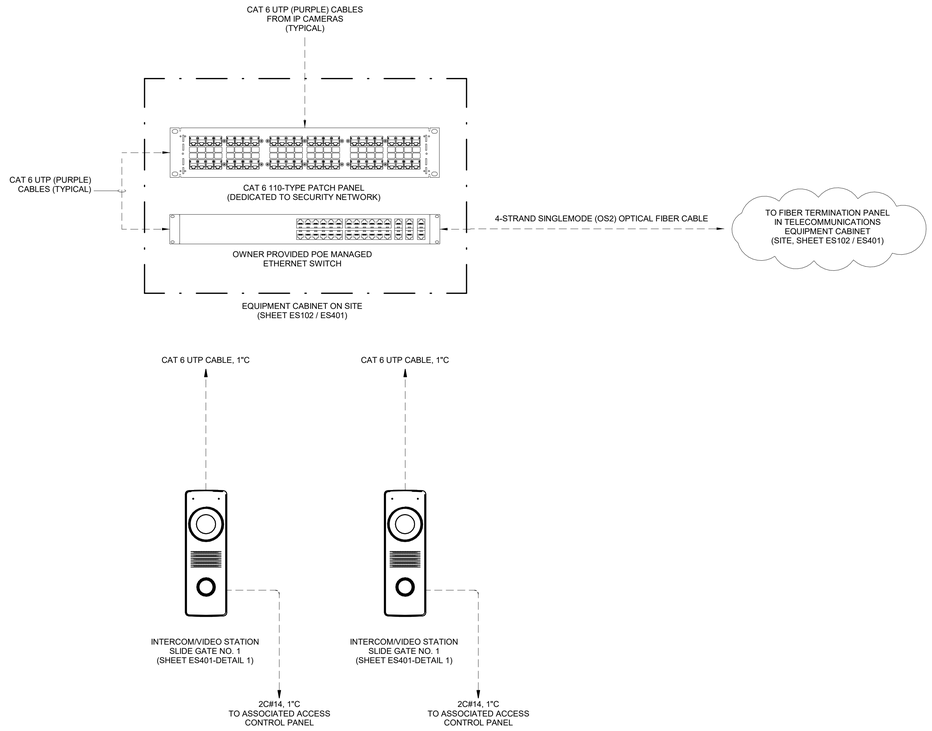
NO.	DATE	BY
00	REVISIONS BEGIN HERE	

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO. EY608 01



1 INTERCOM SYSTEM RISER DIAGRAM III

SCALE: 12" = 1'-0"

GENERAL NOTES:

1. ETHERNET SWITCH, INTERCOM/VIDEO STATIONS STATIONS, AND MULTI-PURPOSE ADAPTER SHALL BE PROVIDED AND INSTALLED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
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3. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.
6. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - SITE - NEW WORK, SHEET ET604.

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

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INTERCOM SYSTEM RISER DIAGRAM II

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: EY609 01

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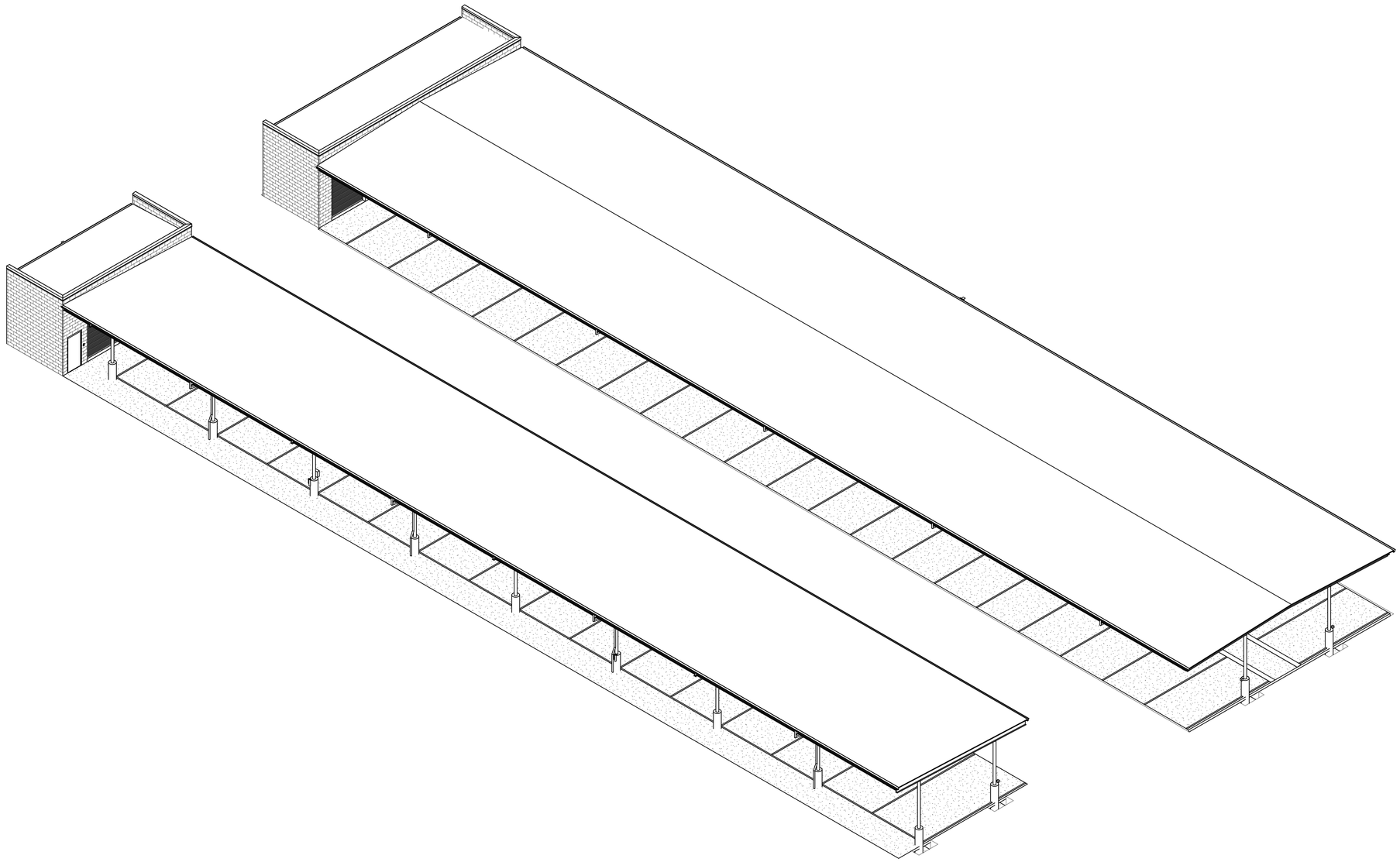
CONSTRUCTION DOCUMENTS

LFUCG EXTERIOR STRUCTURES

134 WEST NEW CIRCLE ROAD

AUGUST 15, 2025



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DRAWING SHEET INDEX

SHEET IDENTIFICATION			QUALITY ASSURANCE / QUALITY CONTROL				REVISION	SHEET REVISIONS					PAGE INFORMATION
SHEET NUMBER	SHEET NAME	SHEET ISSUE DATE	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY	CURRENT REVISION	CURRENT REVISION ISSUED	CURRENT REVISION DESCRIPTION	CURRENT REVISION ISSUED BY	CURRENT REVISION ISSUED TO	CURRENT REVISION DATE	COUNT
GI001	COVER SHEET	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
GI002	DRAWINIG INDEX	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
GI003	PROJECT DATA	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
GK101	FIRST LEVEL - LIFE SAFETY PLAN	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
S-001	STRUCTURAL GENERAL NOTES	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					1
S-002	STRUCTURAL TYPICAL DETAILS	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					1
SD101	EXISTING FOUNDATION PLANS - DEMOLITION	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					1
SD102	EXISTING ROOF FRAMING PLANS - DEMOLITION	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					1
SB101	EXISTING FOUNDATION PLANS	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					1
SF101	EXISTING ROOF FRAMING PLANS	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					1
AD101	FIRST FLOOR PLANS - DEMOLITION	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AD102	ROOF PLANS - DEMOLITION	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AD201	ELEVATIONS - DEMOLITION	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AD301	SECTIONS - DEMOLITION	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AE101	FIRST LEVEL - FLOOR PLAN	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AE102	ROOF LEVEL - PLAN	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AE201	ELEVATIONS	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AE301	SECTIONS	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AE302	WALL SECTIONS	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AE601	DETAILS, TYPES AND SCHEDULES	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AE901	ISOMETRIC VIEW	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
AF101	FIRST LEVEL - REFLECTED CEILING PLAN	AUGUST 15, 2025	NEK	DRV	DRV	DRV		No					1
P-001	PLUMBING LEGEND AND GENERAL NOTES	AUGUST 15, 2025	JC	CVS	CVS	CVS		No					1
P-101	PLUMBING PLAN	AUGUST 15, 2025	JC	CVS	CVS	CVS		No					1
PD101	STORAGE BUILDINGS - DEMOLITION - PLUMBING PLAN	AUGUST 15, 2025	JC	CVS	CVS	CVS		No					1
M-001	MECHANICAL LEGEND AND GENERAL NOTES	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No					1
MD101	STORAGE BUILDINGS - DEMOLITION - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No					1
M-101	STORAGE BUILDINGS - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No					1
M-501	MECHANICAL DETAILS	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No					1
M-601	MECHANICAL SCHEDULES	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No					1
M-701	MECHANICAL CONTROLS	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No					1
E-001	STANDARD ELECTRICAL SYMBOLS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
E-501	ELECTRICAL DETAILS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
E-601	ELECTRICAL ONE-LINE DIAGRAM AND PANELBOARD SCHEDULES	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
ED101	FIRST LEVEL - DEMOLITION PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EL101	FIRST LEVEL - LIGHTING PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EL102	ADD ALTERNATE #1 - FIRST LEVEL - LIGHTING PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EL501	LUMINAIRE SCHEDULE AND LIGHTING CONTROL DETAILS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EP101	FIRST LEVEL - POWER PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EP102	ADD ALTERNATE #1 - FIRST LEVEL - POWER PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EY101	FIRST LEVEL - SECURITY PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EY102	ADD ALTERNATE #1 - FIRST LEVEL - SECURITY PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EY601	SECURITY RISER DIAGRAM I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EY602	SECURITY RISER DIAGRAM II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
EY603	ADD ALTERNATE #1 - SECURITY RISER DIAGRAM	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					1
Grand total: 45													45

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH
8/15/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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DRAWINIG INDEX

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: NEK
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	DESCRIPTION	DATE	BY

SCALE: CHECK 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE:

SHEET NO. GI002 02

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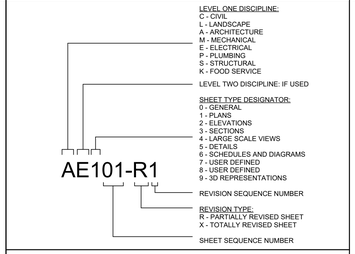
DRAWING ABBREVIATIONS

A	----------
A LABEL	CLASS A DOOR
A/C	AIR CONDITION
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT/ENGINEER
AB	ANCHOR BOLT
ACC	ACCESSIBLE
ACS	AUTOMATIC CONTROL SYSTEM
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADMIN	ADMINISTRATION
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
AIB	AIR INFILTRATION BARRIER
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZE
APC	ACOUSTICAL PANEL CEILING
APPROX	APPROXIMATE
AR	AS REQUIRED
ARCH	ARCHITECT
ASC	ABOVE SUSPENDED CEILING
ASSY	ASSEMBLY
ATC	ACOUSTICAL TILE CEILING
AVG	AVERAGE
AW	ARCHITECTURAL WOODWORK
AWT	ACOUSTICAL WALL TREATMENT
B	----------
B LABEL	CLASS B DOOR
BALC	BALCONY
BB	BASEBOARD
BC	BOOKCASE
BD	BOARD
BDRY	BOUNDARY
BFF	BELOW FINISH FLOOR
BHMA	BUILDER'S HARDWARE MANUFACTURER'S ASSOCIATION
BLDG	BUILDING
BLKG	BLOCKING
BLT IN	BUILT-IN
BN	BULLNOSE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	BUILDING PAPER
BRKT	BRACKET
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
C	----------
C CONC	CAST CONCRETE
C LABEL	CLASS C DOOR
CAB	CABINET
CATW	CATWALK
CAV	CAVITY
CBB	CEMENTITIOUS (BACKER) BOARD
CD	CONSTRUCTION DOCUMENTS
CDW	CHILLED DRINKING WATER
CEM PLAS	CEMENT PLASTER
CER	CERAMIC
CF	CONTRACTOR FURNISHED
CFCI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CFE	CONTRACTOR FURNISHED EQUIPMENT
CFLG	COUNTERFLASHING
CFM	CUBIC FEET PER MINUTE
CFMF	COLD-FORMED METAL FRAMING
CFS	CUBIC FEET PER SECOND
CG	CORNER GUARD
CI	CAST IRON
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLG DIFF	CEILING DIFFUSER
CLG HT	CEILING HEIGHT
CLL	COLUMN LINE
CLO	CLOSET
CLR	COLOR
CLRM	CLASSROOM
CMU	CONCRETE MASONRY UNIT
CNDS	CONDENSATE
COR	CARD READER
CO	CLEANOUT
COL	COLUMN
COMM	COMMUNICATION
CONC	CONCRETE
CONC FLR	CONCRETE FLOOR
CONF	CONFERENCE
CONT	CONTINUE
COORD	COORDINATE
CORR	CORRIDOR
CP	CONCRETE PIPE
CPT	CARPET
CR	CONTROL ROOM
CS	CAST STONE
CSWK	CASEWORK
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTF	CERAMIC TILE FLOOR
CTR	CENTER
CU FT	CUBIC FEET
CW	CASEMENT WINDOW
D	----------
D	DEPTH
D LABEL	CLASS D DOOR
DBL	DOUBLE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIR	DIRECTION
DIST	DISTANCE
DND	DO NOT DISTURB
DOC	DOCUMENT
DR	DOOR
DS	DOWNSPOUT
E	----------
E LABEL	CLASS E DOOR
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
ES	EACH SIDE
EL	ELEVATION
ELEV	ELEVATOR
ENTR	ENTRANCE
EPS	EXPANDED POLYSTYRENE BOARD INSULATION)
EQ	EQUAL
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED
EXT	EXTERIOR
EXT	EXTINGUISHER
EXT GR	EXTERIOR GRADE
GB	GRAB BAR
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT INSTALLED FURNISHED INSTALLED BY GOVERNMENT
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GLZ	GLAZING
GR FL	GROUND FLOOR
GUT	GUTTER
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
H	----------
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HDWD	HARDWOOD
HEPA (FILTER)	HIGH EFFICIENCY PARTICULATE AIR
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HORIZ	HORIZONTAL
HT	HEIGHT
HYDR	HYDRAULIC
F	----------
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAS BD	FASCIA BOARD
FC BRK	FACE BRICK
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FED	FEDERAL
FF	FINISH FACE
FF EL	FINISH FLOOR ELEVATION
FF INSUL	FOIL BACKED INSULATION
FGL	FIBERGLASS
FH	FIRE HOSE
FHP	FULL HEIGHT PARTITION
FIN	FINISH
FIN BS	FINISH BOTH SIDES
FIN FLR	FINISH FLOOR
FIN GR	FINISH GRADE
FIXT	FIXTURE
FLDG	FOLDING
FLEX	FLEXIBLE
FLG	FLOORING
FLMT	FLUSH MOUNT
FLR	FLOOR
FM	FACTORY MUTUAL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FR	FIRE RESISTANT
FRG	FIBER REINFORCED GYPSUM
FRMG	FRAMING
FRP	FIBERGLASS REINFORCED PLASTIC
FRTW	FIRE RETARDANT TREATED WOOD
FS	FEDERAL SPECIFICATION
FSTNR	FASTENER
FT	FEET
FTG	FOOTING
F.V.	FIELD VERIFY
FWC	FABRIC WALLCOVERING
G	----------
G	NATURAL GAS
GALV	GALVANIZED
GB	GRAB BAR
GFCI	GOVERNMENT FURNISHED INSTALLED BY GOVERNMENT
CONTRACTOR INSTALLED	
GFGI	GOVERNMENT INSTALLED FURNISHED
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GLZ	GLAZING
GR FL	GROUND FLOOR
GUT	GUTTER
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
H	----------
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HDWD	HARDWOOD
HEPA (FILTER)	HIGH EFFICIENCY PARTICULATE AIR
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HORIZ	HORIZONTAL
HT	HEIGHT
HYDR	HYDRAULIC
I	----------
IC	INTERNATIONAL BUILDING CODE
INSUL	INSULATION
INT	INTERIOR
ILO	IN LIEU OF
J	----------
JAN	JANITOR
K	----------
KPD	KEYPAD
KIT	KITCHEN
KPL	KICKPLATE
L	----------
LAM	LAMINATE
LAV	LAVATORY
LBR	LUMBER
LBS	POUND
LDG	LANDING
LF	LINEAR FEET (FOOT)
LIB	LIBRARY
LIN	LINEAR
LKR	LOCKER
LOC	LOCATION
LT	LIGHT
LVDR	LOUVER DOOR
LVR	LOUVER
M	----------
MACH RM	MACHINE ROOM
MATL	MATERIAL
MAX	MAXIMUM
MC	MOISTURE CONTENT
MD	METAL DECK
MECH	MECHANICAL
MECH RM	MECHANICAL ROOM
MEMB	MEMBRANE
MF	MILL FINISH
MFR	MANUFACTURER
MID	MIDDLE
MIL STD	MILITARY STANDARD
MIN	MINIMUM, MINUTE
MIRR	MIRROR
MISC	MISCELLANEOUS
MLDG	MOLDING (MOULDING)
MO	MASONRY OPENING
MOD	MODIFY
MB	MOISTURE BARRIER
MTG	MOUNTING
MTL	METAL
MVBL	MOVABLE
MWP	MEMBRANE WATERPROOFING
N	----------
N	NORTH
NA	NOT APPLICABLE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NP	NO PAINT
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
O	----------
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OFF	OFFICE
OGL	OBSCURE GLASS
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPQ	OPAQUE
OWSJ	OPEN WEB STEEL JOIST
OPR	OPERABLE
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
P	----------
PA	PUBLIC ADDRESS
PAR	PARAPET
PAT	PATTERN
PB	PULL BOX
PBD	PARTICLEBOARD
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PERF	PERFORATED
PERIM	PERIMETER
PH	PHASE
PIL	PILASTER
PL	PROPERTY LINE
PL GL	PLATE GLASS
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLG	PILING
PLYWD	PLYWOOD
PNL	PANEL
PP PL	PUSH/PULL PLATE
PR	PAIR
PRCST	PRECAST
PRKG	PARKING
PS CONC	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTDR	PAPER TOWEL DISPENSER AND RECEPTACLE
PTN	PARTITION
PWR	POWER
Q	----------
QT	QUARRY TILE
QTY	QUANTITY
R	----------
RB	RESILIENT BASE
RBM	REINFORCED BRICK MASONRY
RBR	RUBBER
RC	REINFORCED CONCRETE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDG INS	RIGID INSULATION, SOLID
REC	RECESSED
REC ROOM	RECREATION ROOM
REF	REFERENCE
REM	REMOVABLE
REP	REPAIR
REPL	REPLACE
REQ	REQUIRE
REQD	REQUIRED
RESIL	RESILIENT
REST	RESTROOM
RF	RESILIENT FLOORING
RFG	ROOFING
RH	ROOF HATCH
RHR	RIGHT HAND REVERSE
RL	ROOF LEADER
RLG	RAILING
RM	ROOM
RO	ROUGH OPENING
RSD	ROLLING STEEL DOOR
RV	ROOF VENT
RVL	REVEAL
S	----------
SB	SPLASH BLOCK
SCHED	SCHEDULE
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SFTWD	SOFTWOOD
SGL	SINGLE
SHT MTL	FLASH SHEET METAL (FLASHING)
SHTHG	SHEATHING
SHV	SHELVING
SIM	SIMILAR
SJ	SCORED JOINT
SKLT	SKYLIGHT
SLNT	SEALANT
SMK	SMOKE
SMLS	SEAMLESS
SP EL	SPOT ELEVATION
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SST	STAINLESS STEEL
ST	STAIRS
STD	STANDARD
STL JST	STEEL JOIST
STL RF DK	STEEL ROOF DECK
STOR	STORAGE
STR	STRINGERS
STRB/HRN	STROBE/HORN
SUB FL	SUBFLOOR
SV	SHEET VINYL
SW	SIDEWALK
T	----------
T	TREAD
T/S	TUB/SHOWER
TC	TERRA COTTA
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
TFF	TOP OF FINISH FLOOR
THK	THICKNESS
TK BD	TACKBOARD
TMPD GL	TEMPERED GLASS
TN	TRUE NORTH
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB
TRANS	TRANSOM
TRTD	TREATED
TV	TELEVISION

SHEET NUMBERING



LEGEND

MATERIALS

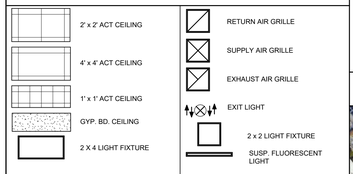
- CONCRETE/ PRECAST CONCRETE
- SOIL
- SAND, EIFS FINISH COAT, OR CEMENT PLASTER
- BRICK
- CMU
- STONE
- FIBERGLASS BATT INSULATION
- FIBERGLASS SEMI RIGID INSULATION
- MINERAL WOOL SEMI RIGID INSULATION
- EXPANDED POLYSTYRENE RIGID INSULATION
- EXTRUDED POLYSTYRENE RIGID INSULATION
- POLYISOCYANURATE RIGID INSULATION
- GYPSUM BOARD
- EXTERIOR GYPSUM SHEATHING
- EXTERIOR CEMENT BOARD
- COATED GLASS MAT WATER RESISTANT GYP BD
- PLYWOOD
- COVER BOARD

FIRE RATED WALL SYMBOLS:

- 1 HR FIRE
- 2 HR FIRE
- 3 HR FIRE
- 4 HR FIRE
- S 1 HR FIRE/SMOKE WALL
- S 2 HR FIRE/SMOKE WALL
- S 3 HR FIRE/SMOKE WALL
- S 4 HR FIRE/SMOKE WALL

ANNOTATION CALLOUTS/DRAWING SYMBOLS

CEILING SYMBOLS



BUILDING SUMMARY

PROJECT INFORMATION

PROJECT NAME: LFUCG DWG HEADQUARTERS & OPERATIONS FACILITY
ADDRESS: 130 WEST NEW CIRCLE ROAD, LEXINGTON KY 40505
USE GROUP: S-1
OWNER-CONTACT PERSON: RICHARD DUGAS

APPLICABLE CODES

2018 - KENTUCKY BUILDING CODE (BASED ON THE 2015 INTERNATIONAL BUILDING CODE)
2015 - INTERNATIONAL MECHANICAL CODE
2012 - NFPA 54 NATIONAL FUEL GAS CODE
2009 - ICC/ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
2012 - NFPA 1 FIRE PREVENTION CODE (AS DIRECTED BY 815 KAR 10.60 KENTUCKY STANDARDS OF SAFETY)
2012 - INTERNATIONAL ENERGY CONSERVATION CODE - (FOR USE WITH THE KBC ONLY)
2009 - INTERNATIONAL ENERGY CONSERVATION CODE - (FOR USE WITH THE KRC ONLY)
2013 - KENTUCKY RESIDENTIAL CODE (BASED ON THE 2012 INTERNATIONAL RESIDENTIAL CODE)
0000 - KENTUCKY STATE PLUMBING LAW, REGULATIONS & CODE (815 KAR CHAPTER 20)
0000 - STATE BOILER REGULATIONS (KRS 236, 815 KAR 15)
2017 - NFPA 70 NATIONAL ELECTRICAL CODE
2015 - INTERNATIONAL FIRE CODE (IFC) (NEW CONSTRUCTION PROJECTS, ONLY BY THE BODY OF KBC.)
2012 - NFPA 101 LIFE SAFETY CODE (HEALTH CARE FACILITIES)
2006 - INTERNATIONAL FIRE CODE FOR PORTABLE EXTINGUISHERS (SECTION 906)
2013 - NFPA 13 INSTALLATION OF SPRINKLER SYSTEMS
2013 - NFPA 13D INSTALLATION OF SPRINKLER SYSTEMS - ONE/TWO FAMILY DWELLING
2013 - NFPA 13R INSTALLATION OF SPRINKLER SYSTEMS IN RESIDENTIAL OCCUPANCIES UP TO FOUR STORIES
2013 - NFPA 14 INSTALLATION OF STANDPIPE, HOSE SYSTEMS
2013 - NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE
2007 - STRUCTURAL ENGINEERS ASSOCIATION OF KENTUCKY - SPECIAL INSPECTION GUIDELINES, THIRD EDITION

BUILDING PLANNING

OCCUPANCY: S-1
MIXED OCCUPANCY NO
REQUIRED FIRE SEPARATION: NO

TYPE OF CONSTRUCTION

CONSTRUCTION TYPE: 2B; EXISTING

ESSENTIAL FACILITY (CHAPTER 16, IBC)

ESSENTIAL FACILITY NO (TABLE 1604.5 RISK CATEGORY 1)

GENERAL BUILDING LIMITATIONS

- HEIGHT OF BUILDING: ALLOWED 55FT > ACTUAL 16'-0"FT (TABLE 503 2015 IBC)
- NUMBER OF STORIES: 1 STORY ACTUAL (2 STORY PER TABLE 503 2015 IBC)
- MAXIMUM SINGLE FLOOR AREA: 17,500SQFT. (PER TABLE 503 2015 IBC)
- TOTAL AREA OF BUILDING: 10,690 SQFT / 6,510 SQFT
- PENTHOUSE AND ROOF STRUCTURE: NONE
- HIGH RISE: NO
- PARKING SPACES PROVIDED: N/A
- PARKING SPACES REQUIRED: N/A
- ACCESSIBLE PARKING SPACES PROVIDED: N/A

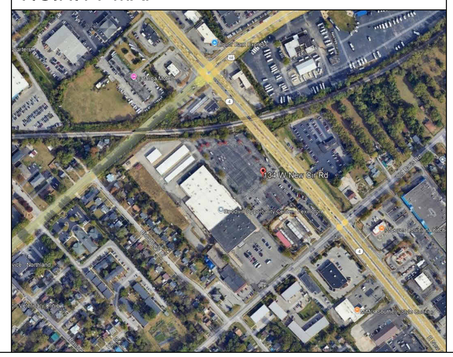
FIRE PROTECTION SYSTEMS

- FIRE EXTINGUISHING SYSTEM: NO
- STANDPIPE SYSTEM: NO TYPE
- SMOKE CONTROL: NO CLASS

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	REQ'D RATING / HR	UL/FM # WHERE APPLICABLE
PRIMARY STRUCTURAL FRAME	0 / HR	N/A
BEARING WALLS		
EXTERIOR	0 / HR	N/A
INTERIOR	0 / HR	N/A
NONBEARING WALLS AND PARTITIONS		
EXTERIOR 10' > SEPARATION DISTANCE	0 / HR	N/A
NONBEARING WALLS AND PARTITIONS		
INTERIOR	0 / HR	N/A
FLOOR CONSTRUCTION	0 / HR	N/A
ROOF CONSTRUCTION	0 / HR	N/A

VICINITY MAP



BUILDING CODE REVIEW - 2018 KBC

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION:

1. MODERATE-HAZARD STORAGE, GROUP S-1 (SECTION 311.2)

CHAPTER 4: SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY:

1. MOTOR-VEHICLE-RELATED OCCUPANCIES (SECTION 406.8)

CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS:

1. ASSEMBLY GROUP S-1 (TYPE 2B CONSTRUCTION) HEIGHT 3 STORIES (75' H) @ 52,500 SQFT PER STORY. (SECTION 503, 504, 506)
2. BUILDING AREA MODIFICATIONS: (SECTION 506.3)
   A. If = [500/(500 - 0.25) 30/30 = 0.75 AND
      If = [486/486 - 0.25]30/30 = 0.75
      Aa = 17,500sqft + [17,500sqft x 0.75] = 30,625 sqft > 10,690 sqft AND 6,590 sqft (AREA IS UNDER ALLOWED. SEE UNLIMITED AREA BUILDINGS BELOW)
3. UNLIMITED AREA BUILDINGS: (SECTION 507.5 GROUP S-1 BUILDINGS OF TYPE 2 CONSTRUCTION)
   A. BUILDING AREA NOT LIMITED WHERE EQUIPPED THROUGHOUT WITH AUTOMATIC SPRINKLER SYSTEM AND IS SURROUNDED AND ADJOINED BY PUBLIC WAYS OR YARDS NOT LESS THAN 60 FEET IN WIDTH. SEE SITE PLAN FOR 60 FOOT MINIMUM WIDTH.
4. MIXED USE AND OCCUPANCY: (SECTION 508.3)
   A. N/A.
5. INCIDENTAL USES (SECTION 509)
   A. N/A
6. SPECIAL PROVISIONS (SECTION 510)
   A. N/A

CHAPTER 6: TYPES OF CONSTRUCTION:

1. CONSTRUCTION CLASSIFICATION:
   A. TYPE 2B
2. SEE FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS HOURS (TABLE 601)
   A. SEE TABLE THIS SHEET.
3. FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE
   A. FIRE SEPARATION DISTANCE = 10 < x <30
   B. TYPES OF CONSTRUCTION = 2B
   C. OCCUPANCY GROUP = S-1
   D. FIRE RATING REQUIRED = 0

CHAPTER 7: FIRE AND SMOKE PROTECTION FEATURES:

1. SHAFT ENCLOSURES:
   A. 1 HOUR WHERE CONNECTING FOUR STORIES OR LESS. (713.4)
   B. SHAFT ENCLOSURES SHALL BE CONSTRUCTED AS FIRE BARRIERS PER SECTION 707.

CHAPTER 8: INTERIOR FINISHES:

1. INTERIOR WALL AND FINISH MATERIAL (803.1.1)
   A. CLASS C: = FLAME SPREAD INDEX 76-200; SMOKE DEVELOPMENT INDEX 0-450
2. INTERIOR WALL AND FINISH REQUIREMENTS BY OCCUPANCY: (TABLE 803.11 SPRINKLERED)
   A. GROUP S = CLASS C

CHAPTER 9: FIRE PROTECTION SYSTEMS:

1. AUTOMATIC SPRINKLER SYSTEMS: (SECTION 903)
   A. GROUP S-1 (SECTION 903.2.9)
      a. THE FIRE AREA FOR EITHER STRUCTURE DOES NOT EXCEED 12,000 SQFT > 10,690 / 6,510 SQFT.
   B. PORTABLE FIRE EXTINGUISHERS (SECTION 906)
      a. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN GROUP S (SECTION 906.1)
      b. INSTALL FIRE EXTINGUISHERS PER NFPA 10.
      c. MIN. NUMBER OF EXTINGUISHERS = 10,690 / 3000 = 3.56 < ACTUAL 4
         MIN. NUMBER OF EXTINGUISHERS = 6,510 / 3000 = 2.17 < ACTUAL 3
      d. MAX. DISTANCE TO TRAVEL TO EXTINGUISHER = 75 FEET.
   C. FIRE ALARM DETECTION SYSTEMS (907.2)
      a. N/A - EXISTING

CHAPTER 10: MEANS OF EGRESS:

1. OCCUPANT LOAD (SECTION 1004)
   A. TABLE 1004.1.2 MAXIMUM FLOOR AREA ALLOWANCE PER OCCUPANT.
      a. STORAGE AREA 300 SQFT.
      b. 10,690 SQFT/300 SQFT = 35 OCCUPANTS TOTAL
         564 SQFT/300 SQFT = 1 OCCUPANT IN ENCLOSED CMU AREA
         6,510 SQFT/300 SQFT = 21 OCCUPANTS TOTAL
         389 SQFT/300 SQFT = 1 OCCUPANT IN ENCLOSED CMU AREA
2. COMMON PATH OF EGRESS TRAVEL (SECTION 1006.2.1)
   A. GROUP S: OCCUPANT LOAD LESS/GREATER THAN 30 WITHOUT SPRINKLER SYSTEM = 100 FEET / 75 FEET.
3. EXIT ACCESS TRAVEL DISTANCE (SECTION 1017.2)
   A. GROUP S-1 = 200 FEET MAXIMUM WITHOUT SPRINKLER SYSTEM.
4. CORRIDOR FIRE RESISTANCE RATING (1020.1)
   A. GROUP S WITH SPRINKLER SYSTEM REQUIRED RATED CORRIDOR = 1 HOURS.
   B. MINIMUM CORRIDOR WIDTH 36 INCHES (1020.2)

CHAPTER 12: INTERIOR ENVIRONMENT:

1. LIGHTING (SECTION 1205.2)
   A. THE MINIMUM NET GLAZED AREA SHALL BE NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE ROOM SERVED.
      a. N/A - EXISTING
2. TOILET AND BATHROOM REQUIREMENTS (SECTION 1210)
      a. N/A - EXISTING, ACCESSORY BUILDING
   A. THE NUMBER AND TYPE OF PLUMBING FIXTURES PROVIDED IN ANY OCCUPANCY SHALL COMPLY WITH CHAPTER 29.
      a. N/A - EXISTING, ACCESSORY BUILDING

CHAPTER 13: ENERGY EFFICIENCY

1. GENERAL (SECTION 1301)
   A. EXISTING BUILDING

CHAPTER 16: STRUCTURAL DESIGN:

1. RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES (TABLE 1604.5.1)
   A. RISK CATEGORY I.

JAMES K. PIPER — REGISTERED NO. 44471 — COMMONWEALTH OF KENTUCKY — 8/15/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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GRW

ENGINEERING - ARCHITECTURE - GEOSPATIAL

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PROJECT DATA

LFUCG EXTERIOR STRUCTURES

134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 3/16" = 1'-0"

SHEET NO.: GI003 02

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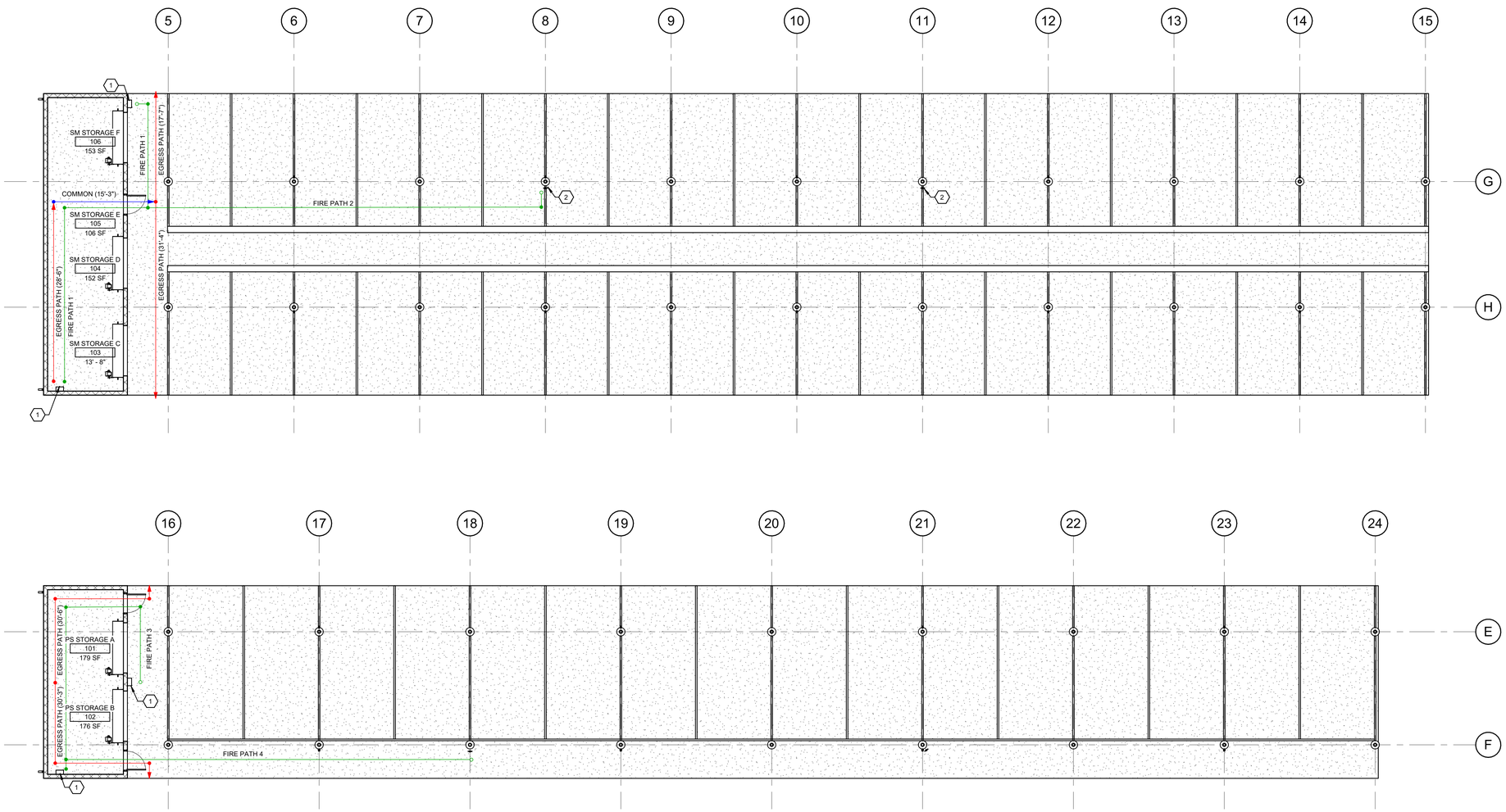
PATH OF EGRESS TRAVEL

Mark	View Name	Level	From Room	To Room	Length	Speed	Time
FIRE PATH 1	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	SM STORAGE C 103		60' - 0"	3.0 mph	13.6 s
COMMON PATH	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	SM STORAGE E 105		15' - 11 15/16"	3.0 mph	3.6 s
EGRESS PATH 2	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	SM STORAGE C 103	SM STORAGE E 105	28' - 4"	3.0 mph	6.4 s
EGRESS PATH 4	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL			17' - 7"	3.0 mph	4.0 s
EGRESS PATH 3	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL			31' - 4"	3.0 mph	7.1 s
FIRE PATH 2	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL			65' - 9"	3.0 mph	14.9 s
FIRE PATH 4	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	PS STORAGE B 102		67' - 2 9/32"	3.0 mph	15.3 s
FIRE PATH 3	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	PS STORAGE B 102		49' - 0 13/16"	3.0 mph	11.2 s
EGRESS PATH 5	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	PS STORAGE A 101		30' - 6"	3.0 mph	6.9 s
EGRESS PATH 6	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	PS STORAGE A 101		30' - 3"	3.0 mph	6.9 s



1 FIRST LEVEL - LIFE SAFETY

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

SHEET KEYNOTES:

1	PROVIDE SURFACE-MOUNTED FIRE EXTINGUISHER CABINET. SEE SPECS. FIRE EXTINGUISHER OFCI. COODRINATE CABINET WITH OWNER PROVIDED FIRE EXTINGUISHER.
2	FIRE EXTINGUISHER. OFCI. TO BE MOUNTED TO CONCRETE COLUMN CASING. T.O. EXTINGUISHER TO BE AT 4'-0".

AREA KEY PLAN

JAMES K. PIPER
REGISTERED
NO. 4447
COMMONWEALTH
8/15/25

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - LIFE SAFETY PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: NEK
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED (CALE CHECK)

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: GK101 02

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00.AB CODE CRITERIA FOR DESIGN

A. THESE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS & CONTRACT DOCUMENTS.

B. THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT SHALL CONFORM TO THE REFERENCED CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITH THE LATEST EDITIONS SHALL APPLY UNLESS NOTED.

C. BUILDING CODE: KENTUCKY BUILDING CODE - 2018, 4TH EDITION
INTERNATIONAL EXISTING BUILDING CODE – 2015

D. COUNTY/STATE: FAYETTE / KENTUCKY

E. RISK CATEGORY: I

F. DEAD LOADS

1. ROOFS = 2 PSF
2. COLLATERAL = 2 PSF
3. SOLAR PANEL = 5 PSF

G. DESIGN LIVE LOADS

1. ROOF = 20 PSF
2. ROOF LIVE LOAD = 25 PSF MIN

H. ROOF SNOW LOAD

a. GROUND SNOW LOAD (p_g) = 15 PSF
b. SNOW EXPOSURE FACTOR (C_e) = 0.9
c. THERMAL FACTOR (C_T) = 1.2
d. SLOPE FACTOR (C_S) = 1.0
e. IMPORTANCE FACTOR (I_S) = 0.8
f. RAIN ON SNOW SURCHARGE (P_R) = 5 PSF
g. FLAT ROOF SNOW LOAD (p_f) = 9.07 PSF
h. SLOPED ROOF SNOW LOAD (p_s) = 9.07 PSF PLUS DRIFTS AS APPLICABLE
i. MINIMUM ROOF SNOW LOAD (p_m) = 12 psf

I. LATERAL LOADS

1. WIND

a. BASIC WIND SPEED: 90 MPH
b. EXPOSURE CATEGORY: B
c. WIND IMPORTANCE FACTOR: Iw = 1.0
d. NOTE: THE MAIN WIND FORCE RESISTING SYSTEM OF THESE STRUCTURES WERE NOT MODIFIED BY THIS RENOVATION, NOR WERE THE WIND AREAS OR LOADS ON IT INCREASED BY MORE THAN 5%. THEREFORE, WIND DESIGN WAS ONLY PERFORMED ON THE COMPONENTS THAT WERE MODIFIED AND THE OVERALL EXISTING MAIN WIND FORCE RESISITING SYSTEM WAS NOT ANALYZED.

2. SEISMIC

a. SEISMIC SITE CLASS: C
b. MAPPED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION: Ss = 0.189
c. MAPPED 1 SECOND SPECTRAL RESPONSE ACCELERATION: S1 = 0.091
d. DESIGN SHORT PERIOD SPECTRAL RESPONSE ACCELERATION: Sds = 0.151
e. DESIGN 1 SECOND PERIOD SPECTRAL RESPONSE ACCELERATION: Sd1 = 0.103
f. SEISMIC DESIGN CATEGORY: B
g. SEISMIC IMPORTANCE FACTOR: Ie = 1.0
h. BASIC STRUCTURAL SYSTEM: BUILDING FRAME SYSTEM
i. NOTE: THE MAIN SEISMIC FORCE RESISTING SYSTEM OF THESE STRUCTURES WERE NOT MODIFIED BY THIS RENOVATION, NOR WERE THE SEISMIC LOADS ON IT INCREASED BY MORE THAN 5%. THEREFORE, SEISMIC DESIGN WAS ONLY PERFORMED ON THE COMPONENTS THAT WERE MODIFIED AND THE OVERALL EXISTING MAIN SEISMIC FORCE RESISITING SYSTEM WAS NOT ANALYZED.

J. INFORMATION OF EXISTING CONSTRUCTION, INCLUDING CONSTRUCTION COMPOSITION AND DIMENSIONS, WAS TAKEN FROM OWNER FURNISHED DRAWINGS OF PAST CONSTRUCTION AND SHALL BE FIELD VERIFIED. DEVIATIONS FROM THOSE SHOWN SHALL BE FURNISHED TO THE ARCHITECT AND ENGINEER.

K. ALL CONTRACTOR PROPOSED STRUCTURAL SUBSTITUTIONS, INCLUDING CONCRETE ADDITIVES, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY PERTINENT WORK AND PRIOR TO THE AWARD OF A SUBCONTRACTOR.

L. CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.

M. COORDINATION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS TO VERIFY THE LOCATIONS AND SIZES OF ALL CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, AND OTHER PROJECT REQUIREMENTS ARE THE CONTRACTOR'S RESPONSIBILITY. ALL REQUIRED OPENINGS, SLEEVES, OR OTHER COMPONENTS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

N. IMPOSED CONSTRUCTION LOADS, INCLUDING CRANE LOADS, IN EXCESS OF THE STATED DESIGN LOADS MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE IMPOSITION OF SUCH LOADS.

O. IMPLEMENTING JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

P. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.

00.31.32 GENERAL FOUNDATION INFORMATION

A. ASSUMED BEARING CAPACITIES:
a. 2000 PSF FOR UNDISTURBED NATIVE SOIL
b. 3000 PSF FOR ENGINEERED FILL
c. 6000 PSF FOR COMPETENT BEDROCK

B. EXISTING FOUNDATION SIZES, ELEVATIONS, LOCATIONS, ETC., SHOWN ARE FROM ORIGINAL DRAWINGS FURNISHED BY THE OWNER AND MAY NOT BE THE ACTUAL CONDITIONS ENCOUNTERED.

C. IF REQUIRED, UNDERPINNING OF EXISTING FOOTINGS SHALL BE PERFORMED IN SUCH A MANNER SO AS TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE EXISTING BUILDING. CONTRACTOR SHALL INCLUDE ANY ASSOCIATED COSTS OF UNDERPINNING IN HIS BID.

D. VERIFY LOCATIONS OF COLUMNS, UNDERGROUND UTILITIES, ETC., WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND CIVIL DRAWINGS PRIOR TO PLACEMENT OF FOUNDATIONS. APPROPRIATE MEASURES SHALL BE TAKEN TO AVOID DAMAGE TO EXISTING UTILITIES AND TO ENSURE ADEQUATE FOUNDATION BEARING AROUND UTILITIES.

E. ALL FOUNDATION AND SLAB-ON-GRADE SUB GRADES ARE TO BE FIELD INSPECTED BY AN EXPERIENCED QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE ALLOWABLE BEARING PRESSURE IS ACHIEVED AND THAT THE SUB GRADES ARE SUITABLE FOR SUPPORT OF THE FOUNDATIONS AND SLAB-ON-GRADE. THE GEOTECHNICAL ENGINEER SHALL ALSO VERIFY FOUNDATION ELEVATIONS PRIOR TO PLACEMENT OF FOUNDATION ELEMENTS.

F. UNLESS DETERMINED OTHERWISE BY GEOTECHNICAL EVALUATION, FILL MATERIAL FOR SLAB AND FOOTING AREAS SHALL BE PLACED IN LAYERS NOT EXCEEDING 8 INCHES (UNCOMPACTED THICKNESS) AND COMPACTED TO 98% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698.

G. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO BRACE FOUNDATION WALLS WHEN BACK FILLING AND WHEN THERE IS A POSSIBILITY OF DAMAGE BY EXCESS WATER.

H. COMPACTION OF BACKFILL WITHIN 2 FEET OF FOUNDATION WALLS SHALL BE ACCOMPLISHED WITH HAND EQUIPMENT. WHERE FILL IS REQUIRED ON BOTH SIDES OF FOUNDATION WALL, BRING THE FILL UP EACH SIDE SIMULTANEOUSLY AND UNIFORMLY.

I. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.

J. WHEN USING GEOFOAM FOR STRUCTURAL BACKFILL, CONTRACTOR SHALL PROVIDE A DETAILED LAYOUT OF BLOCKS SEALED BY AN ENGINEER IN THE STATE OF KENTUCKY

K. IF FOOTING EXCAVATIONS ENCOUNTER ISOLATED AREAS OF RELATIVELY HARD ROCK AT OR ABOVE THE PLANNED FOOTING ELEVATIONS, THE ROCK SHALL BE OVER EXCAVATED TO A DEPTH OF APPROXIMATELY ONE FOOT BELOW THE FOUNDATION BEARING ELEVATION AND BACKFILLED WITH STRUCTURAL FILL.

L. FOUNDATIONS SHALL NOT BE PLACED ON MUD OR MUCK, SOFT OR LOOSE SOIL, IN STANDING WATER OR ON FROZEN GROUND.

M. ALL NON-CANTILEVER WALLS SHALL BE BE ADEQUATELY BRACED PRIOR TO BACKFILL.

N. CANTILEVER RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL THE CONCRETE HAS DEVELOPED 100% OF THE REQUIRED 28-DAY COMPRESSIVE STRENGTH FOR THE CLASS OF CONCRETE SPECIFIED.

01.41.AB SPECIAL INSPECTIONS

A. SPECIAL INSPECTION IS REQUIRED ACCORDING TO CHAPTER 17 OF THE 2015 INTERNATIONAL BUILDING CODE.

B. SPECIAL INSPECTIONS SHALL BE PERFORMED FOR THE FOLLOWING WORK AS REQUIRED IN THE 2015 INTERNATIONAL BUILDING CODE:

1. STEEL CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.02
2. CONCRETE CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.3
3. MASONRY CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.4
4. WOOD CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.5
5. SOILS CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.6
6. DRIVEN DEEP FOUNDATION CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.7
7. CAST-IN-PLACE DEEP FOUNDATION CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.8
8. HELICAL PILE FOUNDATION CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.9
9. FABRICATED ITEMS IN ACCORDANCE WITH SECTION 1705.10
10. THE TYPE AND EXTENT OF EACH TEST AND INSPECTION REQUIRED FOR EACH TYPE OF WORK SHALL BE AS INDICATED IN THE BUILDING CODE AND THE REFERENCES INCORPORATED THEREIN.

C. SPECIAL INSPECTION SERVICES SHALL BE CONTRACTED AND PAID FOR BY THE OWNER.

D. WORK REQUIRING SPECIAL INSPECTION SHALL BE INSPECTED BY THE SPECIAL INSPECTOR FOR CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS. INSPECTION REPORTS INDICATING THE RESULTS OF SPECIAL INSPECTIONS SHALL BE PROMPTLY SUBMITTED TO THE CONTRACTOR, THE ARCHITECT, AND THE STRUCTURAL ENGINEER.

E. ALL SPECIAL INSPECTIONS INDICATING NON-CONFORMING WORK SHALL BE REPORTED IMMEDIATELY TO THE CONTRACTOR, THE ARCHITECT AND THE STRUCTURAL ENGINEER. IMPENDING CONSTRUCTION WORK THAT WOULD IMPEDE ECONOMICAL CORRECTION OF NON-CONFORMING WORK SHALL NOT PROCEED WITHOUT WRITTEN APPROVAL.

F. A FINAL REPORT DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY NON-CONFORMING WORK NOTED IN THE INSPECTIONS SHALL BE SUBMITTED BY THE SPECIAL INSPECTOR AT THE COMPLETION OF THE PROJECT.

G. THE SPECIAL INSPECTION AGENCY SHALL NOT BE ENGAGED BY THE CONTRACTOR FOR OTHER TESTING OR INSPECTION SERVICES ON THIS PROJECT.

H. SPECIAL INSPECTION SHALL BE PERFORMED BY A QUALIFIED INSPECTION AND TESTING AGENCY APPROVED BY THE BUILDING OFFICIAL, THE ARCHITECT, AND THE STRUCTURAL ENGINEER.

02.41 STRUCTURAL DEMOLITION

A. CONTRACTOR SHALL MAINTAIN THE STRUCTURAL INTEGRITY OF THE EXISTING BUILDING AND ITS STRUCTURAL ELEMENTS DURING THE DEMOLITION AND STRUCTURAL ELEMENT MODIFICATION PROCESS.

B. IDENTIFY LOAD BEARING WALLS THAT ARE TO RECEIVE NEW PENETRATIONS AND TEMPORARILY SHORE ADJACENT FLOOR OR ROOF FRAMING WHILE DEMOLITION AND STRUCTURAL ELEMENT MODIFICATION OPERATIONS ARE ONGOING.

C. SHORING SHALL SUPPORT ALL STRUCTURAL ELEMENTS SUPPORTED BY ELEMENTS BEING DEMOLISHED, AND SHALL EXTEND TO THE LOWEST AT GRADE WORKING SURFACE, UNLESS NOTED OTHERWISE ON THE CONSTRUCTION DRAWINGS.

D. SHORING LOADS ON THE AT GRADE WORKING SURFACE SHALL BE DISTRIBUTED SUCH THAT CONCENTRATED LOADS DO NOT CRACK, PUNCH THROUGH, OR CAUSE LOCALIZED SETTLEMENT CONDITIONS UNDER THAT WORKING SURFACE. LOADS CAUSING STRUCTURAL OR COSMETIC DAMAGE TO THE AT GRADE WORKING SURFACE DUE TO SHORING LOADS, MUST BE REPAIRED BY AN APPROVED REPAIRED METHOD.

04 STRUCTURAL MASONRY

A. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES ANDSTANDARDS:

1. "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530-11/ASCE 5-11/TMS 402-11) AND "SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530. 1-11/ASCE 6-11/TMS 602-11).
2. LOAD BEARING CONCRETE MASONRY UNITS: ASTM C90, TYPE I, GRADE N (MIN. COMPRESSIVE STRENGTH ON NET AREA = 1900 PSI) NORMAL (MEDIUM-LIGHT) WEIGHT
3. NON-LOAD BEARING CONCRETE MASONRY UNITS: ASTM C129, TYPE II
4. IVANY OPEN END BLOCK: ASTM C901 (MIN. COMPRESSIVE STRENGTH ON NET AREA = 3000 psi)
5. MORTAR: ASTM C270, TYPE S ABOVE GRADE/BELOW GRADE
6. CONCRETE BUILDING BRICK: ASTM C55, GRADE N (MIN. COMPRESSIVE STRENGTH ON NET AREA = 3500 PSI
7. CMU GROUT: ASTM C476, (MIN. COMPRESSIVE STRENGTH AT 28 DAYS = 2000 PSI)
8. CMU PRISM STRENGTH: F'm = 1500 PSI PER ACI 530/ASCE 5/TMS 402 UNIT STRENGTH METHOD
9. HORIZONTAL JOINT REINFORCING: ASTM A951, HOT DIPPED GALVANIZED
10. PLAIN REINFORCING BARS: ASTM A615, GRADE 60
11. WELDABLE REINFORCING BARS: ASTM A706, GRADE 60

B. CONCRETE MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 530.1 "SPECIFICATIONS FOR MASONRY STRUCTURES".

C. INSTALLATION DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BY THE STRUCTURAL ENGINEER. THE INSTALLATION DRAWINGS SHALL INDICATE:

1. THE MATERIALS USED, THEIR SPECIFICATIONS, AND THEIR DESIGN STRENGTHS.
2. ELEVATIONS OF ALL STRUCTURAL CONCRETE MASONRY WALLS SHOWING THE LAYOUT, INCLUDING OPENINGS AND JOINTS, REINFORCING, ACCESSORIES, BOND BEAMS, LINTELS AND EMBEDDED ITEMS.

D. PRODUCT DATA AND MATERIAL CERTIFICATIONS FOR MASONRY MATERIALS AND ACCESSORIES SHALL BE SUBMITTED FOR APPROVAL IN SHOP DRAWING FORMAT.

E. MORTAR CEMENT SHALL BE PORTLAND-LIME CEMENT. MASONRY CEMENT SHALL NOT BE USED.

F. THE TYPICAL DETAILS ON THE DRAWINGS CONTAIN ADDITIONAL GENERAL MASONRY NOTES AND DETAILS.

G. BEARING WALLS SHALL BE ANCHORED AT INTERSECTIONS BY GALVANIZED STEEL STRAPS 1 1/2" X 1/4" X 24" WITH 2" BEND AT 90 DEGREES EACH END. INSTALL STRAPS INTO GROUTED CORES OF C.M.U. AT 24" MAXIMUM VERTICAL SPACING. DO NOT INSTALL ANCHORS AT CONTROL JOINTS.

H. CORNERS OF LOAD BEARING CONCRETE MASONRY WALLS SHALL BE LAID IN RUNNING BOND.

I. PROVIDE SOLID GROUTED CONCRETE MASONRY AROUND BEARING ENDS OF ALL BEAMS AND JOISTS.

J. NO OPENINGS FOR TRADES SHALL OCCUR IN CONCRETE MASONRY WALLS WITHIN 16 INCHES OF BEAM BEARING CENTERLINES.

K. EMBEDDED ITEM LOCATIONS SHALL BE COORDINATED WITH THE APPROVED SHOP DRAWINGS OF THE TRADES.

L. PROVIDE GALVANIZED HORIZONTAL JOINT REINFORCING IN ALL WALLS AT 16" O.C. PROVIDE ONE-PIECE PREFABRICATED "T" AND "L" SHAPED UNITS AT ALL WALL CORNERS AND INTERSECTIONS.

M. ONLY WELDABLE REINFORCING BARS MAY BE WELDED.

N. CONCRETE MASONRY IS SUPPOSED TO ABSORB WATER FROM MORTAR AND GROUT. DO NOT PLACE OR GROUT WET CONCRETE MASONRY UNITS.

O. WEBS OF MASONRY UNITS FOR PIERS, COLUMNS, PILASTERS, AND THE STARTER COURSE SHALL BE MORTARED. WEBS OF MASONRY UNITS SHALL ALSO BE MORTARED WHERE REQUIRED TO CONFINE GROUT.

P. IN GROUTED AND/OR REINFORCED MASONRY WALLS, USE MASONRY UNITS WITH CORES THAT ALIGN VERTICALLY. PROVIDE CONTINUOUS UNOBSTRUCTED CELLS FOR REINFORCEMENT PLACEMENT AND GROUTING.

Q. SPACES TO BE FILLED WITH GROUT SHALL BE KEPT CLEAN AND FREE FROM PROTRUSIONS OF MASONRY OR MORTAR.

R. ALL CELLS OF BELOW-GRADE CONCRETE MASONRY UNITS SHALL BE GROUTED.

S. THE MAXIMUM GROUT POUR HEIGHT FOR EACH SPECIFIC TYPE AND SIZE OF CONCRETE MASONRY UNIT SHALL NOT EXCEED THE LIMITS SPECIFIED IN ACI 530.1.

T. GROUT POURS SHALL BE CONSOLIDATED ADEQUATELY DURING PLACEMENT BY MECHANICAL VIBRATION IN ACCORDANCE WITH PUBLISHED PRACTICES.

U. PROVIDE VERTICAL MASONRY CONTROL JOINTS AT APPROXIMATELY 20'-0" O.C., AND IN ACCORDANCE WITH RECOMMENDATIONS IN THE "MASONRY DESIGNER'S GUIDE". REFER TO ARCHITECTURAL PLANS FOR LOCATIONS, OR IF NOT SHOWN, COORDINATE LOCATIONS WITH THE ARCHITECT.

V. SPLICE LAP LENGTHS FOR REINFORCING SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, U.N.O. ON THE PLANS:

1.	BAR SIZE	LAP LENGTH
a.	#3	24"
b.	#4	36"
c.	#5	48"
d.	#6	60"

W. DO NOT EMBED ANY NON-STRUCTURAL ITEMS IN STRUCTURAL MASONRY WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.

X. ALL REINFORCING STEEL SHALL BE PLACED AND TIED IN THE PROPER POSITION AS THE WALLS ARE CONSTRUCTED. LOWERING THE BARS IN FROM THE TOP OF A COMPLETED WALL OR SECTION OF WALL IS NOT ALLOWED.

Y. CONTRACTOR SHALL PROVIDE BRACING AND SUPPORT FOR ALL MASONRY WORK UNTIL PERMANENT ROOF/FLOOR FRAMING IS IN PLACE.

Z. DO NOT APPLY UNIFORM FLOOR OR ROOF LOADS FOR AT LEAST 12 HOURS AND CONCENTRATED LOADS FOR AT LEAST 3 DAYS AFTER BUILDING MASONRY WALLS OR COLUMNS.

ABBREVIATIONS

&	AND
@	AT
AB	ANCHOR BOLT
ARCH	ARCHITECT/ARCHITECTURAL
BB	BACK TO BACK
BBE	BOTTOM OF BEAM ELEVATION
BDSE	BOTTOM OF DRILLED SHAFT ELEVATION
BKSE	BRICK/BLOCK SEAT ELEVATION
BLDG	BUILDING
BM	BEAM
BOT	BOTTOM
BPE	BOTTOM OF PILE ELEVATION
BRG	BEARING
CJ	CONTROL JOINT
CL	CENTERLINE
CMU	CONCRETE MASONRY UNIT
CONT	CONTINUOUS
COOR	COORDINATE
CS	COLUMN STRIP
CSJ	CONSTRUCTION JOINT
DB	BAR DIAMETER
DBL	DOUBLE
DIA OR Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DND	DO NOT DISTURB
DWL	DOWEL(S)
DWG	DRAWING(S)
DP	DRILLED PIER
DS	DRILLED SHAFT
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EMB	EMBEDMENT
EQ	EQUAL
EW	EACH WAY
EXIST	EXISTING
FFE	FINISHED FLOOR ELEVATION
FV	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
JBE	JOIST BEARING ELEVATION
JT	JOINT
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MO	MASONRY OPENING
MS	MIDDLE STRIP
NIC	NOT IN CONTRACT
NO OR #	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PC	PILE CAP
±	PLUS OR MINUS
R	RADIUS
REINF	REINFORCEMENT
REQD	REQUIRED
SCHED	SCHEDULE
SER	STRUCTURAL ENGINEER OF RECORD
SHT	SHEET
SIM	SIMILAR
SP	SPACE OR SPACED
STIFF	STIFFENER
STD	STANDARD
TBE	TOP OF BEAM ELEVATION
TDSE	TOP OF DRILLED SHAFT ELEVATION
TOC	TOP OF COLUMN ELEVATION
TCE	TOP OF CONCRETE ELEVATION
TFE	TOP OF FOOTING ELEVATION
TJE	TOP OF JOIST ELEVATION
TPCE	TOP OF PILE CAP ELEVATION
TSE	TOP OF SLAB ELEVATION
TWE	TOP OF WALL ELEVATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
W/	WITH
W/O	WITHOUT
WP	WORK POINT
WWR	WELDED WIRE REINFORCEMENT

LEGEND

ENGINEERED FILL OR UNDISTURBED SOIL
BEDROCK
CONCRETE
GROUT
CRUSHED STONE
STEEL
EXISTING
LOAD BEARING CMU
BRICK
PLYWOOD OR ENGINEERED LUMBER
PRECAST
WOOD CROSS SECTION
DENSE GRADE AGGREGATE
NON-LOAD BEARING CMU

RX WATER STOP
KEYWAY - 2" x 4" x CONT. (TYP)
MOMENT CONNECTION
[XX] # OF EQ SP SHEAR STUDS OVER FULL BM LENGTH.
DECK SPAN DIRECTION
(XX) ELEVATION NOTE
(XX) PLAN NOTE
REVISION #

MATTHEW W. CRAIG 24118 LICENSED PROFESSIONAL ENGINEER 8/15/2025

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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STRUCTURAL GENERAL NOTES

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: MWC
DRAWN: NEK
REVIEWED: MWC
APPROVED: MWC

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 12" = 1'-0"
SHEET NO.: S-001 02

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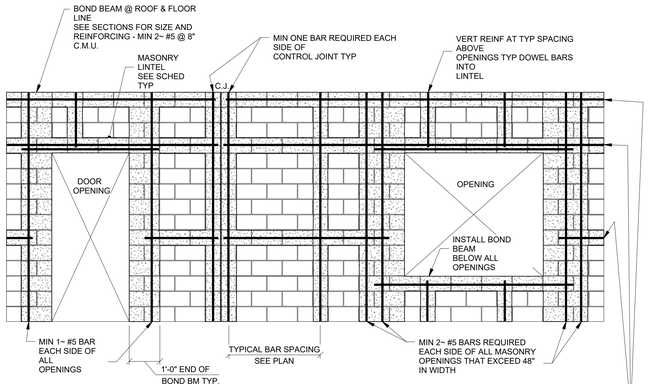
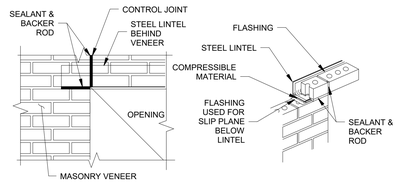


NOTES:

1. MINIMUM VERTICAL WALL REINFORCING SHALL BE #5 @ 2'-0" UNLESS NOTED OTHERWISE.
2. VERTICAL WALL REINFORCING SHALL BE CONTINUOUS.
3. SEE TYPICAL DETAIL FOR DOWELS REQUIRED AT BASE OF WALLS.
4. CENTER REINFORCING BARS IN GROUTED CELLS UNLESS NOTED OTHERWISE.
5. USE BAR POSITIONERS AT MINIMUM 4'-0" SPACING TO SUPPORT REINFORCING BARS.
6. FOLLOW SPECIFIED GROUTING PROCEDURES.
7. CLEAN MORTAR FROM EDGES OF CELLS SO GROUT CAN FLOW SMOOTHLY AND FILL ENTIRE CELL.
8. USE LINTEL BLOCK OVER OPENINGS AND CONTINUE WITH OPEN-BOTTOM BOND BEAM FROM EDGE OF OPENING INTO WALL SO THAT VERTICAL REINFORCING AT JAMB CAN PASS.
9. CONTROL JOINTS SHALL EXTEND FULL HEIGHT OF WALL AND ALIGN FROM FLOOR TO FLOOR.
10. WHERE A CONTROL JOINT OCCURS THROUGH A BOND BEAM OR LINTEL BEARING, PROVIDE 2 ~ 1/2" DOWELS ACROSS JOINT WITH GREASE ON ONE SIDE. DO NOT CONTINUE HORIZONTAL REINFORCING ACROSS CONTROL JOINT.

TYPICAL C.M.U. WALL REINFORCEMENT DETAILS



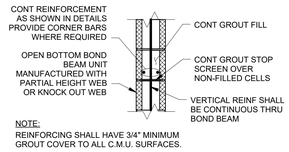
LOOSE LINTEL SCHEDULE (FOR MASONRY VENEER)

THIS SCHEDULE IS FOR LINTELS OVER MASONRY OPENINGS NOT OTHERWISE SHOWN OR NOTED ON DRAWINGS.

SPAN	ANGLE SIZE	PLAN MARK
UP TO 4'-0"	L3x 3 1/2 x 5/16 LLV	AL-1
UP TO 5'-6"	L4x 3 1/2 x 5/16 LLV	AL-2
UP TO 7'-6"	L5x 3 1/2 x 5/16 LLV	AL-3
UP TO 9'-6"	L6x 3 1/2 x 5/16 LLV	AL-4

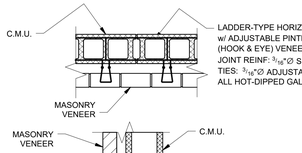
NOTES:
1. PROVIDE ONE ANGLE FOR EACH 4" OF MASONRY WALL.
2. ANGLES EXPOSED TO WEATHER SHALL BE GALVANIZED.
3. MINIMUM BEARING LENGTH SHALL BE 4" EACH END.

TYPICAL MASONRY VENEER LINTEL DETAIL

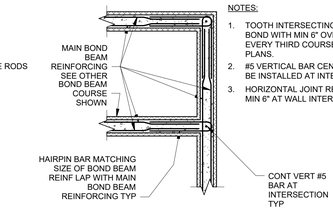


NOTE:
REINFORCING SHALL HAVE 3/4" MINIMUM GROUT COVER TO ALL C.M.U. SURFACES.

TYPICAL C.M.U. BOND BEAM DETAIL

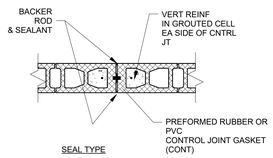


TYPICAL HORIZ JOINT REINF AND VENEER DETAIL

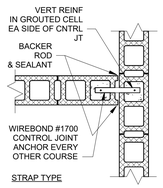


NOTES:
1. TOOTH INTERSECTING WALLS TOGETHER IN RUNNING BOND WITH MIN 6" OVERLAP OR USE MASONRY STRAP EVERY THIRD COURSE UNLESS NOTED OTHERWISE ON PLANS.
2. #5 VERTICAL BAR CENTERED IN GROUTED CELL SHALL BE INSTALLED AT INTERSECTION.
3. HORIZONTAL JOINT REINFORCEMENT SHALL BE LAPPED MIN 6" AT WALL INTERSECTION.

TYPICAL MASONRY WALL INTERSECTION DETAIL



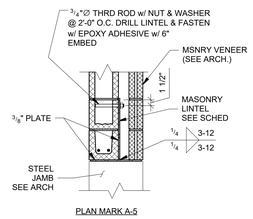
SEAL TYPE



STRAP TYPE

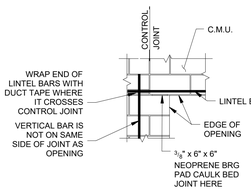
NOTES:
1. ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS.
2. DISCONTINUE HORIZONTAL JOINT REINFORCEMENT AND BOND BEAMS REINFORCEMENT AT CONTROL JOINTS.
3. UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 24 FEET.

TYPICAL C.M.U. CONTROL JOINT DETAIL

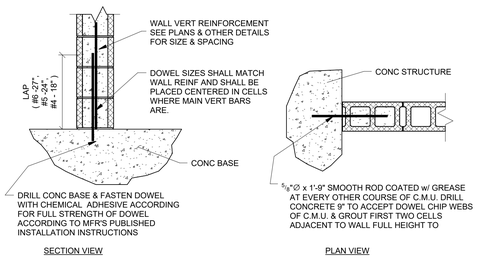


PLAN MARK A-5

TYP MASONRY VNR LINTEL FOR OPNGS > = 10' W



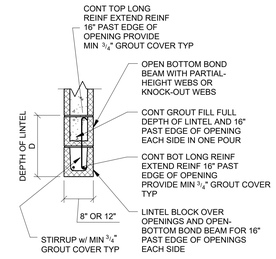
TYPICAL C.M.U. CONTROL JT @ OPENING



SECTION VIEW

PLAN VIEW

TYPICAL C.M.U. WALL DOWELS DETAIL



TYPICAL C.M.U. LINTEL DETAIL

MASONRY LINTEL SCHEDULE

MARK	MAX OPENING SIZE	D	BOTTOM REINF	TOP REINF	STIRRUPS
ML-1	5'-0"	8"	2~#5	NONE	NONE
ML-2	8'-0"	16"	2~#5	NONE	NONE
ML-3	11'-8"	24"	2~#5 (8" C.M.U.) 2~#6 (10" C.M.U.)	NONE	NONE
ML-4	18'-0"	24"	2~#5 (8" C.M.U.) 2~#6 (10" C.M.U.)	2~#5	#3@8"

NOTES:
1. DO NOT USE THIS SCHEDULE IF CONCENTRATED LOAD IS APPLIED TO THE LINTEL AT A HEIGHT LESS THAN HALF THE SPAN ABOVE THE LINTEL OR IF STACK BOND IS SPECIFIED.
2. IN LIEU OF USING LINTEL BLOCK ON THE BOTTOM OF LINTELS WHICH, REQUIRES SHORING DURING CONSTRUCTION, CONTRACTOR MAY USE PRESTRESSED, PRECAST CONCRETE LINTELS BY "CAST-CRETE" (WWW.CASTCRETE.COM) OR APPROVED EQUAL. SUBMIT PRODUCT DATA AND A PLAN AND SCHEDULE OF LINTEL LOCATIONS AND SIZES FOR APPROVAL FOR THIS OPTION.

MATTHEW W. CRAIG 24118 REGISTERED PROFESSIONAL ENGINEER

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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STRUCTURAL TYPICAL DETAILS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: MWC
DRAWN: NEK
REVIEWED: MWC
APPROVED: MWC

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/2" = 1'-0"

SHEET NO.: S-002 02

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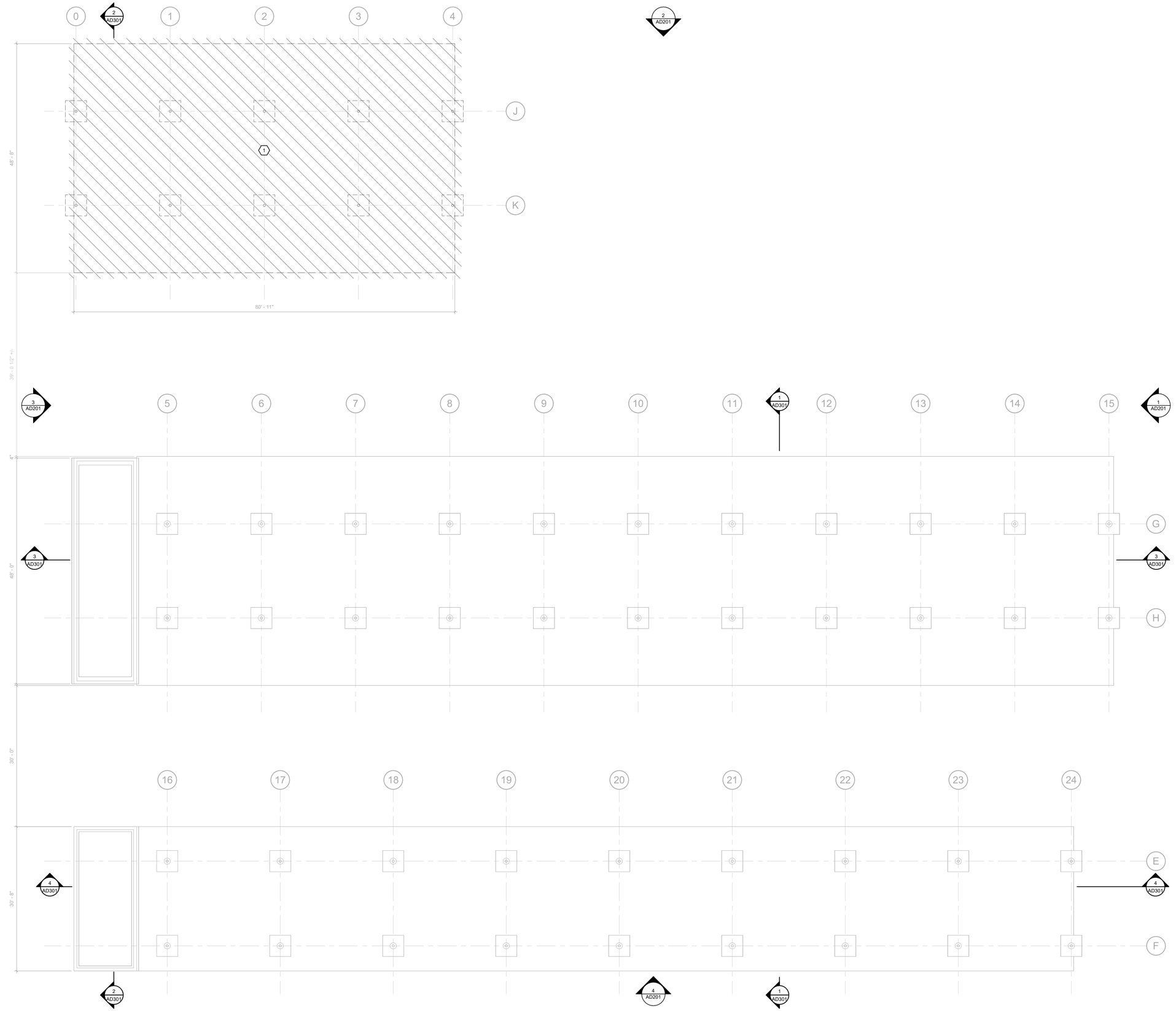

1 FOUNDATION - DEMOLITION

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

BASE BID: DEMOLISH EXISTING STRUCTURE, FOUNDATION SYSTEMS AND BELOW-GRADE CONSTRUCTION THAT ARE WITHIN FOOTPRINT OF NEW CONSTRUCTION AND EXTENDING 5FT. OUTSIDE FOOTPRINT INDICATED FOR NEW CONSTRUCTION. ABANDON BELOW-GRADE CONSTRUCTION OUTSIDE THIS AREA.

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION.

SHEET KEYNOTES:

1	BASE BID: DEMO FOUNDATION SYSTEMS AND BELOW-GRADE CONSTRUCTION THAT ARE WITHIN FOOTPRINT OF NEW CONSTRUCTION AND EXTENDING 5FT. OUTSIDE FOOTPRINT. ABANDON BELOW-GRADE CONSTRUCTION OUTSIDE THIS AREA.

AREA KEY PLAN

MATTHEW W. CRAIG 24118 REGISTERED PROFESSIONAL ENGINEER

GRM PROJECT NO. 05247-01

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CONSTRUCTION DOCUMENTS

EXISTING FOUNDATION PLANS - DEMOLITION

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
MWC	NEK	MWC	MWC

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: SD101 02

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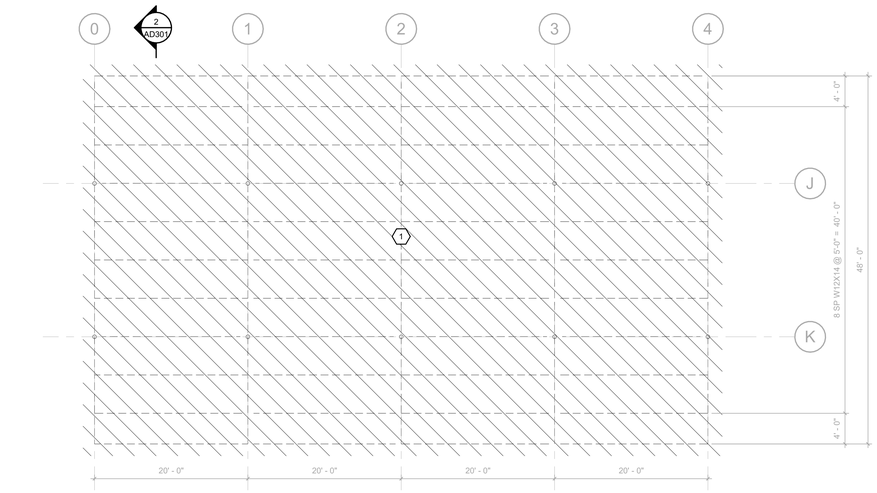

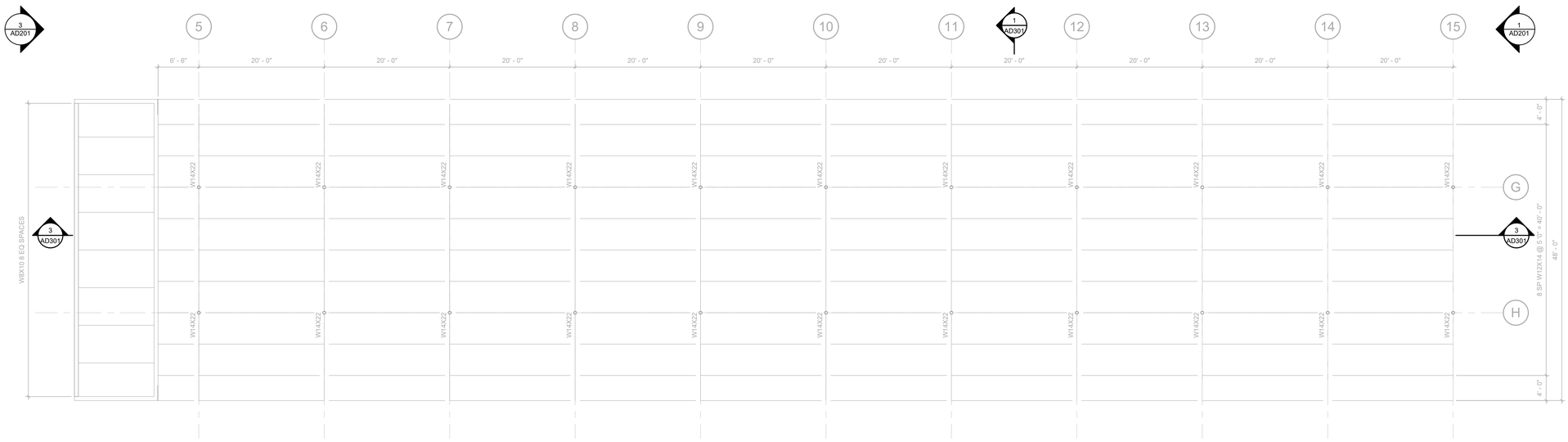

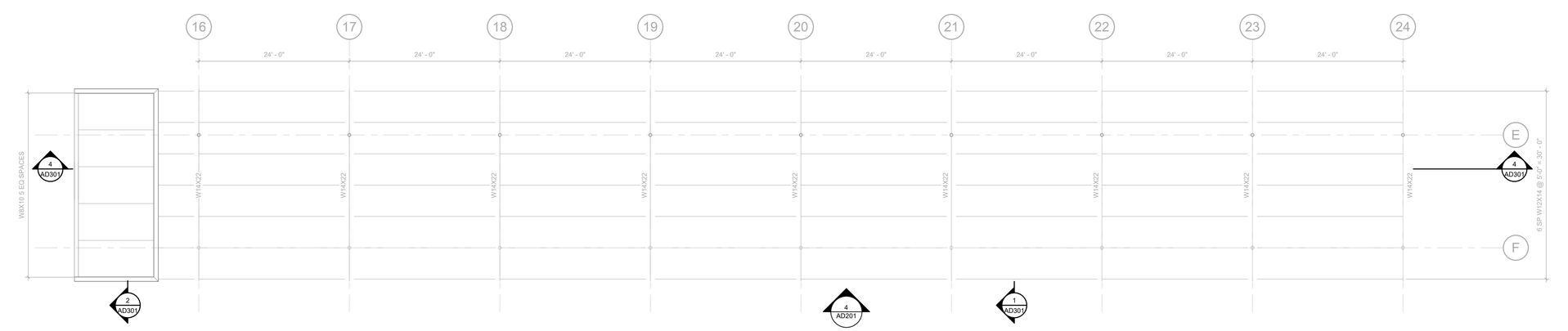

1 ROOF FRAMING PLAN - DEMOLITION
SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

BASE BID: DEMOLISH EXISTING STRUCTURE, FOUNDATION SYSTEMS AND BELOW-GRADE CONSTRUCTION THAT ARE WITHIN FOOTPRINT OF NEW CONSTRUCTION AND EXTENDING 5FT. OUTSIDE FOOTPRINT INDICATED FOR NEW CONSTRUCTION. ABANDON BELOW-GRADE CONSTRUCTION OUTSIDE THIS AREA.

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION.

SHEET KEYNOTES:

1	BASE BID: DEMO ROOF STRUCTURE AND DRAINAGE

AREA KEY PLAN

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grminc.com

EXISTING ROOF FRAMING PLANS - DEMOLITION

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
MWC	NEK	MWC	MWC

REVISIONS

NO	DESCRIPTION	DATE	BY

SCALE CHECK: 1"=MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. SD102 02

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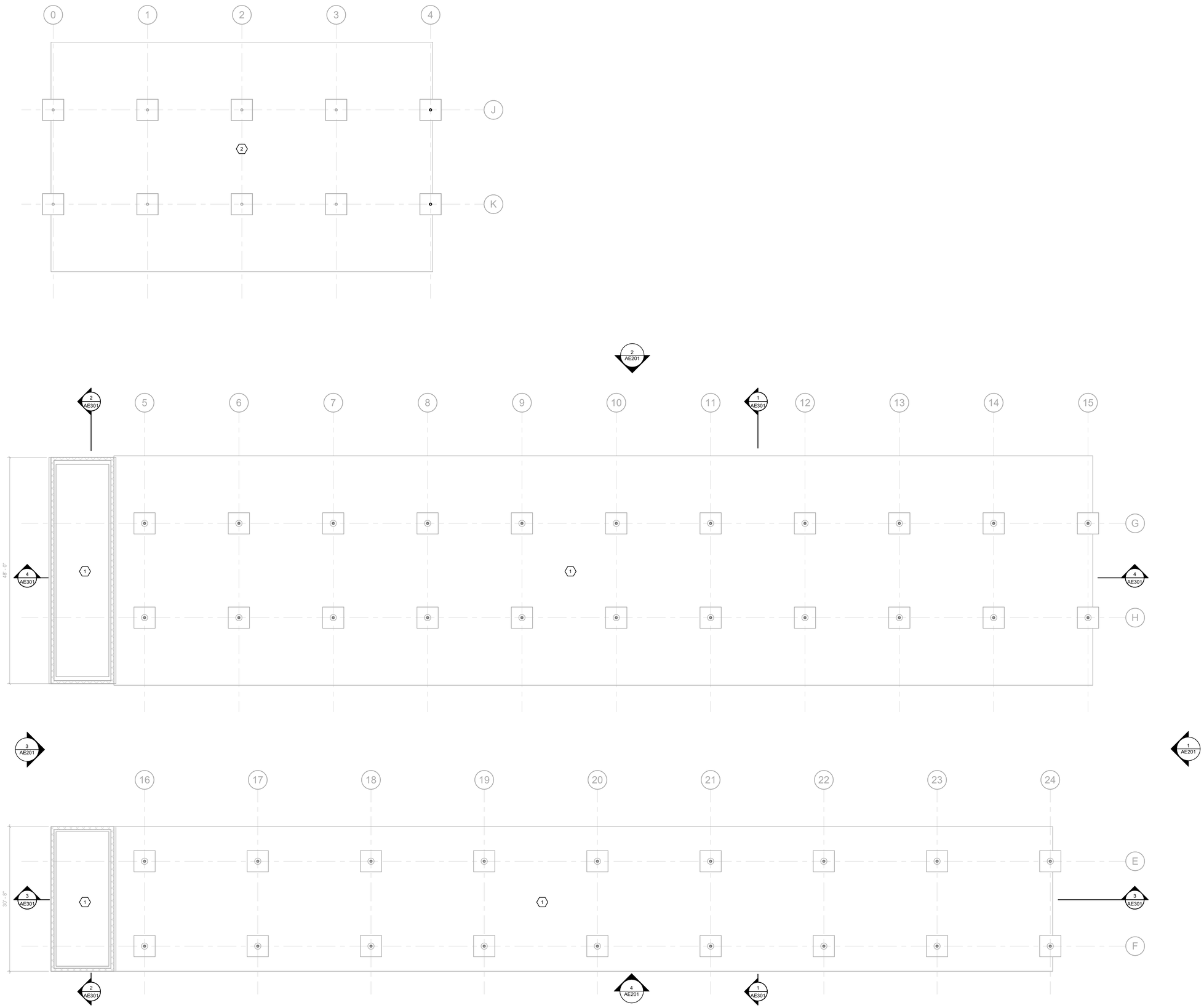

1 EXISTING FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ASSOCIATED FOUNDATIONS TO REMAIN. SEE ARCHITECTURE FOR NEW WORK. SEE MEP FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING SLAB AND FOUNDATION, DND.
2	ADD ALTERNATE #1. CANOPY STEEL STRUCTURE AND FOUNDATION TO REMAIN.

AREA KEY PLAN

MATTHEW W. CRAIG 24118
PROFESSIONAL ENGINEER

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

CONSTRUCTION DOCUMENTS

EXISTING FOUNDATION PLANS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	MWC
DRAWN:	NEK
REVIEWED:	MWC
APPROVED:	MWC

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: SB101 02

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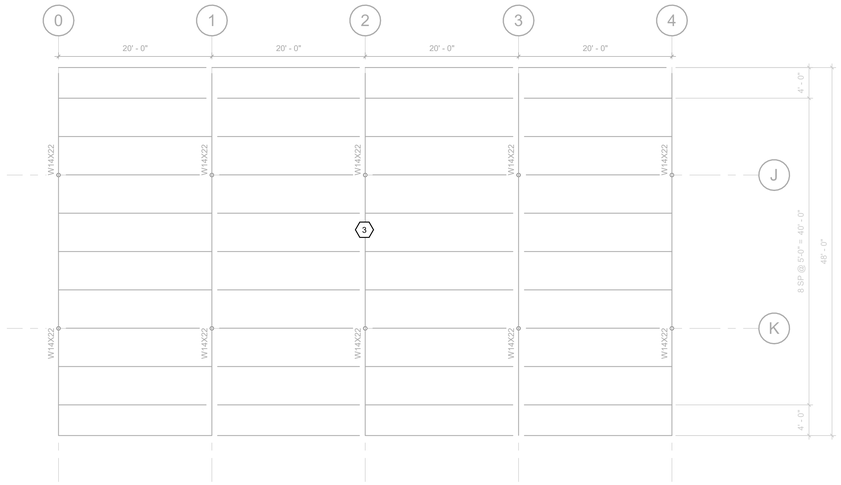

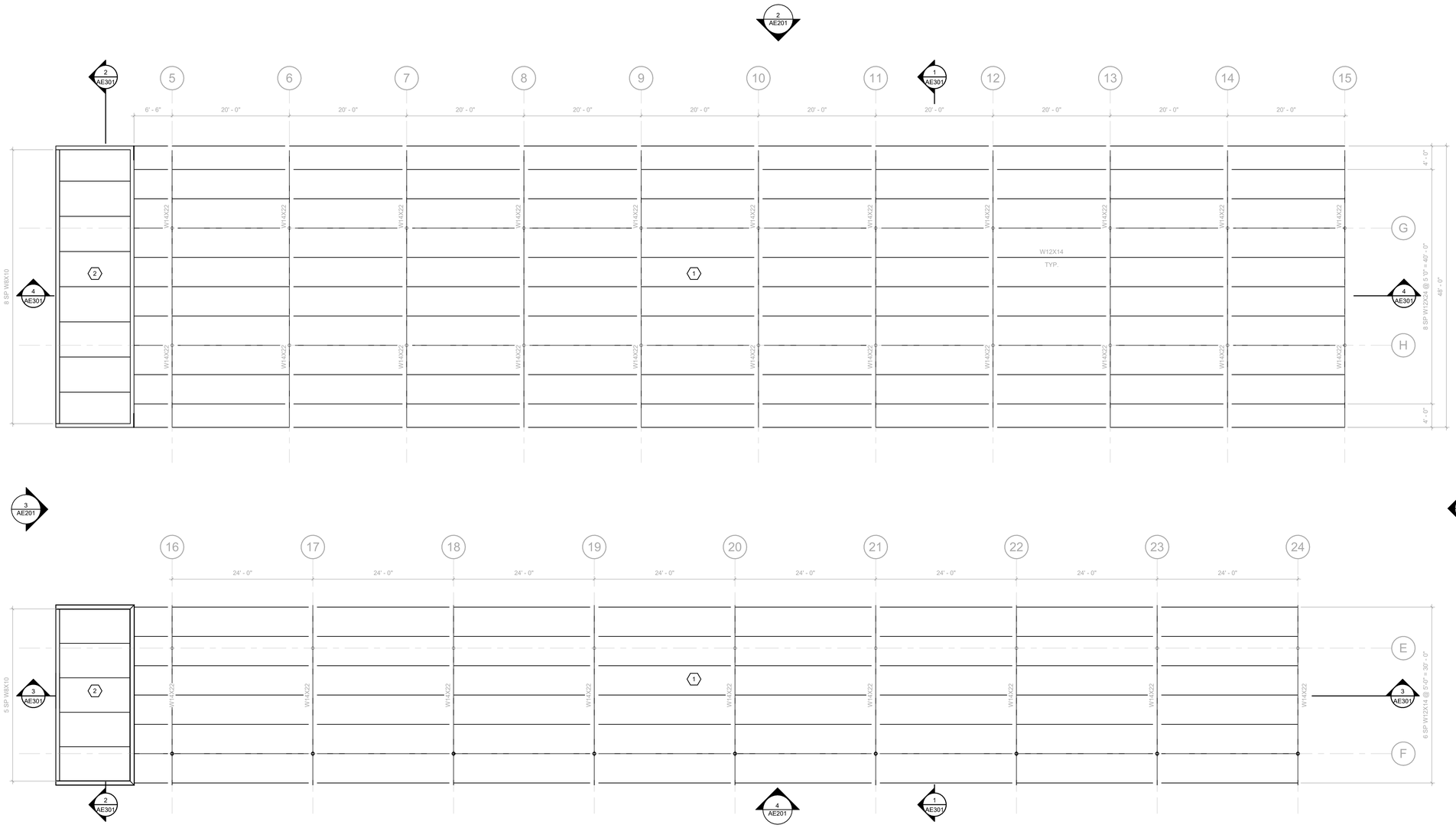

1 EXISTING ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ASSOCIATED FOUNDATIONS TO REMAIN. SEE ARCHITECTURE FOR NEW WORK. SEE MEP FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING CANOPY FRAMING, DND.
2	EXISTING ROOF FRAMING, DND.
3	ADD ALTERNATE #1. CANOPY STEEL STRUCTURE AND FOUNDATION TO REMAIN.

AREA KEY PLAN

PLAN NORTH

MATTHEW W. CRAIG 24118 PROFESSIONAL ENGINEER STATE OF KANSAS

GRH PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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www.grhinc.com

CONSTRUCTION DOCUMENTS

EXISTING ROOF FRAMING PLANS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: MWC
DRAWN: NEK
REVIEWED: MWC
APPROVED: MWC

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: SF101 02

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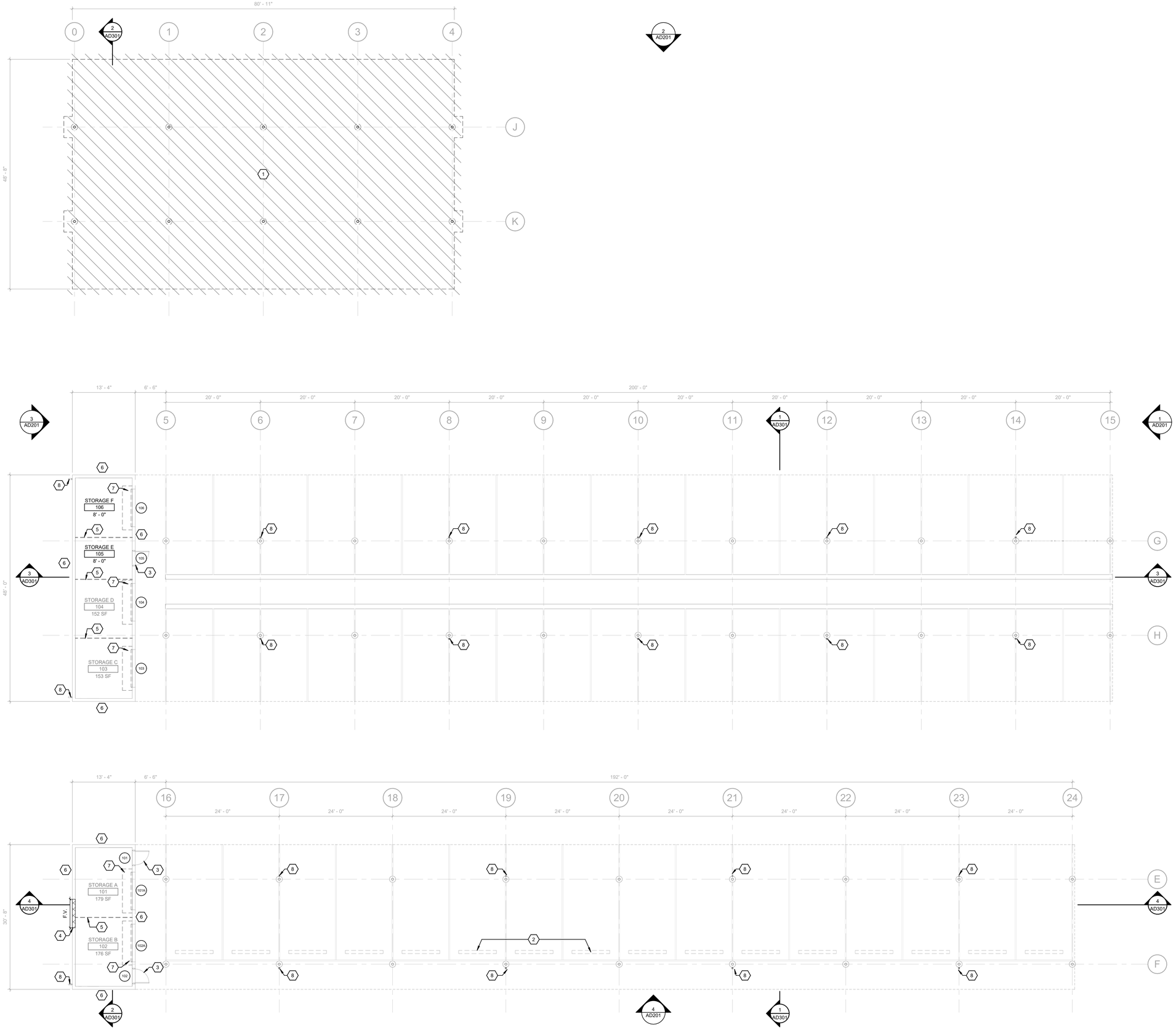

1 FIRST LEVEL - DEMOLITION

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

BASE BID: DEMOLISH EXISTING STRUCTURE, FOUNDATION SYSTEMS AND BELOW-GRADE CONSTRUCTION THAT ARE WITHIN FOOTPRINT OF NEW CONSTRUCTION AND EXTENDING 5FT. OUTSIDE FOOTPRINT INDICATED FOR NEW CONSTRUCTION. ABANDON BELOW-GRADE CONSTRUCTION OUTSIDE THIS AREA.

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION.

SHEET KEYNOTES:

1	BASE BID: DEMO EXTENTS OF STRUCTURE.
2	DEMO EXISTING CURB STOPS, TYP.
3	DEMO AND REPLACE EXISTING DOOR AND HARDWARE. PROTECT FRAME. SEE DOOR SCHEDULE.
4	DEMO EXISTING WALL UNIT, SEE MECH.
5	DEMO EXISTING CHAINLINK PARTITION.
6	EXISTING CMU. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH. SEE RFS.
7	DEMO EXISTING OVERHEAD DOOR, FRAME AND MOTOR.
8	REPLACE DOWNSPOUT IF NECESSARY, MATCH EXISTING, TYP.

AREA KEY PLAN

JAMES K. PIPER
REGISTERED
NO.
4447
COMMONWEALTH

GRH PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grhinc.com

CONSTRUCTION DOCUMENTS

FIRST FLOOR PLANS - DEMOLITION

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
DRV	NEK	DRV	DRV

REVISIONS

NO.	DATE:	BY:
	REVISION DESCRIPTION	

SCALE CHECK: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AD101 02

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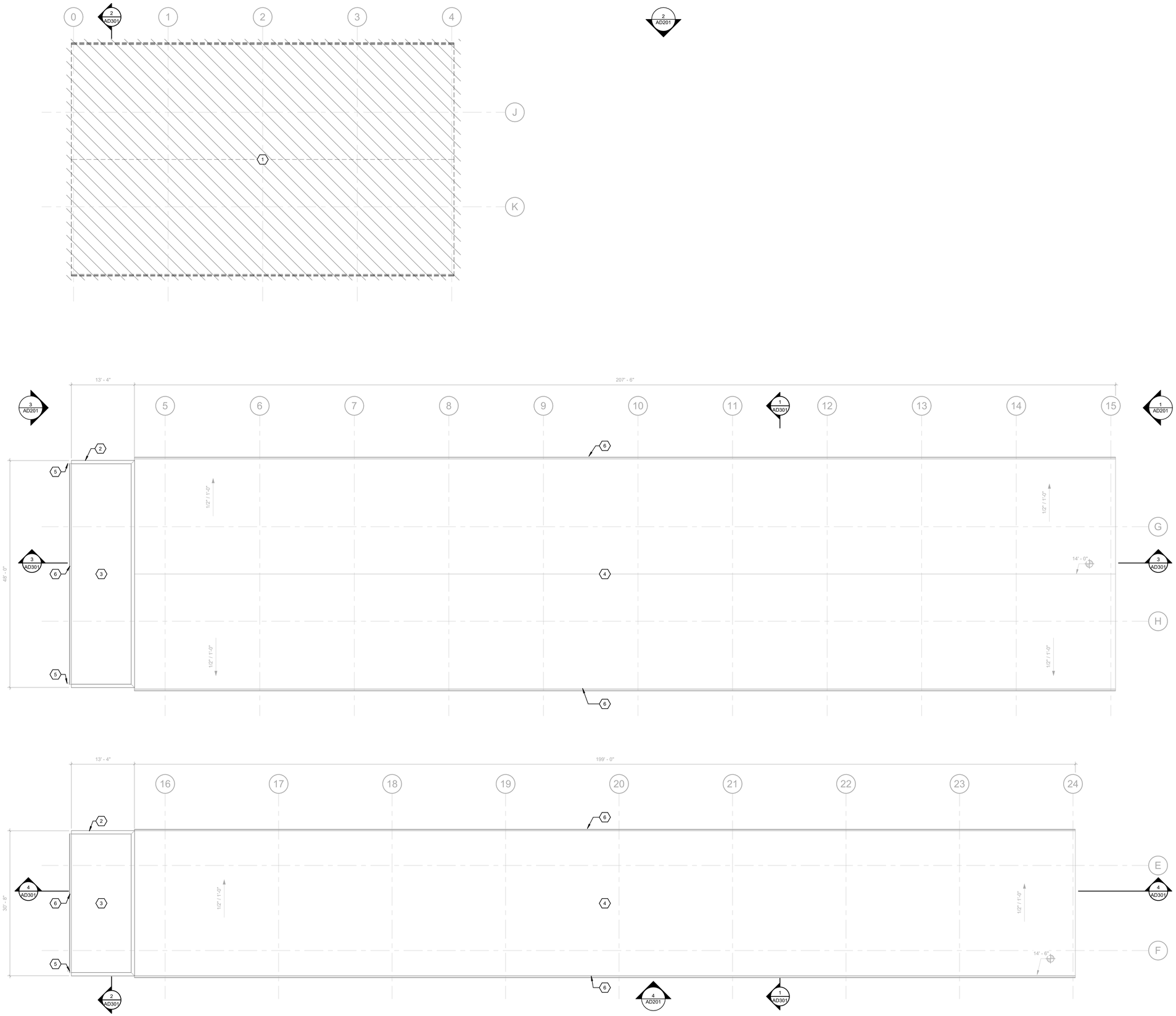

1 ROOF LEVEL - DEMOLITION
SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

BASE BID: DEMOLISH EXISTING STRUCTURE, FOUNDATION SYSTEMS AND BELOW-GRADE CONSTRUCTION THAT ARE WITHIN FOOTPRINT OF NEW CONSTRUCTION AND EXTENDING 5FT. OUTSIDE FOOTPRINT INDICATED FOR NEW CONSTRUCTION. ABANDON BELOW-GRADE CONSTRUCTION OUTSIDE THIS AREA.

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION.

SHEET KEYNOTES:

1	BASE BID: DEMO EXTENTS OF STRUCTURE.
2	PROTECT EXISTING COPING
3	PROTECT EXISTING ROOF DECK
4	PROTECT ROOF STRUCTURE, DND.
5	EXISTING DOWNSPOUT.
6	CLEAN EXISTING GUTTER AND ENSURE PROPER DRAINAGE. REPLACE GUTTER IF DEEMED DAMAGED.

AREA KEY PLAN

JAMES K. PIPER
REGISTERED
NO. 4447
COMMONWEALTH

GRH PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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www.grhinc.com

CONSTRUCTION DOCUMENTS

ROOF PLANS - DEMOLITION
LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AD102 02

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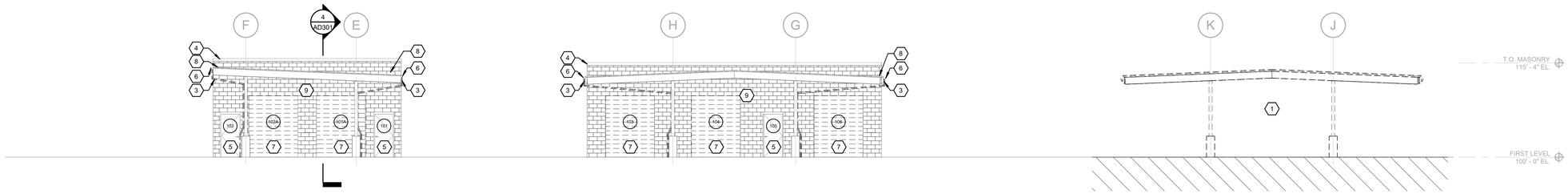
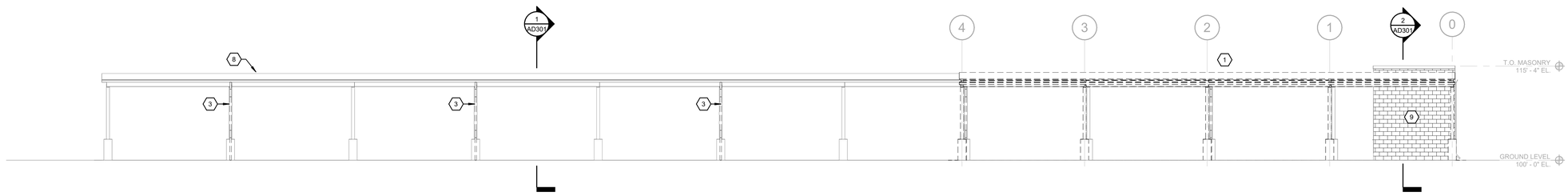


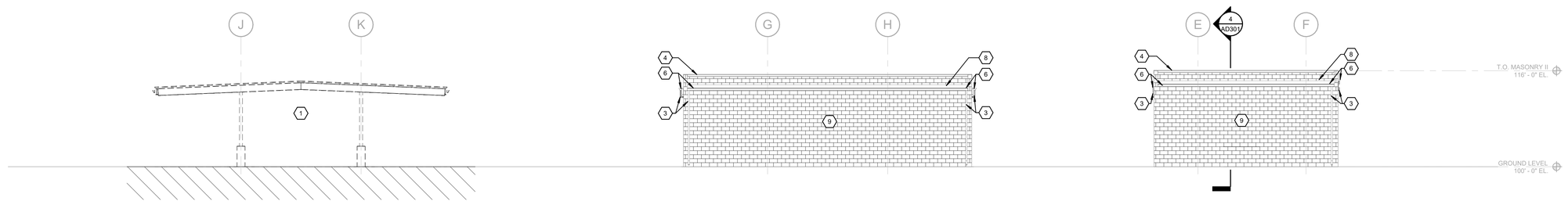
1 EXTERIOR EAST ELEVATION - DEMOLITION

SCALE: 1/8" = 1'-0"



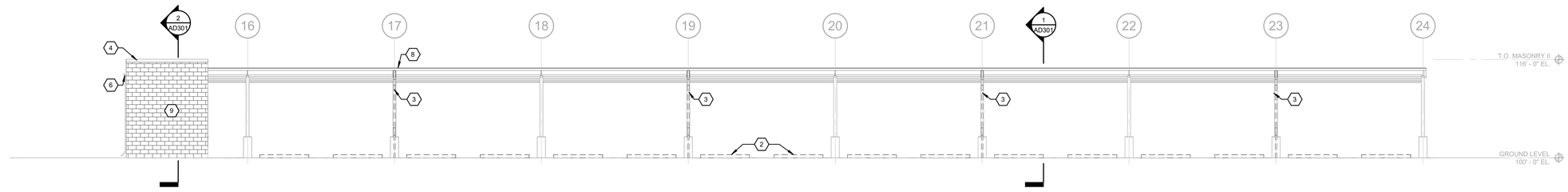
2 EXTERIOR NORTH ELEVATION - DEMOLITION

SCALE: 1/8" = 1'-0"



3 EXTERIOR WEST ELEVATION - DEMOLITION

SCALE: 1/8" = 1'-0"



4 EXTERIOR SOUTH ELEVATION - DEMOLITION

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

BASE BID: DEMOLISH EXISTING STRUCTURE, FOUNDATION SYSTEMS AND BELOW-GRADE CONSTRUCTION THAT ARE WITHIN FOOTPRINT OF NEW CONSTRUCTION AND EXTENDING 5FT. OUTSIDE FOOTPRINT INDICATED FOR NEW CONSTRUCTION. ABANDON BELOW-GRADE CONSTRUCTION OUTSIDE THIS AREA.

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION.

SHEET KEYNOTES:

1	BASE BID: DEMO EXTENTS OF STRUCTURE.
2	DEMO EXISTING CURB STOPS, TYP.
3	REPLACE DOWNSPOUT IF NECESSARY, MATCH EXISTING. TYP.
4	PROTECT EXISTING COPING
5	DEMO AND REPLACE EXISTING DOOR AND HARDWARE, PROTECT FRAME. SEE DOOR SCHEDULE.
6	CLEAN EXISTING GUTTER AND ENSURE PROPER DRAINAGE. REPLACE GUTTER IF DEEMED DAMAGED.
7	DEMO EXISTING OVERHEAD DOOR, FRAME AND MOTOR.
8	PROTECT EXISTING ROOF DECK
9	EXISTING CMU. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH. SEE RFS.

JAMES K. PIPER
REGISTERED
NO.
4447
COMMONWEALTH
8/15/25

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grmi nc.com

ELEVATIONS - DEMOLITION

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AD201 02

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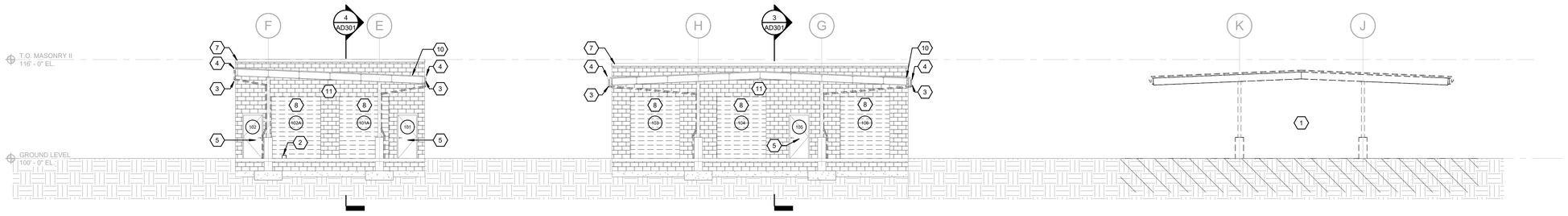
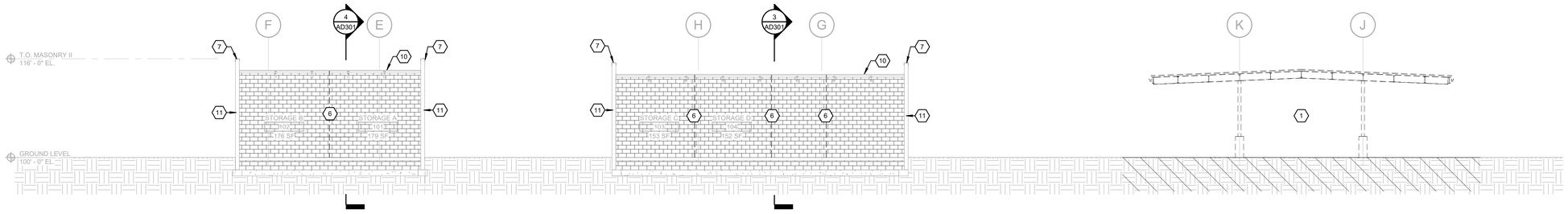


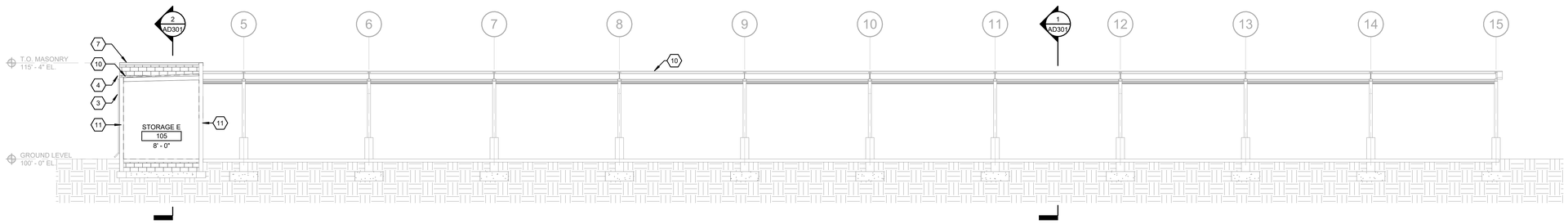
1 TRANSVERSE BUILDING SECTION 1 - DEMOLITION

SCALE: 1/8" = 1'-0"



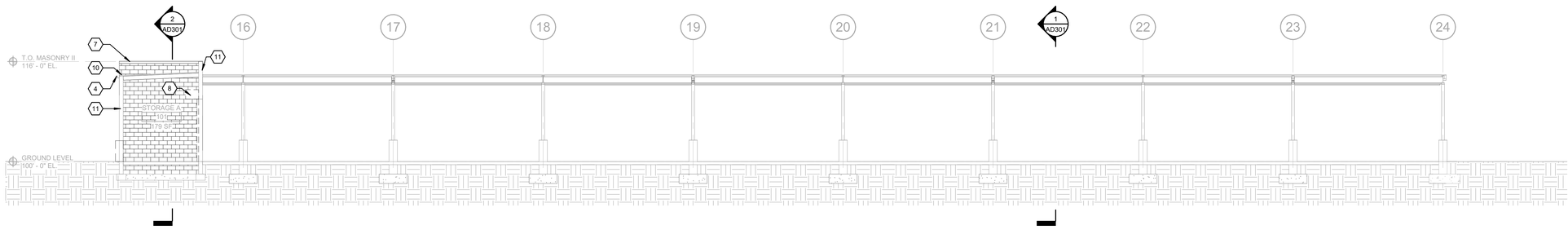
2 TRANSVERSE BUILDING SECTION 2 - DEMOLITION

SCALE: 1/8" = 1'-0"



3 LONGITUDINAL SECTION 1 - DEMOLITION

SCALE: 1/8" = 1'-0"



4 LONGITUDINAL SECTION 2 - DEMOLITION

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

BASE BID: DEMOLISH EXISTING STRUCTURE, FOUNDATION SYSTEMS AND BELOW-GRADE CONSTRUCTION THAT ARE WITHIN FOOTPRINT OF NEW CONSTRUCTION AND EXTENDING 5FT. OUTSIDE FOOTPRINT INDICATED FOR NEW CONSTRUCTION. ABANDON BELOW-GRADE CONSTRUCTION OUTSIDE THIS AREA.

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION.

SHEET KEYNOTES:

1	BASE BID: DEMO EXTENTS OF STRUCTURE.
2	DEMO EXISTING CURB STOPS, TYP.
3	REPLACE DOWNSPOUT IF NECESSARY, MATCH EXISTING. TYP.
4	CLEAN EXISTING GUTTER AND ENSURE PROPER DRAINAGE. REPLACE GUTTER IF DEEMED DAMAGED.
5	DEMO AND REPLACE EXISTING DOOR AND HARDWARE; PROTECT FRAME. SEE DOOR SCHEDULE.
6	DEMO EXISTING CHAINLINK PARTITION.
7	PROTECT EXISTING COPING.
8	DEMO EXISTING OVERHEAD DOOR, FRAME AND MOTOR.
9	DEMO EXISTING WALL UNIT, SEE MECH.
10	PROTECT EXISTING ROOF DECK.
11	EXISTING CMU. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH. SEE RFS.

JAMES K. PIPER
REGISTERED
NO. 4447
COMMONWEALTH
8/15/25

GRH PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

SECTIONS - DEMOLITION

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED DRV
DRAWN NEK
REVIEWED DRV
APPROVED DRV

REVISIONS

NO.	DATE	REVISION DESCRIPTION

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. AD301 02

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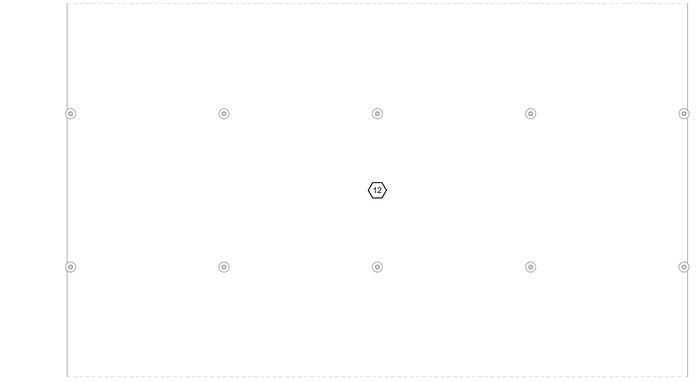

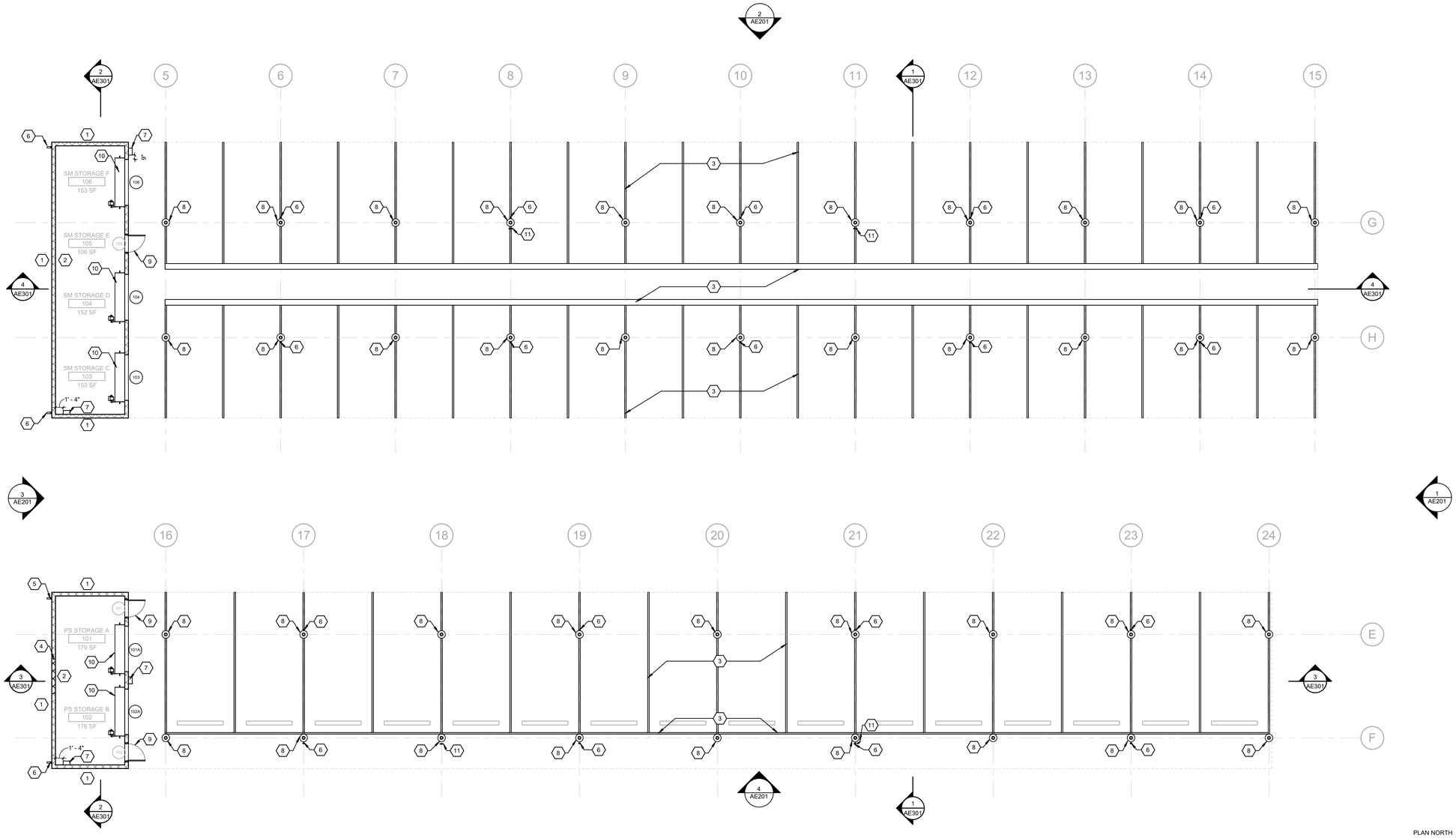

1 FIRST LEVEL
SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION. SEE MEP FOR ADDITIONAL REQUIREMENTS

SHEET KEYNOTES:

1	EXISTING CMU. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH. SEE RFS.
2	FINISH PER RFS. SEE SPECS FOR INTERIOR AND EXTERIOR PAINT REQ'S.
3	REPAINT EXISTING PARKING LINES
4	INFILL WALL WHERE HVAC UNIT WAS REMOVED. SEE TYP MASONRY DETAILS SHEET S-002.
5	PROVIDE DOWNSPOUT, MATCH EXISTING
6	REPLACE DOWNSPOUT IF NECESSARY, MATCH EXISTING. TYP.
7	PROVIDE SURFACE-MOUNTED FIRE EXTINGUISHER CABINET. SEE SPECS. FIRE EXTINGUISHER OFCI. COODRINATE CABINET WITH OWNER PROVIDED FIRE EXTINGUISHER.
8	PAINT EXISTING CONCRETE CASING, SEE SPECS.
9	DEMO AND REPLACE EXISTING DOOR AND HARDWARE. PROTECT FRAME. SEE DOOR SCHEDULE.
10	NEW INSULATED OVERHEAD DOOR, MOTOR AND FRAME. SEE SPECS.
11	FIRE EXTINGUISHER, OFCI. TO BE MOUNTED TO CONCRETE COLUMN CASING. T.O. EXTINGUISHER TO BE AT 4'-0".
12	ADD ALTERNATE #1. CANOPY TO REMAIN. CLEAN STEEL STRUCTURE, REPAINT CONCRETE PIERS AND PARKING LINES. SEE SPECS.

AREA KEY PLAN

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH
DRV
8/15/25

GRV PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB
70-2025

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GRIFFITH VOSS
ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grvinc.com

CONSTRUCTION DOCUMENTS

FIRST LEVEL - FLOOR PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

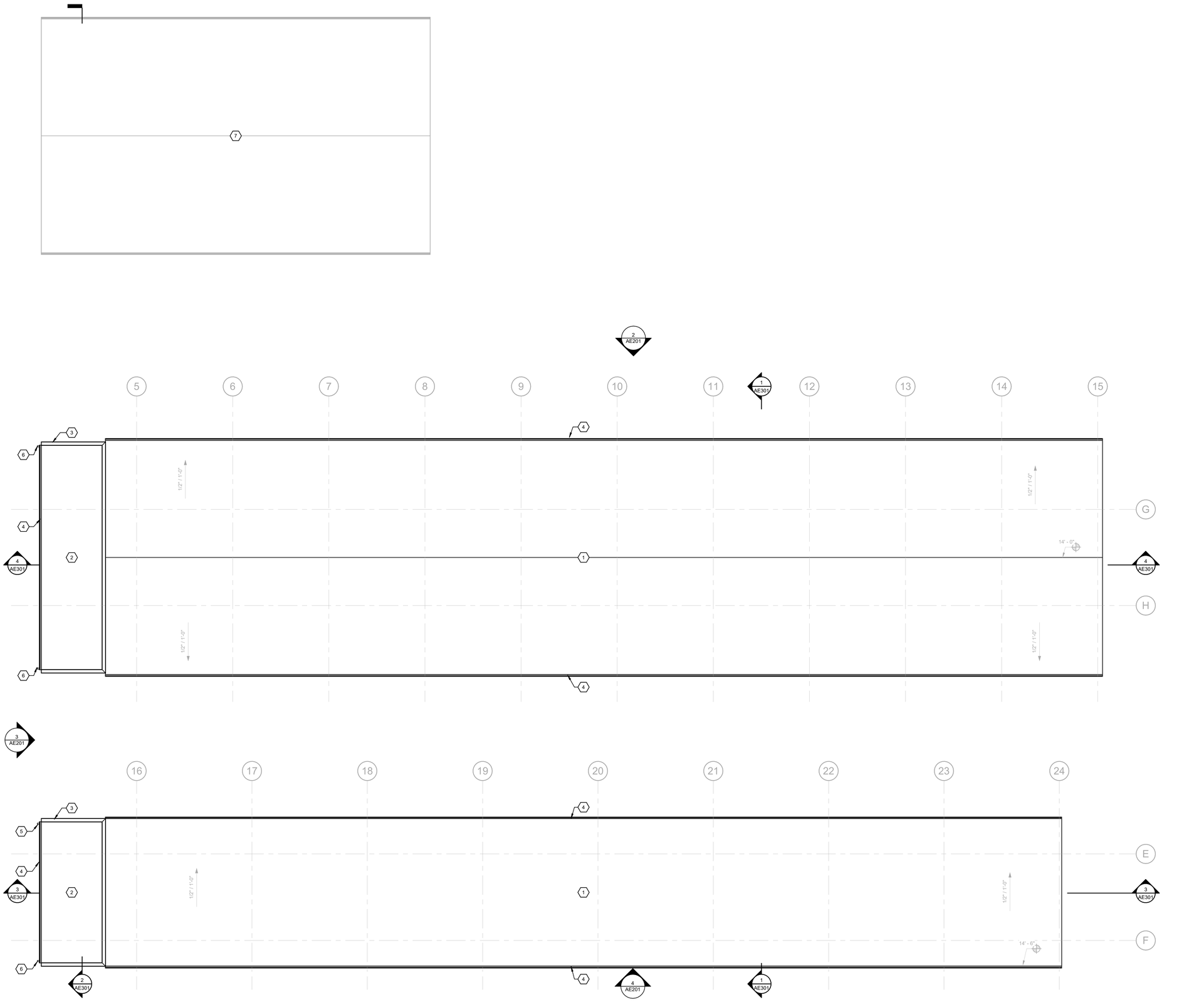
SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AE101 02

R:\A\05247-01 LFUCG EXTERIOR STRUCTURES\Drawings\Revit Arch\Central Model\05247-01AE105.rvt



1 ROOF LEVEL
SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION. SEE MEP FOR ADDITIONAL REQUIREMENTS

SHEET KEYNOTES:

1	CLEAN STEEL DECK SURFACE. SEE SPECS.
2	PROTECT EXISTING ROOF DECK
3	PROTECT EXISTING COPING
4	CLEAN EXISTING GUTTER AND ENSURE PROPER DRAINAGE. REPLACE GUTTER IF DEEMED DAMAGED.
5	PROVIDE DOWNSPOUT, MATCH EXISTING
6	REPLACE DOWNSPOUT IF NECESSARY, MATCH EXISTING, TYP.
7	ADD ALTERNATE #1. CANOPY TO REMAIN. CLEAN STEEL STRUCTURE. REPAINT CONCRETE PIERS AND PARKING LINES. SEE SPECS.

AREA KEY PLAN

JAMES K. PIPER JR.
REGISTERED NO. 4447 COMMONWEALTH

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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www.grmiinc.com

CONSTRUCTION DOCUMENTS

ROOF LEVEL - PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

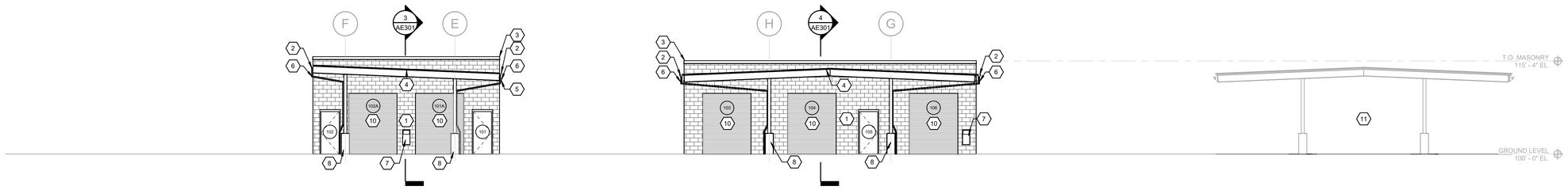
REVISIONS

NO.	DATE:	BY:
	REVISION DESCRIPTION:	

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

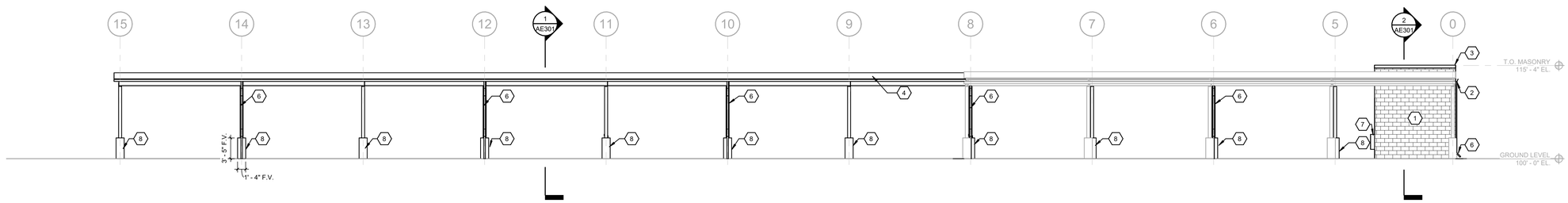
DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AE102 02

BLK AE2025 Z-KF-A4 PEN G:\2024\1-ELEC\1-DWG\1-MDB\Working\Drawings\Revit\Arch\Central Model\05247ACENDB20.rvt



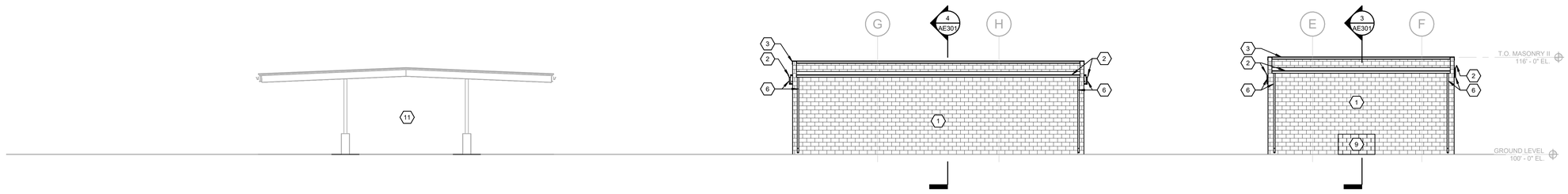
1 EXTERIOR EAST ELEVATION

SCALE: 1/8" = 1'-0"



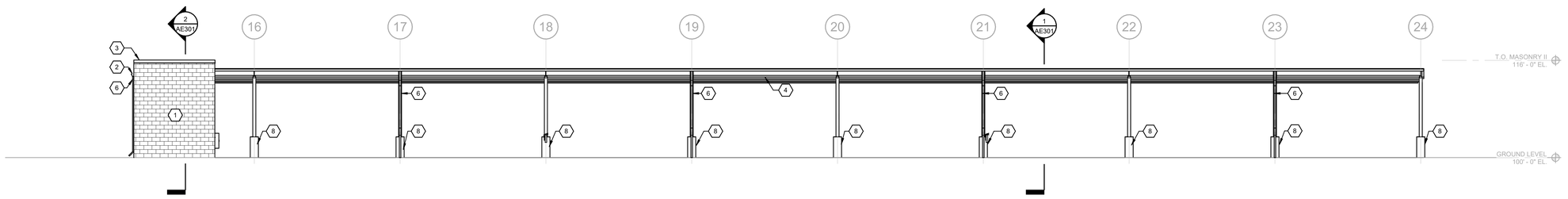
2 EXTERIOR NORTH ELEVATION

SCALE: 1/8" = 1'-0"



3 EXTERIOR WEST ELEVATION

SCALE: 1/8" = 1'-0"



4 EXTERIOR SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION. SEE MEP FOR ADDITIONAL REQUIREMENTS

SHEET KEYNOTES:

1	EXISTING CMU. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH. SEE RFS.
2	CLEAN EXISTING GUTTER AND ENSURE PROPER DRAINAGE. REPLACE GUTTER IF DEEMED DAMAGED.
3	PROTECT EXISTING COPING
4	CLEAN STEEL DECK SURFACE, SEE SPECS.
5	EXISTING GUTTER AND DOWNSPOUTS TO REMAIN.
6	REPLACE DOWNSPOUT IF NECESSARY, MATCH EXISTING. TYP.
7	PROVIDE SURFACE-MOUNTED FIRE EXTINGUISHER CABINET. SEE SPECS. FIRE EXTINGUISHER OFCI. COODRINATE CABINET WITH OWNER PROVIDED FIRE EXTINGUISHER.
8	PAINT EXISTING CONCRETE CASING, SEE SPECS.
9	INFILL WALL WHERE HVAC UNIT WAS REMOVED. SEE TYP MASONRY DETAILS SHEET S-002.
10	NEW INSULATED OVERHEAD DOOR, MOTOR AND FRAME. SEE SPECS.
11	ADD ALTERNATE #1. CANOPY TO REMAIN. CLEAN STEEL STRUCTURE, REPAINT CONCRETE PIERS AND PARKING LINES. SEE SPECS.

JAMES K. PIPER JR.
REGISTERED NO. 4447 COMMONWEALTH
8/15/25

GRV PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grvinc.com

ELEVATIONS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DESCRIPTION	DATE	BY

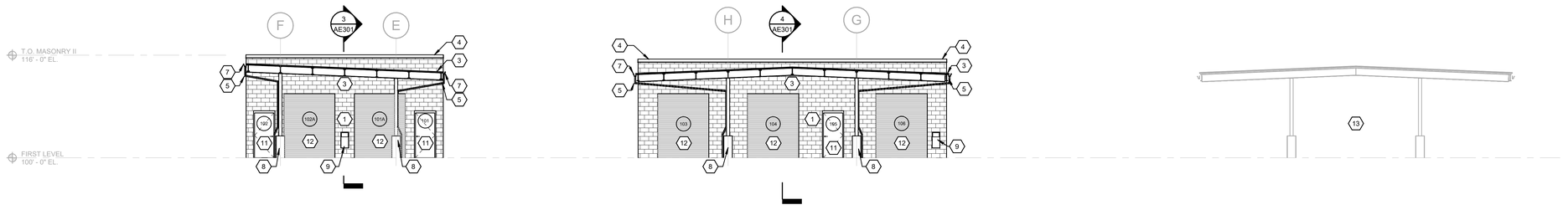
THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

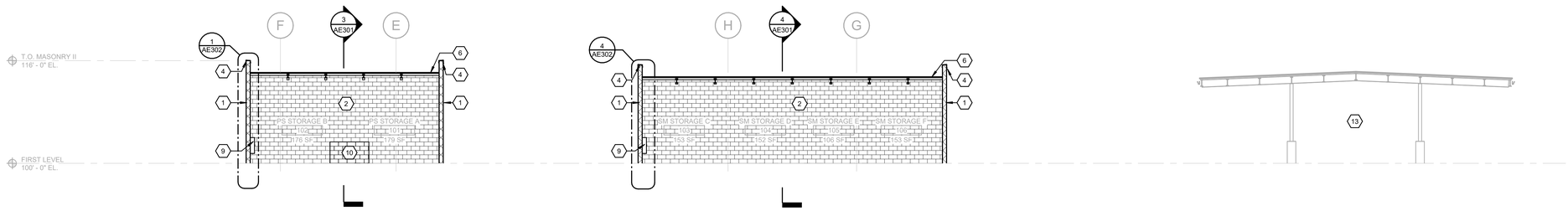
SHEET NO. AE201 02

8/14/2025 2:47:48 PM G:\2024-DLVC\1 DWG\ HDB\Working Drawings\Revit\Arch\Central Model\24124CENTRAL.rvt



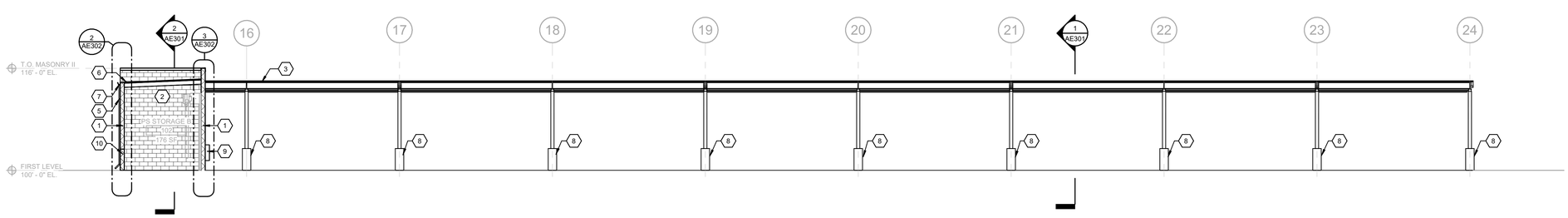
1 TRANSVERSE BUILDING SECTION 1

SCALE: 1/8" = 1'-0"



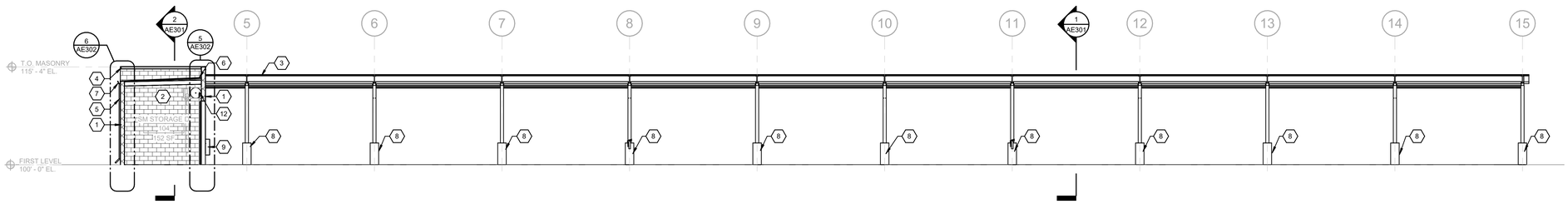
2 TRANSVERSE BUILDING SECTION 2

SCALE: 1/8" = 1'-0"



3 LONGITUDINAL BUILDING SECTION 1

SCALE: 1/8" = 1'-0"



4 LONGITUDINAL BUILDING SECTION 2

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION. SEE MEP FOR ADDITIONAL REQUIREMENTS

SHEET KEYNOTES:

1	EXISTING CMU. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH. SEE RFS.
2	FINISH PER RFS. SEE SPECS FOR INTERIOR AND EXTERIOR PAINT REQ'S.
3	CLEAN STEEL DECK SURFACE. SEE SPECS.
4	PROTECT EXISTING COPING
5	REPLACE DOWNSPOUT IF NECESSARY, MATCH EXISTING. TYP.
6	PROTECT EXISTING ROOF DECK
7	CLEAN EXISTING GUTTER AND ENSURE PROPER DRAINAGE. REPLACE GUTTER IF DEEMED DAMAGED.
8	PAINT EXISTING CONCRETE CASING, SEE SPECS.
9	PROVIDE SURFACE-MOUNTED FIRE EXTINGUISHER CABINET. SEE SPECS. FIRE EXTINGUISHER OFCI. COODRINATE CABINET WITH OWNER PROVIDED FIRE EXTINGUISHER.
10	INFILL WALL WHERE HVAC UNIT WAS REMOVED. SEE TYP MASONRY DETAILS SHEET S-002.
11	NEW DOOR AND HARDWARE. PROTECT EXISTING FRAME.
12	NEW INSULATED OVERHEAD DOOR, MOTOR AND FRAME. SEE SPECS.
13	ADD ALTERNATE #1. CANOPY TO REMAIN. CLEAN STEEL STRUCTURE, REPAINT CONCRETE PIERS AND PARKING LINES. SEE SPECS.

JAMES K. PIPER JR.
REGISTERED NO. 4447
COMMONWEALTH

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grm-inc.com

SECTIONS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AE301 02

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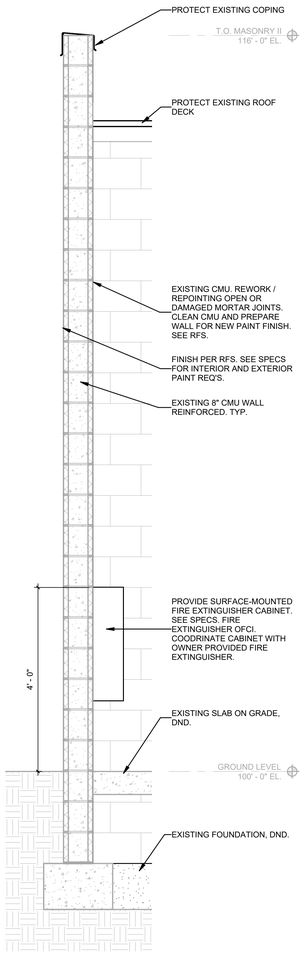
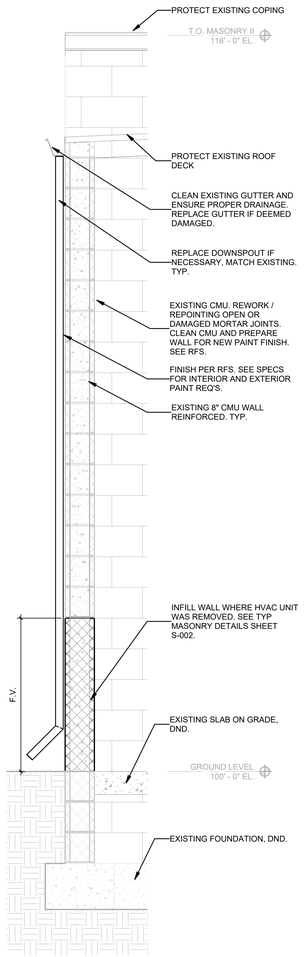
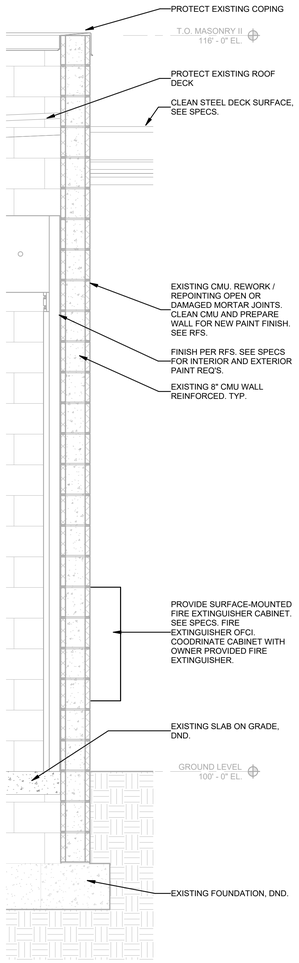


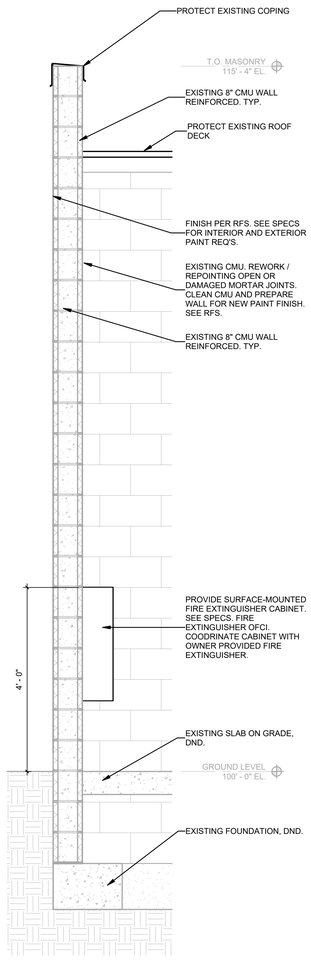
1 SHED II - COPING
SCALE: 3/4" = 1'-0"



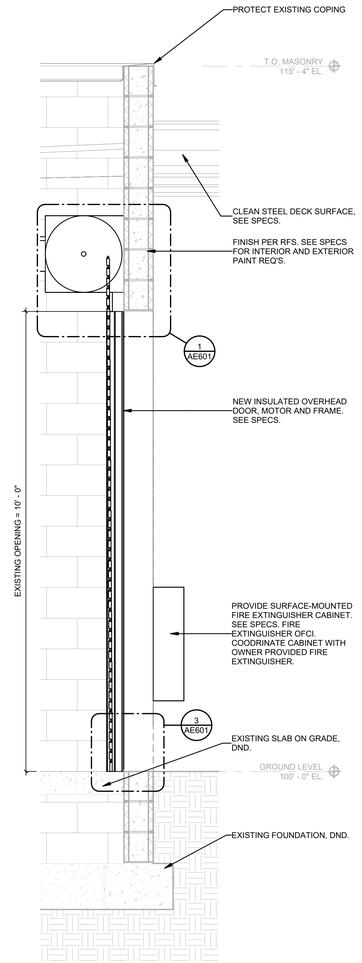
2 SHED II - GUTTER
SCALE: 3/4" = 1'-0"



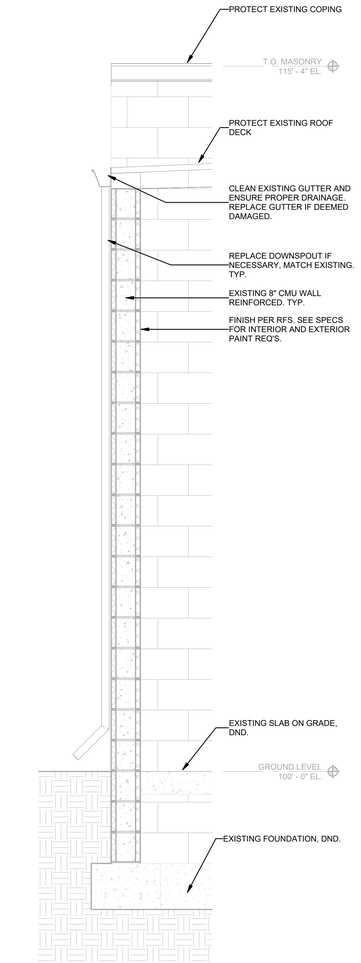
3 SHED II - CANOPY
SCALE: 3/4" = 1'-0"



4 SHED I - COPING
SCALE: 3/4" = 1'-0"



5 SHED I - CANOPY
SCALE: 3/4" = 1'-0"



6 SHED 1 - GUTTER
SCALE: 3/4" = 1'-0"

JAMES K. PIPER JR.
REGISTERED NO. 4447
COMMONWEALTH
8/15/25
GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.gmbnc.com

WALL SECTIONS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 3/4" = 1'-0"
SHEET NO. AE302 02

8/14/2025 2:47:54 PM G:\05247-LEXCI DWG\ArchWorking\Drawings\RevitSheets\Central Model\05247AE302D.rvt

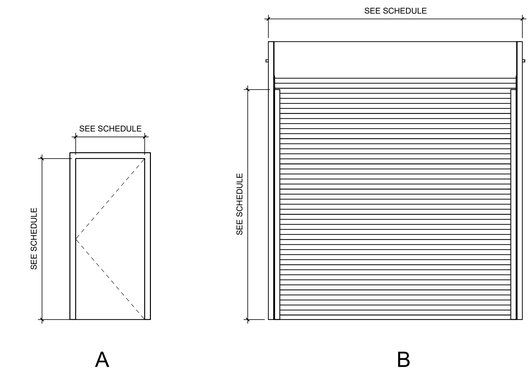
ROOM FINISH SCHEDULE

BUILDING IDENTIFICATION	ROOM IDENTIFICATION: DEPARTMENT NUMBER	DEPARTMENT TYPE	ROOM NUMBER	ROOM NAME	LEVEL	AREA: PROGRAMMED AREA	ACTUAL AREA	DELTA	FLOOR: FLOOR FINISH	BASE FINISH	WALLS: BUILDING ORIENTATION INDICATES PLAN NORTH — NORTH: MATERIAL	NORTH: FINISH	SOUTH: MATERIAL	SOUTH: FINISH	EAST: MATERIAL	EAST: FINISH	WEST: MATERIAL	WEST: FINISH	CEILING: CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT (A.F.F.)	COMMENTS
02	04	01	101	PS STORAGE A	FIRST LEVEL	170.00 SF	179.05 SF	105.33%	SEALED CONCRETE	NONE	EXIST. CMU	NEW PAINT	N/A	N/A	EXIST. CMU	NEW PAINT	EXIST. CMU	NEW PAINT	EXPOSED TO STRUCTURE	NEW PAINT	13' - 8"	
02	04	01	102	PS STORAGE B	FIRST LEVEL	170.00 SF	175.53 SF	103.26%	SEALED CONCRETE	NONE	N/A	N/A	EXIST. CMU	NEW PAINT	EXIST. CMU	NEW PAINT	EXIST. CMU	NEW PAINT	EXPOSED TO STRUCTURE	NEW PAINT	13' - 8"	
02	04	01	103	SM STORAGE C	FIRST LEVEL	150.00 SF	152.79 SF	101.86%	SEALED CONCRETE	NONE	N/A	N/A	EXIST. CMU	NEW PAINT	EXIST. CMU	NEW PAINT	EXIST. CMU	NEW PAINT	EXPOSED TO STRUCTURE	NEW PAINT	13' - 8"	
02	04	01	104	SM STORAGE D	FIRST LEVEL	150.00 SF	152.04 SF	101.36%	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	EXIST. CMU	NEW PAINT	EXIST. CMU	NEW PAINT	EXPOSED TO STRUCTURE	NEW PAINT	13' - 8"	
02	04	01	105	SM STORAGE E	FIRST LEVEL	100.00 SF	106.05 SF	106.05%	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	EXIST. CMU	NEW PAINT	EXIST. CMU	NEW PAINT	EXPOSED TO STRUCTURE	NEW PAINT	13' - 8"	
02	04	01	106	SM STORAGE F	FIRST LEVEL	150.00 SF	152.79 SF	101.86%	SEALED CONCRETE	NONE	EXIST. CMU	NEW PAINT	N/A	N/A	EXIST. CMU	NEW PAINT	EXIST. CMU	NEW PAINT	EXPOSED TO STRUCTURE	NEW PAINT	13' - 8"	

Grand total: 6

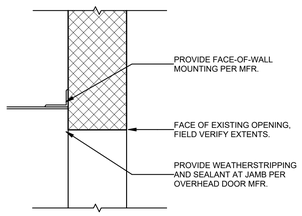
DOOR AND FRAME SCHEDULE

BUILDING IDENTIFICATION	DOOR IDENTIFICATION: DOOR MARK	FROM ROOM	TO ROOM	DOOR: SIZE: WIDTH	HEIGHT	THICKNESS	DOOR MATERIAL	TYPE MARK	DOOR GLAZING	FRAME: FRAME MATERIAL	FRAME TYPE	FRAME GLAZING	DETAIL: HEAD DETAIL	JAMB DETAIL	SILL DETAIL	FIRE RATING LABLE	HARDWARE: SET NUMBER	KEYSIDE ROOM NUMBER	COMMENTS
02	101	PS STORAGE A		3' - 0"	7' - 0"	1 3/4"	GALV. STEEL	A	N/A	EXISTING	EXISTING - DND	N/A	EXISTING	EXISTING	EXISTING	N/A	AC-01	101	
02	101A	PS STORAGE A		8' - 0"	10' - 0"	3/4"	GALV. STEEL	B	N/A	PER MFR	PER MFR	N/A	1/AE601	2/AE601	3/AE601	N/A	RU.1	101	
02	102	PS STORAGE B		3' - 0"	7' - 0"	1 3/4"	GALV. STEEL	A	N/A	EXISTING	EXISTING - DND	N/A	EXISTING	EXISTING	EXISTING	N/A	AC-01	102	
02	102A	PS STORAGE B		8' - 0"	10' - 0"	3/4"	GALV. STEEL	B	N/A	PER MFR	PER MFR	N/A	1/AE601	2/AE601	3/AE601	N/A	RU.1	102	
02	103	SM STORAGE C		8' - 0"	10' - 0"	3/4"	GALV. STEEL	B	N/A	PER MFR	PER MFR	N/A	1/AE601	2/AE601	3/AE601	N/A	RU.1	103	
02	104	SM STORAGE D		8' - 0"	10' - 0"	3/4"	GALV. STEEL	B	N/A	PER MFR	PER MFR	N/A	1/AE601	2/AE601	3/AE601	N/A	RU.1	104	
02	105	SM STORAGE E		3' - 0"	7' - 0"	1 3/4"	GALV. STEEL	A	N/A	EXISTING	EXISTING - DND	N/A	EXISTING	EXISTING	EXISTING	N/A	AC-01	105	
02	106	SM STORAGE F		8' - 0"	10' - 0"	3/4"	GALV. STEEL	B	N/A	PER MFR	PER MFR	N/A	1/AE601	2/AE601	3/AE601	N/A	RU.1	106	

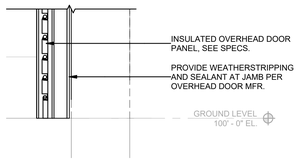


DOOR TYPES
SCALE: 3/8" = 1'-0"

1 SERVICE DOOR - HEAD
SCALE: 1 1/2" = 1'-0"



2 SERVICE DOOR - JAMB
SCALE: 1 1/2" = 1'-0"



3 SERVICE DOOR - SILL
SCALE: 1 1/2" = 1'-0"

CONSTRUCTION DOCUMENTS

JAMES K. RIPPER
REGISTERED
NO. 4447
COMMONWEALTH OF KENTUCKY
DRV 8/15/25

GRN PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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GRIFFITH NEWMAN ARCHITECTURE - GEOSPATIAL
www.grnarc.com

DETAILS, TYPES AND SCHEDULES

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
DRV	NEK	DRV	DRV

REVISIONS

NO.	DATE	BY	DESCRIPTION

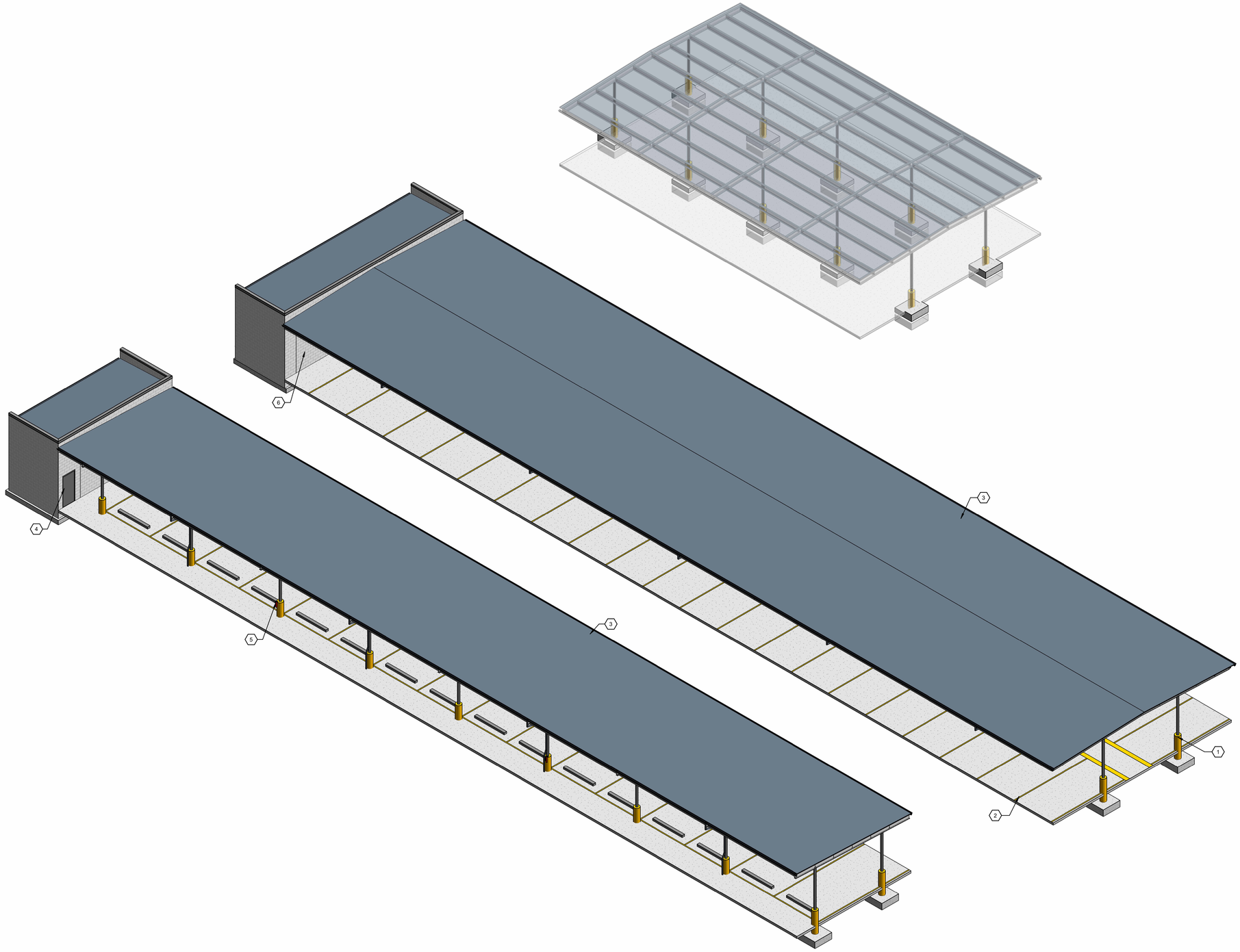
SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: As indicated

SHEET NO.: AE601 02

BUILDING2025-2-4-AE.RVt C:\USACFLFILES\ LFUCG\ 04)Working Drawings\Revit Arch\Central Model\05247AE601.rvt



1 ISOMETRIC VIEW
SCALE:

GENERAL NOTES:

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION.

SHEET KEYNOTES:

1	PAINT EXISTING CONCRETE CASING, SEE SPECS.
2	REPAINT EXISTING PARKING LINES
3	CLEAN STEEL DECK SURFACE, SEE SPECS.
4	NEW DOOR AND HARDWARE. PROTECT EXISTING FRAME.
5	FIRE EXTINGUISHER. OFCI, TO BE MOUNTED TO CONCRETE COLUMN CASING, T.O. EXTINGUISHER TO BE AT 4'-0".
6	NEW INSULATED OVERHEAD DOOR, MOTOR AND FRAME, SEE SPECS.

AREA KEY PLAN

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH
8/15/25

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB
70-2025

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CONSTRUCTION DOCUMENTS

ISOMETRIC VIEW

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AE901 02

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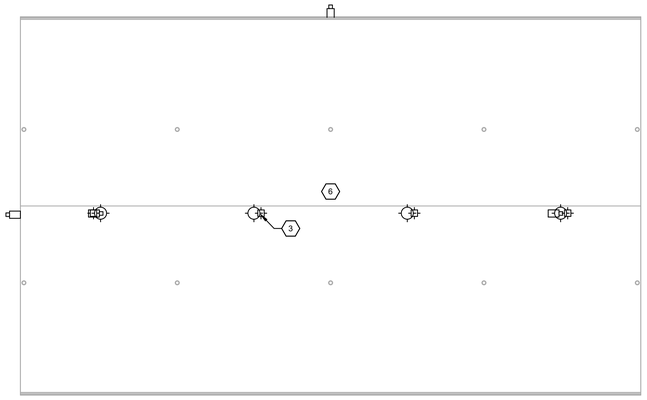

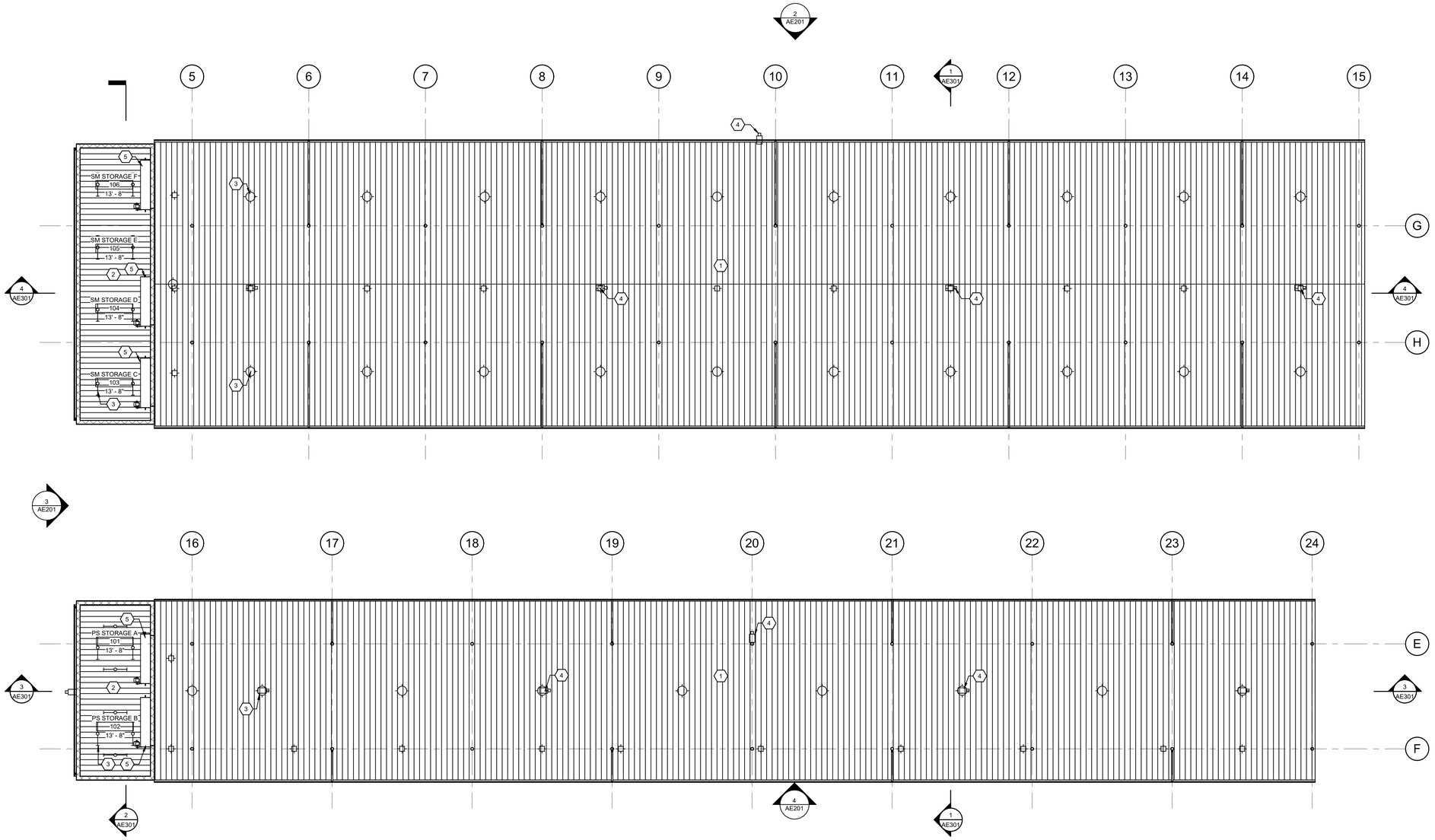

1 FIRST LEVEL

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

ADD ALTERNATE #1: ALL CANOPIES TO REMAIN IN PLACE. NO DEMOLITION WORK ON SMALLEST CANOPY. ALL CANOPY STEEL STRUCTURES AND ROOF DRAINAGE TO BE CLEANED. ALL EXISTING CONCRETE PIERS TO BE REPAINTED. ALL EXISTING PARKING LINES TO BE REPAINTED. PROVIDE NEW WORK FOR LARGER TWO CANOPIES AS SHOWN. VACTOR BUILDING TO BE RELOCATED, SEE CIVIL FOR COORDINATION. SEE MEP FOR ADDITIONAL REQUIREMENTS

SHEET KEYNOTES:

1	CLEAN STEEL DECK SURFACE. SEE SPECS.
2	PROTECT EXISTING ROOF DECK
3	LIGHT FIXTURE, TYP. SEE ELECTRICAL.
4	ACCESS CONTROL CAMERA, SEE ELECTRICAL.
5	NEW INSULATED OVERHEAD DOOR, MOTOR AND FRAME. SEE SPECS.
6	ADD ALTERNATE #1. CANOPY TO REMAIN. CLEAN STEEL STRUCTURE, REPAINT CONCRETE PIERS AND PARKING LINES. SEE SPECS.

AREA KEY PLAN

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH OF VIRGINIA 8/15/25

GRV PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - REFLECTED CEILING PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
DRV	NEK	DRV	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

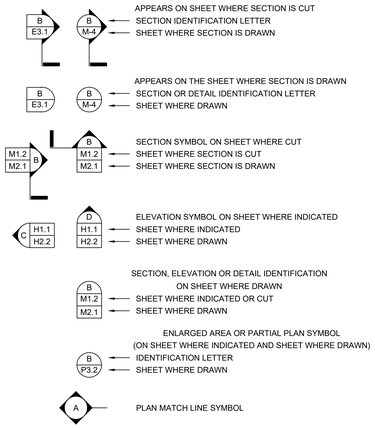
DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: AF101 02

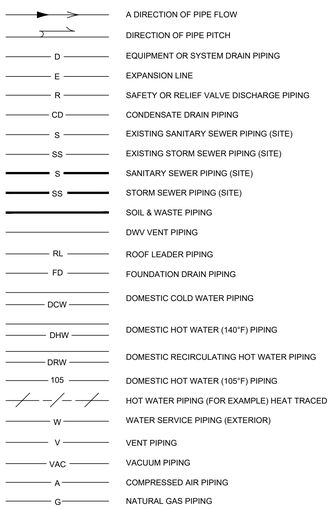
XV-AE202.2.4.R.dgn RM C:\DATA\LFUCG\ LFUCG WORK\Working Drawings\Revit Arch\Central Model\05247AE301R25.rvt

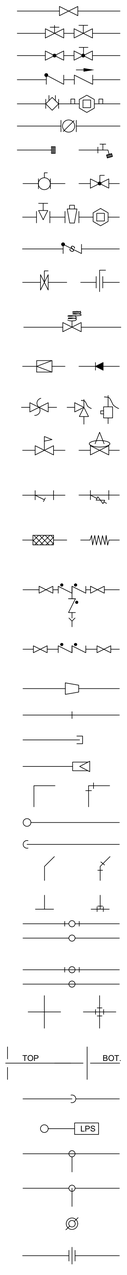
GENERAL LEGEND

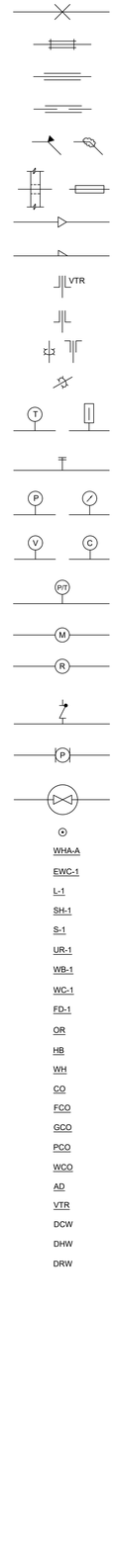


NOTE: LEGENDS ALSO APPEAR ON INDIVIDUAL PLANS, SCHEDULES AND DETAILS.

PLUMBING LEGEND







PLUMBING GENERAL NOTES:

1. GENERAL NOTES, WHEREVER THEY ARE FOUND, APPLY TO ALL WORK IN THE PROJECT, UNLESS OTHERWISE INDICATED. CONFLICTS BETWEEN GENERAL NOTES AND SPECIFICATIONS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER - THE MORE STRINGENT REQUIREMENT SHALL APPLY. SHEET KEYNOTES, UTILIZING NOTE SYMBOLS, APPLY ONLY TO THE SHEET ON WHICH THEY ARE FOUND, UNLESS OTHERWISE STATED. THE MEANING OF NOTE SYMBOLS AND NUMBERS VARIES FROM SHEET TO SHEET.
2. CONTRACTOR SHALL UTILIZE ALL INFORMATION IN THE CONTRACT DOCUMENTS FOR PROVIDING THE WORK. CONTRACTOR SHALL UTILIZE DETAILS AND RISER DIAGRAMS FOR THE WORK WHERE APPROPRIATE, WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED ON THE PLAN OR SUPPORTING DRAWINGS.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK RELATING TO THOSE CONDITIONS IS PERFORMED.
4. LEGENDS OR LISTS OF SYMBOLS AND ABBREVIATIONS ARE GENERAL IN NATURE AND MAY CONTAIN ITEMS NOT USED IN THE CONTRACT DOCUMENTS. IF ANY SUCH ITEMS ARE FOUND WHICH ARE NOT DEFINED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER SHALL BE CONTACTED FOR CLARIFICATION BEFORE THE BID.
5. CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS.
6. PROVIDE ALL MISCELLANEOUS STEEL, AS REQUIRED, TO SUPPORT ALL PIPING SYSTEMS, FIXTURES AND EQUIPMENT. DO NOT HANG ANYTHING FROM MECHANICAL OR ELECTRICAL ITEMS.
7. NO STRUCTURAL MEMBERS SHALL BE CUT, BURNED, WELDED OR DRILLED WITHOUT SPECIFIC PERMISSION OF THE ENGINEER.
8. DO NOT CHANGE PATH OF PIPING, ADD TURNS OR OFFSETS OR PIPE SIZE WITHOUT FIRST CONSULTING THE ENGINEER. PIPE SIZES SHOWN ON DRAWINGS ARE NOMINAL UNLESS OTHERWISE INDICATED.
9. CONTRACTOR SHALL MAKE MINOR OFFSETS AND LOCATION CHANGES IN PIPE AS REQUIRED IN CONGESTED CEILING OR MECHANICAL SPACES. GENERALLY, THESE WILL BE AT NO COST TO THE OWNER AND APPROVED BY THE ENGINEER WITHOUT FORMAL DOCUMENTS. MAJOR REROUTING OF LINES OR MAJOR ADDITION OF FITTINGS WILL BE REVIEWED AND APPROVED AS A CHANGE ORDER OR A FORMAL DIRECTIVE. ENGINEER ALONE SHALL CLASSIFY CHANGES AS MAJOR OR MINOR.
10. ALL COPPER PIPING SHALL BE ASSEMBLED WITH WROUGHT COPPER OR CAST COPPER ALLOY FITTINGS AND 95/5 TIN ANTIMONY SOLDER OR SILVER BRAZING. NO SOLDER CONTAINING MORE THAN 0.2% LEAD SHALL BE USED IN MANUFACTURING OR IN FIELD ASSEMBLY OF POTABLE WATER SYSTEM COMPONENTS. ALL PIPING, FITTINGS, FIXTURES AND EQUIPMENT IN CONTACT WITH POTABLE WATER SHALL BE CERTIFIED BY THE SOURCE OF THE PRODUCT TO BE 'LEAD-FREE' (TO CONTAIN LESS THAN 0.25% LEAD) IN COMPLIANCE WITH THE EPA AND SDWA (SAFE DRINKING WATER ACT AND U.S. PUBLIC LAW 111-380).
11. ALL INTERRUPTIONS OF UTILITY SERVICE REQUIRED FOR COMPLETION OF THE WORK SHALL BE SCHEDULED 7 DAYS IN ADVANCE.
12. COORDINATE ALL PLUMBING WITH NEW MECHANICAL AND ELECTRICAL WORK, INCLUDING HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, FIRE ALARM AND COMMUNICATIONS.
13. DO NOT USE BULL-HEADED TEE FITTINGS ON PIPE, UNLESS SPECIFICALLY SHOWN.
14. PROVIDE ALL PLUMBING CONNECTIONS, PIPING, FIXTURES AND EQUIPMENT AS INDICATED, NOTED AND SCHEDULED, FOR A COMPLETE WORKING SYSTEM. WORK SHALL BE PROVIDED BY A LICENSED PLUMBING CONTRACTOR, IN ACCORDANCE WITH KENTUCKY PLUMBING CODE, AND SHALL BE ACCOMPANIED BY A CERTIFICATE OF INSPECTION AND APPROVAL.
15. ALL EQUIPMENT, ACCESSORIES, PIPING, AND OTHER WORK, WHICH IS INSTALLED IN FINISHED SPACES SHALL BE CONCEALED IN WALLS, FLOORS, CHASES OR SUSPENDED CEILINGS, UNLESS OTHERWISE INSTRUCTED ON PLANS.
16. PROVIDE ALL ACCESS DOORS AS SHOWN, EXCEPT THOSE SPECIFIED UNDER OTHER DIVISIONS. IN ADDITION, PROVIDE ANY OTHER ACCESS DOORS (WHETHER OR NOT SHOWN ON PLANS) NECESSARY FOR ACCESS TO CONCEALED EQUIPMENT, VALVES OR OTHER OPERATIONAL OR SERVICEABLE ITEMS, UNLESS ITEM IS REASONABLY ACCESSIBLE THROUGH LAY-IN CEILING PANELS.
17. SEE RISER DIAGRAMS FOR SIZES NOT SHOWN ON PLANS.
18. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY SUSPECTED HAZARDOUS MATERIALS, INCLUDING ASBESTOS-CONTAINING MATERIALS (ACM), LEAD-BASED PAINTS EXCEPT AS INSTRUCTED IN THIS CONTRACT. IF ANY MATERIAL NOT COVERED BY THE CONTRACT IS ENCOUNTERED, NOTIFY THE ENGINEER AT ONCE.
19. ALL DEMOLISHED OR REMOVED EQUIPMENT, PIPING, FIXTURES, SUPPORTS, AND THE LIKE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE NOTED.
20. REINSULATE ALL PIPE, VALVES AND FITTINGS WHERE EXISTING INSULATION HAS BEEN REMOVED OR DAMAGED DURING THE PROJECT.
21. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM CONFORMING TO ALL REQUIREMENTS OF THE CURRENT BUILDING CODES OF KENTUCKY. CONTRACTOR IS RESPONSIBLE FOR MAKING ALL REQUIRED CONNECTIONS FOR A COMPLETE SYSTEM.
22. EXAMINE THE CONTRACT DOCUMENTS AND IMMEDIATELY REPORT ANY ERROR, DISCREPANCY OR OMISSION. THE ENGINEER WILL DETERMINE WHICH INTERPRETATION TAKES PRECEDENCE WHERE TWO OR MORE CONFLICTING STATEMENTS OCCUR. OTHERWISE, THE CONTRACTOR IS RESPONSIBLE FOR THE MORE STRINGENT (OR EXPENSIVE) INTERPRETATION. IN GENERAL, SCHEDULES, WHEREVER THEY APPEAR, SUPERSEDE SPECIFICATIONS AND SPECIFICATIONS SUPERSEDE PLANS.
23. APPLICABLE KENTUCKY CODES ARE:
    KENTUCKY STATE PLUMBING LAW, REGULATIONS & CODE (815 KAR CHAPTER 20)
    STATE BOILER REGULATION
    2018 KENTUCKY BUILDING CODE
    2015 INTERNATIONAL EXISTING BUILDING CODE
    2015 INTERNATIONAL MECHANICAL CODE
    2015 INTERNATIONAL FIRE CODE
    2012 INTERNATIONAL ENERGY CONSERVATION CODE
    2012 NFPA NATIONAL FUEL GAS CODE

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CONSTRUCTION DOCUMENTS

COBY V. SHACKELFORD 25706 LICENSED PROFESSIONAL ENGINEER 8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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PLUMBING LEGEND AND GENERAL NOTES

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

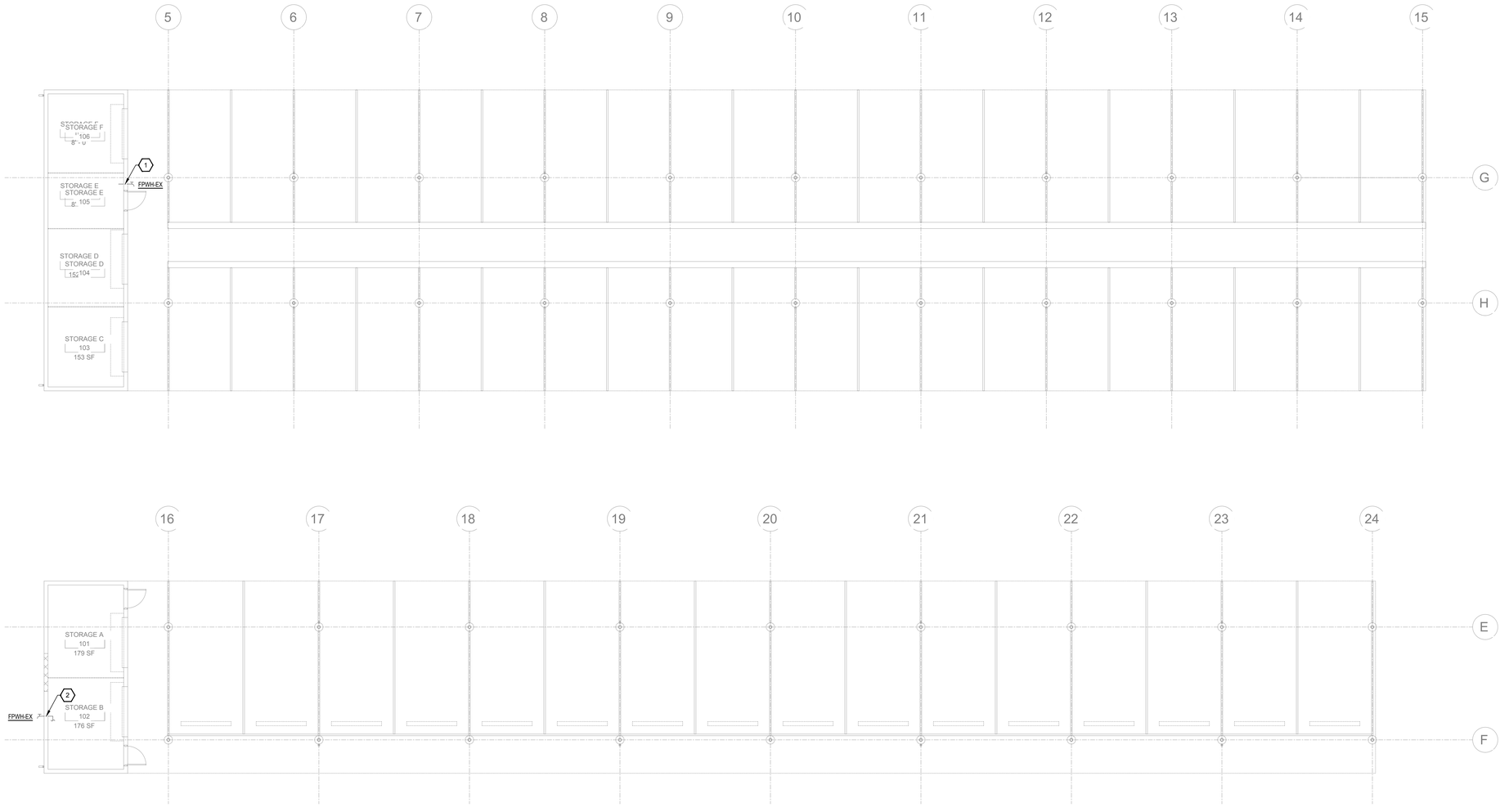
DESIGNED: CVS
DRAWN: JC
REVIEWED: CVS
APPROVED: CVS

REVISIONS

NO	DESCRIPTION:	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: P-001 02



GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.
3. REFER TO VOLUME 1 - SHEETS P-501 01 AND P-502 01 FOR PLUMBING DETAIL REQUIREMENTS.
4. REFER TO VOLUME 1 - SHEET P-601 01 FOR PLUMBING FIXTURE SCHEDULE REQUIREMENTS.

SHEET KEYNOTES:

1. DEMOLISH EXISTING FREEZE PROOF WALL HYDRANT IN ITS ENTIRETY AND ASSOCIATED PIPING. PATCH WALL PER ARCHITECTURAL REQUIREMENTS.
2. EXISTING FREEZE PROOF WALL HYDRANT TO REMAIN.

AREA KEY PLAN

1 STORAGE BUILDINGS - DEMOLITION - PLUMBING PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

STATE OF KENTUCKY — COBY V. SHARPE — 32015 — LICENSED PROFESSIONAL ENGINEER — 8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

STORAGE BUILDINGS - DEMOLITION - PLUMBING PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
CVS	JC	CVS	CVS

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
SHEET NO.: PD101 02

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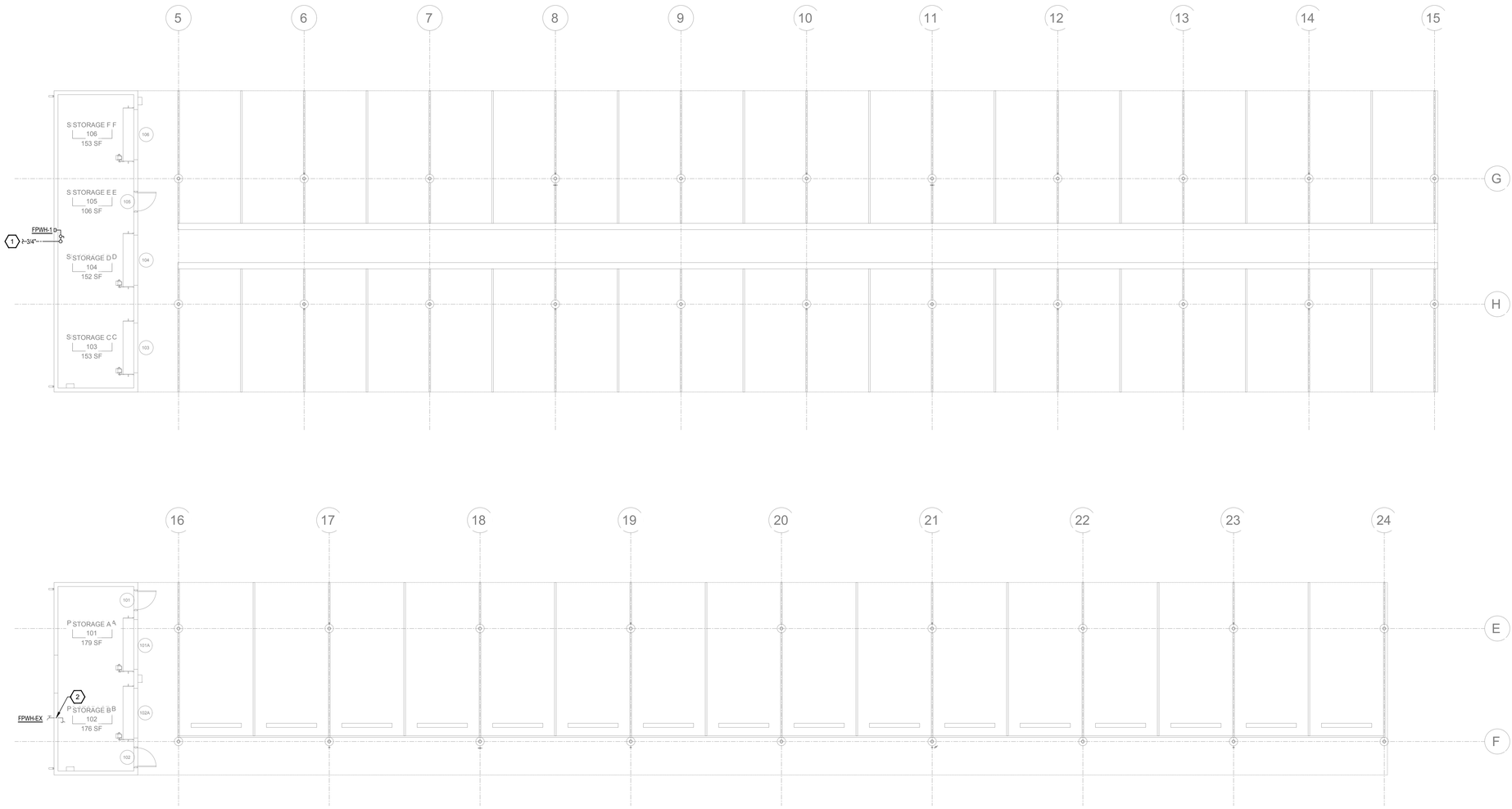


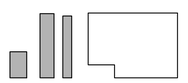
GENERAL NOTES:

1. SEE SHEET P-001 FOR PLUMBING LEGEND AND GENERAL NOTES.
2. SEE ARCHITECTURAL PLANS AND SPECIFICATIONS FOR FINISHES WHERE PLUMBING FIXTURES ARE REMOVED.
3. REFER TO VOLUME 1 - SHEETS P-501 01 AND P-502 01 FOR PLUMBING DETAIL REQUIREMENTS.
4. REFER TO VOLUME 1 - SHEET P-601 01 FOR PLUMBING FIXTURE SCHEDULE REQUIREMENTS.

SHEET KEYNOTES:

1. REFER TO SHEET C100 - CIVIL SITE UTILITIES PLAN FOR CONTINUATION.
2. EXISTING FREEZE PROOF WALL HYDRANT TO REMAIN.

AREA KEY PLAN



1 STORAGE BUILDINGS - PLUMBING PLAN
SCALE: 1/8"=1'-0"

PLAN NORTH

0 4' 8' 16'

STATE OF KENTUCKY
COBY V. SHARPE
LICENSED PROFESSIONAL ENGINEER
8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

STORAGE BUILDINGS - PLUMBING PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS
DRAWN: JC
REVIEWED: CVS
APPROVED: CVS

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: THIS BAR SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" - 1'0"
SHEET NO.: P-101 02

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GENERAL LEGEND

APPEARS ON SHEET WHERE SECTION IS CUT
SECTION IDENTIFICATION LETTER
SHEET WHERE SECTION IS DRAWN

APPEARS ON THE SHEET WHERE SECTION IS DRAWN
SECTION OR DETAIL IDENTIFICATION LETTER
SHEET WHERE DRAWN

SECTION SYMBOL ON SHEET WHERE CUT
SHEET WHERE SECTION IS CUT
SHEET WHERE SECTION IS DRAWN

ELEVATION SYMBOL ON SHEET WHERE INDICATED
SHEET WHERE INDICATED
SHEET WHERE DRAWN

SECTION, ELEVATION OR DETAIL IDENTIFICATION ON SHEET WHERE DRAWN
SHEET WHERE INDICATED OR CUT
SHEET WHERE DRAWN

ENLARGED AREA OR PARTIAL PLAN SYMBOL (ON SHEET WHERE INDICATED AND SHEET WHERE DRAWN)
IDENTIFICATION LETTER
SHEET WHERE DRAWN

PLAN MATCH LINE SYMBOL

CONNECTION OF NEW WORK TO EXISTING

LINE OR EQUIPMENT TO BE REMOVED

123 — ROOM NUMBER

9'-6" — CEILING HEIGHT

AFF	ABOVE FINISHED FLOOR
TOS, BOS	TOP OF STEEL, BOTTOM
TOB, BOB	TOP OF BEAM, BOTTOM
TOJ, BOJ	TOP OF JOIST, BOTTOM
TOC, BOC	TOP OF CONCRETE, BOTTOM
TOP, BOP	TOP OF PIPE, BOTTOM
BOD	BOTTOM OF DUCT

MECHANICAL LEGEND
HVAC & PLUMBING

20x16 — NEW DUCT - 1ST FIGURE IS DIMENSION SHOWN

SUPPLY OR OUTSIDE AIR DUCTWORK; PLAN, UP & DOWN

RETURN OR EXHAUST DUCTWORK

DROP AND RISE IN DIRECTION OF FLOW

ACOUSTIC LINED DUCTWORK; PLAN

SA — SUPPLY AIR DUCT
OA — OUTSIDE AIR DUCT
RA — RETURN AIR DUCT
EA — EXHAUST AIR DUCT
TA — TRANSFER AIR DUCT
HVD — HIGH VELOCITY SUPPLY DUCT (MEDIUM PRESSURE)
F/O — FLAT OVAL DUCT

LOW PRESSURE FLEXIBLE DUCT

HIGH PRESSURE FLEXIBLE DUCT

ROUND DUCTWORK; PLAN, UP AND DOWN

AIR FLOW; DIRECTION

REHEAT COIL IN DUCT

MANUAL VOLUME DAMPER; PLAN, ONE LINE DIAGRAM

BACKDRAFT DAMPER
BDD

MOTOR OPERATED DAMPER; PLAN, ONE LINE DIAGRAM

FD — FIRE DAMPER

SMOKE DAMPER; PLAN, ONE LINE DIAGRAM (FIRE/SMOKE - FSD)

SPLITTER DAMPER: SD; SHOWN IN TEE WITH TURNING VANES.

AIR TURNING VANES; PLAN, ONE LINE DIAGRAM

DUCT BRANCH TAKE OFF WITH RAKE OFF DAMPER; PLAN, ONE DIAGRAM

DUCT TRANSITION; PLAN, ONE LINE DIAGRAM

ACCESS DOOR, VERTICAL OR HORIZONTAL

CEILING DIFFUSERS

DUCT OR PIPE SECTION

SUPPLY DIFFUSER; ONE, TWO, THREE AND FOUR WAY

RETURN, EXHAUST OR TRANSFER GRILLE

RETURN GRILLE WITH ACOUSTIC BAFFLE

EXHAUST OR RETURN BOTTOM WALL REGISTER OR GRILLE

EXHAUST OR RETURN TOP WALL REGISTER OR GRILLE

DOOR GRILLE

S-2 / 200 — AIR DEVICE DESIGNATION. (S) SUPPLY, (R) RETURN, (E) EXHAUST, (T) TRANSFER, (L) LOUVER; I.E. SUPPLY TYPE 2, 200 C.F.M.

SLOT TYPE LINEAR SUPPLY DIFFUSER

SLOT TYPE LINEAR RETURN GRILLE

FLEXIBLE DUCT CONNECTOR; PLAN, ONE LINE DIAGRAM

A DIRECTION OF PIPE FLOW

DIRECTION OF PIPE PITCH

HWS	HOT WATER SUPPLY PIPING
HWR	HOT WATER RETURN PIPING
CWS	CONDENSER WATER SUPPLY PIPING
CWR	CONDENSER WATER RETURN PIPING
CHWS	CHILLED WATER SUPPLY PIPING
CHWR	CHILLED WATER RETURN PIPING
HCWS	HOT/CHILLED WATER SUPPLY PIPING
HCWR	HOT/CHILLED WATER RETURN PIPING
HPWS	WATER SOURCE HEAT PUMP SUPPLY
HPWR	WATER SOURCE HEAT PUMP RETURN
MU	MAKE-UP(NON-POTABLE)
HMU	MAKE-UP(NON-POTABLE)HOT
HRS	HEAT RECOVERY SUPPLY PIPING
HRR	HEAT RECOVERY RETURN PIPING
FOS	FUEL OIL SUPPLY PIPING
FOR	FUEL OIL RETURN PIPING
FOV	FUEL OIL VENT PIPING
RS	REFRIGERANT SUCTION PIPING
RL	REFRIGERANT LIQUID PIPING
D	EQUIPMENT OR SYSTEM DRAIN PIPING
E	EXPANSION LINE
R	SAFETY OR RELIEF VALVE DISCHARGE PIPING
CD	CONDENSATE DRAIN PIPING
G	NATURAL GAS PIPING
S	EXISTING SANITARY SEWER PIPING (SITE)
SS	EXISTING STORM SEWER PIPING (SITE)
S	SANITARY SEWER PIPING (SITE)
SS	STORM SEWER PIPING (SITE)
	SOIL & WASTE PIPING
	DWV VENT PIPING
RL	ROOF LEADER PIPING
FD	FOUNDATION DRAIN PIPING

AW	ACID WASTE
AV	ACID VENT
DCW	DOMESTIC COLD WATER PIPING
DHW	DOMESTIC HOT WATER (140 F) PIPING
DRW	DOMESTIC RECIRCULATING HOT WATER PIPING
105	DOMESTIC HOT WATER (105 F) PIPING
	HOT WATER PIPING (FOR EXAMPLE) HEAT TRACED
W	WATER SERVICE PIPING (EXTERIOR)
V	VENT PIPING
A	COMPRESSED AIR PIPING

VALVE (IN GENERAL - SEE SPECS)
GATE VALVES (GV)
GLOBE VALVES
CHECK VALVE
BALANCING VALVE (WITH READ OUT)
BALANCING COCK ONLY (NON-SHUTOFF)
HOSE CONNECTION, BOILER DRAIN
BALL VALVES (BV)
PLUG COCKS, BALANCING COCKS
SILENT CHECK VALVE
BUTTERFLY VALVES (BFV)
CONTROL VALVE; TWO WAY, THREE WAY
SOLENOID OR QUICK-OPENING VALVE
MOTOR OPERATED VALVE
FLOW MEASURING DEVICE
SELF REGULATING FLOW CONTROL VALVE
RELIEF VALVE; PLAN, ELEVATION
PRESSURE REDUCING VALVE (PRV)
TRI-FUNCTION VALVE (TDV)
STRAINER; STRAINER WITH BLOW DOWN.
FLOAT VALVE
FLEXIBLE CONNECTOR
BACKFLOW PREVENTER, REDUCED PRESSURE (STRAINER NOT SHOWN) (BFP - RPZ)
DOUBLE CK. VALVE ASSEMBLY (DCA)
REDUCING BUSHING
COUPLING, JOINT
CAP
PLUG
90° ELBOW
90° ELBOW TURNED UP
90° ELBOW TURNED DOWN
45° ELBOW
TEE OR SIDE CONNECTION
TEE OUTLET UP
TEE OUTLET DOWN

CROSS
TOP / BOT. — UNCONNECTED CROSSING PIPES
RISE OR DROP IN PIPE
BOTTOM CONNECTION TO LINE
TOP CONNECTION TO LINE
RISER IN SLEEVE
UNION
STRUCTURAL PIPE ANCHOR
BUILDING ENTRANCE PIPE ANCHOR
PIPE GUIDE
EXPANSION JOINT
THRUST BLOCK
WALL SLEEVE
CONCENTRIC REDUCER
ECCENTRIC REDUCER
VTR / VTR — VENT THROUGH ROOF, PLAN & RISER
THROUGH ROOF
THROUGH FLOOR
THROUGH WALL
THERMOMETERS
THERMOMETER WELL
PRESSURE GAUGES
VACUUM AND COMPOUND GAUGES
PRESSURE/TEMPERATURE TEST PLUG
FLOW SWITCH
ORIFICE FLOW METER
METER; WATER, CONDENSATE OR GAS
POT OR SHOT FEEDER
THERMOSTAT, OR TEMP. CONTROLLER
PRESSURE CONTROLLER
HUMIDISTAT, OR HUM. CONTROLLER
CONDUCTIVITY CONTROLLER
MAV — MANUAL AIR VENT
AAV — AUTOMATIC AIR VENT
AAE — AUTOMATIC AIR ELIMINATOR
VACUUM BREAKER
FLOAT AND THERMOSTATIC TRAP, TRAP SET
INVERTED BUCKET TRAP, TRAP SET
FLOAT, STEAM OR AIR TRAP
EMD — MAIN OR END OF MAIN DRIP TRAP SET

HORIZONTAL UNIT HEATER
PUMP
ROOF EXHAUST HOOD, EXHAUST FAN
ROOF INTAKE HOOD, SUPPLY FAN
WH — WALL HYDRANT
HB — HOSE BIBB
OR / OSD — OPEN RECEPTACLE

RISER SYMBOL ON PLAN SHEET
SHEET WHERE WASTE & WATER RISERS APPEAR

RISER SYMBOL ON PLAN SHEET
SHEET WHERE WASTE RISER APPEARS
SHEET WHERE WATER RISER APPEARS

RISER SYMBOLS FOR WASTE (SANITARY) AND WATER ON RISER SHEET

GENERAL NOTES:

1. FURNISH ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR THE COMPLETION & OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES, ASHRAE, SMACNA, NFPA, EPA, ETC.
2. REFER TO ALL PROJECT DRAWINGS FOR DETAILS OF CONSTRUCTION AND INSTALLATION REQUIREMENTS.
3. CONTRACTOR SHALL BECOME, PRIOR TO BID, THOROUGHLY FAMILIAR WITH THE REQUIREMENTS OF THESE NOTES AS WELL AS OTHER NOTES SHOWN ON THE CONTRACT DOCUMENTS.
4. THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIC REFERENCE PRODUCTS (SEE SCHEDULES). THE SELECTION OF WHICH HAS INFLUENCED THE DESIGNS OF OTHER TRADES (ELECTRICAL, STRUCTURAL, ETC.) IF SUBSTITUTE MANUFACTURERS, SIZES, OR MODEL NUMBERS ARE BID, SUBMITTED OR INSTALLED, IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR AND ALL HIS SUBCONTRACTORS TO COORDINATE ALL DIFFERENCES PRIOR TO BID. ALL COSTS OF ALL TRADES ASSOCIATED WITH THE SUBSTITUTION SHALL BE INCLUDED IN THE BID.
5. COORDINATION OF ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER, WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER.
6. ALL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRICAL RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, SEQUENCE, DEVICE, OPTION, FITTING, VALVE, OR COMPONENT.
7. INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS OR DETAILS, BUT NOT SHOWN ON PLANS, AND VICE VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED BY BOTH.
8. CONTRACTOR SHALL NOT SCALE DRAWINGS. DRAWINGS SPECIFIC TO THIS DISCIPLINE DO NOT LIMIT THE RESPONSIBILITY OF WORK REQUIRED BY THE CONTRACT DOCUMENTS.
9. EXACT LOCATIONS OF ALL EQUIPMENT, DUCTS, DIFFUSERS, ETC. SHALL BE COORDINATED WITH OTHER TRADES. CEILING MOUNTED LIGHTING, AND ELECTRICAL REQUIREMENTS TAKE PRECEDENCE OVER CEILING MOUNTED MECHANICAL REQUIREMENTS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES. REFER TO ELECTRICAL AND OTHER DRAWINGS FOR COMPLETE INFORMATION PRIOR TO BID.
11. ALL MECHANICAL CONSTRUCTION DETAILS SHALL BE AS SHOWN AND AS REQUIRED TO MAINTAIN "UL" ASSEMBLY RATINGS. SEAL AROUND ALL PENETRATIONS THROUGH ALL "UL" RATED ASSEMBLIES, FIRE, AND SMOKE WALLS. COORDINATE WITH GENERAL CONTRACTOR.
12. NO OTHER TRADES, I.E., ELECTRICAL, CEILING, PLUMBING, ETC., SHALL BE SUSPENDED, HUNG, OR SUPPORTED FROM DUCTWORK OR PIPING.
13. ALL BUILDING PENETRATIONS MUST BE COORDINATED WITH ENGINEER AND SHALL BE FLASHED AND SEALED WEATHERTIGHT. ALL MATERIALS AND COLORS MUST BE PRE-APPROVED BY ENGINEER.
14. ROUTE DUCTWORK AS HIGH AS POSSIBLE TO FACILITATE ACCESS TO ABOVE CEILING SPACE. COORDINATE ROUTING WITH OTHER SERVICES AND TRADES.
15. ALL DUCTWORK AND PIPING SHALL BE SUPPORTED FROM STRUCTURE.
16. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
17. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 5'-0". ALL FLEXIBLE DUCT SHALL CONFORM TO THE REQUIREMENTS OF U.L. 181 FOR CLASS 1 FLEXIBLE AIR DUCTS. SUPPORT TO ELIMINATE SAGGING & KINKING.
18. ALL HVAC EQUIPMENT TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS AS SHOWN. UTILIZE FACTORY FILTERS DURING CONSTRUCTION.
19. ALL PIPING, DUCTS, VENTS, ETC., EXTENDING THROUGH WALLS SHALL BE FLASHED, COUNTER FLASHED IN WATERPROOF MANNER W/LEAD ROOF JACK.
20. CONTRACTOR TO COORDINATE DUCTWORK WITH OTHER TRADES, OFF-SET AS REQUIRED, RUN DUCTWORK BETWEEN JOIST WHERE POSSIBLE.
21. CONTRACTOR SHALL VISIT THE JOB SITE & BE FAMILIAR WITH ALL PROJECT CONDITIONS PRIOR TO FABRICATING ANY EQUIPMENT, DUCTWORK, ETC. NO ALLOWANCES WILL BE MADE FOR CONTRACTOR UNFAMILIARITY WITH PROJECT CONDITIONS.
22. MECHANICAL CONTRACTOR SHALL BALANCE SYSTEM TO AIR QUANTITIES INDICATED ON PLANS AND PROVIDE OWNERS REPRESENTATIVES WITH COMPLETE NEBB/AABC BALANCE REPORT.
23. ALL SQUARE ELBOWS SHALL HAVE TURNING VANES. NO EXCEPTIONS.
24. PROVIDE A MANUAL VOLUME DAMPER AT ALL BRANCH TAKE-OFFS.
25. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR CLEAR DUCT DIMENSIONS.
26. ALL CONTROL WIRING & CONDUIT SHALL COMPLY WITH NEC.
27. PIPE AND DUCT ROUTING SHOWN IS SCHEMATIC. HVAC CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS, INCLUDING DIVIDED DUCTS, REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES AS ENCOUNTERED IN THE FIELD.
28. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND DRAWINGS FOR CONNECTIONS AND LOCATION OF ALL EQUIPMENT.
29. CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS.
30. CONSULT ROOF PLAN AND STRUCTURAL DRAWINGS FOR PLACEMENT OF ROOF MOUNTED EQUIPMENT. PROVIDE ALL NECESSARY ROOF CURBS, EQUIPMENT RAILS AND BASES AND ANY ADDITIONAL REQUIRED FRAMING IN COORDINATION WITH STRUCTURAL AND ROOFING WORK.
31. ALL EQUIPMENT, DUCT, PIPING AND ACCESSORIES INSTALLED OUTSIDE OR OTHERWISE EXPOSED TO THE ELEMENTS SHALL BE ADEQUATELY WEATHERPROOFED, IN KEEPING WITH THE SPECIFICATIONS. ALL FERROUS METAL FRAMING COMPONENTS SHALL BE STAINLESS STEEL OR HOT-DIP GALVANIZED.
32. PROVIDE ALL ACCESS DOORS AS SHOWN, EXCEPT THOSE SPECIFIED UNDER OTHER DIVISIONS. IN ADDITION, PROVIDE ANY OTHER ACCESS DOORS WHETHER OR NOT SHOWN ON PLANS, NECESSARY FOR ACCESS TO CONCEALED EQUIPMENT, VALVES, DAMPERS, ACTUATORS, JUNCTION BOXES, CONTROLS OR OTHER OPERATIONAL OR SERVICEABLE ITEMS, UNLESS ITEM IS REASONABLY ACCESSIBLE THROUGH LAY-IN CEILING PANELS.
33. PROVIDE LINTELS AS REQUIRED FOR ALL NEW OPENINGS GREATER THAN 12" WIDE IN MASONRY OR LOAD-BEARING WALLS, MATERIAL TO BE APPROVED BY ENGINEER.
34. ANY AND ALL DAMAGE DUE TO DEMOLITION OR CONSTRUCTION IS TO BE REPAIRED OR REPLACED AS APPROPRIATE, SUBJECT TO ENGINEER'S APPROVAL, AND AT NO ADDITIONAL COST TO THE OWNER.
35. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY SUSPECTED HAZARDOUS MATERIALS, INCLUDING ASBESTOS-CONTAINING MATERIALS (ACM), LEAD-BASED PAINTS, ELECTRICAL GEAR CONTAINING PCB'S OR ANY OTHER, EXCEPT AS INSTRUCTED IN THIS CONTRACT. IF ANY MATERIAL NOT COVERED BY THE CONTRACT IS ENCOUNTERED, NOTIFY THE ENGINEER AT ONCE.
36. ALL DEMOLISHED OR REMOVED EQUIPMENT, PIPING, DUCTWORK, SUPPORTS, CONTROLS AND THE LIKE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE NOTED.
37. ALL EQUIPMENT PROVIDED WITH FILTERS SHALL HAVE FILTERS IN PLACE AT THE TIME OF STARTUP. ALL NEW FILTERS SHALL BE INSTALLED AT THE TIME OF OWNER OCCUPANCY, AND A COMPLETE SET OF EXTRA FILTERS SHALL BE TURNED OVER TO THE OWNER AT THIS TIME. IN THE EVENT THAT CARE IS NOT TAKEN DURING INITIAL OPERATION TO PREVENT CONTAMINATION OF THE FILTERS WITH CONSTRUCTION DUST, ADDITIONAL SETS OF FILTERS SHALL BE PROVIDED TO PROTECT THE EQUIPMENT.
38. PROVIDE ADDITIONAL INPUT/OUTPUT POINTS REQUIRED TO IMPLEMENT CONTROL SEQUENCES SPECIFIED.
39. PAINT ALL EXPOSED PLENUMS AND DUCTWORK BEHIND GRILLES AND DIFFUSERS WITH FLAT BLACK PAINT.

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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MECHANICAL LEGEND AND GENERAL NOTES
LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
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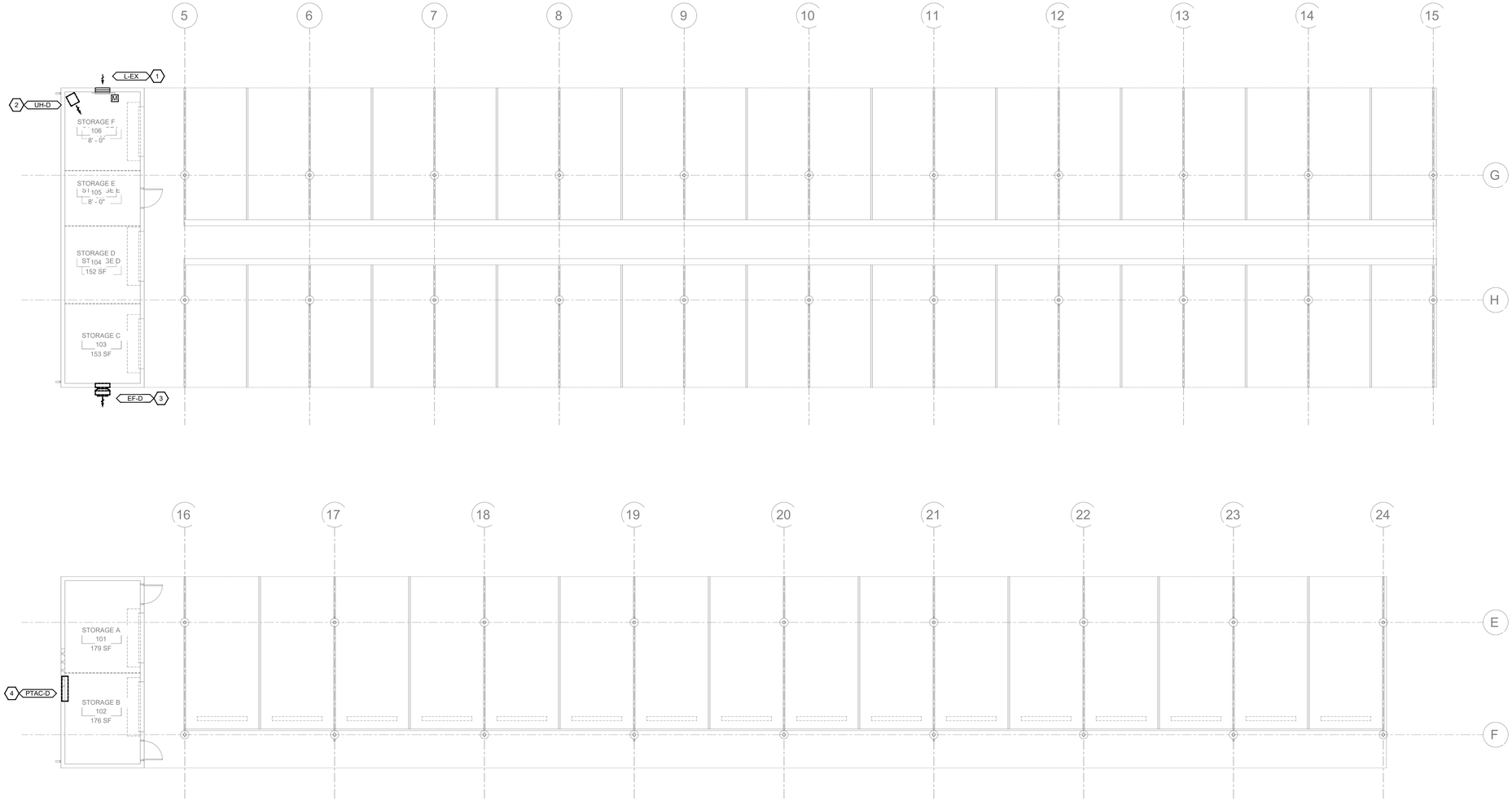
LINETYPE LEGEND	
- - - - - - - - - - - - - - - -	DEMOLITION TO BE REMOVED
————————	EXISTING TO REMAIN



1 STORAGE BUILDINGS - DEMOLITION - HVAC PLAN
SCALE: 1/8"=1'-0"

0 4' 8' 16'

PLAN NORTH

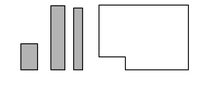
GENERAL NOTES:

1. DEMOLITION PLAN HAS BEEN DEVELOPED FROM EXISTING PLANS AND VISITING SITE. SOME MECHANICAL EQUIPMENT, DUCTWORK, REGISTERS AND PIPING SIZES MAY NOT BE INDICATED.
2. IT SHALL BE THE RESPONSIBILITY OF ALL CONTRACTORS WHO SUBMIT BIDS FOR THIS PROJECT TO VISIT THE JOB PREMISES PRIOR TO BIDDING IN ORDER THAT THEY MAY DETERMINE THE TYPE, QUANTITY, LOCATIONS AND ANY HARDSHIPS INVOLVED WITH THE REMOVAL OF EQUIPMENT.
3. CONTRACTOR UNDER THIS DIVISION IS FINANCIALLY RESPONSIBLE TO REPAIR AND PATCH FLOORS, WALLS, CEILING AND ROOF TO MATCH EXISTING CONDITION WHERE DEMOLITION WORK HAS BEEN DONE. COORDINATE ALL WORK WITH OWNER/ENGINEER.

SHEET KEYNOTES:

1. EXISTING LOUVER AND CONTROL DAMPER TO REMAIN AND BE REUSED.
2. EXISTING UNIT HEATER TO BE REMOVED COMPLETE AND REPLACED WITH NEW.
3. EXISTING WALL EXHAUST FAN TO BE REMOVED COMPLETE.
4. EXISTING PTAC UNIT TO BE REMOVED COMPLETE. EXISTING WALL OPENING SHALL BE PATCHED AND REPAIRED WATERTIGHT TO MATCH EXISTING WALL. COORDINATE WITH GENERAL CONTRACTOR.

AREA KEY PLAN



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STORAGE BUILDINGS - DEMOLITION - HVAC PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

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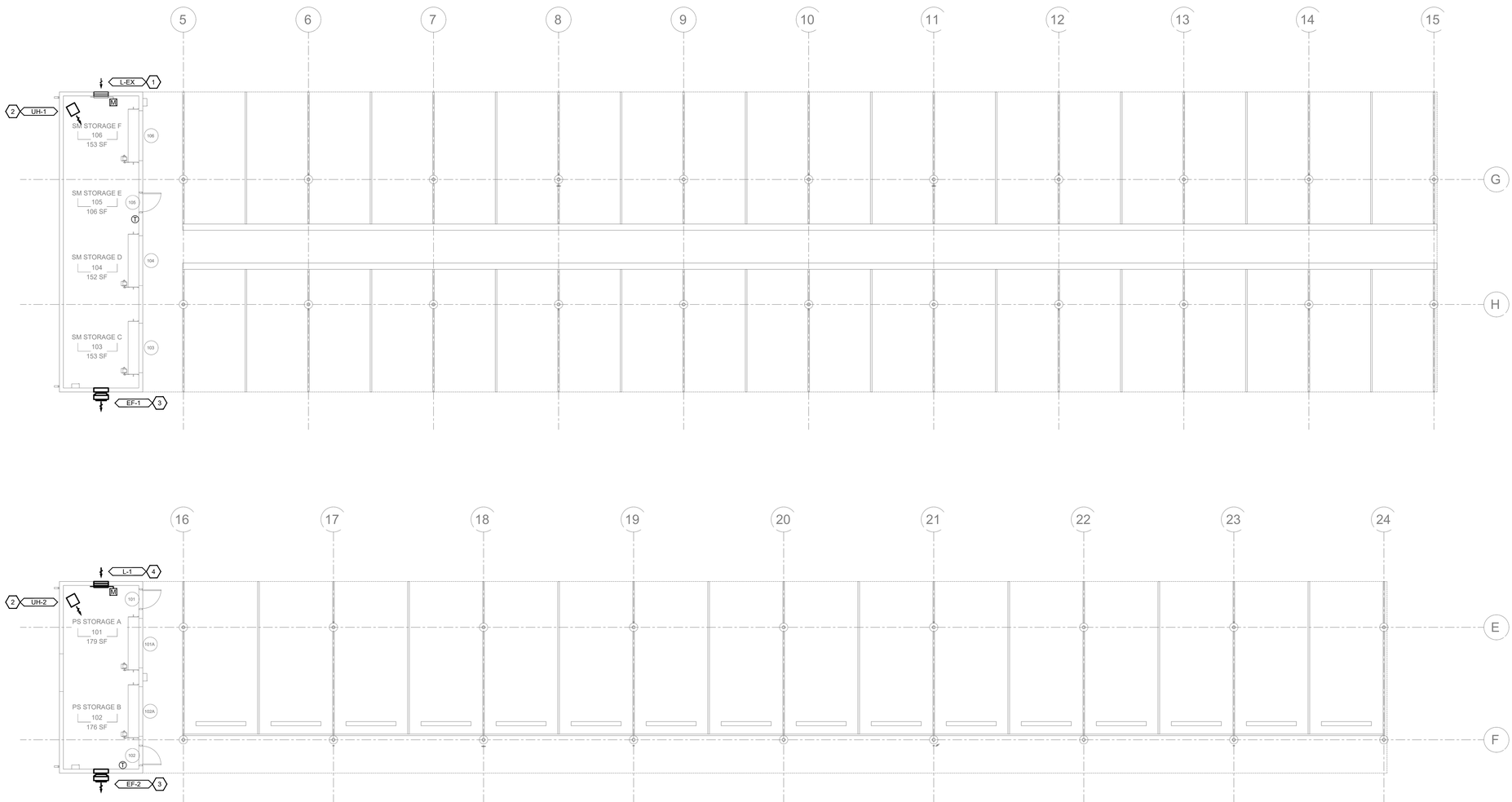

1 STORAGE BUILDINGS - HVAC PLAN
SCALE: 1/8"=1'-0"

0 4' 8' 16'

PLAN NORTH

GENERAL NOTES:

1. CONTROL WIRING CONDUIT IS BEING PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM VACTOR BUILDING TO THESE STORAGE BUILDINGS. TEMPERATURE CONTROLS CONTRACTOR SHALL PULL ALL CONTROL WIRING NEEDED FROM CONTROL PANEL IN VACTOR BUILDING TO THESE STORAGE BUILDINGS.

SHEET KEYNOTES:

1. EXISTING LOUVER AND CONTROL DAMPER TO REMAIN AND BE REUSED.
2. INSTALL NEW ELECTRIC UNIT HEATER.
3. INSTALL NEW WALL MOUNTED EXHAUST FAN. PATCH OR EXPAND WALL OPENING AS NEEDED FOR NEW FAN SIZE. COORDINATE ELEVATION WITH GENERAL CONTRACTOR AND ARCHITECT PRIOR TO INSTALLATION.
4. INSTALL NEW INTAKE LOUVER AND MOTORIZED DAMPER. COORDINATE LOUVER ELEVATION WITH GENERAL CONTRACTOR AND ARCHITECT PRIOR TO INSTALLATION.

AREA KEY PLAN

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STORAGE BUILDINGS - HVAC PLAN
LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

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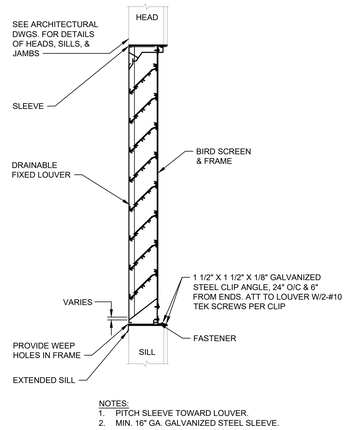
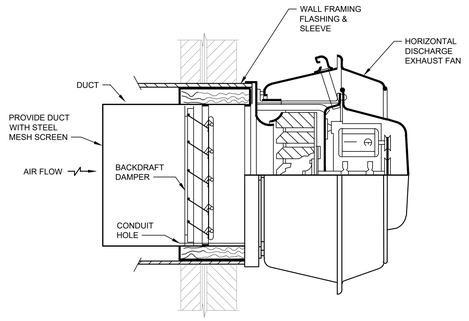


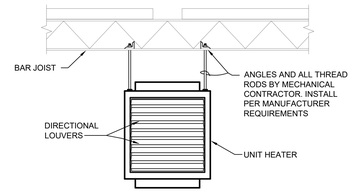
NOTES:
1. PITCH SLEEVE TOWARD LOUVER.
2. MIN. 16" GA. GALVANIZED STEEL SLEEVE.

1 FIXED LOUVER DETAIL
NOT TO SCALE



NOTES:
1. SEE ARCHITECTURAL SHEETS FOR FRAMING INSTALLATION, FLASHING AND FRAMING.

2 TYPICAL WALL MOUNTED OUTBLAST EXHAUST FAN DETAIL
NOT TO SCALE



3 TYPICAL ELECTRIC UNIT HEATER DETAIL
NOT TO SCALE

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MECHANICAL DETAILS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
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ADD ALTERNATE #3:

MECHANICAL CONTRACTOR SHALL INCLUDE PRICING FOR ADD ALTERNATE #3 TO INCLUDE ALL PREVENTATIVE MAINTENANCE WORK FOR ALL MECHANICAL EQUIPMENT FOR A PERIOD OF THREE YEARS FROM DATE OF SUBSTANTIAL COMPLETION. ALL PREVENTATIVE MAINTENANCE WORK SHALL BE PER MANUFACTURER'S INSTALLATION AND MAINTENANCE GUIDES. BASE BID AND WARRANTY WORK INCLUDES ONE YEAR FROM SUBSTANTIAL COMPLETION. ADD ALTERNATE #3 PRICING INCLUDES THE TWO ADDITIONAL YEARS AFTER THE FIRST YEAR.

LOUVER SCHEDULE

MARK	MANUFACTURER	MODEL	INTAKE / EXHAUST	SIZE			CFM	PRESSURE DROP (IN)	FREE AREA (SQ FT)	VELOCITY (FPM)	REMARKS
				WIDTH	HEIGHT	DEPTH					
IL-1	GREENHECK	EAD-635	INTAKE	24	16	6"	600	0.045"	0.95	625	ALL

REMARKS:
1. LOUVER COLOR SELECTED BY ARCHITECT
2. COORDINATE ALL LOUVER LOCATIONS WITH ARCHITECT AND ENGINEER PRIOR TO INSTALLATION
3. ALUMINUM CONSTRUCTION
4. DRAINABLE BLADES
5. MAXIMUM NC LEVEL OF 25
6. PROVIDE WITH MOTORIZED 120V CONTROL DAMPER.
7. PROVIDE BIRD SCREEN
8. PROVIDE INSECT SCREEN

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: RUSKIN, UNITED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	TYPE	CFM	ESP (IN H20)	SONES	DRIVE TYPE	RPM	ELECTRICAL				REMARKS
										V/Ø/Hz	HP	MCA	MOCP	
EF-1	GREENHECK	CUE-099-VG	STORAGE C/D/E/F	SIDEWALL/UPBLAST	600	0.6	7.2	DIRECT	1725	120/1/60	1/4	4.0	15	ALL
EF-2	GREENHECK	CUE-099-VG	STORAGE A/B	SIDEWALL/UPBLAST	600	0.6	7.2	DIRECT	1725	120/1/60	1/4	4.0	15	ALL

REMARKS:
1. PROVIDE WITH UNIT MOUNTED DISCONNECT
2. PROVIDE WITH UNIT MOUNTED SPEED CONTROL
3. PROVIDE WITH GRAVITY BACKDRAFT DAMPER
4. PROVIDE WITH HIGH EFFICIENCY ECM FAN MOTOR
5. PROVIDE FAN WITH BIRD SCREEN
6. SIDEWALL MOUNTED, UP BLAST, PROVIDE WITH APPROPRIATE SUPPORTS/BRACKETS PER MANUFACTURER'S INSTALLATION REQUIREMENTS
7. FAN SHALL OPERATE AT TWO FAN SPEEDS AND BE CONTROLLED VIA WALL MOUNTED THERMOSTAT DURING OCCUPIED HOURS FROM BAS. MAX AIRFLOW IS 600 CFM AND MINIMUM AIRFLOW IS 125 CFM
8. PROVIDE LOW VOLTAGE TRANSFORMER AS NEEDED FOR THERMOSTAT CONTROL. REFER TO CONTROL SHEET FOR FURTHER CONTROL INFO

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: CARNES, COOK. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ELECTRIC HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	TYPE	CFM	BTUH	ELECTRICAL				REMARKS
						V/Ø/Hz	KW	MCA	MOCP	
UH-1	MARKEL	UH SERIES	HORIZONTAL - SUSPENDED	575	25,600	208/1/60	7.5	36.1	45	ALL
UH-2	MARKEL	UH SERIES	HORIZONTAL - SUSPENDED	575	25,600	208/1/60	7.5	36.1	45	ALL

REMARKS:
1. INTEGRAL THERMOSTAT AND DISCONNECT
2. PROVIDE REQUIRED MOUNTING BRACKET FOR MOUNTING AS INDICATED ON PLANS. MOUNT AT 9-FT ABOVE FLOOR.

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: Q-MARK, REDDI. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF KENTUCKY
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8/15/2025

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MECHANICAL SCHEDULES

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

REVISIONS

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EF POINTS LIST								
TAG	POINT DESCRIPTION	UNITS	DI	DO	AI	AO	ALARM	TREND
FS-1	FAN STATUS	ON/OFF	X				X	

SEQUENCE OF OPERATION - EF

EXHAUST FANS - EF-1 AND EF-2

FANS
EF-1 AND EF-2 SHALL BE CONTROLLED VIA WALL MOUNTED THERMOSTAT. WHEN SPACE TEMPERATURE IS 65F (ADJ) OR BELOW, FAN SHALL RUN CONTINUOUS DURING OCCUPIED HOURS AT LOW FAN SPEED (125 CFM). WHEN SPACE TEMPERATURE RISES ABOVE 65F (ADJ), FAN SHALL RUN CONTINUOUS DURING OCCUPIED HOURS AT HIGH FAN SPEED (600 CFM).

FAN SHALL BE OFF DURING UNOCCUPIED HOURS.

VERIFY OCCUPIED HOURS WITH OWNER. MOTORIZED CONTROL DAMPER ON LOUVER SHALL BE INTERLOCKED WITH FAN STATUS. IF FAN IS ON, THEN LOUVER DAMPER SHALL OPEN. IF FAN IS OFF, THEN LOUVER DAMPER SHALL BE CLOSED. FAN ON/OFF STATUS SHALL TIE INTO BAS MONITORING SYSTEM.

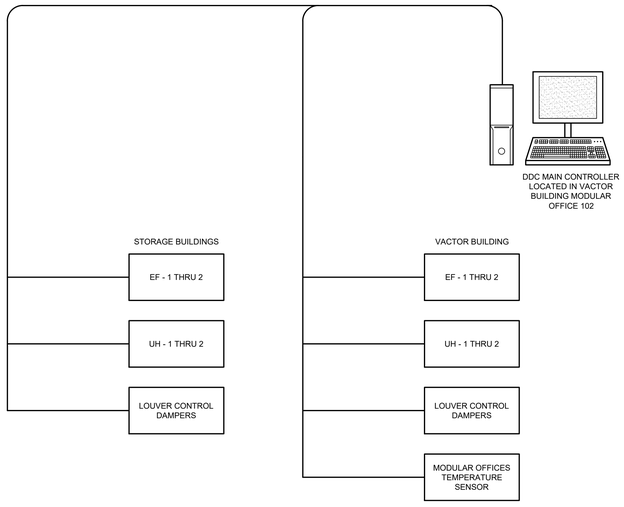
LOUVER CONTROL DAMPER OPEN/CLOSE STATUS SHALL BE VIEWABLE AND CONNECT TO BAS.

EMERGENCY SHUTOFF: IF SPACE TEMPERATURE DROPS TO 45F (ADJ) OR BELOW, EF-1 AND EF-2 SHALL TURN OFF AND THE LOUVER MOTORIZED DAMPER SHALL CLOSE. WHEN SPACE TEMPERATURE RISES ABOVE 45F (ADJ), FANS SHALL RESUME NORMAL OPERATION.

OPERATING PARAMETERS: UH

FUNCTION	SET POINT ADJUSTABLE	REMARKS
TEMPERATURE SETPOINT	65 F (ADJ)	SEND ALARM TO DDC SYSTEM IF SPACE TEMPERATURE FALLS BELOW 50F (ADJ).
BAS INTERFACE		-ON/OFF STATUS TO BAS MONITORING SYSTEM. -HEAT STATUS TO BAS MONITORING SYSTEM. -SPACE TEMPERATURE TO BAS MONITORING SYSTEM.

UNIT HEATER POINTS LIST (UH 1-2)								
TAG	POINT DESCRIPTION	UNITS	DI	DO	AI	AO	ALARM	TREND
	UH 1-2							
TS-1	ROOM THERMOSTAT	DEG F				X	X	
SF-1	SUPPLY AIR FAN	ON/OFF	X					



1 CONTROL NETWORK COMMUNICATIONS DIAGRAM
NOT TO SCALE

NOTE:

PER DIRECTION FROM OWNER, ALL CONTROL WIRING SHALL BE ORANGE AND SHALL NOT CONFLICT WITH OTHER SYSTEM'S WIRING. TCC SHALL COORDINATE WIRING COLOR WITH OWNER AND OWNER'S IT DEPARTMENT PRIOR TO INSTALLATION.

NOTE:

CONTROL WIRING CONDUIT IS BEING PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM VACTOR BUILDING TO THESE STORAGE BUILDINGS. TEMPERATURE CONTROLS CONTRACTOR SHALL PULL ALL CONTROL WIRING NEEDED FROM CONTROL PANEL IN VACTOR BUILDING TO THESE STORAGE BUILDINGS.

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

MECHANICAL CONTROLS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS
DRAWN: SPB
RECEIVED: CVS
APPROVED: CVS

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO. M-701 02

PRINTED: 8/13/2025 @ 4:22PM
FILE NAME: G:\5247-LFUCG DWQ HQB\Working Drawings\Auto\CAD\5247-01-M-701-02.dwg

INTERIOR LIGHTING

SUBSCRIPTS INDICATE THE FOLLOWING:

LF-X	=	INDICATES LUMINAIRE TYPE
E	=	INDICATES EMERGENCY BATTERY BACKUP
a	=	DENOTES SINGLE SWITCH DESIGNATION
a/b	=	DENOTES DUAL SWITCH DESIGNATION

CEILING MTD	WALL MTD	
LF-X b	LF-X b	2' x 4' RECESSED LUMINAIRE
LF-X b	LF-X b	2' x 4' RECESSED LUMINAIRE WITH EMERGENCY BATTERY BACKUP
LF-X b		2' x 2' RECESSED LUMINAIRE
LF-X b		2' x 2' RECESSED LUMINAIRE WITH EMERGENCY BATTERY BACKUP
LF-X b	LF-X b	1' x 4' SURFACE MOUNTED OR SUSPENDED LUMINAIRE
LF-X b	LF-X b	1' x 4' SURFACE MOUNTED OR SUSPENDED LUMINAIRE WITH EMERGENCY BATTERY BACKUP
LF-X a	LF-X b	4' STRIP LUMINAIRE
LF-X	LF-X b	8' STRIP LUMINAIRE
OR LF-X OR LF-X	OR LF-X OR LF-X	EXIT LIGHT WITH ARROW
LF-X b	LF-X b	RECESSED OR SURFACE MOUNTED LUMINAIRE
LF-X b	LF-X b	RECESSED LUMINAIRE WITH EMERGENCY BATTERY BACKUP
LF-X	LF-X	EMERGENCY LUMINAIRE BATTERY OPERATED
LF-X	LF-X	EMERGENCY REMOTE HEAD

INTERIOR LIGHTING CONTROLS

SUBSCRIPTS INDICATE THE FOLLOWING:

a	=	SWITCH DESIGNATION
D	=	DIMMER
2	=	DOUBLE-POLE
3	=	THREE-WAY
4	=	FOUR-WAY
K	=	KEY-OPERATED
OC	=	OCCUPANCY SENSOR
P	=	PILOT LIGHT
T	=	TIMER
L	=	LOW-VOLTAGE
M	=	MOTOR RATED WITH OVERLOAD PROTECTION
IG	=	ISOLATED GROUND
EXP	=	EXPLOSION PROOF
WP	=	WEATHERPROOF
DR	=	DOOR SWITCH

$x	WALL SWITCH 120-277 VOLT, 20 AMP, SINGLE POLE
$x	MULTIPLE WALL SWITCHES 120-277 VOLT, 20 AMP, MTD IN A SINGLE BOX
OC OR OC	OCCUPANCY SENSOR - CEILING MOUNTED
OC OR OC P P	OCCUPANCY SENSOR - CEILING MOUNTED - WITH AUTOMATIC DIMMING CONTROL PHOTOCELL
PP	POWER PACK
PP D	POWER PACK W/ 0-10V DIMMING OUTPUT
LC-XX	LIGHTING CONTROL TAG - REFER TO LIGHTING CONTROL DETAILS FOR REQUIREMENTS

INTERIOR CONDUIT & WIRE

PHASE(S) NEUTRAL GROUND	CONDUIT CONCEALED IN WALL OR CEILING TIC MARKS INDICATE NUMBER OF WIRES. #12 IF NOT OTHERWISE SHOWN. CONDUIT SHALL BE 3/4 " UNLESS OTHERWISE NOTED.
	CONDUIT EXPOSED OR CONCEALED
	CONDUIT RUN UNDERGROUND OR IN CONCRETE
LP1-2	HOMERUN TO PANEL (PANEL LP1 CIRCUIT 2 INDICATED)
	SIGNIFIES MULTIPLE CIRCUITS IN ONE CONDUIT
	EXPLOSION PROOF CONDUIT SEAL
	CONDUIT WITH END CAPPED
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN

SHEET IDENTIFICATION LEGEND

DISCIPLINE DESIGNATOR	DESCRIPTION
E-	ELECTRICAL GENERAL
ED	ELECTRICAL DEMOLITION
ES	ELECTRICAL SITE
EL	ELECTRICAL LIGHTING
EC	ELECTRICAL LIGHTING CONTROLS
EP	ELECTRICAL POWER
ET	ELECTRICAL TELECOMMUNICATIONS
EY	ELECTRICAL AUXILIARY SYSTEMS
SHEET NUMBER	**DESCRIPTION**
-00X	GENERAL (SYMBOLS LEGEND, NOTES, ETC.)
-1XX	PLANS
-2XX	ELEVATIONS
-3XX	SECTIONS
-4XX	ENLARGED PLANS
-5XX	DETAILS
-6XX	DIAGRAMS
-7XX	SCHEDULES
BUILDING	**DESCRIPTION**
01	LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
02	LFUCG EXTERIOR STRUCTURES
03	LFUCG VACTOR BUILDING

SHEET IDENTIFICATION

DISCIPLINE DESIGNATOR - SHEET NUMBER BUILDING
EXAMPLE: EP-102 02
(ELECTRICAL POWER PLAN FOR LFUCG EXTERIOR STRUCTURES)

POWER WIRING DEVICES

SUBSCRIPTS INDICATE THE FOLLOWING:

WP	=	WEATHERPROOF, IN-USE COVER
WR	=	WEATHER-RESISTANT WIRING DEVICE
GFCI	=	GROUND FAULT CIRCUIT INTERRUPTER
GF-BF	=	BLANK FACE GROUND FAULT INTERRUPTER
IG	=	ISOLATED GROUND
EWC	=	ELECTRIC WATER COOLER - GFCI TYPE UNLESS NOT READILY ACCESSIBLE (SEE SHEET KEYNOTES)
EXP	=	EXPLOSION PROOF
ACT	=	ABOVE COUNTER TOP
TR	=	TAMPER-RESISTANT WIRING DEVICE
AFCI	=	ARC FAULT CIRCUIT INTERRUPTER
SPD	=	SURGE PROTECTION DEVICE

	SINGLE RECEPTACLE, 125 VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
XXX	DUPLEX RECEPTACLE, 125 VOLT, 2-POLE, 3 WIRE, NEMA 5-20R GROUNDING TYPE
XXX (6-60)	SPECIAL PURPOSE RECEPTACLE, NUMBER DENOTES NEMA CONFIGURATION
XXX	QUADRUPLEX RECEPTACLE, 125 VOLT, 2-POLE, 3 WIRE, NEMA 5-20R GROUNDING TYPE
	SINGLE SPECIAL PURPOSE RECEPTACLE, NEMA CONFIGURATION NOTED
	FLOOR MOUNTED DUPLEX RECEPTACLE, 125-VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
	FLOOR MOUNTED QUADRAPLEX RECEPTACLE, 125-VOLT, 2-POLE, 3-WIRE, NEMA 5-20R GROUNDING TYPE
	RANGE RECEPTACLE, 125/250 VOLT, 3-POLE, 4-WIRE, NEMA 14-50R GROUNDING TYPE
J	JUNCTION BOX WALL OR CLG MOUNTED FLUSH OR SURFACE AS NOTED, 4"X4" SQUARE UNLESS OTHERWISE NOTED
(1) (3) (5) (3)	MULTI-OUTLET SURFACE RACEWAY, SIZE AND NUMBER OF RECEPTACLE AS SCHEDULED. # INDICATES CIRCUIT NUMBER
	WIREWAY
	CABLE TRAY
	PLUGIN OR FEEDER BUSWAY
	WALL MTD SINGLE FACE CLOCK
	WALL MTD DOUBLE FACE CLOCK

POWER DEVICES

M OR S	MOTOR CONNECTION (5 HP INDICATED)
	DISCONNECT SWITCH (ENCLOSURE TYPE, SIZE, AND FUSING, IF REQUIRED, DESIGNATED ON DRAWINGS)
	PANELBOARD, SURFACE MOUNTED
	PANELBOARD, RECESSED
	ENCLOSED CIRCUIT BREAKER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)
	MOTOR CONTROLLER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)
	COMBINATION STARTER/CIRCUIT BREAKER (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)
	VARIABLE FREQUENCY DRIVE (ENCLOSURE TYPE, SIZE DESIGNATED ON DRAWINGS)
	DRY TYPE TRANSFORMER - FLOOR MOUNTED ON 4" HIGH HOUSEKEEPING PAD
MCD	MAGNETIC CONTACT, DOOR MOUNTED
MCW	MAGNETIC CONTACT, WINDOW MOUNTED
MI	PASSIVE INFRARED MOTION DETECTOR, ARROW DENOTES CURTAIN DIRECTION

TELECOMMUNICATIONS

SUBSCRIPTS INDICATE THE FOLLOWING:

X	=	DATA AND/OR VOICE OUTLET
AV	=	AUDIO VISUAL OUTLET

FACEPLATE CONFIGURATION TYPE - SEE DETAIL SHEETS: X

X	RJ-45 OUTLET - WALL-MOUNTED, MOUNT 18" AFF, UNLESS OTHERWISE NOTED
X	RJ-45 OUTLET - FLOOR MOUNTED
X	ONE POSITION VOICE OUTLET (RJ-45) - WHITE JACK - WALL-MOUNTED AT 48" AFF, UNLESS OTHERWISE NOTED
AV	AUDIO VISUAL OUTLET, MOUNT AT HEIGHT INDICATED ON FLOOR PLANS - REQUIRES TYPE F COMPRESSION CONNECTOR + EMPTY BOX FOR OWNER PROVIDED DATA CABLING

SECURITY SYSTEMS

CR	CARD READER (OWNER FURNISHED / DIVISION 28 INSTALLED)
ES	ELECTRIC STRIKE (DIVISION 08 FURNISHED / DIVISION 08 INSTALLED)
ED	ELECTRIFIED EXIT DEVICE (DIVISION 08 FURNISHED / DIVISION 08 INSTALLED)
ML	MAGNETIC LOCK (DIVISION 08 FURNISHED / DIVISION 28 INSTALLED)
	GATE OPERATOR (DIVISION 32 FURNISHED / DIVISION 32 INSTALLED)
MD	REX MOTION DETECTOR (OWNER FURNISHED / DIVISION 28 INSTALLED)
PB	REX PUSHBUTTON (OWNER FURNISHED / DIVISON 28 INSTALLED)
BMS	BALANCED MAGNETIC SWITCH (OWNER FURNISHED / DIVISION 28 INSTALLED)
	CAMERA (OWNER FURNISHED / OWNER INSTALLED)
IC	INTERCOM CALL STATION (OWNER FURNISHED / DIVISION 28 INSTALLED)
PS	POWER SUPPLY (DIVISION 08 FURNISHED / DIVISION 28 INSTALLED)
X	DOOR NUMBER

FIRE ALARM/SUPPRESSION SYSTEM DEVICES

EOL	END OF LINE RESISTOR
FCP	FIRE ALARM CONTROL PANEL
FSA	FIRE ALARM ANNUNICATOR PANEL
FAC	FIRE ALARM COMMUNICATOR
MIC	REMOTE MIC
X	FIRE ALARM MANUAL STATION X= A- CLEAN AGENT F- FOAM C- CARBON DIOXIDE W- WET CHEMICAL D- DRY CHEMICAL P- MANUAL PULL STATION
	FIRE ALARM SPEAKER-HORN/STROBE LIGHT
	FIRE ALARM HORN OR SPEAKER
	FIRE ALARM BELL/LIGHT
	WATER MOTOR GONG
	FIRE ALARM STROBE LIGHT
X	SMOKE DETECTOR X= P- PHOTOELECTRIC BT- BEAM TRANSMITTER I- IONIZATION BR- BEAM RECEIVER
I OR I X	DUCT MOUNTED SMOKE DETECTOR
	HEAT DETECTOR, SUBSCRIPT DENOTES THE FOLLOWING: X= F-FIXED TEMPERATURE R-RATE OF RISE R/F-COMBINATION RATE OF RISE AND FIXED
	TAMPER SWITCH CONNECTION
	FLOW SWITCH CONNECTION
	DOOR HOLDER
	PRESSURE SWITCH
	LEVEL SWITCH
	VALVE WITH TAMPER SWITCH
	MUSHROOM HEAD EMERGENCY PUSHBUTTON SWITCH
	FIRE FIGHTER'S TELEPHONE STATION
	CO_2 FIRE EXTINGUISHER
AM	ADDRESSABLE MONITOR MODULE
CO	CARBON MONOXIDE DETECTOR

EXTERIOR

EXISTING		NEW
35/3	POLE, LENGTH AND CLASS AS INDICATED	35/3
3-25	TRANSFORMER BANK POLE MOUNTED, SHOWN AS THREE PHASE 25 KVA TRANSFORMERS	3-25
25	SINGLE PHASE TRANSFORMER, POLE MOUNTED 25 KVA NOTED	25
T 100	PAD MOUNTED TRANSFORMER, 100 KVA NOTED	T 100
	FUSE CUTOUT WITH FUSE SIZE AND TYPE NOTED	
	DISCONNECT SWITCH OR SECTIONALIZING SWITCH	
EG	BURIED GROUND WIRE	G
EG	GROUND WIRE IN OR UNDER FLOOR SLAB	G
EG	GROUND WIRE EXPOSED	G
	GROUND CONNECTION OR EQUIPMENT BOND	
EG	ROOF CONDUCTOR	RC
	POLE MOUNTED LUMINAIRE	
XXX	MANHOLE, HANDHOLE, OR PULLBOX, SUBSCRIPT DENOTES THE FOLLOWING: EMH ELECTRICAL MANHOLE CMH COMMUNICATIONS MANHOLE EHH ELECTRICAL HANDHOLE CHH COMMUNICATIONS HANDHOLE EPB ELECTRICAL PULLBOX CPB COMMUNICATIONS PULLBOX	XXX
XXX OR XXX XXX OR XXX	WALLPACK EXTERIOR LUMINAIRE	XXX OR XXX XXX OR XXX
XXX OR XXX XXX OR XXX	WALLPACK EXTERIOR LUMINAIRE WITH EMERGENCY BATTERY	XXX OR XXX XXX OR XXX
3/4-10 W	GROUND ROD, SIZE AS NOTED 3/4" X 10' (W DENOTES INSTALLATION IN WELL)	3/4-10 W
24	LIGHTNING ROD, (24 INCHES HIGH NOTED)	24

DEMOLITION

	ITEMS / AREAS THAT ARE TO BE DEMOLISHED ARE INDICATED WITHIN A HATCH PATTERN

SINGLE LINE DIAGRAMS/CONTROLS

ETM	ELAPSED TIME METER
TM	TIMER MOTOR
R OR CR#	CONTROL RELAY
SV	SOLENOID VALVE CONNECTION
LS	LIMIT SWITCH CONNECTION
T	THERMOSTAT CONNECTION
PC OR PC	PHOTOCELL
PS	PRESSURE SWITCH CONNECTION
A	AMMETER
DM	DAMPER MOTOR ACTUATOR, SPRING RETURN
EF	EXHAUST FAN MOTOR
V	VOLTMETER
W	WATTMETER
WH	WATTHOUR METER
M	MOTOR STARTER COIL
M OL	MOTOR CONTACTOR / MOTOR OVERLOAD
	INDICATOR LIGHT (CONTROL CIRCUIT)
PUSH TO TEST	INDICATOR LIGHT W/PUSH TO TEST (CONTROL CIRCUIT)
ON OFF	2 POSITION SELECTOR SWITCH: ON-OFF
L O R	3 POSITION SELECTOR SWITCH: LOCAL-OFF-REMOTE HAND-OFF-AUTOMATIC
L O R A	4 POSITION SELECTOR SWITCH: LOCAL-OFF-REMOTE-AUTOMATIC
START STOP M	START-STOP PUSHBUTTON (NON-MAINTAINED CONTACT)
OFF ON	ON-OFF PUSHBUTTON (MAINTAINED CONTACT)
M	CONTROL PANEL HEATER/COOLING FAN
E-STOP	EMERGENCY STOP PUSHBUTTON STATION
	SWITCH, NONFUSED
	FUSED SWITCH
OR	FUSE

	MAGNETIC ONLY CIRCUIT BREAKER (SINGLE POLE SHOWN)
	THERMAL-MAGNETIC CIRCUIT BREAKER (SINGLE POLE SHOWN)
	CIRCUIT BREAKER GENERIC
GF	GROUND FAULT PROTECTED BREAKER
	LINE REACTOR
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
SPD	SURGE PROTECTIVE DEVICE, TYPE 1 OR TYPE 2
TS OR	LIGHTNING ARRESTOR (CROWBAR STYLE)
	CAPACITOR
	GROUND
	TRANSFORMER
	RELAY CONTACT (NORMALLY OPEN)
	RELAY CONTACT (NORMALLY CLOSED)
N.O.T.C.	TIMER CONTACT - NORMAL OPEN, TIME CLOSE
N.C.T.O.	TIMER CONTACT - NORMAL CLOSE, TIME OPEN
N.O.T.O.	TIMER CONTACT - NORMAL OPEN, TIME OPEN
N.C.T.C.	TIMER CONTACT - NORMAL CLOSE, TIME CLOSE
K	KEY INTERLOCK
	THERMAL OVERLOAD PROTECTION
	BATTERY
	AUTOTRANSFORMER
	DOUBLE THROW SWITCH OR TRANSFER SWITCH
	FLOAT SWITCH (NORMALLY CLOSED)
	THERMOSTATIC SWITCH
	PRESSURE SWITCH
	LIMIT SWITCH OR TORQUE SWITCH
	DOT INDICATES CONNECTION OF WIRES
1 2	TERMINALS FOR WIRE CONNECTIONS FROM REMOTE DEVICE

GENERAL NOTES:

1. THE MINIMUM STANDARD FOR ALL WORK SHALL BE THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE WITH IN STATE AMENDMENTS AND THE NATIONAL ELECTRICAL CODE (NEC).
2. ALL ELECTRICAL WORK SHALL BE PERFORMED BY AN IN-STATE LICENSED ELECTRICIAN.
3. ALL PERMITS NEEDED TO LEGALLY PERFORM THE ELECTRICAL WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO START OF WORK. COST OF PERMITTING IS BY THE CONTRACTOR.
4. AT COMPLETION OF THE WORK, A CERTIFICATE OF COMPLIANCE FROM THE LOCAL AHJ OVER THE ELECTRICAL WORK SHALL BE PROVIDED TO THE ENGINEER AND OWNER. COST OF ELECTRICAL INSPECTION IS BY THE CONTRACTOR.
5. ALL MATERIALS USED IN THE PROJECT GENERALLY SHALL BE NEW AND UNUSED, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL NEW MATERIALS SHALL BE LISTED AND LABELED BY UL OR OTHER ACCEPTABLE LISTING AGENCY, WHERE A LISTING EXISTS.
6. THE CONTRACTOR SHALL VISIT THE SITE(S) PRIOR TO BIDDING TO FAMILIARIZE THEMSELVES WITH PROJECT REQUIREMENTS AND EXISTING CONDITIONS.
7. FIRESTOP ALL NEW CONDUIT INSTALLED THROUGH EXISTING OR NEW FIRE RATED ASSEMBLIES.
8. SHOP DRAWINGS SHALL BE SUBMITTED ON ALL ELECTRICAL MATERIALS AND EQUIPMENT FOR ACCEPTANCE PRIOR TO PURCHASE BY THE CONTRACTOR.
9. WHEN AN ITEM DEMOLISHED IS REMOVED, REMOVE ALL CONCRETE PADS, FASTENERS, CONDUIT AND WIRING. SCARIFY SURFACE AND RESTORE TO MATCH EXISTING SURROUNDING SURFACE, INCLUDING PAINTING TO MATCH.
10. ALL NEW WIRING SHALL BE ENCLOSED IN AN APPROVED RACEWAY SYSTEM. OPEN WIRING IS PROHIBITED.
11. CIRCUIT BREAKERS USED FOR HVAC EQUIPMENT LOADS SHALL BE HACR TYPE.
12. ENSURE DEDICATED ELECTRICAL SPACE IS PROVIDED AT ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC ARTICLE 110.26.
13. UP TO 3 CIRCUITS MAY BE COMBINED IN ONE CONDUIT, AS LONG AS NEC DERATING RULES ARE FOLLOWED.
14. ALL CIRCUITS SHALL HAVE A DEDICATED NEUTRAL. SHARED NEUTRALS AND MULTI-WIRE CIRCUITS ARE NOT TO BE USED EXCEPT POSSIBLY TO COORDINATE WITH SYSTEMS FURNITURE. SEE POWER PLAN.
15. 120 VOLT CIRCUITS THAT EXCEED 75 LINEAR CIRCUIT FEET SHALL BE INCREASED TO #10 AWG AS A GENERAL RULE. OTHER CIRCUITS WILL BE DESIGNED SPECIFICALLY WITH VOLTAGE DROP CONSIDERED IN CONDUCTOR SIZING.
16. COORDINATE ALL MOTOR STARTERS, FEEDERS AND DISCONNECT SWITCHES FOR HVAC AND OTHER UTILIZATION EQUIPMENT ACTUALLY PROVIDED IN ACCEPTED SHOP DRAWINGS.
17. IN ORDER TO COMPLY WITH OSHA REQUIREMENTS, NO OPERATOR DEVICE OF ANY PANEL OR DISCONNECT OR MOTOR CONTROL SHALL BE HIGHER THAN 6'-6" AFF.
18. PROVIDE AN EXTERIOR RATED SERVICE RECEPTACLE WITHIN 25 FEET HORIZONTALLY OF ANY EXTERIOR OR ROOFTOP HVAC OUTDOOR UNIT (HEATING OR AIR CONDITIONING ONLY).
19. INSTALL A NYLON PULLSTRING IN ALL SPARE CONDUITS, ACCESSIBLE AT BOTH ENDS. CAP OFF SPARE CONDUITS ON BOTH ENDS.
20. DEVICE PLATES SHALL BE INSTALLED PLUMB. JUMBO OR OVERSIZED PLATES SHALL NOT BE USED.
21. NEW RECEPTACLES SHALL BE INSTALLED WITH GROUND PIN ORIENTATION TO MATCH EXISTING. IN NEW CONSTRUCTION, GROUND PIN DOWN ABOVE COUNTERS OR WORK BENCHES AND UP FOR LOW WALL MOUNTED DEVICES.
22. AT COMPLETION OF PROJECT, ALL ELECTRICAL, TELECOMMUNICATIONS, AND ELECTRONIC SAFETY SYSTEMS SHALL BE FULLY OPERATIONAL.
23. EGRESS LUMINAIRES AND EXIT SIGNS REQUIRE UNSWITCHED LIGHTING CONDUCTOR.
24. SUPPORT ALL LUMINAIRES FROM THE STRUCTURE, NOT FROM THE SUSPENDED CEILING GRID. ALSO ATTACH THE LUMINAIRES TO THE GRID SYSTEM USING EARTHQUAKE CLIPS (SIMILAR TO ERICO/CADDY FASTENERS OR T&B/STEEL CITY).
25. WHERE DUPLEX RECEPTACLES ARE INDICATED GENERALLY BACK TO BACK ON OPPOSITE SIDES OF A PARTY WALL, THE RECEPTACLES SHALL NOT BE INSTALLED IN THE SAME STUD SPACE, BUT SHALL BE SEPARATED BY AT LEAST ONE STUD SPACE.
26. PROVIDE LABEL WITH ESTIMATED FAULT CURRENT AND DATE CALCULATED ON THE MAIN SERVICE DISCONNECT ENCLOSURE. PROVIDE COORDINATION STUDY AND ARC FLASH STUDY, AND APPLY JOB SPECIFIC ARC FLASH HAZARD WARNING LABELS ON ALL SWITCHBOARDS, SWITCHGEAR, MCC'S AND PANELBOARDS.
27. CIRCUIT BREAKERS, 1200 AMPERE OR LARGER, SHALL COMPLY WITH NEC ARTICLE 240.87, ARC ENERGY REDUCTION.

PATRICK J. BAISDEN
22412
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/14/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 0524T-01

CLIENT PROJECT NO. RFP 70-2025

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STANDARD ELECTRICAL SYMBOLS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE	BY
1	8/14/25	PJB

ADD ESSENTIAL ELEVATOR POWER

SCALE CHECK: 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: E-001 02

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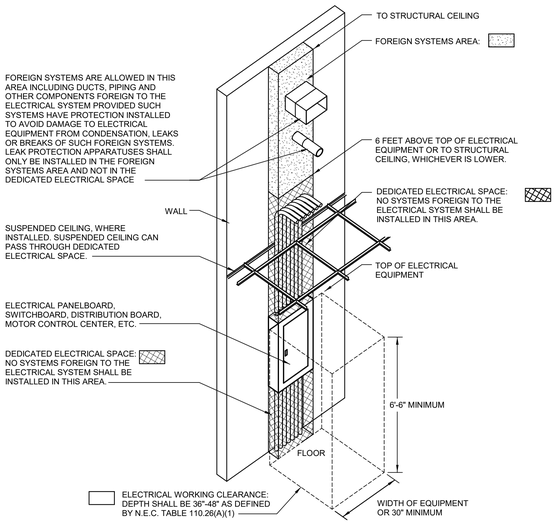
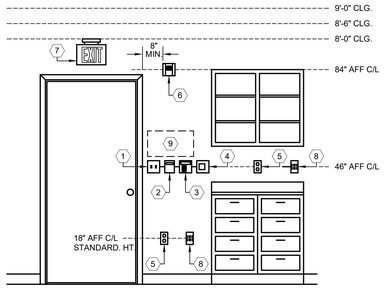


1 DEDICATED ELECTRICAL SPACE DETAIL

NOT TO SCALE



SHEET KEYNOTES:

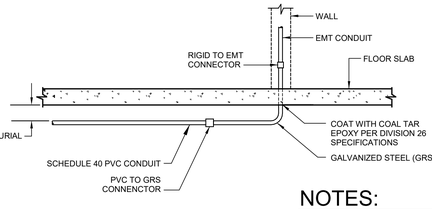
1. MOUNT EDGE OF LIGHTING CONTROL DEVICES CLOSEST TO DOOR AT A DISTANCE OF TWO INCHES FROM THE EDGE OF THE FACE PLATE TO THE DOOR FRAME INCLUDING ALL APPLIED TRIM UNLESS OTHERWISE NOTED. MOUNT REMAINING DEVICES IN THE FOLLOWING ORDER:

   A. FIRE ALARM INITIATION DEVICES.
   B. SECURITY/ACCESS CONTROL DEVICES.
   C. HVAC THERMOSTAT/HUMIDISTAT DEVICES.
   D. OTHER DEVICES.

   MOUNT THE EDGE OF DEVICE OR DEVICE FACE PLATES TWO INCHES APART. PROVIDE BLOCKING AS NECESSARY IN THE WALL OR PROVIDE MANUFACTURED SUPPORTS SIMILAR TO CADDY "RB" SERIES OR EQUAL. ALL DEVICES TO BE MOUNTED WITH CENTER LINE AT HEIGHT INDICATED.
2. FIRE ALARM INITIATING DEVICE.
3. SECURITY/ACCESS CONTROL KEYPAD.
4. HVAC THERMOSTAT/HUMIDISTAT CONTROL DEVICE.
5. ABOVE COUNTER ELECTRICAL/COMMUNICATIONS DEVICE, COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL INTERIOR ELEVATIONS. SHOWN AT TYPICAL HEIGHT.
6. FIRE ALARM NOTIFICATION APPLIANCE.
7. INSTALL WALL MOUNTED EXIT SIGNS WITH BOTTOM EDGE OF SIGN APPROXIMATELY FOUR INCHES FROM TOP OF DOOR FRAME.
8. COMMUNICATIONS OUTLET.
9. WHEN SIGNAGE WITH TACTILE CHARACTERS ARE TO BE INSTALLED, THE BOTTOM OF TACTILE SIGNAGE SHALL BE MOUNTED AT 50" AFF MINIMUM WITH THE TOP MOUNTED AT A MAXIMUM OF 60" AFF. PROVIDE A CLEAR SPACE OF 18" IN FRONT OF SIGNAGE. ALL OTHER PROVISIONS AND SPACINGS REQUIRED BY A.D.A. SHALL BE FOLLOWED.

2 DEVICE MOUNTING COORDINATION DETAIL

NOT TO SCALE

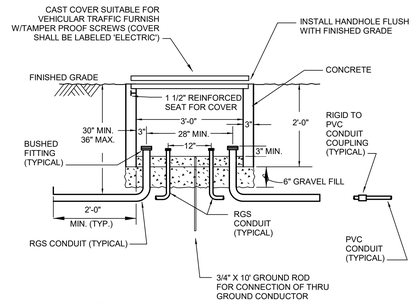


NOTES:

1. THIS DETAIL APPLIES TO ALL RISERS THROUGH SLAB ON GRADE, EITHER IN WALL OR EXPOSED.

3 THROUGH-SLAB CONDUIT DETAIL

NOT TO SCALE

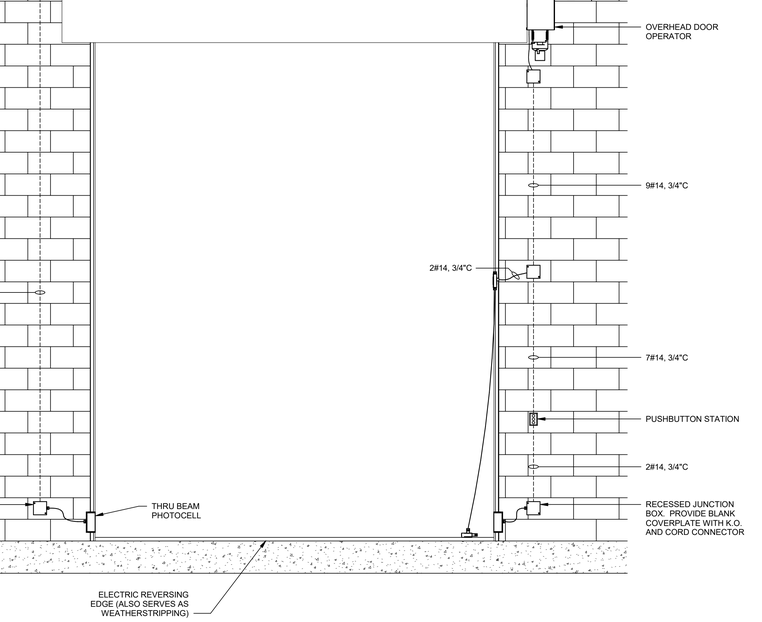


NOTES:

1. THIS DETAIL ALSO APPLIES FOR COMMUNICATIONS (SIGNAL WIRING) WHERE SHOWN ON DRAWINGS. COVER SHALL BE LABELED 'COMMUNICATIONS' WHERE UTILIZED FOR SIGNAL WIRING.
2. DIMENSIONS ARE FOR REFERENCE ONLY. PULL BOXES SHALL BE SIZED PER NEC.

4 ELECTRICAL HANDHOLE DETAIL

NOT TO SCALE

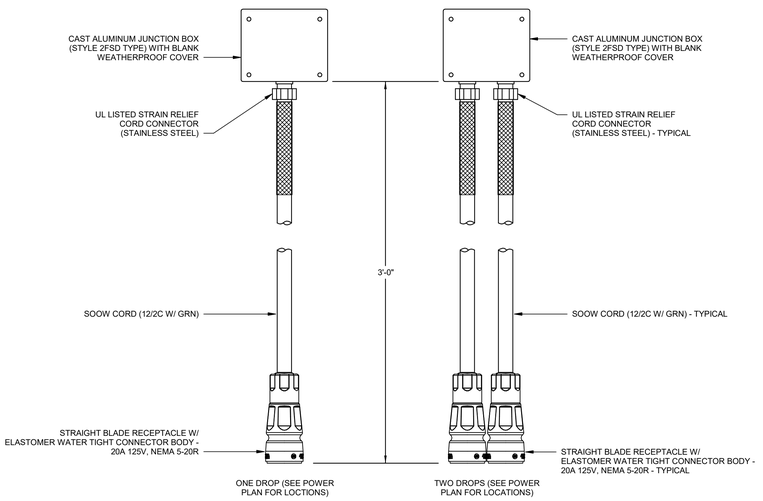


NOTES:

1. FIELD WIRING IS REQUIRED FROM DOOR OPERATOR PANEL FOR THE FOLLOWING:
   - 2#14 FOR SENSING EDGE SWITCH
   - 5#14 FOR PUSHBUTTON STATION
   - 2#14 FOR EACH PHOTOEYE SNESOR
2. ALL WIRING SHALL BE IN CONDUIT.
3. CONTRACTOR SHALL VERIFY EXACT FIELD WIRING REQUIREMENTS WITH ARCHITECT / ENGINEER APPROVED SHOP DRAWINGS.

5 FIELD CONNECTIONS - COILING DOOR

NOT TO SCALE



6 BLOCK HEATER RECEPTACLE(S)

NOT TO SCALE

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STATE OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL DETAILS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: E-501 02

BRANCH PANEL: SR1

LOCATION: PS STORAGE B 102
SUPPLY FROM: PANELBOARD VL1 (SHEET E-601 03)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:
1. PROVIDE GFCI TYPE CIRCUIT BREAKER

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	EF-2	15 A	1	2#12, 1#12 GND, 3/4"C	328 VA	750 VA					2#8, 1#8 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	2
3	RECEPTACLES	20 A	1	2#12, 1#12 GND, 3/4"C			900 VA	1127 VA			2#12, 1#12 GND, 3/4"C	1	20 A	OVHD: RM 101	4
5	LIGHTING	20 A	1	2#12, 1#12 GND, 3/4"C					575 VA	800 VA	2#12, 1#12 GND, 3/4"C	1	20 A	ACS: POWER SUPPLIES	6
7	BLOCK HEATER (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C	750 VA	1500 VA					2#8, 1#8 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	8
9	OVHD: RM 102	20 A	1	2#12, 1#12 GND, 3/4"C			1127 VA	1500 VA			2#10, 1#10 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	10
11	UH-2	45 A	2	2#8, 1#10 GND, 3/4"C					3750 VA	1500 VA	2#6, 1#6 GND, 1"C	1	20 A	BLOCK HEATER (NOTE 1)	12
13	--	--	--	--	3750 VA	1500 VA					2#10, 1#10 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	14
15	BLOCK HEATER (NOTE 1)	20 A	1	2#6, 1#6 GND, 1"C			1500 VA	1500 VA			2#8, 1#8 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	16
17	SPARE	20 A	1	--					0 VA	1500 VA	2#8, 1#8 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	18
19	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	20
21	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	22
23	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	24
25	SPACE ONLY	--	1	--	--	0 VA					--	1	20 A	SPARE	26
27	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	28
29	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	30
					8578 VA		7654 VA		8125 VA						
					72 A		64 A		68 A						

LEGEND:					
HVAC	328 VA	100.00%	328 VA		
Motor	2254 VA	112.50%	2536 VA		
Other	0 VA	0.00%	0 VA		
Receptacle	12900 VA	88.76%	11450 VA		
Power	8300 VA	100.00%	8300 VA		
Lighting	575 VA	100.00%	575 VA		

(PANELBOARD PROVIDED AS PART OF ADD ALTERNATE #1)

BRANCH PANEL: SR3

LOCATION: CANOPY
SUPPLY FROM: PANELBOARD VL1 (SHEET E-601 03)
MOUNTING: SURFACE
ENCLOSURE: NEMA 3R

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 60 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	LIGHTING: CANOPY	20 A	1	2#12, 1#12 GND, 3/4"C	172 VA	1000 VA					2#12, 1#12 GND, 3/4"C	1	20 A	BLOCK HEATER	2
3	BLOCK HEATER	20 A	1	2#12, 1#12 GND, 3/4"C			1000 VA	1000 VA			2#12, 1#12 GND, 3/4"C	1	20 A	BLOCK HEATER	4
5	BLOCK HEATER	20 A	1	2#12, 1#12 GND, 3/4"C					1000 VA	1000 VA	2#12, 1#12 GND, 3/4"C	1	20 A	BLOCK HEATER	6
7	BLOCK HEATER	20 A	1	2#12, 1#12 GND, 3/4"C	1000 VA	1000 VA					2#12, 1#12 GND, 3/4"C	1	20 A	BLOCK HEATER	8
9	BLOCK HEATER	20 A	1	2#12, 1#12 GND, 3/4"C			1000 VA	1000 VA			2#12, 1#12 GND, 3/4"C	1	20 A	BLOCK HEATER	10
11	BLOCK HEATER	20 A	1	2#12, 1#12 GND, 3/4"C					1000 VA	--	--	1	--	SPACE ONLY	12
13	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	14
15	SPARE	20 A	1	--			0 VA	0 VA			--	1	20 A	SPARE	16
17	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	18
					3172 VA		4000 VA		3000 VA						
					27 A		34 A		25 A						

LEGEND:					
Receptacle	10000 VA	100.00%	10000 VA		
Lighting	172 VA	100.00%	172 VA		

BRANCH PANEL: SR2

LOCATION: SM STORAGE E 105
SUPPLY FROM: PANELBOARD VL1 (SHEET E-601 03)
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

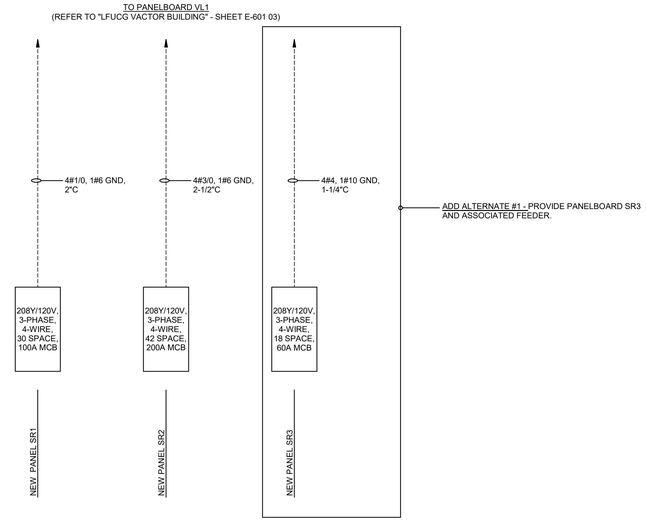
VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 225 A
MCB RATING: 200 A

NOTES:
1. PROVIDE GFCI TYPE CIRCUIT BREAKER

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	EF-1	15 A	1	2#12, 1#12 GND, 3/4"C	328 VA	714 VA					2#10, 1#10 GND, 3/4"C	1	20 A	LIGHTING: CANOPY	2
3	LIGHTING	20 A	1	2#12, 1#12 GND, 3/4"C			376 VA	500 VA			2#12, 1#12 GND, 3/4"C	1	20 A	TELECOMMUNICATIONS CABINET	4
5	RECEPTACLES: RM 103 & 104	20 A	1	2#12, 1#12 GND, 3/4"C					720 VA	750 VA	2#8, 1#8 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	6
7	UH-1	20 A	2	2#8, 1#10 GND, 3/4"C	3750 VA	750 VA					2#12, 1#12 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	8
9	--	--	--	--			3750 VA	750 VA			2#12, 1#12 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	10
11	ACS: POWER SUPPLIES	20 A	1	2#12, 1#12 GND, 3/4"C					800 VA	900 VA	2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES: RM 105 & 106	12
13	OVHD: RM 103	20 A	1	2#12, 1#12 GND, 3/4"C	1127 VA	1500 VA					2#6, 1#6 GND, 1"C	1	20 A	BLOCK HEATER (NOTE 1)	14
15	OVHD: RM 104	20 A	1	2#12, 1#12 GND, 3/4"C			1127 VA	1500 VA			2#6, 1#6 GND, 1"C	1	20 A	BLOCK HEATER (NOTE 1)	16
17	BLOCK HEATER (NOTE 1)	20 A	1	2#8, 1#8 GND, 3/4"C					750 VA	1127 VA	2#12, 1#12 GND, 3/4"C	1	20 A	OVHD: RM 106	18
19	BLOCK HEATER (NOTE 1)	20 A	1	2#6, 1#6 GND, 1"C	1500 VA	1500 VA					2#10, 1#10 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	20
21	BLOCK HEATER (NOTE 1)	20 A	1	2#8, 1#8 GND, 3/4"C			1500 VA	1500 VA			2#10, 1#10 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	22
23	BLOCK HEATER (NOTE 1)	20 A	1	2#8, 1#8 GND, 3/4"C					1500 VA	1500 VA	2#8, 1#8 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	24
25	BLOCK HEATER (NOTE 1)	20 A	1	2#6, 1#6 GND, 1"C	1500 VA	1500 VA					2#8, 1#8 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	26
27	BLOCK HEATER (NOTE 1)	20 A	1	2#6, 1#6 GND, 1"C			1500 VA	1500 VA			2#8, 1#8 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	28
29	BLOCK HEATER (NOTE 1)	20 A	1	2#8, 1#8 GND, 3/4"C					1500 VA	1500 VA	2#12, 1#12 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	30
31	BLOCK HEATER (NOTE 1)	20 A	1	2#10, 1#10 GND, 3/4"C	1500 VA	0 VA					--	1	20 A	SPARE	32
33	BLOCK HEATER (NOTE 1)	20 A	1	2#12, 1#12 GND, 3/4"C			1500 VA	0 VA			--	1	20 A	SPARE	34
35	BLOCK HEATER (NOTE 1)	20 A	1	2#6, 1#6 GND, 1"C					1500 VA	1500 VA	2#10, 1#10 GND, 3/4"C	1	20 A	BLOCK HEATER (NOTE 1)	36
37	SPARE	20 A	1	--	0 VA	0 VA					--	1	20 A	SPARE	38
39	SPARE	20 A	1	--			0 VA	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					15669 VA		15503 VA		14047 VA						
					132 A		131 A		117 A						

LEGEND:					
HVAC	328 VA	100.00%	328 VA		
Motor	3381 VA	108.33%	3663 VA		
Other	0 VA	0.00%	0 VA		
Receptacle	32120 VA	65.57%	21060 VA		
Power	8300 VA	100.00%	8300 VA		
Lighting	1090 VA	100.00%	1090 VA		



1 ELECTRICAL ONE-LINE DIAGRAM - EXTERIOR STRUCTURES
NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
22412
LICENSED PROFESSIONAL ENGINEER
8/15/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ELECTRICAL ONE-LINE DIAGRAM AND PANELBOARD SCHEDULES
LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DATE	BY
1	REVISION DESCRIPTION	

SCALE CHECK: 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: E-601 02

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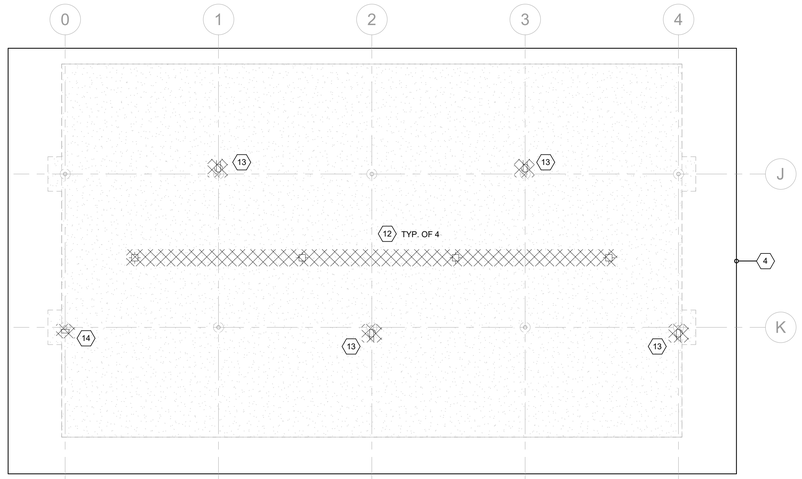

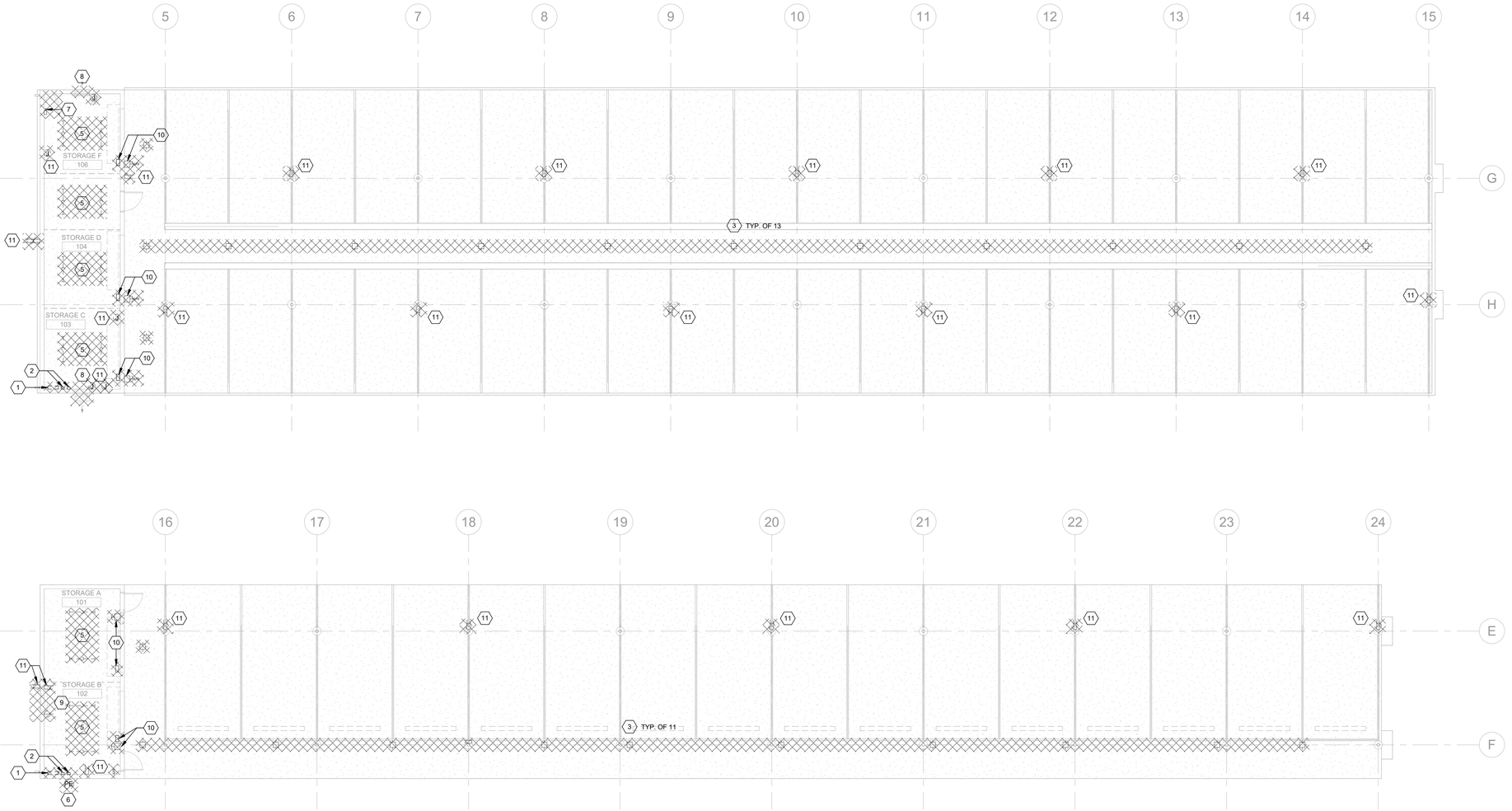

GENERAL NOTES:

1	AN EFFORT HAS BEEN MADE TO DOCUMENT MAJOR ELECTRICAL EQUIPMENT / DEVICES FOR REMOVAL; HOWEVER, CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE DEMOLITION AND PROPER DISPOSAL OF THE INDICATED PANELBOARDS, DISCONNECTS, LIGHTING, LIGHTING CONTROLS, ACCESS CONTROL DEVICES, INTRUSION DETECTION DEVICES, AND ELECTRICAL CONNECTIONS TO HVAC / PLUMBING EQUIPMENT WITHIN THE FACILITY.
2	CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS BEFORE DEMOLITION OF ANY WORK.
3	ALL DEMOLITION WORK SHALL BE COORDINATED WITH ALL OTHER WORK AND EXISTING CONDITIONS TO ASSURE PROPER REMOVAL OF EXISTING ELECTRICAL WORK.
4	WHERE CONDUIT HAS BEEN REMOVED THROUGH AN EXISTING FIRE RATED CONSTRUCTION, THE CONTRACTOR SHALL PROPERLY SEAL UNUSED PENETRATIONS TO MAINTAIN EXISTING FIRE RATINGS.
5	EXISTING CIRCUITS NOT REUSED SHALL BE REMOVED BACK TO THE ASSOCIATED ELECTRICAL PANEL.
6	WHERE DRAWINGS REFERENCE REMOVING CONDUIT / WIRING BACK TO SOURCE, THIS MEANS BACK TO THE LAST REMAINING DEVICE OR PANELBOARD. MAINTAIN ALL CONNECTIONS TO "DEVICES TO REMAIN", WHERE LOCATED "DOWNSTREAM" FROM THE REMOVED DEVICES (THIS SHALL BE FIELD VERIFIED).
7	REFER TO ARCHITECTURAL, MECHANICAL, AND PLUMBING DEMOLITION DRAWINGS (AD, MD, PD SHEETES) FOR PLUMBING AND HVAC EQUIPMENT THAT WILL BE REMOVED AND WILL REQUIRE DISCONNECTION.

SHEET KEYNOTES

1	REMOVE AND PROPERLY DISPOSE OF EXISTING BRANCH PANELBOARD.
2	REMOVE AND PROPERLY DISPOSE OF EXISTING LIGHTING CONTRACTOR AND TIME CLOCK. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
3	REMOVE AND PROPERLY DISPOSE OF EXISTING CANOPY LIGHTING. REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. EXISTING CONDUIT MAY BE REUSED TO SERVE NEW CANOPY LIGHTING.
4	AS PART OF BASE BID, THE EXISTING CANOPY SHALL BE DEMOLISHED, CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL ASSOCIATED ELECTRICAL EQUIPMENT/DEVICES.
5	REMOVE AND PROPERLY DISPOSE OF LUMINAIRES AND ASSOCIATED LIGHTING CONTROLS WITHIN THIS SPACE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
6	REMOVE AND PROPERLY DISPOSE OF EXISTING PHOTO EYE. REMOVE ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
7	DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF EXISTING DISCONNECT SWITCH AND ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
8	DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ASSOCIATED CONDUIT/WIRING BACK TO SOURCE.
9	DISCONNECT EXISTING HVAC UNIT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ASSOCIATED RECEPTACLE AND CONDUIT/WIRING BACK TO SOURCE.
10	DISCONNECT EXISTING OVERHEAD DOOR OPERATOR. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ASSOCIATED DISCONNECT, CONTROLS, AND CONDUIT/WIRING BACK TO SOURCE.
11	REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE (OR JUNCTION BOX). REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. EXISTING CONDUIT MAY BE REUSED TO SERVE NEW RECEPTACLES.
12	AS PART OF ADD ALTERNATE #1, REMOVE AND PROPERLY DISPOSE OF EXISTING CANOPY LIGHTING. REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. EXISTING CONDUIT MAY BE REUSED TO SERVE NEW CANOPY LIGHTING.
13	AS PART OF ADD ALTERNATE #1, REMOVE AND PROPERLY DISPOSE OF EXISTING RECEPTACLE (OR JUNCTION BOX). REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. EXISTING CONDUIT MAY BE REUSED TO SERVE NEW RECEPTACLES.
14	AS PART OF ADD ALTERNATE #1, REMOVE AND PROPERLY DISPOSE OF EXISTING LOAD CENTER. REMOVE ASSOCIATED CONDUCTORS BACK TO SOURCE. REMOVE EXPOSED CONDUIT NOT REUSED FOR NEW CANOPY LIGHTING OR RECEPTACLES.

AREA KEY PLAN

PLAN NORTH

1 FIRST LEVEL - DEMOLITION PLAN

SCALE: 1/8" = 1'-0"

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8/18/25

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FIRST LEVEL - DEMOLITION PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: ED101 02

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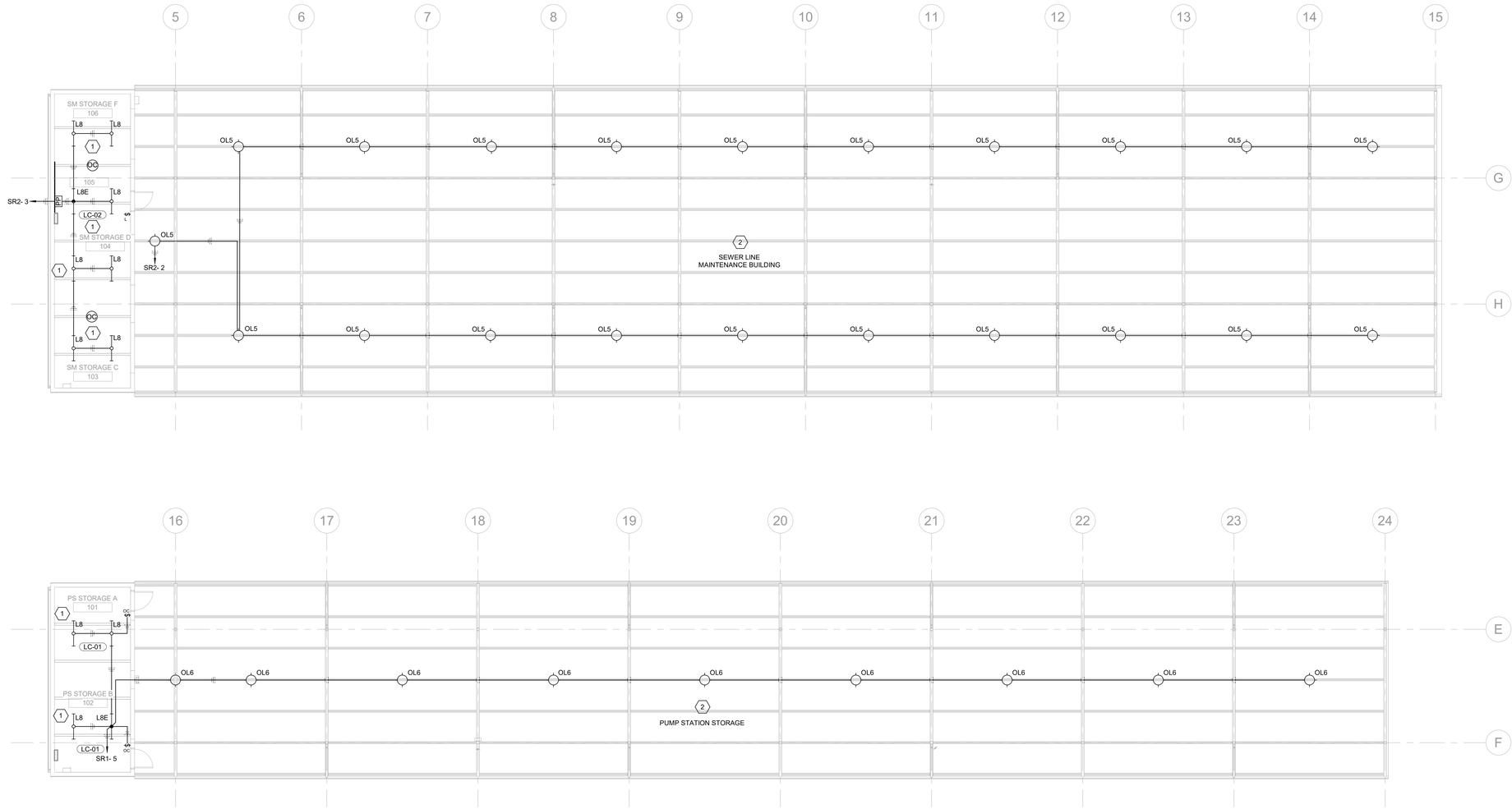

1 FIRST LEVEL - LIGHTING PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
3	LIGHTING CONTROL IS DESIGNATED WITH A CIRCULAR SYMBOL WITH "LC-#". REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501.
5	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.

SHEET KEYNOTES

1	MOUNT LUMINAIRES WITHIN THIS SPACE EVEN WITH BOTTOM OF STRUCTURE.
2	CANOPY LUMINAIRES SHALL BE SURFACE MOUNTED TO BOTTOM OF STRUCTURE.

AREA KEY PLAN

STATE OF KENTUCKY
PATRICK J. BAISDEN
22412
LICENSED PROFESSIONAL ENGINEER
8/15/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - LIGHTING PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO. EL101 02

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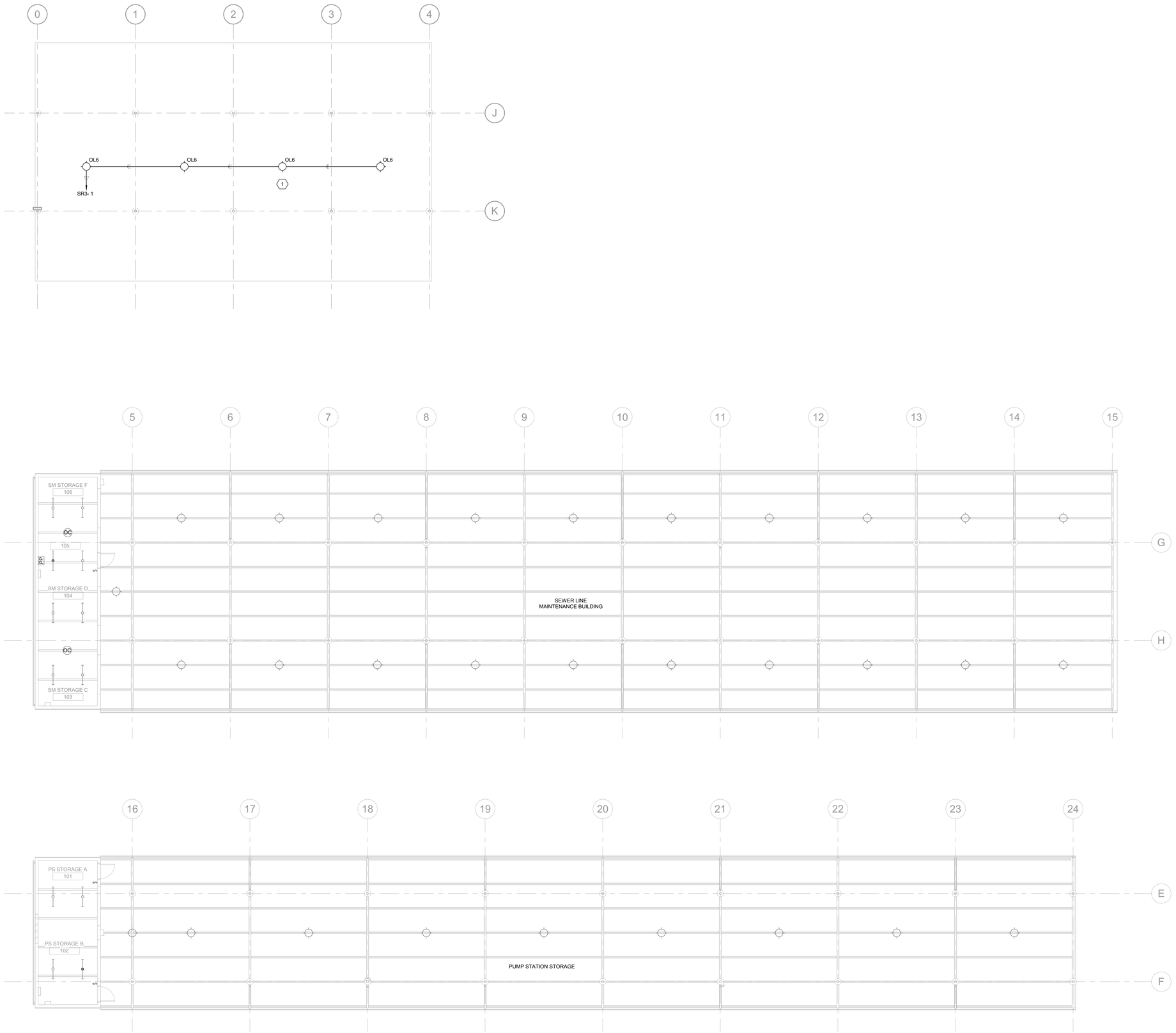

1 ADD ALTERNATE #1 - FIRST LEVEL - LIGHTING PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

ADD ALTERNATE #1:

1	ADD ALTERNATE #1 WILL REQUIRE THE WORK SHOWN ON THE BASE BID DRAWING (SHEET EL101) AND THE ADDITIONAL WORK SHOWN ON THIS SHEET FOR THE THIRD CANOPY.

GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
3	LIGHTING CONTROL IS DESIGNATED WITH A CIRCULAR SYMBOL WITH "LC-#". REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501.
5	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.

SHEET KEYNOTES

1	CANOPY LUMINAIRES SHALL BE SURFACE MOUNTED TO BOTTOM OF STRUCTURE.

AREA KEY PLAN

STATE OF KENTUCKY
PATRICK J. BAISDEN
22412
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ADD ALTERNATE #1 - FIRST LEVEL - LIGHTING PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO. EL102 02

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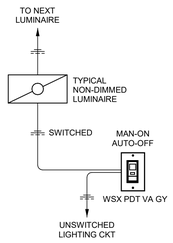
LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	COLOR TEMP	LAMP TYPE	LUMENS	WATTS	VOLTAGE	MOUNTING TYPE	MOUNTING HEIGHT	MANUFACTURER	MODEL NUMBER	EQUIVALENT MANUFACTURER
L8	4' LINEAR LED	4000 K	LED	7156	47 W	120 V	SURFACE	VARIOUS	LITHONIA LIGHTING	CLX L48 7000LM SEF FDL MVOLT 40K 80CRI WH	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
L8E	4' LINEAR LED WITH EMERGENCY BATTERY PACK	4000 K	LED	7156	47 W	120 V	SURFACE	VARIOUS	LITHONIA LIGHTING	CLX L48 7000LM SEF FDL MVOLT 40K 80CRI WH E10W	COLUMBIA, H.E. WILLIAMS OR APPROVED EQUIVALENT
OL5	LED SURFACE CANOPY LUMINAIRE	4000 K	LED	4891	34 W	120 V	SURFACE	VARIOUS	LITHONIA LIGHTING	VCPG LED V4 P2 40K 80CRI T5W MVOLT SRM NLTAIR2 PIR (NOTE 1 AND 2)	BEACON, IKIO OR APPROVED EQUIVALENT
OL6	LED SURFACE CANOPY LUMINAIRE	4000 K	LED	6205	43 W	120 V	SURFACE	VARIOUS	LITHONIA LIGHTING	VCPG LED V4 P3 40K 80CRI T5W MVOLT SRM NLTAIR2 PIR (NOTE 1 AND 2)	BEACON, IKIO OR APPROVED EQUIVALENT

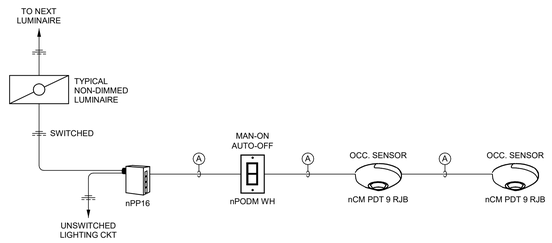
NOTES:

1. FINISH TO BE SELECTED BY OWNER/ARCHITECT DURING SHOP DRAWING PHASE.
2. INTEGRAL CONTROLS SHALL INCLUDE PHOTOCELL FOR ON/OFF CONTROL AND MOTION SENSOR FOR AUTOMATICALLY DIMMING. LIGHTING POWER SHALL DIM BY 30% WHEN NO ACTIVITY HAS BEEN DETECTED FOR A TIME NO LONGER THAN 15 MINUTES.



LC-01 WALL SWITCH VACANCY SENSOR

NOT TO SCALE



LC-02 SINGLE ENTRY ROOM - OCCUPANCY ONLY

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STATE OF KENTUCKY
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8/15/25

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CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

LUMINAIRE SCHEDULE AND LIGHTING CONTROL DETAILS

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO	DESCRIPTION	DATE

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

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SHEET NO. EL501 02

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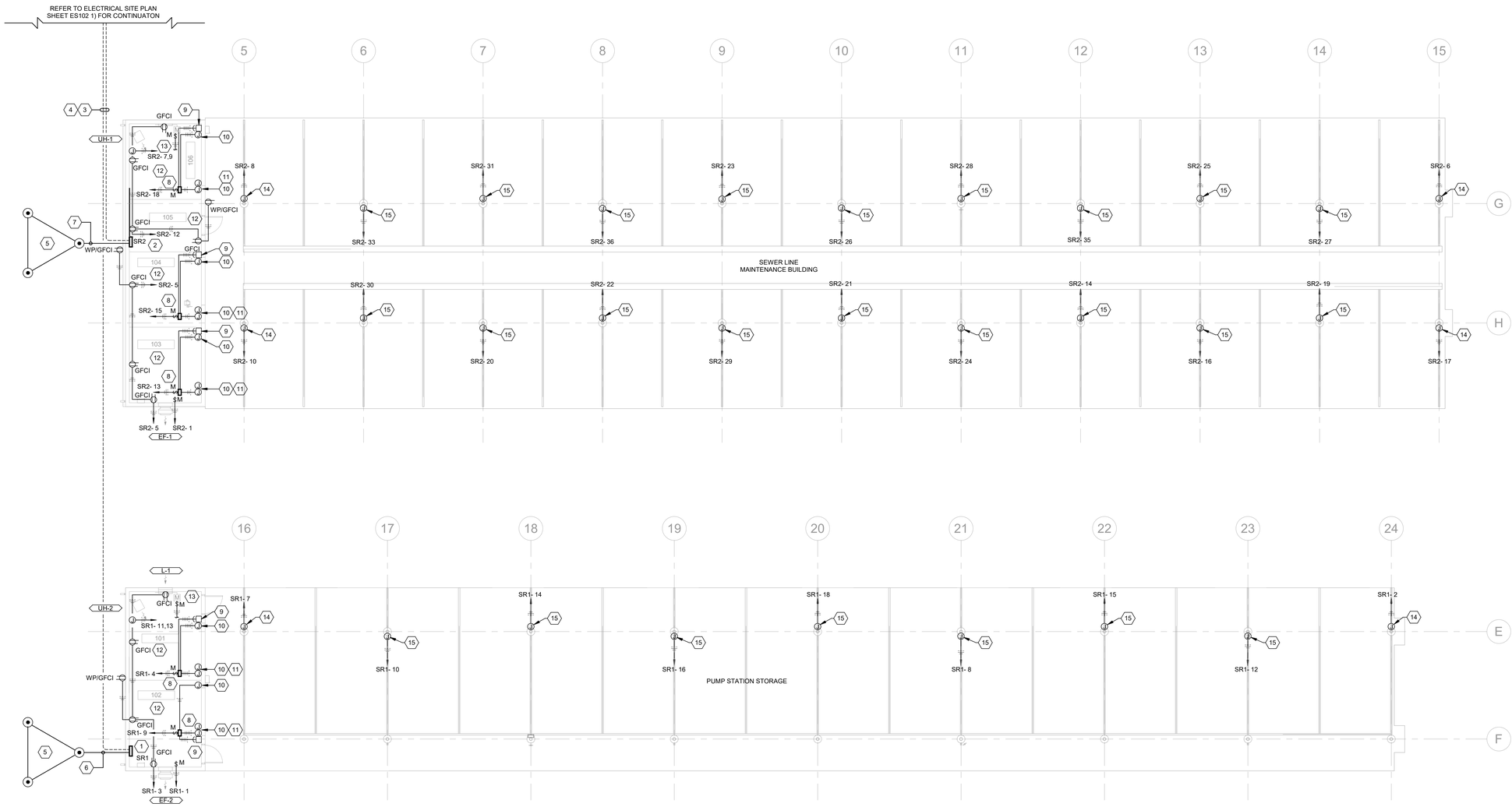

1 FIRST LEVEL - POWER PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
2	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
3	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

SHEET KEYNOTES

1	NEW BRANCH PANELBOARD SR1 (100A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
2	NEW BRANCH PANELBOARD SR2 (200A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
3	NEW BRANCH PANELBOARD SR1 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
4	NEW BRANCH PANELBOARD SR2 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
5	PROVIDE 3/4" X 10' COPPER GROUND RODS IN TRIAD CONFIGURATION, MINIMUM 10' APART.
6	BARE #6 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD SR1 TO GROUNDING TRIAD.
7	BARE #4 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD SR2 TO GROUNDING TRIAD.
8	PROVIDE MANUAL MOTOR STARTER FOR THE NEW OVERHEAD DOOR OPERATOR. PROVIDE CONNECTION TO OVERHEAD DOOR CONTROLLER, AS REQUIRED. COORDINATE WITH OVERHEAD DOOR INSTALLER. REFER TO FIELD CONNECTION DETAIL 5 ON SHEET E-501 FOR ADDITIONAL INFORMATION.
9	UP/DOWN/STOP PUSHBUTTON FOR OVERHEAD DOOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
10	PROVIDE CONNECTION TO OVERHEAD DOOR SAFETY BEAM PHOTO SENSOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
11	PROVIDE CONNECTION TO OVERHEAD DOOR SENSING EDGE. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
12	MOUNT RECEPTACLES WITHIN THIS SPACE AT 46"AFF.
13	ROUTE THE 120V CIRCUIT SERVING THE EXHAUST FAN THROUGH A N.O. CONTACT ON THE FACTORY MOUNTED DAMPER CONTROL TRANFORMER INTEGRAL TO THE ASSOCIATED EXHAUST FAN AND PROVIDE CONNECTION TO THE MOTORIZED DAMPER.
14	PROVIDE JUNCTION BOX MOUNTED ON COLUMN ABOVE CONCRETE BASE. PROVIDE ONE BLOCK HEATER RECEPTACLE DROP. REFER TO DETAIL 6, SHEET E-501.
15	PROVIDE JUNCTION BOX MOUNTED ON COLUMN ABOVE CONCRETE BASE. PROVIDE TWO BLOCK HEATER RECEPTACLE DROPS. REFER TO DETAIL 6, SHEET E-501.

AREA KEY PLAN

STATE OF KENTUCKY
PATRICK J. BAISDEN
24012
LICENSED PROFESSIONAL ENGINEER
8/18/25

GRW PROJECT NO. 05247-01

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FIRST LEVEL - POWER PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE
1	ADDENDUM #1	8/18/25

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: EP101 02

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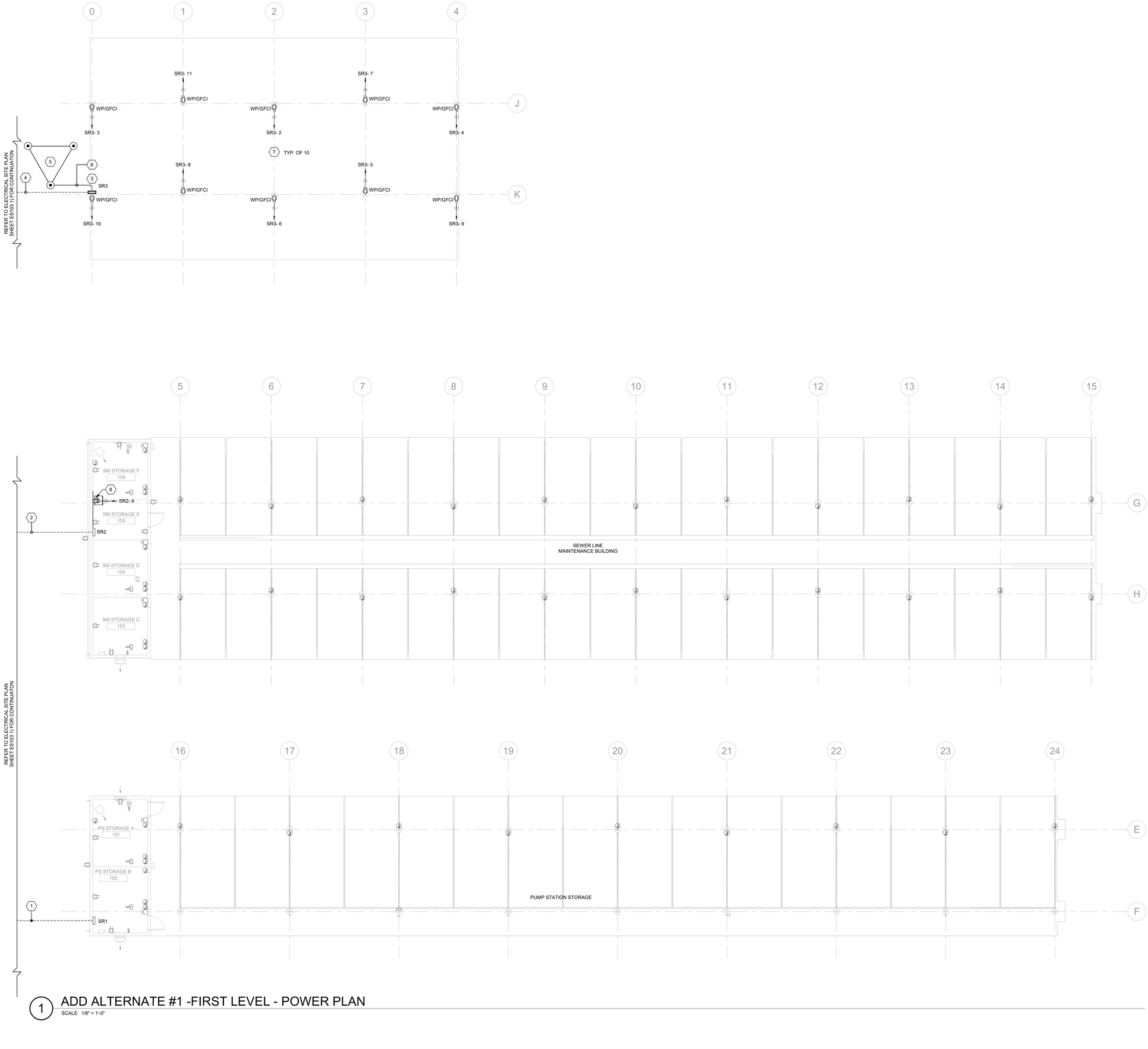

1 ADD ALTERNATE #1 -FIRST LEVEL - POWER PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

ADD ALTERNATE #1:

1	ADD ALTERNATE #1 WILL REQUIRE THE WORK SHOWN ON THE BASE BID DRAWING (SHEET EP101) AND THE ADDITIONAL WORK SHOWN ON THIS SHEET FOR THE THIRD CANOPY. THIS SHEET INCLUDES ALTERNATE ROUTING FOR PANELBOARD FEEDERS SR1 AND SR2.

GENERAL NOTES:

1	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
2	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
3	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

SHEET KEYNOTES

1	NEW BRANCH PANELBOARD SR1 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
2	NEW BRANCH PANELBOARD SR2 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
3	NEW BRANCH PANELBOARD SR3 (60A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
4	NEW BRANCH PANELBOARD SR3 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
5	PROVIDE 3/4" X 10' COPPER GROUND RODS IN TRIAD CONFIGURATION, MINIMUM 10' APART.
6	BARE #8 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD SR3 TO GROUNDING TRIAD.
7	MOUNT CANOPY RECEPTACLES ON COLUMN ABOVE CONCRETE BASE
8	MOUNT RECEPTACLE IN TELECOMMUNICATIONS CABINET.

AREA KEY PLAN

STATE OF KENTUCKY
PATRICK J. BAISDEN
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LICENSED PROFESSIONAL ENGINEER
8/15/25

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ADD ALTERNATE #1 - FIRST LEVEL - POWER PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO	DESCRIPTION	DATE	BY

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DATE: AUGUST 15, 2025
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SHEET NO. EP102 02

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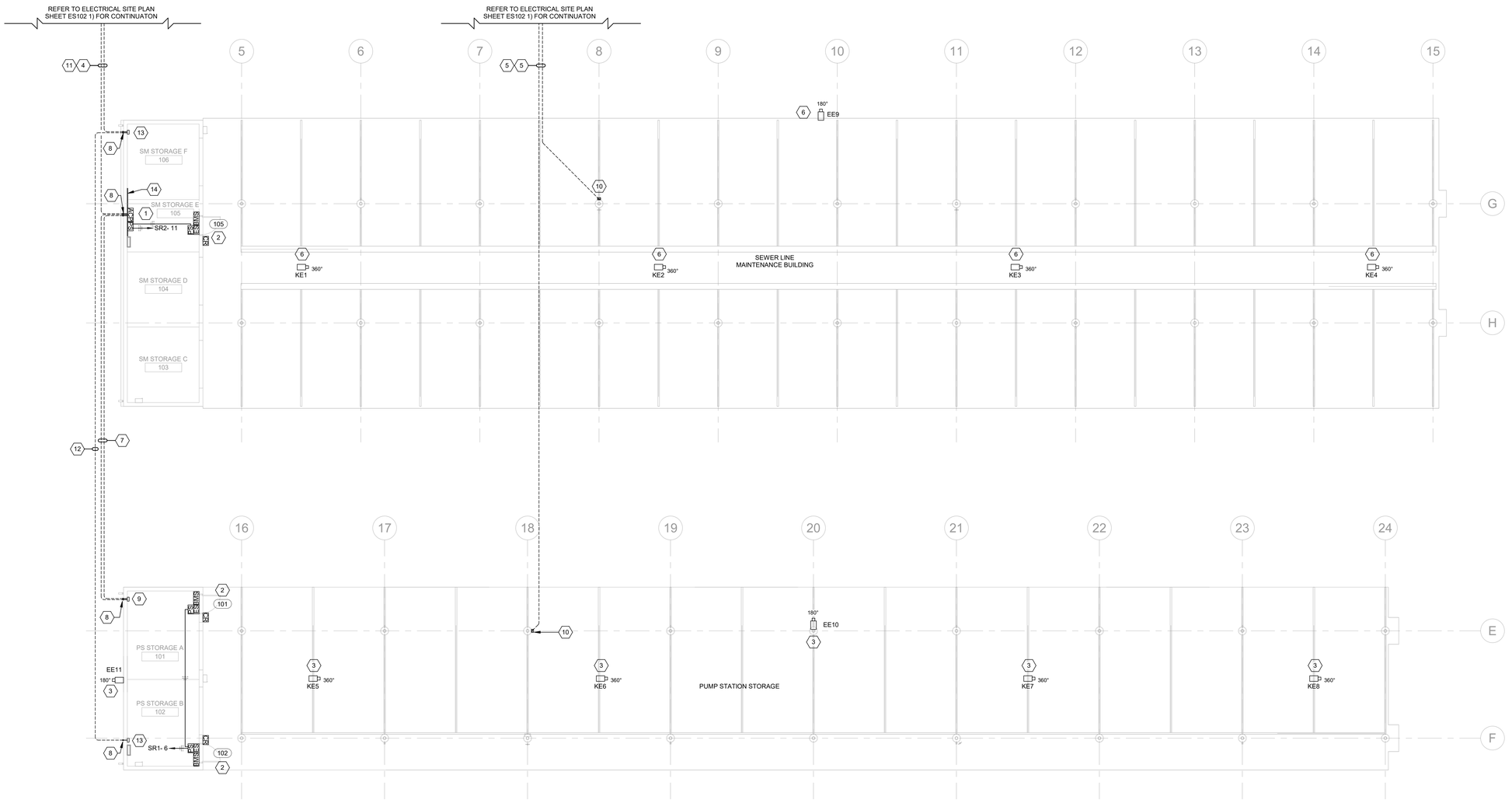

1 FIRST LEVEL - SECURITY PLAN

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	UNLESS OTHERWISE NOTED, SECURITY EQUIPMENT AND DEVICES WILL BE PROVIDED AS PART OF A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS, AND PATCH PANELS.
2	ALL ACCESS CONTROL SYSTEM AND VIDEO SURVEILLANCE SYSTEM CABLING SHALL BE INSTALLED IN CONDUIT.
3	REFER TO ACCESS CONTROL SYSTEM AND VIDEO SURVEILLANCE SYSTEM RISER DIAGRAMS ON SHEET EY601 AND EY602 FOR ADDITIONAL REQUIREMENTS.
4	COORDINATE WITH DOOR HARDWARE INSTALLER FOR ALL REQUIRED ACCESS CONTROL SYSTEM CONNECTIONS AND ROUGH-IN REQUIREMENTS.
5	LOCATE ALL EXISTING UNDERGROUND UTILITIES FOR UNDERGROUND WORK PRIOR TO EXCAVATION OR TRENCHING. HAND DIG WITHIN 10' OF UTILITY CROSSING.
6	MINIMUM BURY FOR SITE CONDUITS SHALL BE 24", UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR ALL SITE TRENCHING, BACKFILL, AND CONCRETE ENCASEMENT.

SHEET KEYNOTES

1	ACCESS CONTROL PANEL AND POWER SUPPLY.
2	SINGLE DOOR WITH ELECTRIC STRIKE. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 2, SHEET TY601.
3	PROVIDE CAT 6, 1"C FROM CAMERA LOCATION TO NEMA 4 ENCLOSURE AT COLUMN E18 AND EXTEND TO TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANF. STORAGE UNIT 102 - "LFUCG VACTOR BUILDING" - SHEET EY101 03).
4	PROVIDE CAT 6, 1" C FROM ACCESS CONTROL PANEL TO TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANF. STORAGE UNIT 102 - "LFUCG VACTOR BUILDING" - SHEET EY101 03).
5	PROVIDE 1-1/2"C FROM NEMA 4 ENCLOSURE AT STORAGE BUILDING TO TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MAN. STORAGE UNIT 102 - "LFUCG VACTOR BUILDING" - SHEET EY101 03). USE FOR CAT 6 CABLES ASSOCIATED WITH CAMERAS.
6	PROVIDE CAT 6, 1"C FROM CAMERA LOCATION TO NEMA 4 ENCLOSURE AT COLUMN G8 AND EXTEND TO TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANF. STORAGE UNIT 102 - "LFUCG VACTOR BUILDING" - SHEET EY101 03).
7	PROVIDE TWO (2) 1-1/2" CONDUITS FOR ACCESS CONTROL CABLING REQUIRED FROM PUMP STATION STORAGE TO ACCESS CONTROL PANEL (SM STORAGE E 105).
8	LB CONDUIT INTO BUILDING. PATCH/SEAL CONDUIT PENETRATION OF EXTERIOR WALL.
9	PROVIDE PULLBOX FOR ACCESS CONTROL CONDUITS.
10	PROVIDE NEMA 4 ENCLOSURE ON COLUMN FOR CAMERA CABLING.
11	PROVIDE 1-1/2" CONDUIT W/ PULL STRING FROM THE EXTERIOR STRUCTURES TO THE "LFUCG VACTOR BUILDING" (SHEET EY101 03) FOR BAS CABLING. CABLING BY THE CONTROLS CONTRACTOR
12	PROVIDE 1-1/2" CONDUIT W/ PULL STRING BETWEEN EXTERIOR STRUCTURES FOR BAS CABLING. CABLING BY THE CONTROLS CONTRACTOR.
13	PROVIDE PULLBOX FOR BAS CONDUIT.
14	TELECOMMUNICATIONS PLYWOOD BACKBOARD RIGIDLY ATTACHED TO WALL. PLYWOOD SHALL BE FIRE-RATED AND TIA/EIA APPROVED.

AREA KEY PLAN

STATE OF KENTUCKY
PATRICK J. BAISDEN
22412
LICENSED PROFESSIONAL ENGINEER
8/14/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - SECURITY PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
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DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: EY101 02

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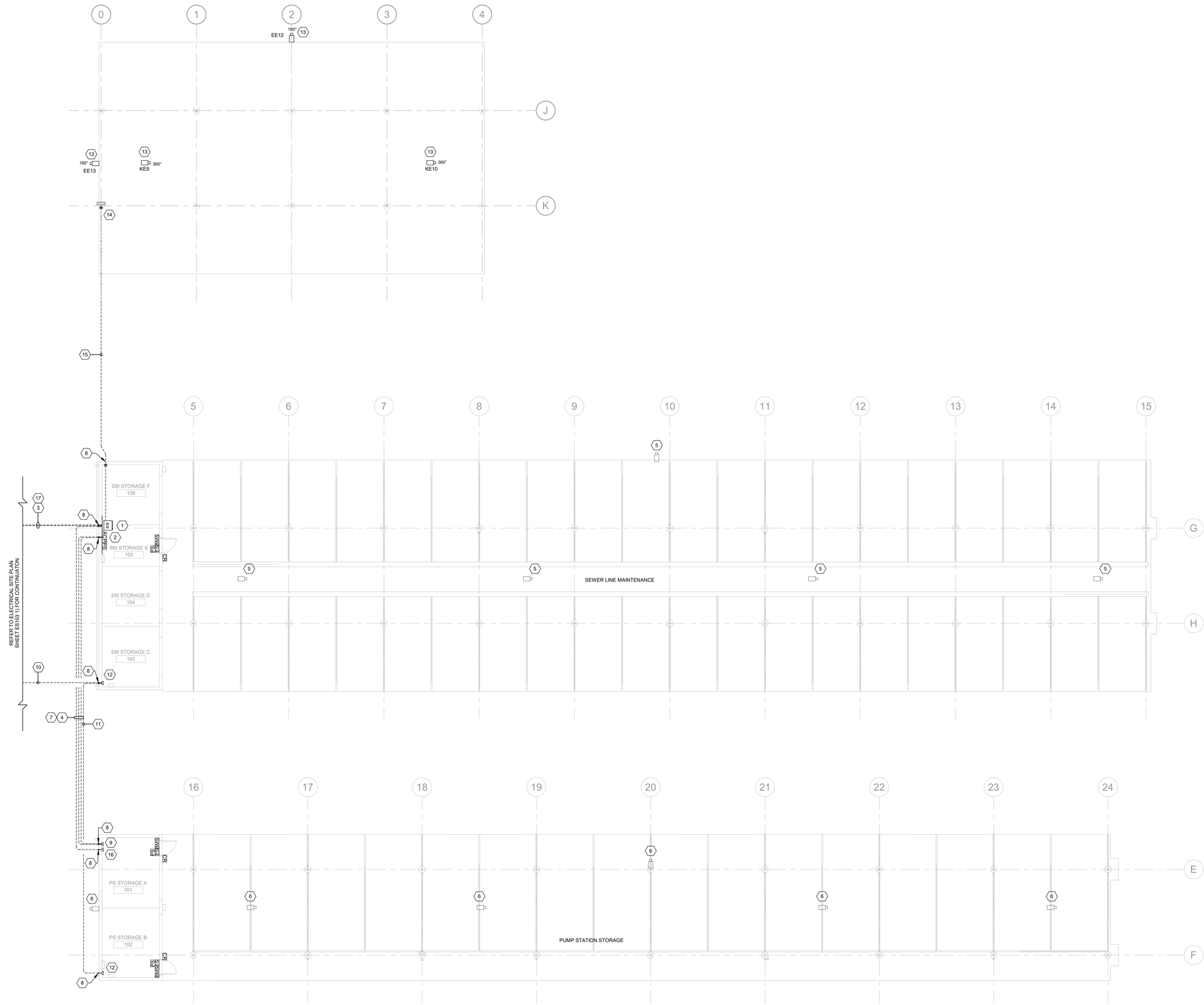

ADD ALTERNATE #1

1	ADD ALTERNATE #1 WILL REQUIRE THE WORK SHOWN ON THE BASE BID DRAWING (SHEET EY101) AND THE ADDITIONAL WORK SHOWN ON THIS SHEET FOR THE THIRD CANOPY. THIS SHEET INCLUDES UTILIZING OPTICAL FIBER TO A TELECOMMUNICATIONS EQUIPMENT CABINET (CAMERAS AND ACCESS CONTROL) AND ALTERNATE ROUTING OF BAS CONDUITS BACK TO THE "LFUCG VACTOR BUILDING".

GENERAL NOTES:

1	UNLESS OTHERWISE NOTED, SECURITY EQUIPMENT AND DEVICES WILL BE PROVIDED AS PART OF A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS, AND PATCH PANELS.
2	ALL ACCESS CONTROL SYSTEM AND VIDEO SURVEILLANCE SYSTEM CABLING SHALL BE INSTALLED IN CONDUIT.
3	REFER TO ACCESS CONTROL SYSTEM AND VIDEO SURVEILLANCE SYSTEM RISER DIAGRAMS ON SHEET EY601 AND EY602 FOR ADDITIONAL REQUIREMENTS.
4	COORDINATE WITH DOOR HARDWARE INSTALLER FOR ALL REQUIRED ACCESS CONTROL SYSTEM CONNECTIONS AND ROUGH-IN REQUIREMENTS.
5	LOCATE ALL EXISTING UNDERGROUND UTILITIES FOR UNDERGROUND WORK PRIOR TO EXCAVATION OR TRENCHING. HAND DIG WITHIN 10' OF UTILITY CROSSING.
6	MINIMUM BURY FOR SITE CONDUITS SHALL BE 24", UNLESS OTHERWISE NOTED. CONTRACTOR IS RESPONSIBLE FOR ALL SITE TRENCHING, BACKFILL, AND CONCRETE ENCASEMENT.

SHEET KEYNOTES

1	WALL-MOUNTED TELECOMMUNICATIONS EQUIPMENT CABINET. REFER TO SHEET EY603 AND DIVISION 27 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2	PROVIDE CAT 6, 1"C FROM ACCESS CONTROL PANEL TO TELECOMMUNICATIONS EQUIPMENT CABINET.
3	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET TO THE TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANF. STORAGE UNIT 102 - "LFUCG VACTOR BUILDING" - SHEET EY101 03).
4	PROVIDE 1-1/2"C FROM NEMA 4 ENCLOSURE IN PS STORAGE A 101 TO TELECOMMUNICATIONS EQUIPMENT CABINET (SM STORAGE E 105). USE FOR CAT 6 CABLES SERVING CAMERAS AT PUMP STATION STORAGE.
5	PROVIDE CAT 6, 1"C FROM CAMERA LOCATION TO TELECOMMUNICATIONS EQUIPMENT CABINET (SM STORAGE E 105).
6	PROVIDE CAT 6, 1"C FROM CAMERA LOCATION TO NEMA 4 ENCLOSURE IN PS STORAGE 101 AND EXTEND TO TELECOMMUNICATIONS EQUIPMENT CABINET (SM STORAGE E 105).
7	PROVIDE TWO (2) 1-1/2" CONDUITS FOR ACCESS CONTROL CABLING REQUIRED FROM PUMP STATION STORAGE TO ACCESS CONTROL PANEL (SM STORAGE E 105).
8	LB CONDUIT INTO BUILDING. PATCH/SEAL CONDUIT PENETRATION OF EXTERIOR WALL.
9	PROVIDE PULLBOX FOR ACCESS CONTROL CONDUITS.
10	PROVIDE 1-1/2" CONDUIT W/ PULL STRING FROM THE EXTERIOR STRUCTURES TO THE VACTOR BUILDING (SHEET EY102 03) FOR BAS CABLING. CABLING BY THE CONTROLS CONTRACTOR.
11	PROVIDE 1-1/2" CONDUIT W/ PULL STRING BETWEEN EXTERIOR STRUCTURES FOR BAS CABLING. CABLING BY THE CONTROLS CONTRACTOR.
12	PROVIDE PULLBOX FOR BAS CONDUIT.
13	PROVIDE CAT 6, 1"C FROM CAMERA LOCATION TO NEMA 4 ENCLOSURE AT COLUMN K9 AND EXTEND TO TELECOMMUNICATIONS EQUIPMENT CABINET (SM STORAGE E 105).
14	PROVIDE NEMA 4 ENCLOSURE ON COLUMN FOR CAMERA CABLING.
15	PROVIDE 1-1/2"C FROM NEMA 4 ENCLOSURE AT THE THIRD CANOPY STRUCTURE TO TELECOMMUNICATIONS EQUIPMENT CABINET (SM STORAGE E 105). USE FOR CAT 6 CABLES SERVING CAMERAS AT THIRD STRUCTURE.
16	PROVIDE NEMA 4 ENCLOSURE IN STORAGE ROOM FOR CAMERA CABLING.
17	PROVIDE #6 AWG (MIN.) GROUND FROM TMGB TO GROUNDING ELECTRODE CONDUCTOR (SHEET EP101 02).

AREA KEY PLAN

1 ADD ALTERNATE #1 - FIRST LEVEL - SECURITY PLAN
SCALE: 1/8" = 1'-0"

PATRICK J. BAISDEN 22012 LICENSED PROFESSIONAL ENGINEER STATE OF KENTUCKY 8/15/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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ADD ALTERNATE #1 - FIRST LEVEL - SECURITY PLAN
LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

SCALE CHECK | THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
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SHEET NO.: EY102 02

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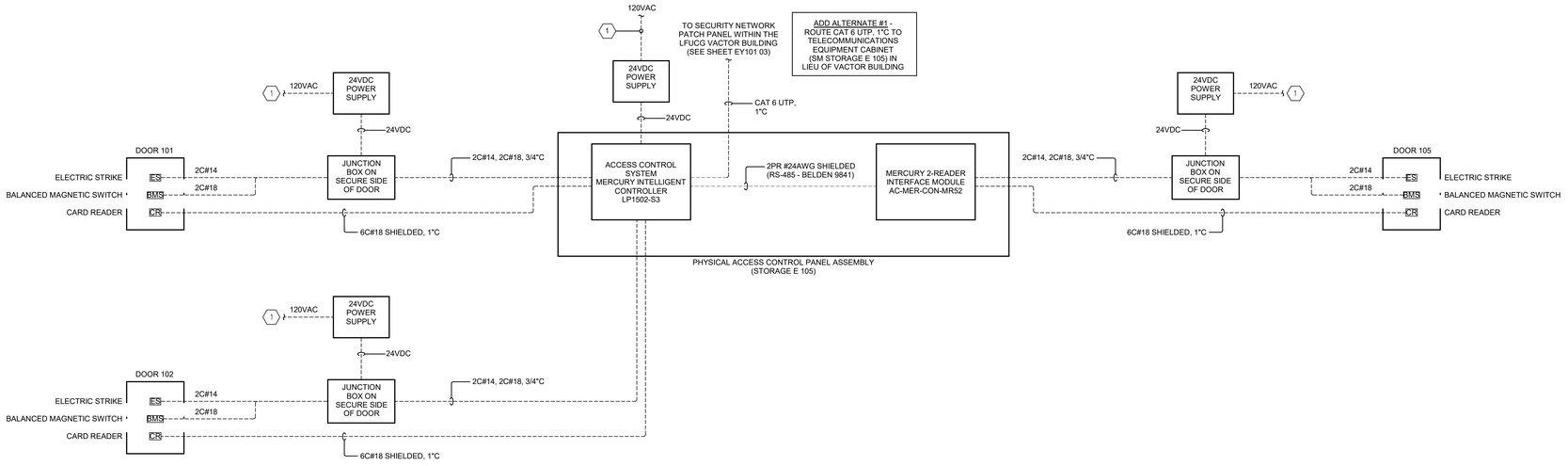
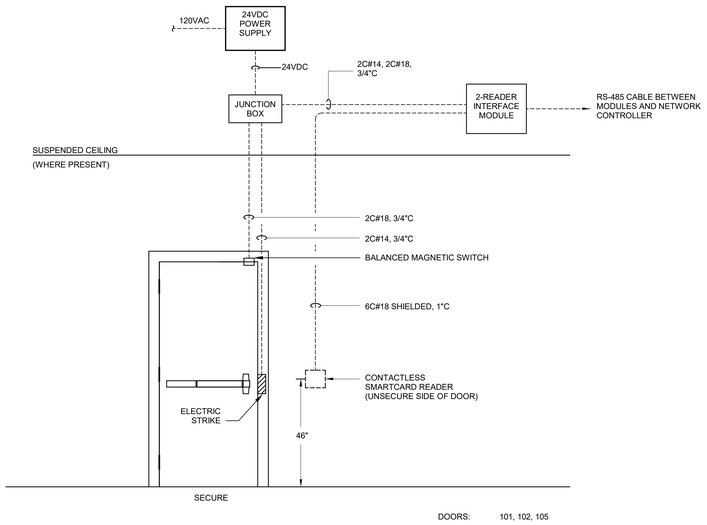


1 PHYSICAL ACCESS CONTROL SYSTEM RISER DIAGRAM - EXTERIOR STRUCTURES

NOT TO SCALE



2 TYPICAL SINGLE DOOR WITH ELECTRIC STRIKE DETAIL

NOT TO SCALE

GENERAL NOTES:

1. ACCESS CONTROL EQUIPMENT/DEVICES (ACCESS CONTROL PANELS, CARD READERS, BALANCED MAGNETIC SWITCHES, REX PUSHBUTTONS, REX MOTION SENSORS, AND ASSOCIATED POWER SUPPLIES) SHALL BE PROVIDED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE ACCESS CONTROL EQUIPMENT/DEVICES AND SHALL PROVIDE AND INSTALL ALL ASSOCAITED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
2. ACTUAL WIRING CONFIGURATION AND TYPE/SIZE OF CONDUCTORS SHALL BE AS RECOMMENDED BY THE ACS MANUFACTURER/SUPPLIER WITHIN MINIMUM REQUIREMENTS STATED IN SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH THE ACCESS CONTROL SYSTEM MANUFACTURER/SUPPLIER FOR REQUIREMENTS.
3. ACS COMPONENTS SHOWN CONSTITUTE THE TYPE, PRODUCT QUALITY, MATERIAL AND DESIRED OPERATING FEATURES REQUIRED. CONTRACTOR SHALL COORDINATE WITH THE ACCESS CONTROL SYSTEM MANUFACTURER/SUPPLIER FOR ANY ADDITIONAL REQUIREMENTS.
4. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION RELATING TO ELECTRIFIED DOOR HARDWARE. EXIT DEVICES, ELECTRIC LOCKS, LATCHBOLT/DOOR STATUS SWITCHES, POWER SUPPLIES, ETC. ARE FURNISHED AND INSTALLED BY THE DOOR HARDWARE CONTRACTOR. WIRING FROM ELECTRIFIED DOOR HARDWARE WILL BE INSTALLED COMPLETE TO JUNCTION BOX LOCATED ABOVE CEILING. CONTRACTOR SHALL PROVIDE ALL OTHER REQUIRED CONNECTIONS.
6. ACS MANUFACTURER/SUPPLIER SHALL INTEGRATE THE NEW ACS CONTROLLERS AND FIELD DEVICES INTO THE OWNER'S EXISTING SECURITY NETWORK AS REQUIRED FOR ALL MONITORING, CONTROLLING, PROGRAMMING AND SERVICE.
7. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
8. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. BASE BID - REFER TO TELECOMMUNICATIONS RISER DIAGRAM - VACTOR BUILDING, SHEET ET503.

SHEET KEYNOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR CIRCUIT INFORMATION.

PATRICK J. BAISDEN
22412
LICENSED PROFESSIONAL ENGINEER
8/15/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
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SECURITY RISER DIAGRAM I

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: EY601 02

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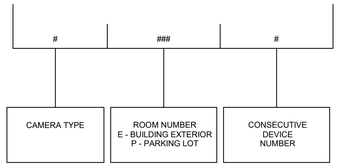


VIDEO SURVEILLANCE SYSTEM ADDRESS DESIGNATONS

GENERAL NOTES:

1. ETHERNET SWITCH AND CAMERAS SHALL BE PROVIDED AND INSTALLED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
2. ACTUAL WIRING CONFIGURATION AND TYPE/SIZE OF CABLING SHALL BE AS RECOMMENDED BY THE VASS MANUFACTURER/ SUPPLIER WITHIN MINIMUM REQUIREMENTS STATED IN SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH THE VASS MANUFACTURER/SUPPLIER FOR REQUIREMENTS.
3. VASS MANUFACTURER/SUPPLIER SHALL INTEGRAGE THE NEW VASS CAMERAS INTO THE OWNER'S EXISTING SECURITY NETWORK AS REQUIRED FOR MONITORING, CONTROLLING, PROGRAMMING, AND SERVICE.
4. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.

SEWER LINE MAINTENANCE BUILDING

- EE9 — 180-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND WALL BRACKET — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE1 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE2 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE3 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE4 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL

TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL WITHIN THE "LFUCG VACTOR BUILDING", SHEET EY 102 03. REFER TO "LFUCG VACTOR BUILDING" TELECOMMUNICATIONS RISER DIAGRAM - VACTOR BUILDING, SHEET ET501 03 FOR ADDITIONAL INFORMATION.

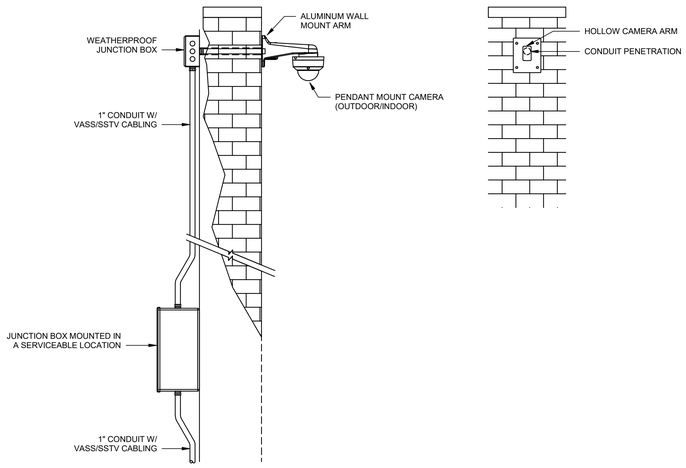
PUMP STATION STORAGE

TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL WITHIN THE "LFUCG VACTOR BUILDING", SHEET EY 102 03. REFER TO "LFUCG VACTOR BUILDING" TELECOMMUNICATIONS RISER DIAGRAM - VACTOR BUILDING, SHEET ET501 03 FOR ADDITIONAL INFORMATION.

- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — EE10 — 180-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND WALL BRACKET
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — EE11 — 180-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND WALL BRACKET
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — KE5 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — KE6 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — KE7 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — KE8 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX

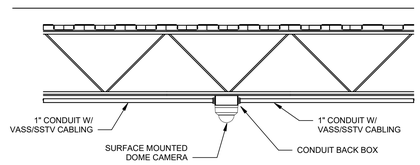
1 BASE BID - VIDEO SURVEILLANCE RISER DIAGRAM - EXTERIOR STRUCTURES

NOT TO SCALE



2 TYPICAL WALL-MOUNTED CAMERA (INDOOR/OUTDOOR)

NOT TO SCALE



3 SURFACE-MOUNTED CAMERA

SCALE: 12" = 1'-0"

STATE OF KENTUCKY — PATRICK J. BAISDEN — 22012 — LICENSED PROFESSIONAL ENGINEER — 8/15/25

CONSTRUCTION DOCUMENTS

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CLIENT PROJECT NO. RFP 70-2025

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SECURITY RISER DIAGRAM II

LFUCG EXTERIOR STRUCTURES

134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE (CHECK) — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

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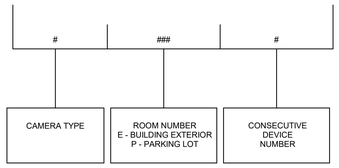
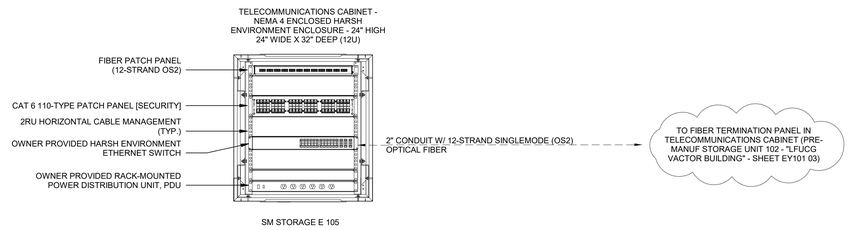


VIDEO SURVEILLANCE SYSTEM ADDRESS DESIGNATONS



SM STORAGE E 105

GENERAL NOTES:

1. ETHERNET SWITCH AND CAMERAS SHALL BE PROVIDED AND INSTALLED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
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5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.

SEWER LINE MAINTENANCE BUILDING

- EE9 — 180-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND WALL BRACKET — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE1 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE2 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE3 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE4 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL

THIRD CANOPY

- EE12 — 180-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND WALL BRACKET — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- EE13 — 180-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND WALL BRACKET — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE9 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL
- KE10 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX — CAT 6 UTP CABLE IN 1"C TO PATCH PANEL

PUMP STATION STORAGE

- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — EE10 — 180-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND WALL BRACKET
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — EE11 — 180-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND WALL BRACKET
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — KE5 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — KE6 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — KE7 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX
- CAT 6 UTP CABLE IN 1"C TO PATCH PANEL — KE8 — 360-DEGREE EXTERIOR / VANDAL RESISTANT CAMERA WITH BUILT-IN ANALYTICS AND SURFACE-MOUNT BACKBOX

1 ADD ALTERNATE #1- VIDEO SURVEILLANCE RISER DIAGRAM - EXTERIOR STRUCTURES

NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
22412
LICENSED PROFESSIONAL ENGINEER
8/15/25

CONSTRUCTION DOCUMENTS

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ADD ALTERNATE #1 - SECURITY RISER DIAGRAM

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE

0" 1" SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO.: EY603 02

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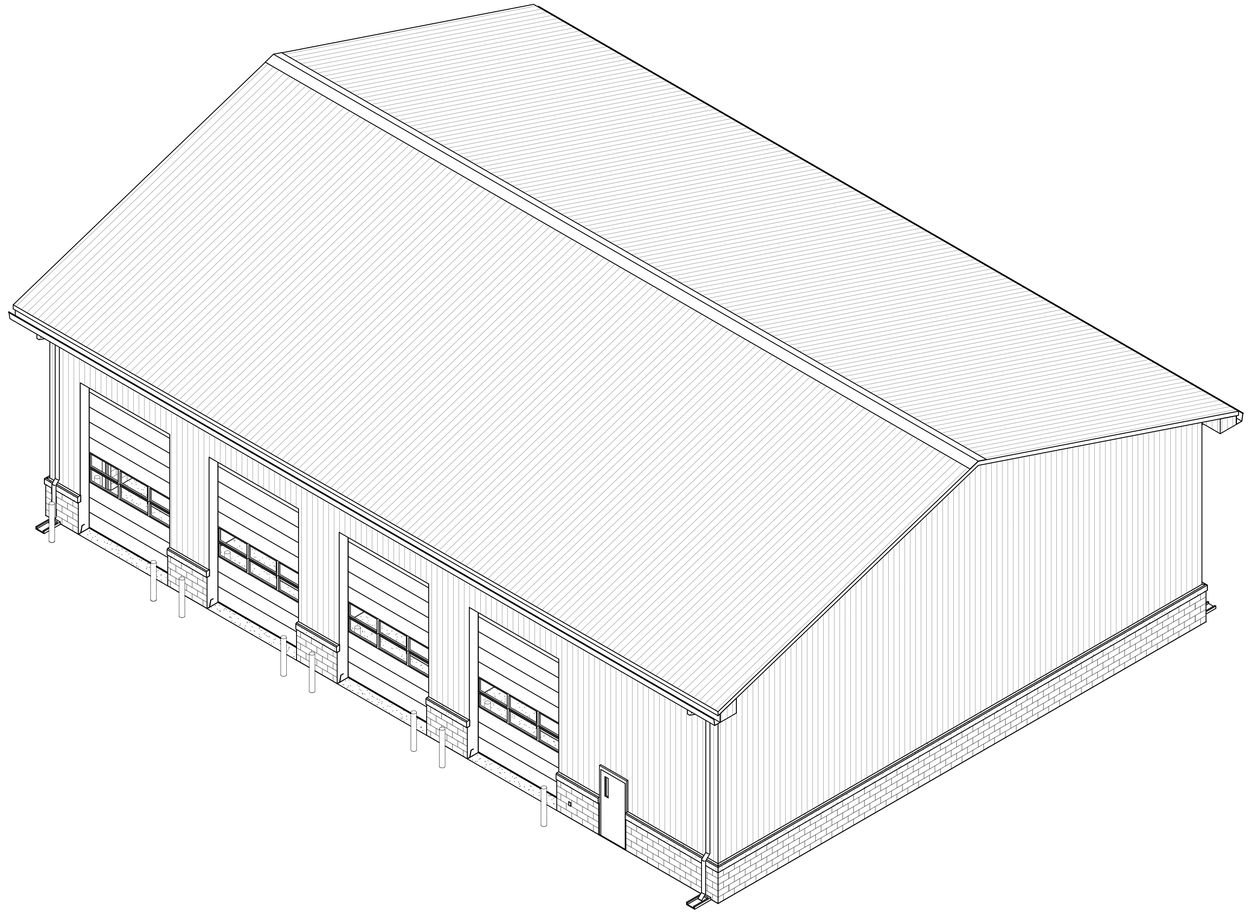
CONSTRUCTION DOCUMENTS

LFUCG VACTOR BUILDING

134 WEST NEW CIRCLE ROAD

AUGUST 15, 2025



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GRW PROJECT NO. 05247-01

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DRAWING SHEET INDEX

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GI002	DRAWINIG INDEX	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No					1	1
GI003	PROJECT DATA	AUGUST 15, 2025	DRV	DRV	DRV	DRV		No					1	1
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S-001	STRUCTURAL GENERAL NOTES	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					7	1
S-002	TYPICAL DETAILS	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					7	1
SB101	FOUNDATION PLAN	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					7	1
SE301	TRANSVERSE BUILDING SECTIONS	AUGUST 15, 2025	NEK	MWC	MWC	MWC		No					7	1
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P-001	PLUMBING LEGEND AND GENERAL NOTES	AUGUST 15, 2025	JC	CVS	CVS	CVS		No					12	1
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M-101	FIRST LEVEL - HVAC PLAN	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No					14.1	1
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M-701	MECHANICAL CONTROLS	AUGUST 15, 2025	SPB	CVS	CVS	CVS		No					14.1	1
E-001	STANDARD ELECTRICAL SYMBOLS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
E-501	ELECTRICAL DETAILS I	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
E-502	ELECTRICAL DETAILS II	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
E-601	ELECTRICAL ONE-LINE DIAGRAM AND PANELBOARD SCHEDULES	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
EL101	FIRST LEVEL - LIGHTING PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
EL501	LUMINAIRE SCHEDULE AND LIGHTING CONTROL DETAILS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
EP101	FIRST LEVEL - POWER PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
ET101	FIRST LEVEL - TELECOMMUNICATIONS PLAN	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
ET501	TELECOMMUNICATIONS DETAILS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
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EY601	SECURITY RISER DIAGRAMS	AUGUST 15, 2025	PJB	PJB	PJB	PJB		No					15	1
Grand total: 44														44

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH

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GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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DRAWINIG INDEX

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

SCALE: CHECK THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE:

SHEET NO. GI002 03

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DRAWING ABBREVIATIONS

A	----------
A LABEL	CLASS A DOOR
A/C	AIR CONDITION
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT/ENGINEER
AB	ANCHOR BOLT
ACC	ACCESSIBLE
ACS	AUTOMATIC CONTROL SYSTEM
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACT	ACOUSTICAL CEILING TILE
ADA	AMERICANS WITH DISABILITIES ACT
ADMIN	ADMINISTRATION
AFC	ABOVE FINISHED COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFS	ABOVE FINISHED SLAB
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
AIB	AIR INFILTRATION BARRIER
ALT	ALTERNATE
ALUM	ALUMINUM
ANOD	ANODIZE
APC	ACOUSTICAL PANEL CEILING
APPROX	APPROXIMATE
AR	AS REQUIRED
ARCH	ARCHITECT
ASC	ABOVE SUSPENDED CEILING
ASSY	ASSEMBLY
ATC	ACOUSTICAL TILE CEILING
AVG	AVERAGE
AW	ARCHITECTURAL WOODWORK
AWT	ACOUSTICAL WALL TREATMENT
B	----------
B LABEL	CLASS B DOOR
BALC	BALCONY
BB	BASEBOARD
BC	BOOKCASE
BD	BOARD
BDRY	BOUNDARY
BFF	BELOW FINISH FLOOR
BHMA	BUILDER'S HARDWARE MANUFACTURER'S ASSOCIATION
BLDG	BUILDING
BLKG	BLOCKING
BLT IN	BUILT-IN
BN	BULLNOSE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	BUILDING PAPER
BRKT	BRACKET
BSMT	BASEMENT
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
C	----------
C CONC	CAST CONCRETE
C LABEL	CLASS C DOOR
CAB	CABINET
CATW	CATWALK
CAV	CAVITY
CBIB	CEMENTITIOUS (BACKER) BOARD
CD	CONSTRUCTION DOCUMENTS
CDW	CHILLED DRINKING WATER
CEM PLAS	CEMENT PLASTER
CER	CERAMIC
CF	CONTRACTOR FURNISHED
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CFE	CONTRACTOR FURNISHED EQUIPMENT
CFLG	COUNTERFLASHING
CFM	CUBIC FEET PER MINUTE
CFMF	COLD-FORMED METAL FRAMING
CFS	CUBIC FEET PER SECOND
CG	CORNER GUARD
CI	CAST IRON
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLG DIFF	CEILING DIFFUSER
CLG HT	CEILING HEIGHT
CLL	COLUMN LINE
CLO	CLOSET
CLR	COLOR
CLRM	CLASSROOM
CMU	CONCRETE MASONRY UNIT
CNDS	CONDENSATE
CDR	CARD READER
CO	CLEANOUT
COL	COLUMN
COMM	COMMUNICATION
CONC	CONCRETE
CONC FLR	CONCRETE FLOOR
CONF	CONFERENCE
CONT	CONTINUE
COORD	COORDINATE
CORR	CORRIDOR
CP	CONCRETE PIPE
CPT	CARPET
CR	CONTROL ROOM
CS	CAST STONE
CSWK	CASEWORK
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTF	CERAMIC TILE FLOOR
CTR	CENTER
CU FT	CUBIC FEET
CW	CASEMENT WINDOW
D	----------
D	DEPTH
D LABEL	CLASS D DOOR
DBL	DOUBLE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIR	DIRECTION
DIST	DISTANCE
DOC	DOCUMENT
DR	DOOR
DS	DOWNSPOUT
E	----------
E LABEL	CLASS E DOOR
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
ES	EACH SIDE
EL	ELEVATION
ELEV	ELEVATOR
ENTR	ENTRANCE
EPS	EXPANDED POLYSTYRENE BOARD (INSULATION)
EQ	EQUAL
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED
EXT	EXTERIOR
EXT	EXTINGUISHER
EXT GR	EXTERIOR GRADE
GB	GRAB BAR
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT INSTALLED FURNISHED INSTALLED BY GOVERNMENT
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GLZ	GLAZING
GR FL	GROUND FLOOR
GUT	GUTTER
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER

H	----------
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HDWD	HARDWOOD
HEPA (FILTER)	HIGH EFFICIENCY PARTICULATE AIR
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HORIZ	HORIZONTAL
HT	HEIGHT
HYDR	HYDRAULIC
F	----------
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAS BD	FASCIA BOARD
FC BRK	FACE BRICK
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FED	FEDERAL
FF	FINISH FACE
FF EL	FINISH FLOOR ELEVATION
FF INSUL	FOIL BACKED INSULATION
FGL	FIBERGLASS
FH	FIRE HOSE
FHP	FULL HEIGHT PARTITION
FIN	FINISH
FIN BS	FINISH BOTH SIDES
FIN FLR	FINISH FLOOR
FIN GR	FINISH GRADE
FIXT	FIXTURE
FLDG	FOLDING
FLEX	FLEXIBLE
FLG	FLOORING
FLMT	FLUSH MOUNT
FLR	FLOOR
FM	FACTORY MUTUAL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FR	FIRE RESISTANT
FRG	FIBER REINFORCED GYPSUM
FRMG	FRAMING
FRP	FIBERGLASS REINFORCED PLASTIC
FRTW	FIRE RETARDANT TREATED WOOD
FS	FEDERAL SPECIFICATION
FSTNR	FASTENER
FT	FEET
FTG	FOOTING
FWC	FABRIC WALLCOVERING
G	----------
G	NATURAL GAS
GALV	GALVANIZED
GB	GRAB BAR
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT INSTALLED FURNISHED INSTALLED BY GOVERNMENT
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GLZ	GLAZING
GR FL	GROUND FLOOR
GUT	GUTTER
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTER
H	----------
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HDWD	HARDWOOD
HEPA (FILTER)	HIGH EFFICIENCY PARTICULATE AIR
HM	HOLLOW METAL
HMD	HOLLOW METAL DOOR
HORIZ	HORIZONTAL
HT	HEIGHT
HYDR	HYDRAULIC
I	----------
IC	INTERNATIONAL BUILDING CODE
INSUL	INSULATION
INT	INTERIOR
ILO	IN LIEU OF
J	----------
JAN	JANITOR
K	----------
KPD	KEYPAD
KIT	KITCHEN
KPL	KICKPLATE
L	----------
LAM	LAMINATE
LAV	LAVATORY
LBR	LUMBER
LBS	POUND
LDG	LANDING
LF	LINEAR FEET (FOOT)
LIB	LIBRARY
LIN	LINEAR
LKR	LOCKER
LOC	LOCATION
LT	LIGHT
LVDR	LOUVER DOOR
LVR	LOUVER
M	----------
MACH RM	MACHINE ROOM
MATL	MATERIAL
MAX	MAXIMUM
MC	MOISTURE CONTENT
MD	METAL DECK
MECH	MECHANICAL
MECH RM	MECHANICAL ROOM
MEMB	MEMBRANE
MF	MILL FINISH
MFR	MANUFACTURER
MID	MIDDLE
MIL STD	MILITARY STANDARD
MIN	MINIMUM, MINUTE
MIRR	MIRROR
MISC	MISCELLANEOUS
MLDG	MOLDING (MOULDING)
MO	MASONRY OPENING
MOD	MODIFY
MB	MOISTURE BARRIER
MTG	MOUNTING
MTL	METAL
MVBL	MOVABLE
MWP	MEMBRANE WATERPROOFING
N	----------
N	NORTH
NA	NOT APPLICABLE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NP	NO PAINT
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE

O	----------
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OFF	OFFICE
OGL	OBSCURE GLASS
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OPQ	OPAQUE
OWSJ	OPEN WEB STEEL JOIST
OPR	OPERABLE
ORD	OVERFLOW ROOF DRAIN
ORIG	ORIGINAL
P	----------
PA	PUBLIC ADDRESS
PAR	PARAPET
PAT	PATTERN
PB	PULL BOX
PBD	PARTICLEBOARD
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PERF	PERFORATED
PERIM	PERIMETER
PH	PHASE
PIL	PILASTER
PL	PROPERTY LINE
PL GL	PLATE GLASS
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLG	PILING
PLYWD	PLYWOOD
PNL	PANEL
PP PL	PUSH/PULL PLATE
PR	PAIR
PRCST	PRECAST
PRKG	PARKING
PS CONC	PRESTRESSED CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PTD	PAPER TOWEL DISPENSER
PTDR	PAPER TOWEL DISPENSER AND RECEPTACLE
PTN	PARTITION
PWR	POWER
Q	----------
QT	QUARRY TILE
QTY	QUANTITY
R	----------
RB	RESILIENT BASE
RBM	REINFORCED BRICK MASONRY
RBR	RUBBER
RC	REINFORCED CONCRETE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RHR	RIGID INSULATION, SOLID
REC	RECESSED
REC ROOM	RECREATION ROOM
REF	REFERENCE
REM	REMOVABLE
REP	REPAIR
REPL	REPLACE
REQ	REQUIRE
REQD	REQUIRED
RESIL	RESILIENT
REST	RESTROOM
RF	RESILIENT FLOORING
RFG	ROOFING
RH	ROOF HATCH
RHR	RIGHT HAND REVERSE
RL	ROOF LEADER
RLG	RAILING
RM	ROOM
RO	ROUGH OPENING
RSD	ROLLING STEEL DOOR
RV	ROOF VENT
RVL	REVEAL
S	----------
SB	SPLASH BLOCK
SCHED	SCHEDULE
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SFTWD	SOFTWOOD
SGL	SINGLE
SHT MTL FLASH	SHEET METAL (FLASHING)
SHTHG	SHEATHING
SHV	SHELVING
SIM	SIMILAR
SJ	SCORED JOINT
SKLT	SKYLIGHT
SLNT	SEALANT
SMK	SMOKE
SMLS	SEAMLESS
SP EL	SPOT ELEVATION
SPEC	SPECIFICATION
SQ	SQUARE
SQ IN	SQUARE INCH
SQ YD	SQUARE YARD
SST	STAINLESS STEEL
ST	STAIRS
STD	STANDARD
STL JST	STEEL JOIST
STL RF DK	STEEL ROOF DECK
STOR	STORAGE
STR	STRINGERS
STRB/HRN	STROBE/HORN
SUB FL	SUBFLOOR
SV	SHEET VINYL
SW	SIDEWALK
T	----------
T	TREAD
T/S	TUB/SHOWER
TC	TERRA COTTA
TD	TRENCH DRAIN
TEL	TELEPHONE
TEMP	TEMPORARY
TER	TERRAZZO
TFF	TOP OF FINISH FLOOR
THK	THICKNESS
TK BD	TACKBOARD
TMPD GL	TEMPERED GLASS
TN	TRUE NORTH
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB
TRANS	TRANSOM
TRTD	TREATED
TV	TELEVISION

SHEET NUMBERING

AE101-R1

- LEVEL ONE DISCIPLINE:
  - C - CIVIL
  - L - LANDSCAPE
  - A - ARCHITECTURE
  - M - MECHANICAL
  - E - ELECTRICAL
  - P - PLUMBING
  - S - STRUCTURAL
  - K - FOOD SERVICE
- LEVEL TWO DISCIPLINE: IF USED
- SHEET TYPE DESIGNATOR:
  - 0 - GENERAL
  - 1 - PLANS
  - 2 - ELEVATIONS
  - 3 - SECTIONS
  - 4 - LARGE SCALE VIEWS
  - 5 - DETAILS
  - 6 - SCHEDULES AND DIAGRAMS
  - 7 - USER DEFINED
  - 8 - USER DEFINED
  - 9 - 3D REPRESENTATIONS
- REVISION SEQUENCE NUMBER
- REVISION TYPE:
  - R - PARTIALLY REVISED SHEET
  - X - TOTALLY REVISED SHEET
- SHEET SEQUENCE NUMBER

LEGEND

MATERIALS

- CONCRETE/ PRECAST CONCRETE
- SOIL
- SAND, EIFS FINISH COAT, OR CEMENT PLASTER
- BRICK
- CMU
- STONE
- FIBERGLASS BATT INSULATION
- FIBERGLASS SEMI RIGID INSULATION
- MINERAL WOOL SEMI RIGID INSULATION
- EXPANDED POLYSTYRENE RIGID INSULATION
- EXTRUDED POLYSTYRENE RIGID INSULATION
- POLYISOCYANURATE RIGID INSULATION
- GYPSUM BOARD
- EXTERIOR GYPSUM SHEATHING
- EXTERIOR CEMENT BOARD
- COATED GLASS MAT WATER RESISTANT GYP BD
- PLYWOOD
- COVER BOARD

FIRE RATED WALL SYMBOLS:

- 1 HR FIRE
- 2 HR FIRE
- 3 HR FIRE
- 4 HR FIRE
- S 1 HR FIRE/SMOKE WALL
- S 2 HR FIRE/SMOKE WALL
- S 3 HR FIRE/SMOKE WALL
- S 4 HR FIRE/SMOKE WALL

ANNOTATION CALLOUTS/DRAWING SYMBOLS

- 1 / Ref / A101 — INTERIOR ELEVATION; PLATE NUMBER WHERE SECTION/DETAIL IS DRAWN
- 1 / Ref / A101 — EXTERIOR ELEVATION; PLATE NUMBER WHERE SECTION/DETAIL IS DRAWN
- 1 / SIM / A101 — SECTION; PLATE NUMBER WHERE SECTION/DETAIL IS DRAWN
- 1 / SIM / A-101 — PLAN, BLOW-UP DETAIL; PLATE NUMBER WHERE SECTION/DETAIL IS DRAWN
- SPOT ELEVATION
- Name / Elevation — FLOOR LEVEL & NAME
- 1 — SHEET KEYNOTE

Room name
101 — ROOM NAME/NUMBER

- 01 — WINDOW TYPE
- 1| — WALL TYPE
- 0 — GRID / COLUMN LINE DESIGNATOR
- 1i — EQUIPMENT NUMBER
- 101 — DOOR NUMBER
- 1 — REVISION TAG

PLAN NORTH — NORTH ARROW w/ TRUE NORTH INDICATION

Room
Rm_Occupancy
101 — ROOM OCCUPANCY & AREA
150 SF

EGRESS :Egress_ID
Egress_Length — EGRESS ROUTE ID AND SECTION LENGTH

CEILING SYMBOLS

- 2' x 2' ACT CEILING
- 4' x 4' ACT CEILING
- 1' x 1' ACT CEILING
- GYP. BD. CEILING
- 2 X 4 LIGHT FIXTURE
- RETURN AIR GRILLE
- SUPPLY AIR GRILLE
- EXHAUST AIR GRILLE
- EXIT LIGHT
- 2 x 2 LIGHT FIXTURE
- SUSP. FLUORESCENT LIGHT

BUILDING SUMMARY

PROJECT INFORMATION

PROJECT NAME: LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
ADDRESS: 130 WEST NEW CIRCLE ROAD, LEXINGTON KY 40505
USE GROUP: S-1
OWNER-CONTACT PERSON: RICHARD DUGAS

APPLICABLE CODES

2018 - KENTUCKY BUILDING CODE (BASED ON THE 2015 INTERNATIONAL BUILDING CODE)
2015 - INTERNATIONAL MECHANICAL CODE
2012 - NFPA 54 NATIONAL FUEL GAS CODE
2009 - ICC/ANSI A117.1 - ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES
2012 - NFPA 1 FIRE PREVENTION CODE (AS DIRECTED BY 815 KAR 10:60 KENTUCKY STANDARDS OF SAFETY)
2012 - INTERNATIONAL ENERGY CONSERVATION CODE - (FOR USE WITH THE KBC ONLY)
2009 - INTERNATIONAL ENERGY CONSERVATION CODE - (FOR USE WITH THE KRC ONLY)
2013 - KENTUCKY RESIDENTIAL CODE (BASED ON THE 2012 INTERNATIONAL RESIDENTIAL CODE)
0000 - KENTUCKY STATE PLUMBING LAW, REGULATIONS & CODE (815 KAR CHAPTER 20)
0000 - STATE BOILER REGULATIONS (KRS 236, 815 KAR 15)
2017 - NFPA 70 NATIONAL ELECTRICAL CODE
2015 - INTERNATIONAL FIRE CODE (IFC) (NEW CONSTRUCTION PROJECTS, ONLY BY THE BODY OF KBC.)
2012 - NFPA 101 LIFE SAFETY CODE (HEALTH CARE FACILITIES)
2006 - INTERNATIONAL FIRE CODE FOR PORTABLE EXTINGUISHERS (SECTION 906)
2013 - NFPA 13 INSTALLATION OF SPRINKLER SYSTEMS
2013 - NFPA 13D INSTALLATION OF SPRINKLER SYSTEMS - ONE/TWO FAMILY DWELLING
2013 - NFPA 13R INSTALLATION OF SPRINKLER SYSTEMS IN RESIDENTIAL OCCUPANCIES UP TO FOUR STORIES
2013 - NFPA 14 INSTALLATION OF STANDPIPE, HOSE SYSTEMS
2013 - NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE
2007 - STRUCTURAL ENGINEERS ASSOCIATION OF KENTUCKY - SPECIAL INSPECTION GUIDELINES, THIRD EDITION

BUILDING PLANNING

OCCUPANCY: S-1
MIXED OCCUPANCY NO
REQUIRED FIRE SEPARATION: NO

TYPE OF CONSTRUCTION

CONSTRUCTION TYPE: 2B

ESSENTIAL FACILITY (CHAPTER 16, IBC)

ESSENTIAL FACILITY NO (TABLE 1604.5 RISK CATEGORY 2)

GENERAL BUILDING LIMITATIONS

- HEIGHT OF BUILDING: ALLOWED 55FT > ACTUAL +/- 33FT (TABLE 503 2015 IBC) (NON-SPRINKLED)
- NUMBER OF STORIES: 1 STORY ACTUAL (2 STORIES PER TABLE 503 2015 IBC)
- MAXIMUM SINGLE FLOOR AREA: 17,500SQFT. (PER TABLE 503 2015 IBC)
- TOTAL AREA OF BUILDING: 4,960 SQFT.
- PENTHOUSE AND ROOF STRUCTURE: NONE
- HIGH RISE: NO
- PARKING SPACES PROVIDED: N/A
- PARKING SPACES REQUIRED: N/A
- ACCESSIBLE PARKING SPACES PROVIDED: N/A

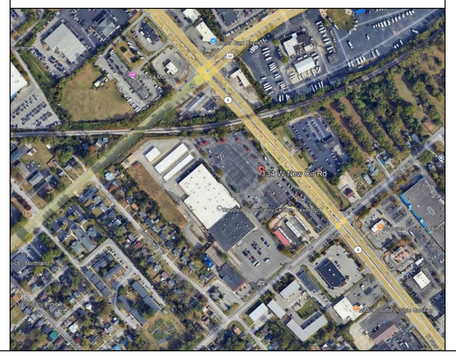
FIRE PROTECTION SYSTEMS

- FIRE EXTINGUISHING SYSTEM: NO
- STANDPIPE SYSTEM: NO TYPE
- SMOKE CONTROL: NO CLASS

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	REQ'D RATING / HR	UL/FM # WHERE APPLICABLE
PRIMARY STRUCTURAL FRAME	0 / HR	N/A
BEARING WALLS		
EXTERIOR	0 / HR	N/A
INTERIOR	0 / HR	N/A
NONBEARING WALLS AND PARTITIONS		
EXTERIOR 10' > SEPARATION DISTANCE	0 / HR	N/A
NONBEARING WALLS AND PARTITIONS		
INTERIOR	0 / HR	N/A
FLOOR CONSTRUCTION	0 / HR	N/A
ROOF CONSTRUCTION	0 / HR	N/A

VICINITY MAP



BUILDING CODE REVIEW - 2018 KBC

CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION:

1. MODERATE-HAZARD STORAGE, GROUP S-1 (SECTION 311.2)

CHAPTER 4: SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY:

1. MOTOR-VEHICLE-RELATED OCCUPANCIES (SECTION 406.8)

CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS:

1. ASSEMBLY GROUP S-1 (TYPE 2B CONSTRUCTION) HEIGHT 2 STORIES (55' H) @ 17,500 SQFT PER STORY. (SECTION 503, 504, 506)
2. SEPARATED OCCUPANCIES (TABLE 508.4) B, S-1 NO SEPARATION IS REQUIRED.
3. BUILDING AREA MODIFICATIONS: (SECTION 506.3)
   A. If = [142/285 - 0.25] 370/30 = 3.08
   B. Aa = 17,500 sqft + [17500sqft x 3.08] = 71,454 sqft > 4,960 sqft ACTUAL. (AREA IS UNDER ALLOWED. SEE UNLIMITED AREA BUILDINGS BELOW)
4. UNLIMITED AREA BUILDINGS: (SECTION 507.5 GROUP B, S-1 BUILDINGS OF TYPE 2 CONSTRUCTION)
   A. BUILDING AREA NOT LIMITED WHERE EQUIPPED THROUGHOUT WITH AUTOMATIC SPRINKLER SYSTEM AND IS SURROUNDED AND ADJOINED BY PUBLIC WAYS OR YARDS NOT LESS THAN 60 FEET IN WIDTH. SEE SITE PLAN FOR 60 FOOT MINIMUM WIDTH.
5. INCIDENTAL USES (SECTION 509)
   A. N/A
6. SPECIAL PROVISIONS (SECTION 510)
   A. N/A

CHAPTER 6: TYPES OF CONSTRUCTION:

1. CONSTRUCTION CLASSIFICATION:
   A. TYPE 2B
2. SEE FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS HOURS (TABLE 601)
   A. SEE TABLE THIS SHEET
3. FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE
   A. FIRE SEPARATION DISTANCE = 10 < x <30
   B. TYPES OF CONSTRUCTION = 2B
   C. OCCUPANCY GROUP = S-1
   D. FIRE RATING REQUIRED = 0

CHAPTER 7: FIRE AND SMOKE PROTECTION FEATURES:

1. SHAFT ENCLOSURES:
   A. 1 HOUR WHERE CONNECTING FOUR STORIES OR LESS. (713.4)
   B. SHAFT ENCLOSURES SHALL BE CONSTRUCTED AS FIRE BARRIERS PER SECTION 707.

CHAPTER 8: INTERIOR FINISHES:

1. INTERIOR WALL AND FINISH MATERIAL (803.1.1)
   A. CLASS C: = FLAME SPREAD INDEX 76-200; SMOKE DEVELOPMENT INDEX 0-450
2. INTERIOR WALL AND FINISH REQUIREMENTS BY OCCUPANCY: (TABLE 803.11 SPRINKLERED)
   A. GROUP S = CLASS C

CHAPTER 9: FIRE PROTECTION SYSTEMS:

1. AUTOMATIC SPRINKLER SYSTEMS: (SECTION 903)
   A. GROUP S-1 (SECTION 903.2.9)
      a. THE FIRE AREA DOES NOT EXCEED 12,000 SQFT < 4,960 SQFT. SPRINKLER SYSTEM NOT REQUIRED.
   B. PORTABLE FIRE EXTINGUISHERS (SECTION 906)
      a. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED IN GROUP S (SECTION 906.1)
      b. INSTALL FIRE EXTINGUISHERS PER NFPA 10.
      c. MIN. NUMBER OF EXTINGUISHERS = 4960 / 3000 = 1.65 < ACTUAL 2
      d. MAX. DISTANCE TO TRAVEL TO EXTINGUISHER = 75 FEET.
   C. FIRE ALARM DETECTION SYSTEMS (907.2 GROUP S)
      a. N/A

CHAPTER 10: MEANS OF EGRESS:

1. OCCUPANT LOAD (SECTION 1004)
   A. TABLE 1004.1.2 MAXIMUM FLOOR AREA ALLOWANCE PER OCCUPANT.
      a. STORAGE AREA 300 SQFT. (4960SQFT/300SQFT = 16 OCCUPANTS)
2. COMMON PATH OF EGRESS TRAVEL (SECTION 1006.2.1)
   A. GROUP S-1: OCCUPANT LOAD LESS THAN 30 WITHOUT SPRINKLER SYSTEM = 100 FEET.
3. EXIT ACCESS TRAVEL DISTANCE (SECTION 1017.2)
   A. GROUP S-1 = 200 FEET MAXIMUM WITHOUT SPRINKLER SYSTEM.
4. CORRIDOR FIRE RESISTANCE RATING (1020.1)
   A. GROUP S, WITHOUT SPRINKLER SYSTEM REQUIRED RATED CORRIDOR = 1 HOURS.
   B. MINIMUM CORRIDOR WIDTH 36 INCHES (1020.2)

CHAPTER 12: INTERIOR ENVIRONMENT:

1. LIGHTING (SECTION 1205.2)
   A. THE MINIMUM NET GLAZED AREA SHALL BE NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF THE ROOM SERVED.
      a. N/A - ACCESSORY BUILDING
2. TOILET AND BATHROOM REQUIREMENTS (SECTION 1210)
   a. N/A - ACCESSORY BUILDING

CHAPTER 13: ENERGY EFFICIENCY

1. GENERAL (SECTION 1301)
   A. BUILDINGS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE INTERNATIONAL ENERGY CONSERVATION CODE.

CHAPTER 16: STRUCTURAL DESIGN:

1. RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES (TABLE 1604.5.1)
   A. RISK CATEGORY II.

JAMES K. PIPER JR.
REGISTERED
NO. 4447
COMMONWEALTH

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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PROJECT DATA

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	DESCRIPTION	DATE	BY

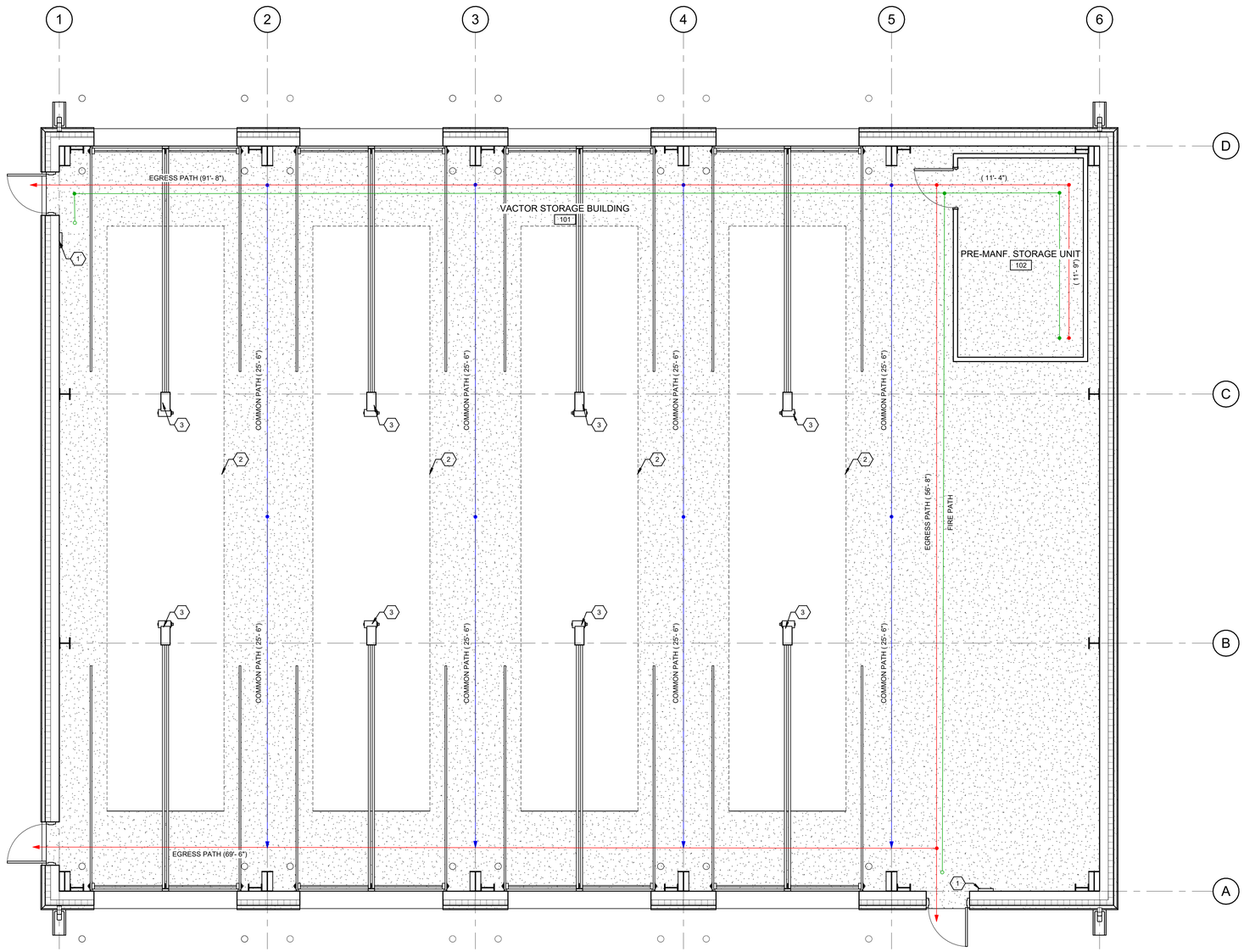
THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 3/16" = 1'-0"
SHEET NO. GI003 03

R:\247\2025.1.4B\.1B.PM G:\247-FLCC DWG HEB\Working Drawings\Revit\Arch\Central Model\247.CM3.R25003.rvt

PATH OF EGRESS TRAVEL

Mark	View Name	Level	From Room	To Room	Length	Speed	Time
FIRE PATH 1	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	PRE-MANF. STORAGE UNIT 102	VACTOR STORAGE BUILDING 101	89' - 8"	3.0 mph	20.4 s
FIRE PATH 2	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	VACTOR STORAGE BUILDING 101	VACTOR STORAGE BUILDING 101	52' - 9 1/8"	3.0 mph	12.0 s
EGRESS PATH 1	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	PRE-MANF. STORAGE UNIT 102	EXTERIOR EXT	91' - 8"	3.0 mph	20.8 s
EGRESS PATH 2	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	VACTOR STORAGE BUILDING 101	EXTERIOR EXT	56' - 8"	3.0 mph	12.9 s
EGRESS PATH 3	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	VACTOR STORAGE BUILDING 101	EXTERIOR EXT	69' - 6 3/16"	3.0 mph	15.8 s
COMMON PATH	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	VACTOR STORAGE BUILDING 101	VACTOR STORAGE BUILDING 101	51' - 0"	3.0 mph	11.6 s
COMMON PATH	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	VACTOR STORAGE BUILDING 101	VACTOR STORAGE BUILDING 101	51' - 0"	3.0 mph	11.6 s
COMMON PATH	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	VACTOR STORAGE BUILDING 101	VACTOR STORAGE BUILDING 101	51' - 0"	3.0 mph	11.6 s
COMMON PATH	FIRST LEVEL - LIFE SAFETY	FIRST LEVEL	VACTOR STORAGE BUILDING 101	VACTOR STORAGE BUILDING 101	51' - 0"	3.0 mph	11.6 s



1 FIRST LEVEL - LIFE SAFETY

SCALE: 1/4" = 1'-0"

PLAN NORTH

GENERAL NOTES:

SHEET KEYNOTES:

1	SEMI-RECESSED FIRE EXTINGUISHER CABINET
2	DASHED LINE INDICATES CLEARANCE REQUIREMENTS FOR VACTOR TRUCKS.
3	SECTIONAL DOOR, TRACK AND MOTOR ABOVE

AREA KEY PLAN

JAMES E. K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grwinc.com

FIRST LEVEL - LIFE SAFETY PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED	DRV
DRAWN	NEK
REVIEWED	DRV
APPROVED	DRV

REVISIONS

NO.	DATE	BY

REVISIONS DESCRIPTION

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: GK101 03

8/14/2025 1:48:28 PM C:\DATA\FLEUCG LVMG Int\Working Drawings\Revit Arch\Central Model\GK\TAK\GK\GK01.rvt

00.AB CODE CRITERIA FOR DESIGN

A. THESE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ALL OTHER DRAWINGS, SPECIFICATIONS & CONTRACT DOCUMENTS.

B. THE DESIGN, CONSTRUCTION, QUALITY CONTROL AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT SHALL CONFORM TO THE REFERENCED CODES AND STANDARDS, INCLUDING ALL SPECIFICATIONS REFERENCED WITH THE LATEST EDITIONS SHALL APPLY UNLESS NOTED.

C. BUILDING CODE: 2018 KENTUCKY BUILDING CODE, 4TH EDITION
D. COUNTY/STATE: FAYETTE / KENTUCKY

E. RISK CATEGORY: II

F. DEAD LOADS

1. ROOFS = 2 PSF
2. COLLATERAL = 2 PSF

G. DESIGN LIVE LOADS

1. ROOF = 20 PSF
2. ROOF LIVE LOAD = 25 PSF MIN
3. STORAGE = 125 PSF

H. ROOF SNOW LOAD

1. GROUND SNOW LOAD (p_g) = 15 PSF
2. SNOW EXPOSURE FACTOR (C_e) = 0.9
3. THERMAL FACTOR (C_t) = 1.0
4. SLOPE FACTOR (C_s) = 0.49
5. IMPORTANCE FACTOR (I_s) = 1.0
6. RAIN ON SNOW SURCHARGE (P_{ds}) = 5 PSF
7. FLAT ROOF SNOW LOAD (p_f) = 9.45 PSF
8. SLOPED ROOF SNOW LOAD (p_s) = 4.63 PSF PLUS DRIFTS AS APPLICABLE
9. MINIMUM ROOF SNOW LOAD (p_{m}) = 15 psf

I. LATERAL LOADS

1. WIND

   a. SEE PRE-ENGINEERED METAL BUILDING MANUFACTURER.
   b. BASIC WIND SPEED: 115 MPH
   c. EXPOSURE CATEGORY: B

2. SEISMIC

   a. MAPPED SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (S_s) = 0.189g
   b. MAPPED 1 SECOND SPECTRAL RESPONSE ACCELERATION (S_1) = 0.091g
   c. DESIGN SHORT PERIOD SPECTRAL RESPONSE ACCELERATION (S_{DS}) = 0.151
   d. DESIGN 1 SECOND SPECTRAL RESPONSE ACCELERATION (S_{D1}) = 0.103
   SEISMIC IMPORTANCE FACTOR (I_E) = 1.0
   e. SEISMIC RESPONSE FACTOR (R) = 1.0
   f. SEISMIC COEFFICIENT (C_d) = 1.0
   g. SOIL SITE CLASS: C (ASSUMED)
   h. SEISMIC DESIGN CATEGORY: B
   i. SEE PRE-ENGINEERED METAL BUILDING MANUFACTURER.

J. ALL CONTRACTOR PROPOSED STRUCTURAL SUBSTITUTIONS, INCLUDING CONCRETE ADDITIVES, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY PERTINENT WORK AND PRIOR TO THE AWARD OF A SUBCONTRACTOR.

K. SHOP DRAWINGS, TEST REPORTS, AND CERTIFICATIONS ARE REQUIRED FOR THE FOLLOWING STRUCTURAL ITEMS:

1. CONCRETE CYLINDER TESTS
2. CONCRETE MIX DESIGNS
3. GROUT MIX DESIGNS
4. REINFORCING STEEL SHOP DRAWINGS
5. MISCELLANEOUS AND STRUCTURAL STEEL SHOP DRAWINGS
6. STEEL JOIST AND JOIST GIRDER SHOP DRAWINGS
7. STEEL ROOF DECK SHOP DRAWINGS
8. COMPOSITE AND FORM STEEL DECK SHOP DRAWINGS
9. CONCRETE MASONRY UNIT CERTIFICATION AND DATA
10. MORTAR CERTIFICATION AND DATA
11. WALL REINFORCING DATA
12. UNDERPINNING METHOD AND SEQUENCING (IF REQUIRED)
13. METAL BUILDING LOADS AND DETAILS

L. THE SHOP DRAWINGS SPECIFIED BY THE ENGINEER ARE AN INTEGRAL PART OF THE COMPLETE DESIGN. THEY SERVE AS BOTH A CHECK ON THE CONTRACTOR'S INTERPRETATION OF THE ENGINEER'S DRAWINGS AND SPECIFICATIONS AND AS A FINAL CHECK ON THE COORDINATED, DETAILED DESIGN PRIOR TO CONSTRUCTION. THEREFORE, ANY MATERIAL ORDERED OR WORK PERFORMED PRIOR TO THE ENGINEER'S REVIEW AND APPROVAL OF THE SHOP DRAWINGS ARE DONE AT THE CONTRACTOR'S SOLE FINANCIAL RISK. THIS MEANS THAT WHERE DIFFERENCES OF INTERPRETATION EXIST, WORK DONE PRIOR TO THE APPROVAL OF THE SHOP DRAWINGS THAT IS ADJUDGED BY THE ENGINEER TO BE NOT IN CONFORMANCE WITH THE DRAWINGS AND SPECIFICATIONS MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTORS SOLE EXPENSE. AT A MINIMUM, WHERE REASONABLE ADDITIONS TO THE WORK ARE INDICATED ON THE SHOP DRAWINGS, THE ADDITIONAL COST OF THE REMOVAL AND REWORK THAT WOULD NOT HAVE BEEN REQUIRED HAD THE CONTRACTOR NOT PROCEEDED PRIOR TO SHOP DRAWING APPROVAL SHALL BE AT THE CONTRACTOR'S SOLE EXPENSE.

M. CONSTRUCTION METHODS, PROCEDURES, AND SEQUENCES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEANS TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.

O. COORDINATION WITH THE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS TO VERIFY THE LOCATIONS AND SIZES OF ALL CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, AND OTHER PROJECT REQUIREMENTS ARE THE CONTRACTOR'S RESPONSIBILITY. ALL REQUIRED OPENINGS, SLEEVES, OR OTHER COMPONENTS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS.

P. IMPOSED CONSTRUCTION LOADS, INCLUDING CRANE LOADS, IN EXCESS OF THE STATED DESIGN LOADS MUST BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO THE IMPOSITION OF SUCH LOADS.

Q. IMPLEMENTING JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

R. IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES, DETAILS AND SPECIFICATIONS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.

00.31.32 GENERAL FOUNDATION INFORMATION

A. SOIL BEARING VALUES ARE ASSUMED TO BE 2,000PSF FOR UNDISTURBED NATIVE SOIL. 3,000PSF FOR ENGINEERED FILL, 6,000PSF FOR COMPETENT BEDROCK.

B. EXISTING FOUNDATION SIZES, ELEVATIONS, LOCATIONS, ETC., SHOWN ARE FROM ORIGINAL DRAWINGS FURNISHED BY THE OWNER AND MAY NOT BE THE ACTUAL CONDITIONS ENCOUNTERED.

C. IF REQUIRED, UNDERPINNING OF EXISTING FOOTINGS SHALL BE PERFORMED IN SUCH A MANNER SO AS TO MAINTAIN THE STRUCTURAL INTEGRITY OF THE EXISTING BUILDING. CONTRACTOR SHALL INCLUDE ANY ASSOCIATED COSTS OF UNDERPINNING IN HIS BID.

D. VERIFY LOCATIONS OF COLUMNS, UNDERGROUND UTILITIES, ETC., WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND CIVIL DRAWINGS PRIOR TO PLACEMENT OF FOUNDATIONS.

E. THE BOTTOM OF ALL FOOTINGS SHALL EXTEND 1'-0" MINIMUM INTO UNDISTURBED SOIL OR ENGINEERED FILL HAVING A SAFE BEARING CAPACITY OF 2,000PSF. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL EXTEND 3'-0" BELOW FINISHED GRADE.

F. ALL FOUNDATION AND SLAB-ON-GRADE SUB GRADES ARE TO BE FIELD INSPECTED BY AN EXPERIENCED QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE ALLOWABLE BEARING PRESSURE IS ACHIEVED AND THAT THE SUB GRADES ARE SUITABLE FOR SUPPORT OF THE FOUNDATIONS AND SLAB-ON-GRADE. THE GEOTECHNICAL ENGINEER SHALL ALSO VERIFY FOUNDATION ELEVATIONS PRIOR TO PLACEMENT OF FOUNDATION ELEMENTS.

G. UNLESS DETERMINED OTHERWISE BY GEOTECHNICAL EVALUATION, FILL MATERIAL FOR SLAB AND FOOTING AREAS SHALL BE PLACED IN LAYERS NOT EXCEEDING 8 INCHES (UNCOMPACTED THICKNESS) AND COMPACTED TO 98% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698.

H. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO BRACE FOUNDATION WALLS WHEN BACK FILLING AND WHEN THERE IS A POSSIBILITY OF DAMAGE BY EXCESS WATER.

I. COMPACTION OF BACKFILL WITHIN 2 FEET OF FOUNDATION WALLS SHALL BE ACCOMPLISHED WITH HAND EQUIPMENT. WHERE FILL IS REQUIRED ON BOTH SIDES OF FOUNDATION WALL, BRING THE FILL UP EACH SIDE SIMULTANEOUSLY AND UNIFORMLY.

J. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS.

K. WHEN USING HELICAL PIERS, CONTRACTOR SHALL PROVIDE A DETAILED LAYOUT OF PIER LOCATIONS AND WORKING CAPACITIES, WHICH ARE TO BE SEALED BY AN ENGINEER IN THE STATE OF WEST VIRGINIA.

L. WHEN USING GEOFOAM FOR STRUCTURAL BACKFILL, CONTRACTOR SHALL PROVIDE A DETAILED LAYOUT OF BLOCKS SEALED BY AN ENGINEER IN THE STATE OF KENTUCKY.

M. IF FOOTING EXCAVATIONS ENCOUNTER ISOLATED AREAS OF RELATIVELY HARD ROCK AT OR ABOVE THE PLANNED FOOTING ELEVATIONS, THE ROCK SHALL BE OVER EXCAVATED TO A DEPTH OF APPROXIMATELY ONE FOOT BELOW THE FOUNDATION BEARING ELEVATION AND BACKFILLED WITH STRUCTURAL FILL.

N. FOUNDATIONS SHALL NOT BE PLACED ON MUD OR MUCK, SOFT OR LOOSE SOIL, IN STANDING WATER OR ON FROZEN GROUND.

O. ALL NON-CANTILEVER WALLS SHALL BE BE ADEQUATELY BRACED PRIOR TO BACKFILL.

P. CANTILEVER RETAINING WALLS SHALL NOT BE BACKFILLED UNTIL THE CONCRETE HAS DEVELOPED 100% OF THE REQUIRED 28-DAY COMPRESSIVE STRENGTH FOR THE CLASS OF CONCRETE SPECIFIED.

01.41.AB SPECIAL INSPECTIONS

A. SPECIAL INSPECTION IS REQUIRED ACCORDING TO CHAPTER 17 OF THE 2015 INTERNATIONAL BUILDING CODE.

B. SPECIAL INSPECTIONS SHALL BE PERFORMED FOR THE FOLLOWING WORK AS REQUIRED IN THE 2015 INTERNATIONAL BUILDING CODE:

1. STEEL CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.02
2. CONCRETE CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.3
3. MASONRY CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.4
4. SOILS CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.6
5. CAST-IN-PLACE DEEP FOUNDATION CONSTRUCTION IN ACCORDANCE WITH SECTION 1705.8
6. FABRICATED ITEMS IN ACCORDANCE WITH SECTION 1705.10
7. THE TYPE AND EXTENT OF EACH TEST AND INSPECTION REQUIRED FOR EACH TYPE OF WORK SHALL BE AS INDICATED IN THE BUILDING CODE AND THE REFERENCES INCORPORATED THEREIN.

C. SPECIAL INSPECTION SERVICES SHALL BE CONTRACTED AND PAID FOR BY THE OWNER.

D. WORK REQUIRING SPECIAL INSPECTION SHALL BE INSPECTED BY THE SPECIAL INSPECTOR FOR CONFORMANCE WITH THE APPROVED DRAWINGS AND SPECIFICATIONS. INSPECTION REPORTS INDICATING THE RESULTS OF SPECIAL INSPECTIONS SHALL BE PROMPTLY SUBMITTED TO THE CONTRACTOR, THE ARCHITECT, AND THE STRUCTURAL ENGINEER.

E. ALL SPECIAL INSPECTIONS INDICATING NON-CONFORMING WORK SHALL BE REPORTED IMMEDIATELY TO THE CONTRACTOR, THE ARCHITECT AND THE STRUCTURAL ENGINEER. IMPENDING CONSTRUCTION WORK THAT WOULD IMPEDE ECONOMICAL CORRECTION OF NON-CONFORMING WORK SHALL NOT PROCEED WITHOUT WRITTEN APPROVAL.

F. A FINAL REPORT DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY NON-CONFORMING WORK NOTED IN THE INSPECTIONS SHALL BE SUBMITTED BY THE SPECIAL INSPECTOR AT THE COMPLETION OF THE PROJECT.

G. THE SPECIAL INSPECTION AGENCY SHALL NOT BE ENGAGED BY THE CONTRACTOR FOR OTHER TESTING OR INSPECTION SERVICES ON THIS PROJECT.

H. SPECIAL INSPECTION SHALL BE PERFORMED BY A QUALIFIED INSPECTION AND TESTING AGENCY APPROVED BY THE BUILDING OFFICIAL, THE ARCHITECT, AND THE STRUCTURAL ENGINEER.

03.30 CAST-IN-PLACE CONCRETE

A. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:

1. "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI 318-11", AMERICAN CONCRETE INSTITUTE
2. "ACI MANUAL OF CONCRETE PRACTICE - PARTS 1 THROUGH 5", LATEST EDITION
3. "MANUAL OF STANDARD PRACTICE", CONCRETE REINFORCING STEEL INSTITUTE
4. "ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES, ACI 350-06", AMERICAN CONCRETE INSTITUTE (FOR CONCRETE TANKS)
5. ACI 305 AND ACI 306 FOR HOT AND COLD WEATHER CONCRETE CONSTRUCTION
6. ACI 347 FOR SHORING AND RESHORING OF CONCRETE STRUCTURES

B. CONTRACTOR SHALL PROVIDE MATERIALS WHICH COMPLY WITH THE FOLLOWING ASTM REQUIREMENTS, AS REQD:

1.	CEMENT:	ASTM C150: TYPE I OR III
2.	AGGREGATES:	ASTM C33
3.	FLY ASH:	ASTM C618
4.	PLAIN REINFORCING BARS:	ASTM A615, GRADE 60
5.	WELDABLE REINFORCING BARS:	ASTM A706, GRADE 60
6.	GALVANIZED REINFORCING BARS:	ASTM A767, CLASS II GRADE 60
7.	WELDED WIRE FABRIC:	ASTM A185
8.	FIBER REINFORCEMENT:	ASTM C 1116, TYPE III
9.	AIR-ENTRAINING ADMIXTURE:	ASTM C260

C. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, U.N.O. ON THE CONSTRUCTION DRAWINGS:

	APPLICATION	COVER
a.	CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:	3"
b.	CONCRETE EXPOSED TO WEATHER (U.N.O.):	
1.	#6 THROUGH #18 BARS:	2"
2.	#5 BAR, W31 OR D31 WIRE AND SMALLER:	1-1/2"
c.	CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALLS, AND JOISTS:	
1.	#14 AND #18 BARS:	1-1/2"
2.	#11 BAR AND SMALLER:	3/4"

D. CONCRETE MIXES SHALL BE AS FOLLOWS:

	APPLICATION	COMP. STRENGTH, AIR, W/C
a.	TANKS OR OTHER STRUCTURES RETAINING FLUID	5,000 PSI, 6%, 0.40
b.	CONCRETE USED FOR FOUNDATION CONSTRUCTION (STRIP/SPREAD FOOTINGS, GRADE BEAMS, FOUNDATION WALLS ETC.), OR CONCRETE EXPOSED TO CYCLES OF FREEZE THAW (SIDEWALKS, EXTERIOR SLAB ON GRADE ETC.):	4,500 PSI, 6%, 0.45
c.	INTERIOR SLAB ON GRADE:	4,000 PSI, NONE, 0.50

E. SHOP DRAWINGS SHOWING THE SIZE, LENGTH, QUANTITY, LOCATION AND MARK OF ALL REINFORCING BARS, SUPPORTS AND ACCESSORIES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION.

F. MIX DESIGNS AND ADMIXTURE PRODUCT DATA SHALL BE SUBMITTED FOR APPROVAL PRIOR TO ORDERING CONCRETE.

G. THE TYPICAL DETAILS, PLANS, AND SECTIONS ON THESE DRAWINGS CONTAIN ADDITIONAL GENERAL CONCRETE CONSTRUCTION NOTES AND INFORMATION.

H. ALL CONCRETE SHALL BE REINFORCED UNLESS NOTED OTHERWISE.

I. SUPPORTS TO ADEQUATELY POSITION REINFORCING BARS DURING CONSTRUCTION SHALL BE INSTALLED.

J. FOUNDATION DOWELS OF THE SAME SIZE AND SPACING AS VERTICAL STEEL SHALL BE INSTALLED FOR ALL WALLS, PIERS, AND COLUMNS.

K. ALL REINFORCING AT WALL AND FOOTING CORNERS AND INTERSECTIONS SHALL BE CONTINUOUS BY THE USE OF BENT BARS OR CORNER BARS UNLESS INDICATED OTHERWISE.

L. CONSTRUCTION JOINTS SHALL BE POSITIONED SO AS NOT TO ADVERSELY AFFECT THE STRUCTURAL PERFORMANCE. CONSTRUCTION JOINT LOCATIONS NOT INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.

M. PIPE SLEEVES AND INSERTS SHALL BE INSTALLED IN CONCRETE WORK AT ALL PENETRATIONS. PENETRATIONS OF BEAMS, JOISTS, COLUMNS OR STRUCTURAL SLABS NOT INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.

N. ONLY WELDABLE REINFORCING BARS MAY BE WELDED.

O. ADMIXTURES CONTAINING CHLORIDE OR OTHER CORROSIVE CHEMICALS SHALL NOT BE USED IN CONCRETE.

P. AGGREGATES SHALL BE FREE OF DELETERIOUS OR NON-DURABLE MATERIALS SUCH AS CHERTS.

Q. REINFORCING SHALL BE ADEQUATELY TIED AND SUPPORTED TO HOLD IT IN THE CORRECT POSITION DURING CONSTRUCTION AND THE PLACEMENT OF CONCRETE.

R. CONCRETE SHALL BE CONSOLIDATED ADEQUATELY DURING PLACEMENT BY MECHANICAL VIBRATION IN ACCORDANCE WITH PUBLISHED PRACTICES.

S. PLASTIC CHAIRS SHALL BE USED IN ALL CONCRETE THAT WILL BE EXPOSED TO VIEW IN THE COMPLETED STRUCTURE.

T. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED MINIMUM 3/4", OR AS INDICATED ON THE STRUCTURAL/ARCHITECTURAL DRAWINGS.

U. FILL POCKETS AROUND CONNECTIONS WITH CONCRETE FLUSH AND SMOOTH UNLESS INDICATED OTHERWISE.

V. FORMED SURFACES SHALL HAVE A SMOOTH-FORM FINISH WHERE EXPOSED TO VIEW AND A ROUGH-FORM FINISH WHERE NOT EXPOSED TO VIEW UNLESS INDICATED OTHERWISE.

W. UNFORMED SURFACES SHALL HAVE A TROWEL FINISH WHERE EXPOSED TO VIEW AND A FLOAT FINISH WHERE NOT EXPOSED TO VIEW U.N.O. EXCEPT THAT STAIRS AND EXTERIOR WALKING SURFACES SHALL HAVE A BROOM FINISH U.N.O.

X. SLABS-ON-GRADE SHALL BE PLACED ON A VAPOR BARRIER OVER 4" MINIMUM OF WELL GRADED CRUSHED STONE OVER COMPACTED SUBGRADE, U.N.O.

Y. ALL COLD JOINTS SHALL BE ROUGHENED TO A FULL AMPLITUDE OF 1/4" AND A CONCRETE BONDING AGENT SHALL BE APPLIED PRIOR TO THE PLACEMENT OF FRESH CONCRETE.

Z. IN SLABS-ON-GRADE, LAP WELDED WIRE FABRIC TWO FULL MESH PANELS AND WIRE TOGETHER.

AA. SPLICE LAP LENGTHS FOR REINFORCING SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, U.N.O. ON THE PLANS:

	BAR SIZE	LAP LENGTH
a.	#3	17"
b.	#4	22"
c.	#5	28"
d.	#6	33"
e.	#7	48"
f.	#8	55"
g.	#9	62"
h.	#10	70"
i.	#11	83"

BB. PROVIDE ISOLATION JOINTS IN SLABS AS FOLLOWS:

1. BETWEEN SLABS-ON-GRADE AND FOUNDATION WALLS
2. BETWEEN SLABS AND INSERTS SUCH AS PIPES
3. AROUND STEEL COLUMNS AT SPREAD FOOTINGS

04 STRUCTURAL MASONRY

A. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES ANDSTANDARDS:

1. "BUILDING CODE REQUIREMENTS AND SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530-11/ASCE 5-11/TMS 402-11) AND "SPECIFICATION FOR MASONRY STRUCTURES", (ACI 530. 1-11/ASCE 6-11/TMS 602-11).
2. LOAD BEARING CONCRETE MASONRY UNITS: ASTM C90, TYPE I, GRADE N (MIN. COMPRESSIVE STRENGTH ON NET AREA = 1900 PSI) NORMAL (MEDIUM-LIGHT) WEIGHT
3. NON-LOAD BEARING CONCRETE MASONRY UNITS: ASTM C129, TYPE II
4. IVANY OPEN END BLOCK: ASTM C901 (MIN. COMPRESSIVE STRENGTH ON NET AREA = 3000 psi)
5. MORTAR: ASTM C270, TYPE S ABOVE GRADE/BELOW GRADE
6. CONCRETE BUILDING BRICK: ASTM C55, GRADE N (MIN. COMPRESSIVE STRENGTH ON NET AREA = 3500 PSI
7. CMU GROUT: ASTM C476, (MIN. COMPRESSIVE STRENGTH AT 28 DAYS = 2000 PSI)
8. CMU PRISM STRENGTH: F'm = 1500 PSI PER ACI 530/ASCE 5/TMS 402 UNIT STRENGTH METHOD
9. HORIZONTAL JOINT REINFORCING: ASTM A951, HOT DIPPED GALVANIZED
10. PLAIN REINFORCING BARS: ASTM A615, GRADE 60
11. WELDABLE REINFORCING BARS: ASTM A706, GRADE 60

B. CONCRETE MASONRY WALLS SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 530.1 "SPECIFICATIONS FOR MASONRY STRUCTURES".

C. INSTALLATION DRAWINGS SHALL BE SUBMITTED FOR APPROVAL BY THE STRUCTURAL ENGINEER. THE INSTALLATION DRAWINGS SHALL INDICATE:

1. THE MATERIALS USED, THEIR SPECIFICATIONS, AND THEIR DESIGN STRENGTHS.
2. ELEVATIONS OF ALL STRUCTURAL CONCRETE MASONRY WALLS SHOWING THE LAYOUT, INCLUDING OPENINGS AND JOINTS, REINFORCING, ACCESSORIES, BOND BEAMS, LINTELS AND EMBEDDED ITEMS.

D. PRODUCT DATA AND MATERIAL CERTIFICATIONS FOR MASONRY MATERIALS AND ACCESSORIES SHALL BE SUBMITTED FOR APPROVAL IN SHOP DRAWING FORMAT.

E. MORTAR CEMENT SHALL BE PORTLAND-LIME CEMENT. MASONRY CEMENT SHALL NOT BE USED.

F. THE TYPICAL DETAILS ON THE DRAWINGS CONTAIN ADDITIONAL GENERAL MASONRY NOTES AND DETAILS.

G. BEARING WALLS SHALL BE ANCHORED AT INTERSECTIONS BY GALVANIZED STEEL STRAPS 1 1/2" X 1/4" X 24" WITH 2" BEND AT 90 DEGREES EACH END. INSTALL STRAPS INTO GROUTED CORES OF C.M.U. AT 24" MAXIMUM VERTICAL SPACING. DO NOT INSTALL ANCHORS AT CONTROL JOINTS.

H. CORNERS OF LOAD BEARING CONCRETE MASONRY WALLS SHALL BE LAID IN RUNNING BOND.

I. PROVIDE SOLID GROUTED CONCRETE MASONRY AROUND BEARING ENDS OF ALL BEAMS AND JOISTS.

J. NO OPENINGS FOR TRADES SHALL OCCUR IN CONCRETE MASONRY WALLS WITHIN 16 INCHES OF BEAM BEARING CENTERLINES.

K. EMBEDDED ITEM LOCATIONS SHALL BE COORDINATED WITH THE APPROVED SHOP DRAWINGS OF THE TRADES.

L. PROVIDE GALVANIZED HORIZONTAL JOINT REINFORCING IN ALL WALLS AT 16" O.C. PROVIDE ONE-PEICE PREFABRICATED "T" AND "L" SHAPED UNITS AT ALL WALL CORNERS AND INTERSECTIONS.

M. ONLY WELDABLE REINFORCING BARS MAY BE WELDED.

N. CONCRETE MASONRY IS SUPPOSED TO ABSORB WATER FROM MORTAR AND GROUT. DO NOT PLACE OR GROUT WET CONCRETE MASONRY UNITS.

O. WEBS OF MASONRY UNITS FOR PIERS, COLUMNS, PILASTERS, AND THE STARTER COURSE SHALL BE MORTARED. WEBS OF MASONRY UNITS SHALL ALSO BE MORTARED WHERE REQUIRED TO CONFINE GROUT.

P. IN GROUTED AND/OR REINFORCED MASONRY WALLS, USE MASONRY UNITS WITH CORES THAT ALIGN VERTICALLY. PROVIDE CONTINUOUS UNOBSTRUCTED CELLS FOR REINFORCEMENT PLACEMENT AND GROUTING.

Q. SPACES TO BE FILLED WITH GROUT SHALL BE KEPT CLEAN AND FREE FROM PROTRUSIONS OF MASONRY OR MORTAR.

R. ALL CELLS OF BELOW-GRADE CONCRETE MASONRY UNITS SHALL BE GROUTED.

S. THE MAXIMUM GROUT POUR HEIGHT FOR EACH SPECIFIC TYPE AND SIZE OF CONCRETE MASONRY UNIT SHALL NOT EXCEED THE LIMITS SPECIFIED IN ACI 530.1.

T. GROUT POURS SHALL BE CONSOLIDATED ADEQUATELY DURING PLACEMENT BY MECHANICAL VIBRATION IN ACCORDANCE WITH PUBLISHED PRACTICES.

U. PROVIDE VERTICAL MASONRY CONTROL JOINTS AT APPROXIMATELY 20'-0" O.C., AND IN ACCORDANCE WITH RECOMMENDATIONS IN THE "MASONRY DESIGNER'S GUIDE". REFER TO ARCHITECTURAL PLANS FOR LOCATIONS, OR IF NOT SHOWN, COORDINATE LOCATIONS WITH THE ARCHITECT.

V. SPLICE LAP LENGTHS FOR REINFORCING SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, U.N.O. ON THE PLANS:

	BAR SIZE	LAP LENGTH
a.	#3	24"
b.	#4	36"
c.	#5	48"
d.	#6	60"

W. DO NOT EMBED ANY NON-STRUCTURAL ITEMS IN STRUCTURAL MASONRY WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.

X. ALL REINFORCING STEEL SHALL BE PLACED AND TIED IN THE PROPER POSITION AS THE WALLS ARE CONSTRUCTED. LOWERING THE BARS IN FROM THE TOP OF A COMPLETED WALL OR SECTION OF WALL IS NOT ALLOWED.

Y. CONTRACTOR SHALL PROVIDE BRACING AND SUPPORT FOR ALL MASONRY WORK UNTIL PERMANENT ROOF/FLOOR FRAMING IS IN PLACE.

05.12 STRUCTURAL STEEL FRAMING

A. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF THE FOLLOWING CODES AND STANDARDS:

B. "MANUAL OF STEEL CONSTRUCTION - AISC 360-10 FOURTEENTH EDITION, 2010, AMERICAN INSTITUTE OF STEEL CONSTRUCTION (INCLUDING SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, AND AISC CODE OF STANDARD PRACTICE).

1. "DETAILING FOR STEEL CONSTRUCTION" AISC 326-09, AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
2. "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, ANSI/AISC 341-05" AMERICAN INSTITUTE OF STEEL CONSTRUCTIONS.
3. "STRUCTURAL WELDING CODE ANSI/AWS D1.1/D1.1M-2004", AMERICAN WELDING SOCIETY.
4.

	MEMBER TYPE	SPECIFICATION
a.	W SHAPES	ASTM A992, Fy = 50 KSI
b.	CHANNELS	ASTM A36, Fy = 36 KSI
c.	PLATES	ASTM A572, Fy = 50 KSI
d.	ANGLES	ASTM A36, Fy = 36 KSI
e.	BARS AND RODS	ASTM A36, Fy = 36 KSI
f.	HSS SECTIONS KSI	ASTM A500, GRADE B, Fy = 46
g.	STRUCTURAL PIPE KSI	ASTM A53, GRADE B, Fy = 35
h.	THREADED RODS KSI	ASTM A36, Fy = 36 KSI, Fu = 58
i.	ANCHOR RODS	ASTM F 1554 GR 36, (50), (105)
j.	HIGH-STRENGTH BOLTS	ASTM A325-N, Fu = 120 KSI FOR 1/2" TO 1", Fu = 105 KSI >1"
k.	NUTS	ASTM A563
l.	HEADED SHEAR STUDS	ASTM A108, Fu = 65 KSI
m.	WELDING ELECTRODES	AWS A5.1 OR A5.5 E70XX

C. DESIGN OF ALL STRUCTURAL STEEL CONNECTIONS IS HEREBY DELEGATED. THE DESIGN OF ALL SUCH CONNECTIONS SHALL BE PERFORMED UNDER THE DIRECT SUPERVISION OF A LICENSED KENTUCKY PROFESSIONAL ENGINEER QUALIFIED AND EXPERIENCED IN THE DESIGN OF STRUCTURAL STEEL CONNECTIONS.

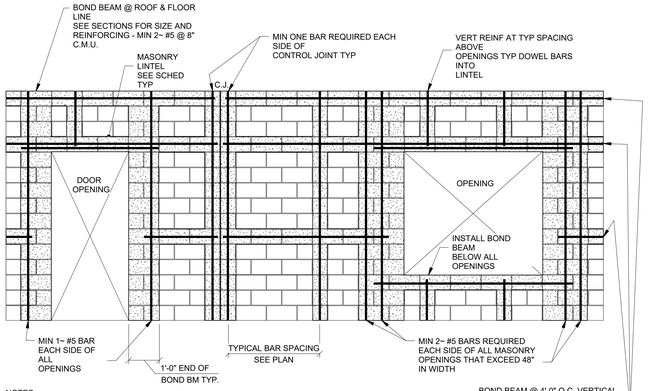
D. ALL SHOP AND FIELD CONNECTIONS SHALL BE MADE WITH HIGH STRENGTH BOLTS OR WELDS. ALL BOLTS AND NUTS SHALL BE CLEARLY MARKED AS REQUIRED BY AISC SPECIFICATIONS. ALL CONNECTIONS MADE WITH UNMARKED NUTS AND BOLTS WILL BE REJECTED. ALL BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS.

E. THE DESIGN OF ALL STRUCTURAL STEEL CONNECTIONS SHALL BE AS FOLLOWS:

1. ALL CONNECTIONS SHALL CONFORM TO AISC REQUIREMENTS AND SHALL BE DESIGNED FOR THE GREATER OF 50% OF THE MAXIMUM UNIFORM DESIGN LOAD PER AISC TABLES, OR AS INDICATED ON THE DRAWINGS.
2. BRACE MEMBER CONNECTIONS SHALL BE DESIGNED FOR THE FORCES INDICATED ON EACH MEMBER, IF SHOWN.
3. IF BRACE MEMBER FORCES ARE NOT SHOWN, BRACE MEMBER CONNECTIONS SHALL BE DESIGNED TO DEVELOP THE FULL TENSILE YIELD STRENGTH OF THE BRACE MEMBER.
4. CONNECTION DESIGN SHALL BE IN ACCORDANCE WITH PROVISIONS OF THE AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION AND THE AISC MANUAL "DETAILING FOR STEEL CONSTRUCTION".

F. SHOP DRAWINGS AND CONNECTION CALCULATIONS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION OF STRUCTURAL STEEL.

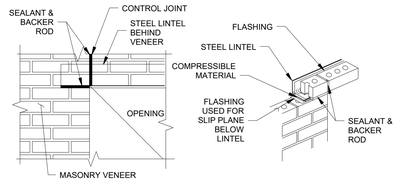
1. SHOP DRAWINGS SHALL CONTAIN ERECTION DRAWINGS AND DETAIL DRAWINGS.
2. ERECTION DRAWING SHALL SHOW THE LAYOUT AND PIECEMARK OF ALL STRUCTURAL STEEL MEMBERS AND ALL CONNECTIONS OF STRUCTURAL STEEL. SHOP-MADE AND FIELD-MADE CONNECTIONS SHALL BE INDICATED ON THE ERECTION DRAWINGS. ERECTION DRAWINGS SHALL INCLUDE SETTING DRAWINGS FOR ALL ANCHORAGES FOR STRUCTURAL STEEL.
3. CONNECTIONS BETWEEN STRUCTURAL STEEL AND STEEL JOIST FRAMING SHALL BE COORDINATED ON THE STRUCTURAL STEEL ERECTION DRAWINGS.
4. THE ERECTION DRAWINGS SHALL BEAR THE SEAL OF THE LICENSED ENGINEER UNDER WHOSE SUPERVISION THE CONNECTIONS WERE DESIGNED.
5. DETAIL DRAWINGS SHALL SHOW THE DIMENSIONS OF EACH PIECE INCLUDING THE DIMENSIONS OF ALL HOLES, SLOTS, COPES, CUTS ETC.
6. WHERE PIECES ARE SHIPPED AS ASSEMBLIES, THE ASSEMBLIES SHALL BE DETAILED SHOWING CONNECTIONS BETWEEN THE INDIVIDUAL PIECES. WELDS AND BOLTS SHALL BE INDICATED FOR ALL CONNECTIONS.
7. DETAIL DRAWINGS SHALL SHOW THE TYPE AND EXTENT OF PRIME PAINTING FOR EACH PIECE AND/OR ASSEMBLY.
8. CONNECTION DESIGN CALCULATI



NOTES:

1. MINIMUM VERTICAL WALL REINFORCING SHALL BE #5 @ 2'-0" UNLESS NOTED OTHERWISE.
2. VERTICAL WALL REINFORCING SHALL BE CONTINUOUS.
3. SEE TYPICAL DETAIL FOR DOWELS REQUIRED AT BASE OF WALLS.
4. CENTER REINFORCING BARS IN GROUTED CELLS UNLESS NOTED OTHERWISE.
5. USE BAR POSITIONERS AT MINIMUM 4'-0" SPACING TO SUPPORT REINFORCING BARS.
6. FOLLOW SPECIFIED GROUTING PROCEDURES.
7. CLEAN MORTAR FROM EDGES OF CELLS SO GROUT CAN FLOW SMOOTHLY AND FILL ENTIRE CELL.
8. USE LINTEL BLOCK OVER OPENINGS AND CONTINUE WITH OPEN-BOTTOM BOND BEAM FROM EDGE OF OPENING INTO WALL SO THAT VERTICAL REINFORCING AT JAMB CAN PASS.
9. CONTROL JOINTS SHALL EXTEND FULL HEIGHT OF WALL AND ALIGN FROM FLOOR TO FLOOR.
10. WHERE A CONTROL JOINT OCCURS THROUGH A BOND BEAM OR LINTEL BEARING, PROVIDE 2 ~ 1/2" DOWELS ACROSS JOINT WITH GREASE ON ONE SIDE. DO NOT CONTINUE HORIZONTAL REINFORCING ACROSS CONTROL JOINT.

TYPICAL C.M.U. WALL REINFORCEMENT DETAILS



LOOSE LINTEL SCHEDULE (FOR MASONRY VENEER)

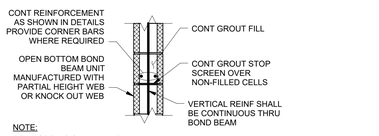
THIS SCHEDULE IS FOR LINTELS OVER MASONRY OPENINGS NOT OTHERWISE SHOWN OR NOTED ON DRAWINGS.

SPAN	ANGLE SIZE	PLAN MARK
UP TO 4'-0"	L3x 3 1/2 x 5/16 LLV	AL-1
UP TO 5'-6"	L4x 3 1/2 x 5/16 LLV	AL-2
UP TO 7'-6"	L5x 3 1/2 x 5/16 LLV	AL-3
UP TO 9'-6"	L6x 3 1/2 x 5/16 LLV	AL-4

NOTES:

1. PROVIDE ONE ANGLE FOR EACH 4" OF MASONRY WALL.
2. ANGLES EXPOSED TO WEATHER SHALL BE GALVANIZED.
3. MINIMUM BEARING LENGTH SHALL BE 4" EACH END.

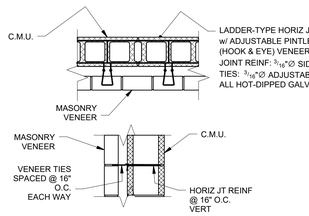
TYPICAL MASONRY VENEER LINTEL DETAIL



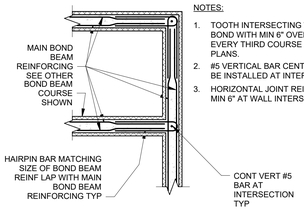
NOTE:

REINFORCING SHALL HAVE 3/4" MINIMUM GROUT COVER TO ALL C.M.U. SURFACES.

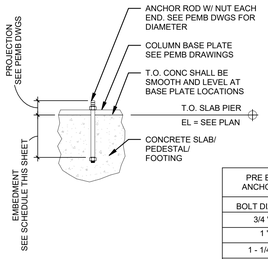
TYPICAL C.M.U. BOND BEAM DETAIL



TYPICAL HORIZ JOINT REINF AND VENEER DETAIL



TYPICAL MASONRY WALL INTERSECTION DETAIL

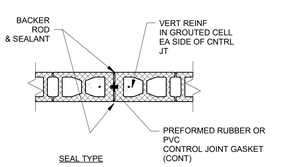


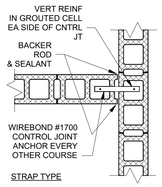
PRE ENGINEERED METAL BUILDING ANCHOR ROD EMBEDMENT LENGTHS	
BOLT DIAMETER	MIN EMBEDMENT*
3/4 "	1' - 6"
1 "	1' - 9"
1 - 1/4 "	2' - 0"
1 - 1/2 "	2' - 3"

NOTES:

1. VERIFY BASE PLATE DETAILS W METAL BUILDING DRAWINGS.
2. SET ANCHOR RODS WITH A TEMPLATE
3. * REDUCE EMBEDMENT FOR 3" CONCRETE COVER WHERE FOOTING THICKNESS WILL NOT ACCOMODATE EMBEDMENT IN TABLE.

TYPICAL METAL BUILDING ANCHOR ROD

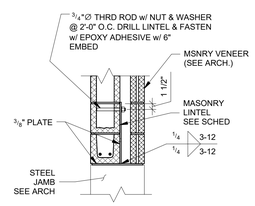




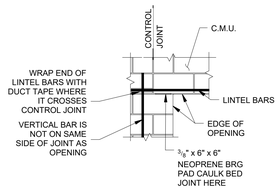
NOTES:

1. ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS.
2. DISCONTINUE HORIZONTAL JOINT REINFORCEMENT AND BOND BEAMS REINFORCEMENT AT CONTROL JOINTS.
3. UNLESS OTHERWISE SHOWN OR NOTED, SPACING OF CONTROL JOINTS SHALL NOT EXCEED 24 FEET.

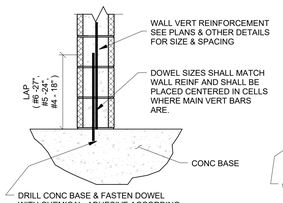
TYPICAL C.M.U. CONTROL JOINT DETAIL

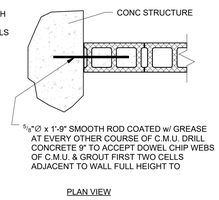


TYP MASONRY VNR LINTEL FOR OPNGS > = 10' W

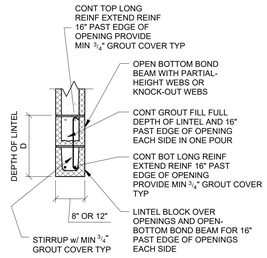


TYPICAL C.M.U. CONTROL JT @ OPENING





TYPICAL C.M.U. WALL DOWELS DETAIL

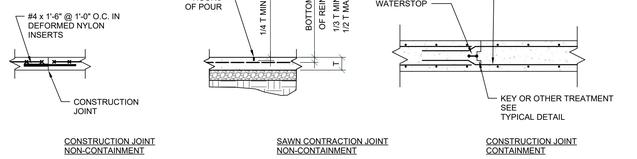


MASONRY LINTEL SCHEDULE					
MARK	MAX OPENING SIZE	D	BOTTOM REINF	TOP REINF	STIRRUPS
ML-1	5'-0"	8"	2~#5	NONE	NONE
ML-2	8'-0"	16"	2~#5	NONE	NONE
ML-3	11'-8"	24"	2~#5 (8" C.M.U.) 2~#6 (10" C.M.U.)	NONE	NONE
ML-4	18'-0"	24"	2~#5 (8" C.M.U.) 2~#6 (10" C.M.U.)	2~#5	#3@8"

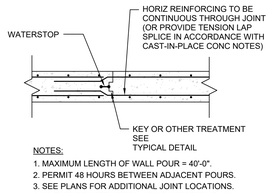
NOTES:

1. DO NOT USE THIS SCHEDULE IF CONCENTRATED LOAD IS APPLIED TO THE LINTEL AT A HEIGHT LESS THAN HALF THE SPAN ABOVE THE LINTEL OR IF STACK BOND IS SPECIFIED.
2. IN LIEU OF USING LINTEL BLOCK ON THE BOTTOM OF LINTELS WHICH, REQUIRES SHORING DURING CONSTRUCTION, CONTRACTOR MAY USE PRESTRESSED, PRECAST CONCRETE LINTELS BY "CAST-CRETE" (WWW.CASTCRETE.COM) OR APPROVED EQUAL. SUBMIT PRODUCT DATA AND A PLAN AND SCHEDULE OF LINTEL LOCATIONS AND SIZES FOR APPROVAL FOR THIS OPTION.

TYPICAL C.M.U. LINTEL DETAIL



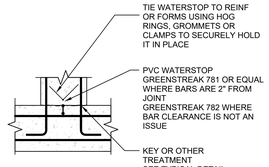
TYPICAL SLAB ON GRADE JOINTS



NOTES:

1. MAXIMUM LENGTH OF WALL POUR = 40'-0".
2. PERMIT 48 HOURS BETWEEN ADJACENT POURS.
3. SEE PLANS FOR ADDITIONAL JOINT LOCATIONS.
4. SUBMIT CONSTRUCTION JOINT LOCATION PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.
5. DO NOT FORM JOINTS WITHIN 5'-0" OF A CORNER OR TEE INTERSECTION.

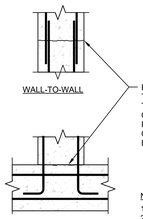
TYPICAL WALL CONSTRUCTION JOINT



NOTES:

1. USE THIS DETAIL IF A SPECIFIC DETAIL IS NOT INDICATED OTHERWISE ON PLANS AND SECTIONS.

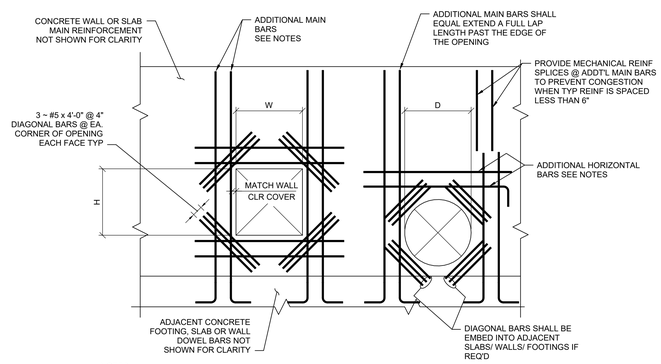
TYPICAL WATERSTOP



NOTES:

1. JOINT MAY BE WALL-TO-WALL OR SLAB-TO-SLAB.
2. WATERSTOP MAY BE REQUIRED SEE PLANS.
3. SEE OTHER DETAILS FOR MORE JOINT INFORMATION.

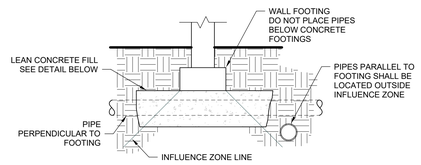
TYPICAL CONSTRUCTION JOINT CONCRETE PREPARATION

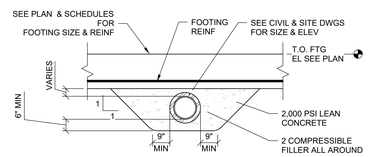


NOTES:

1. USE THIS DETAIL IF ADDITIONAL REINFORCEMENT IS NOT INDICATED OTHERWISE ON DRAWINGS.
2. SPECIFIED REINFORCEMENT CONCRETE COVER REQUIRED AT ALL OPENINGS. SEE OTHER SECTIONS FOR COVER REQUIREMENTS.
3. REINFORCEMENT SPACING SHALL NOT EXCEED 12" FOR LIQUID RETAINING STRUCTURES.
4. ADDITIONAL BARS SHALL BE EQUAL TO THE NUMBER AND SIZE OF BARS INTERRUPTED BY THE OPENING. IF THE INTERRUPTED BARS ARE AN ODD NUMBER, THEN ROUND UP TO THE NEAREST EVEN NUMBER AND PROVIDE HALF THAT NUMBER AS ADDITIONAL BARS TO EACH SIDE OF THE OPENING AND EACH FACE. THE LENGTH OF THE BARS SHALL EQUAL THE WIDTH OF THE OPENING + STANDARD LAP LENGTH, HOOK IF LAP LENGTH IS NOT AVAILABLE AT EITHER END.
5. IF ADDITIONAL DIAGONAL BARS REQUIRED AT THE CORNERS OF THE OPENINGS CONFLICT WITH ONE ANOTHER THE CONFLICTING ENDS THEN HOOK ENDS OF DIAGONAL BARS AS REQUIRED.
6. ADDITIONAL BARS MAY EXTEND ACROSS TWO OR MORE OPENINGS CONTINUOUSLY.

TYPICAL REINFORCEMENT AT WALL & SLAB OPENINGS





NOTE:

PROVIDE CONCRETE PROTECTION AROUND UTILITY LINE WHEN LINE IS WITHIN FOOTING INFLUENCE ZONE. SEE DETAIL ABOVE FOR INFLUENCE ZONE DEFINITION.

TYPICAL UTILITY LINE BELOW FOOTING

MATTHEW W. CRAIG 24118
PROFESSIONAL ENGINEER
SIGNATURE

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
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TYPICAL DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
MWC	NEK	MWC	MWC

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

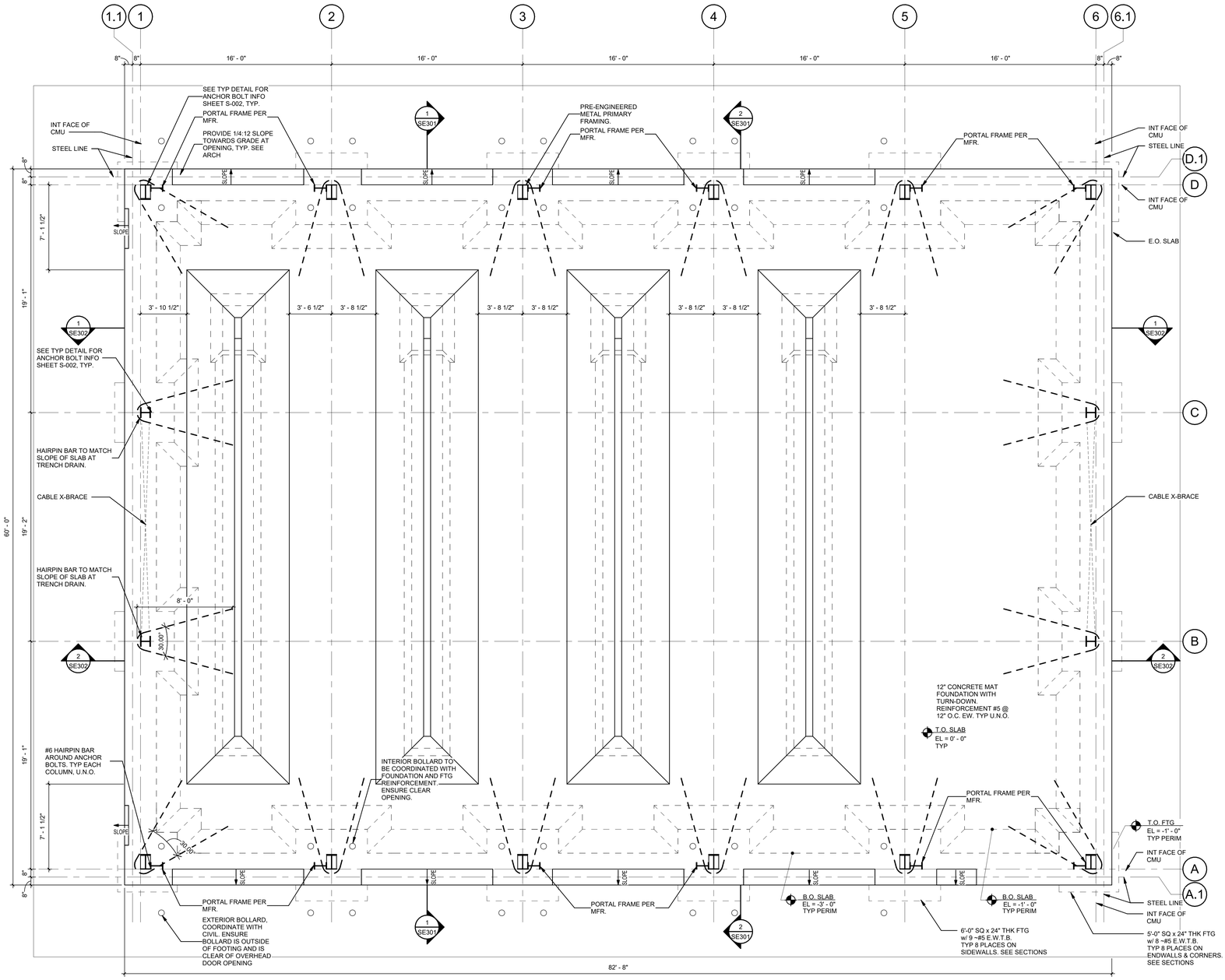
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/2" = 1'-0"

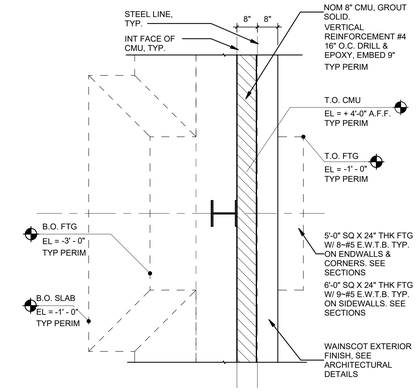
SHEET NO.: S-002 03

EV:4/2025 1:46:28 PM C:\DATA\LFUCG (VMC)\4CB\Working\Drawings\Revit Arch\Central Model\05247JMC4CB0820.rvt



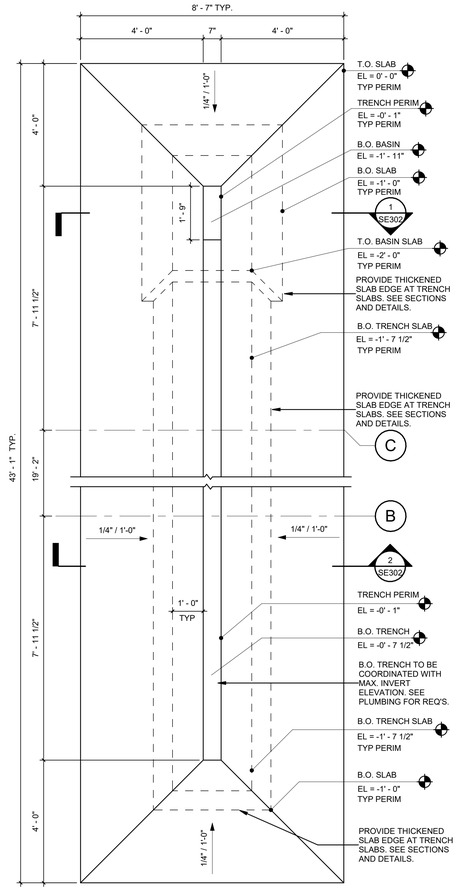
1 FOUNDATION PLAN

SCALE: 1/4" = 1'-0"



2 ENLARGED PLAN - WAINSCOT

SCALE: 1/2" = 1'-0"



3 ENLARGED PLAN - TRENCH, TYP

SCALE: 1/2" = 1'-0"

PLAN NORTH

AREA KEY PLAN

GENERAL NOTES:

1. TYPICAL SLAB REINFORCEMENT SHALL BE #5 12" O.C. EACH WAY TOP & BOTTOM.
2. SEE SPECIFICATIONS FOR BUILDING STRUCTURE BACKFILL REQ'S.
3. SLAB SHALL BE SLOPED 1/4" :12" AT OPENINGS, COORDINATE SIZE OF DOOR OPENINGS & LOCATIONS WITH ARCHITECTURE.
4. SLAB SHALL BE SLOPED AT 1/4":12" AT TRENCH DRAINS.
5. BYPASS GIRTS ARE TO BE COORDINATED WITH CMU AND FRAMED OPENINGS. BASIS OF DESIGN IS FOR GIRTS TO BE 8" WIDE.
6. BASE CHANNELS ARE TO BE COORDINATED WITH CMU. BASIS OF DESIGN IS FOR CHANNELS TO BE 8" WIDE.
7. 8" CMU SHALL BE GROUTED SOLID. VERTICAL REINFORCEMENT SHALL BE #4 16" O.C. DRILL & EPOXY, EMBED 9".
8. PLACEMENT OF INTERIOR BOLLARDS TO BE COORDINATED WITH FOUNDATION REINFORCEMENT AND HAIRPIN TIES.
9. PLACEMENT OF EXTERIOR BOLLARDS TO BE COORDINATED WITH CIVIL. ENSURE BOLLARD IS OUTSIDE OF FOOTING AND IS CLEAR OF DOOR OPENING.

MATTHEW W. CRAIG 24118 — PROFESSIONAL ENGINEER — 08/15/2025

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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FOUNDATION PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
MWC	NEK	MWC	MWC

REVISIONS

NO.	DESCRIPTION	DATE	BY

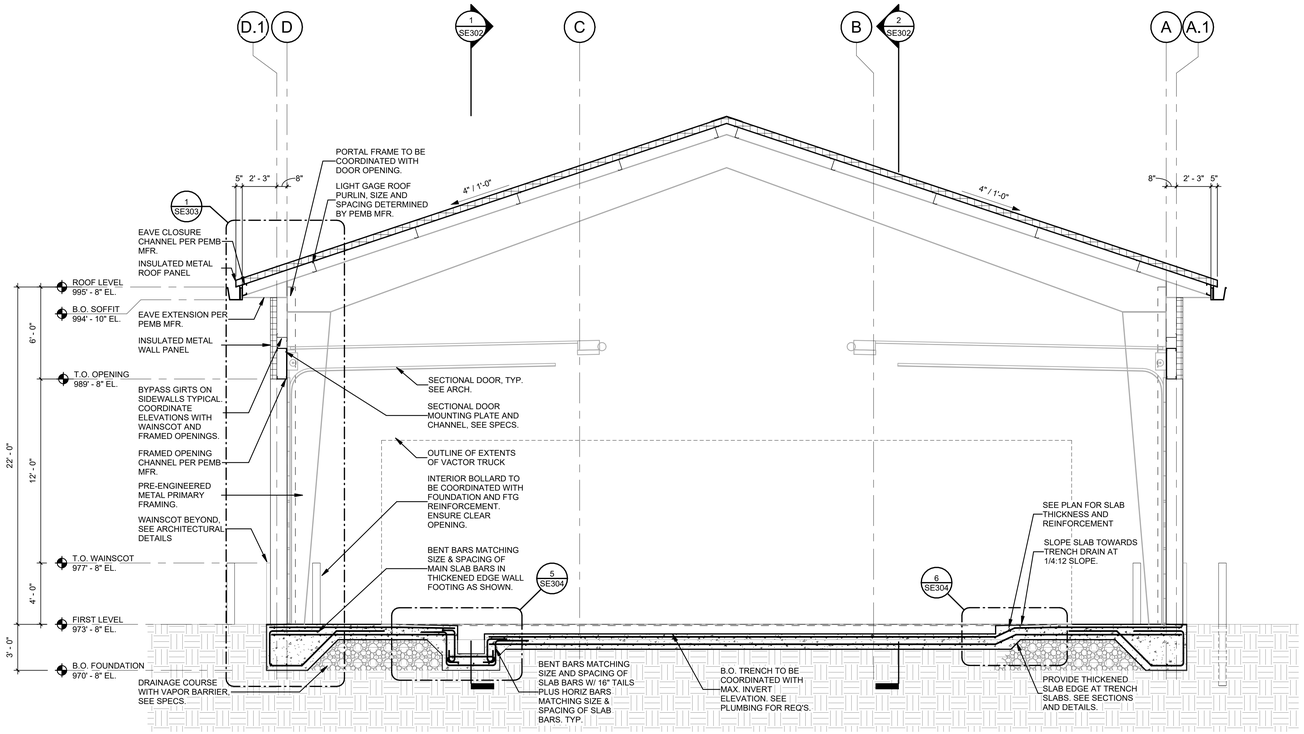
SCALE CHECK 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: As indicated

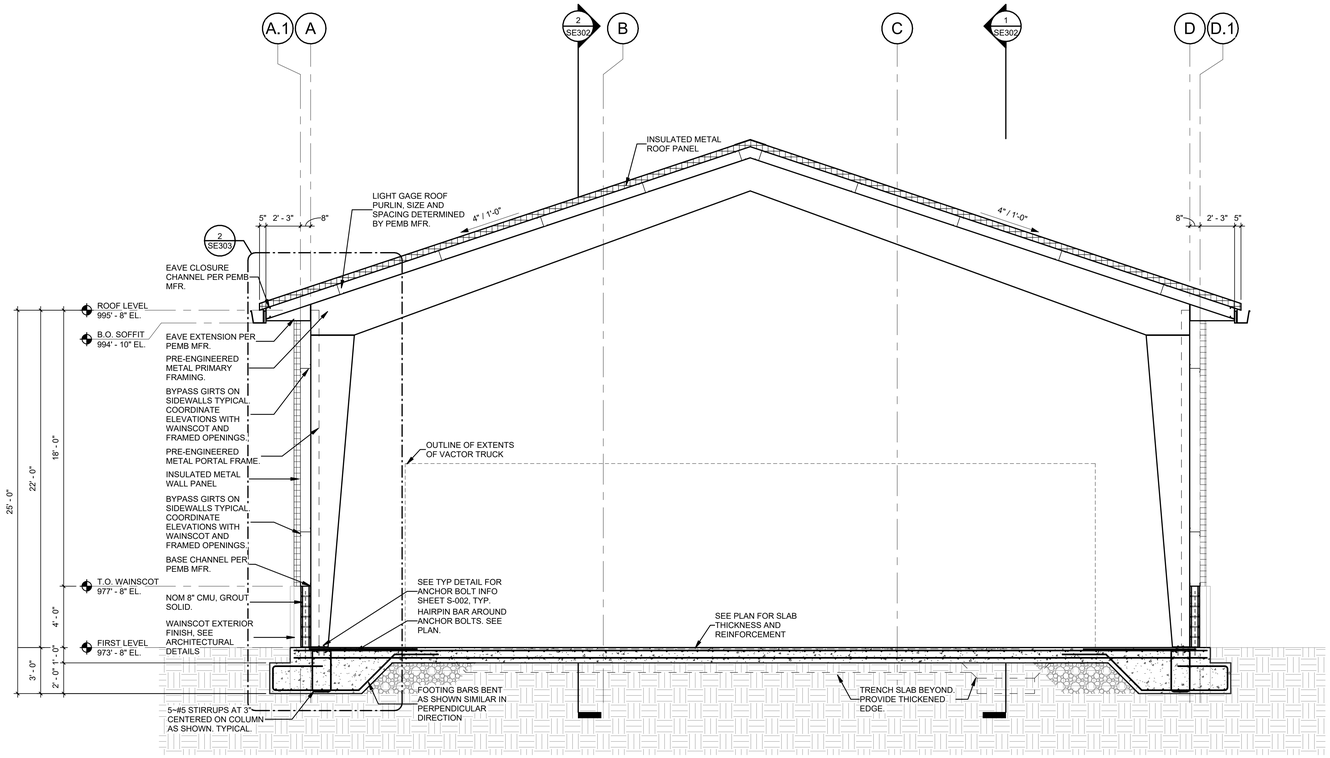
SHEET NO.: SB101 03

8/14/2025, 1:11:52 PM G:\GA\FLEX\CD DWG\ArchWorking\Drawings\RevitArch\Central Model\GA7\AES\SB003.rvt



1 TRANSVERSE BUILDING SECTION - AT SLAB TURNDOWN

SCALE: 1/4" = 1'-0"



2 TRANSVERSE BUILDING SECTION - AT FOOTING

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. TYPICAL SLAB REINFORCEMENT SHALL BE #5 12" O.C. EACH WAY TOP & BOTTOM.
2. SEE SPECIFICATIONS FOR BUILDING STRUCTURE BACKFILL REQ'S.
3. SLAB SHALL BE SLOPED 1/4" :12" AT OPENINGS. COORDINATE SIZE OF DOOR OPENINGS & LOCATIONS WITH ARCHITECTURE.
4. SLAB SHALL BE SLOPED AT 1/4":12" AT TRENCH DRAINS.
5. BYPASS GIRTS ARE TO BE COORDINATED WITH CMU AND FRAMED OPENINGS. BASIS OF DESIGN IS FOR GIRTS TO BE 8" WIDE.
6. BASE CHANNELS ARE TO BE COORDINATED WITH CMU. BASIS OF DESIGN IS FOR CHANNELS TO BE 8" WIDE.
7. 8" CMU SHALL BE GROUTED SOLID. VERTICAL REINFORCEMENT SHALL BE #4 16" O.C. DRILL & EPOXY. EMBED 9".
8. PLACEMENT OF INTERIOR BOLLARDS TO BE COORDINATED WITH FOUNDATION REINFORCEMENT AND HAIRPIN TIES.
9. PLACEMENT OF EXTERIOR BOLLARDS TO BE COORDINATED WITH CIVIL. ENSURE BOLLARD IS OUTSIDE OF FOOTING AND IS CLEAR OF DOOR OPENING.

MATTHEW W. CRAIG 24113 LICENSED PROFESSIONAL ENGINEER 8/15/25

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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TRANSVERSE BUILDING SECTIONS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
MWC	NEK	MWC	MWC

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO. SE301 03

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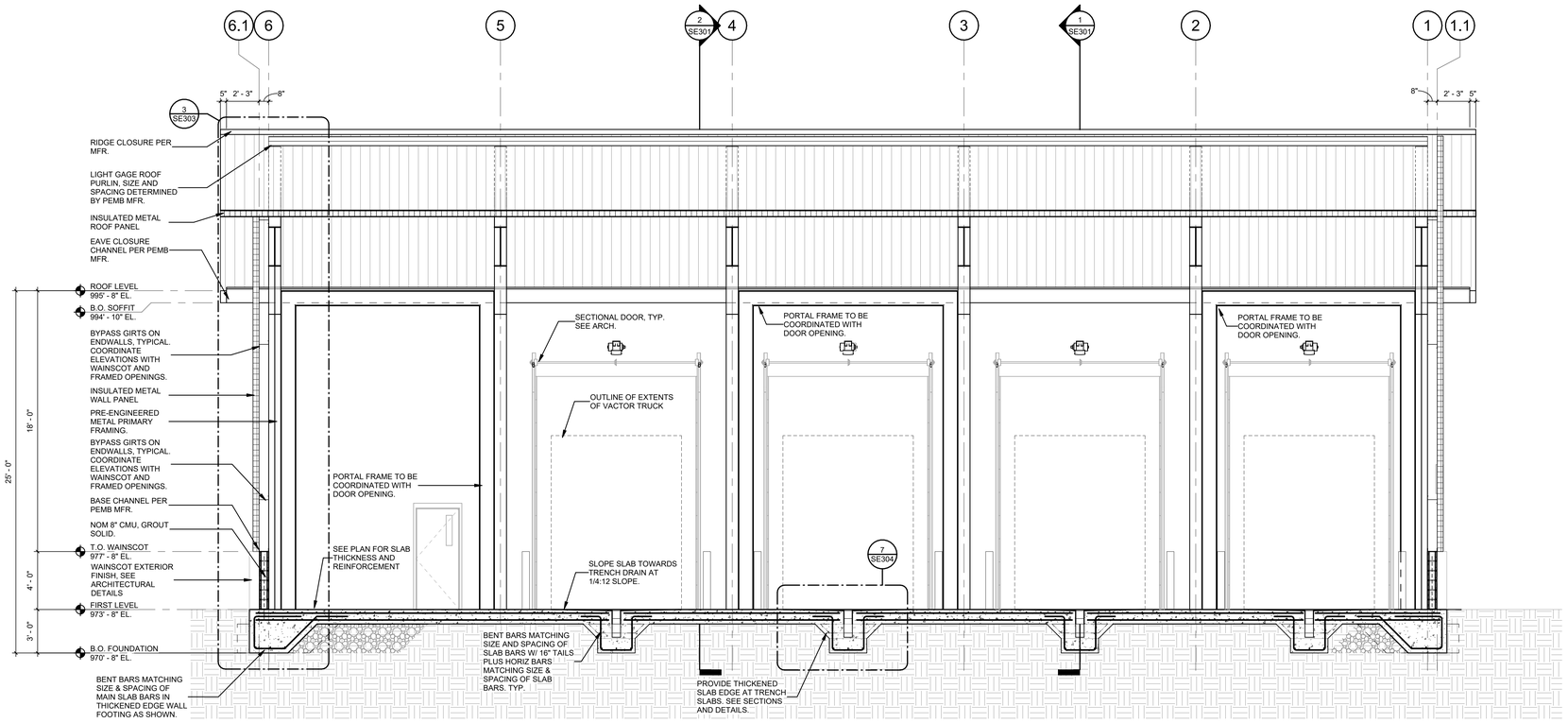
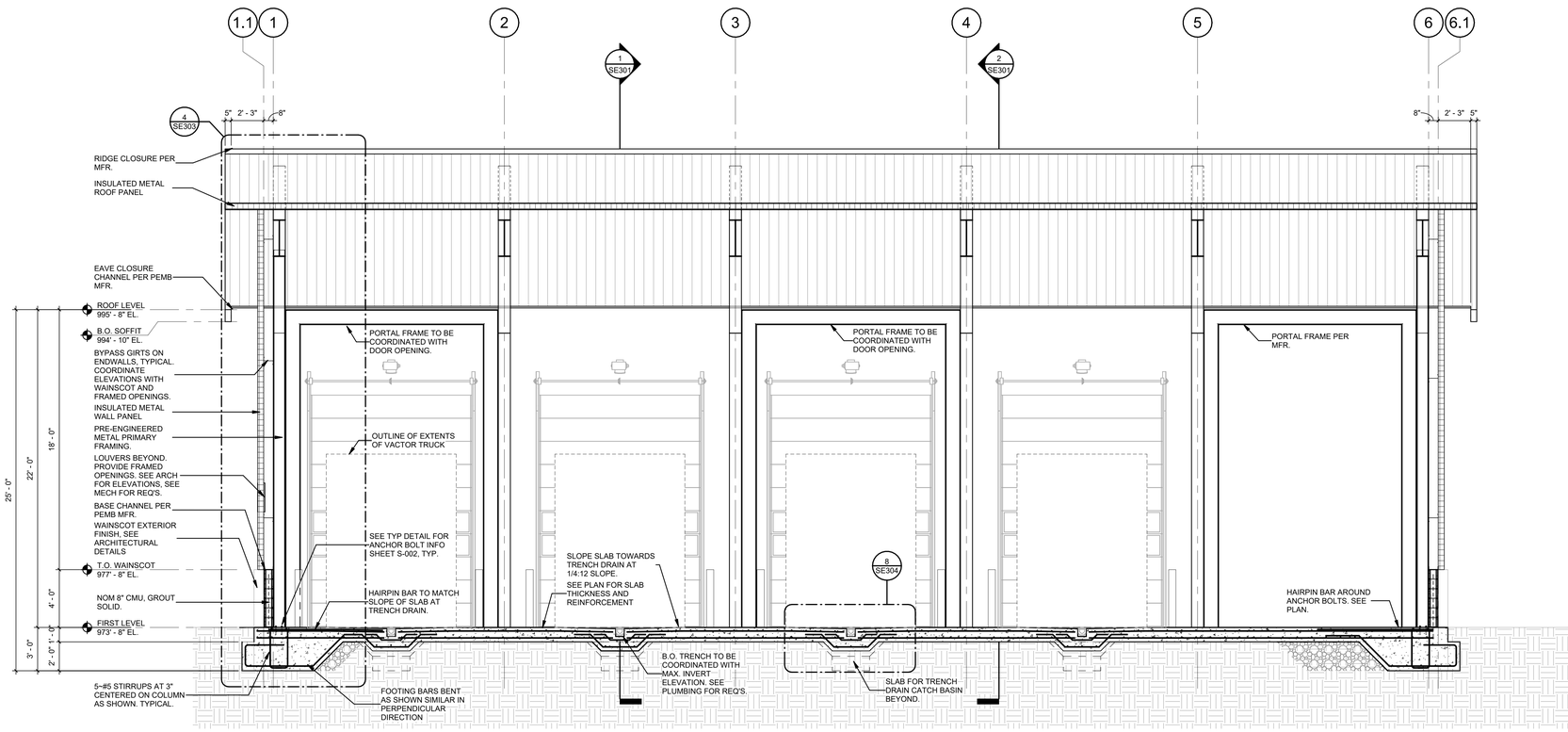


1 LONGITUDINAL BUILDING SECTION - AT SLAB TURNDOWN

SCALE: 1/4" = 1'-0"



2 LONGITUDINAL BUILDING SECTION - AT FOOTING

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. TYPICAL SLAB REINFORCEMENT SHALL BE #5 12" O.C. EACH WAY TOP & BOTTOM.
2. SEE SPECIFICATIONS FOR BUILDING STRUCTURE BACKFILL REQ'S.
3. SLAB SHALL BE SLOPED 1/4" :12" AT OPENINGS, COORDINATE SIZE OF DOOR OPENINGS & LOCATIONS WITH ARCHITECTURE.
4. SLAB SHALL BE SLOPED AT 1/4":12" AT TRENCH DRAINS.
5. BYPASS GIRTS ARE TO BE COORDINATED WITH CMU AND FRAMED OPENINGS. BASIS OF DESIGN IS FOR GIRTS TO BE 8" WIDE.
6. BASE CHANNELS ARE TO BE COORDINATED WITH CMU. BASIS OF DESIGN IS FOR CHANNELS TO BE 8" WIDE.
7. 8" CMU SHALL BE GROUTED SOLID. VERTICAL REINFORCEMENT SHALL BE #4 16" O.C. DRILL & EPOXY. EMBED 9".
8. PLACEMENT OF INTERIOR BOLLARDS TO BE COORDINATED WITH FOUNDATION REINFORCEMENT AND HAIRPIN TIES.
9. PLACEMENT OF EXTERIOR BOLLARDS TO BE COORDINATED WITH CIVIL. ENSURE BOLLARD IS OUTSIDE OF FOOTING AND IS CLEAR OF DOOR OPENING.

MATTHEW W. CRAIG 24113 LICENSED PROFESSIONAL ENGINEER SIGNAL MOUNTAIN, TN

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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www.grmtnc.com

LONGITUDINAL BUILDING SECTION

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
MWC	NEK	MWC	MWC

REVISIONS

NO	DESCRIPTION	DATE	BY

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: SE302 03

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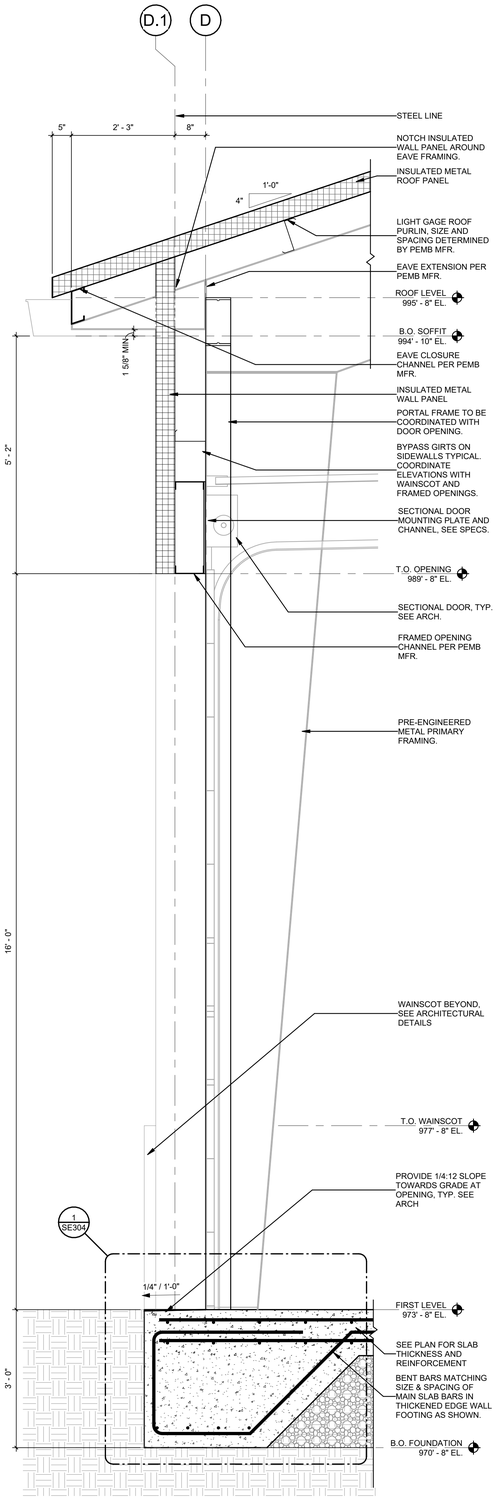
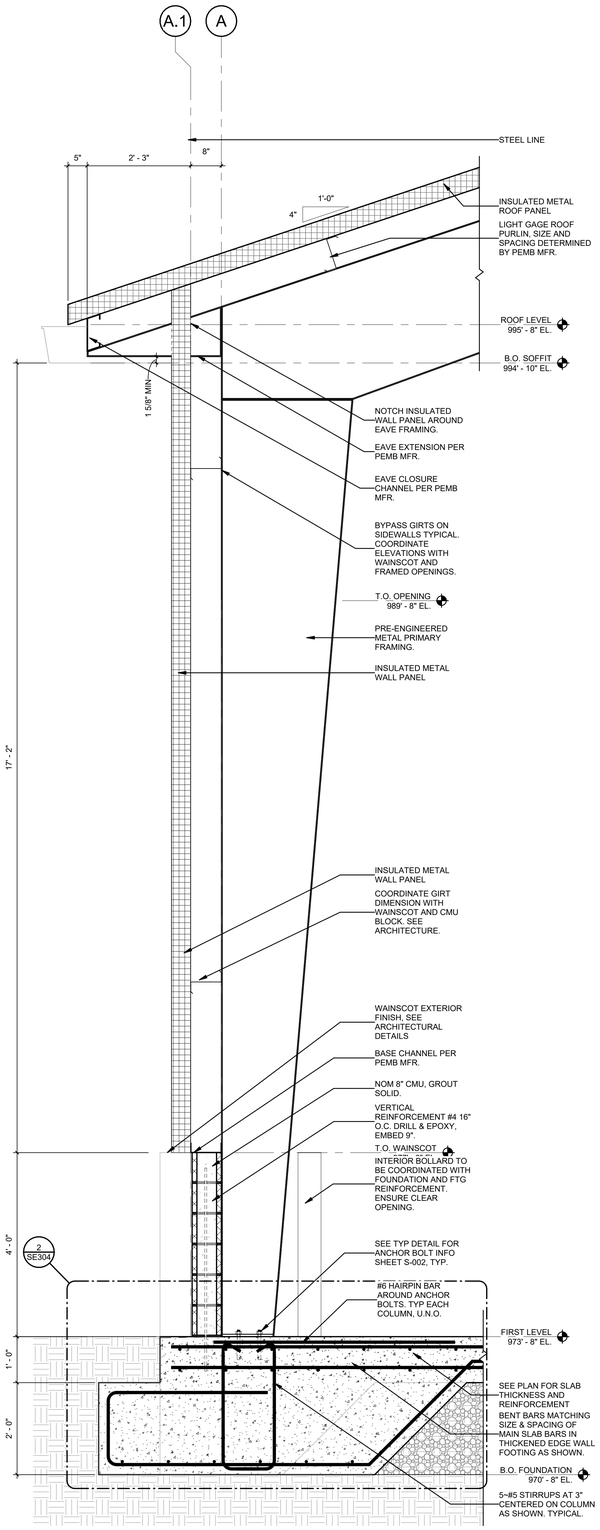


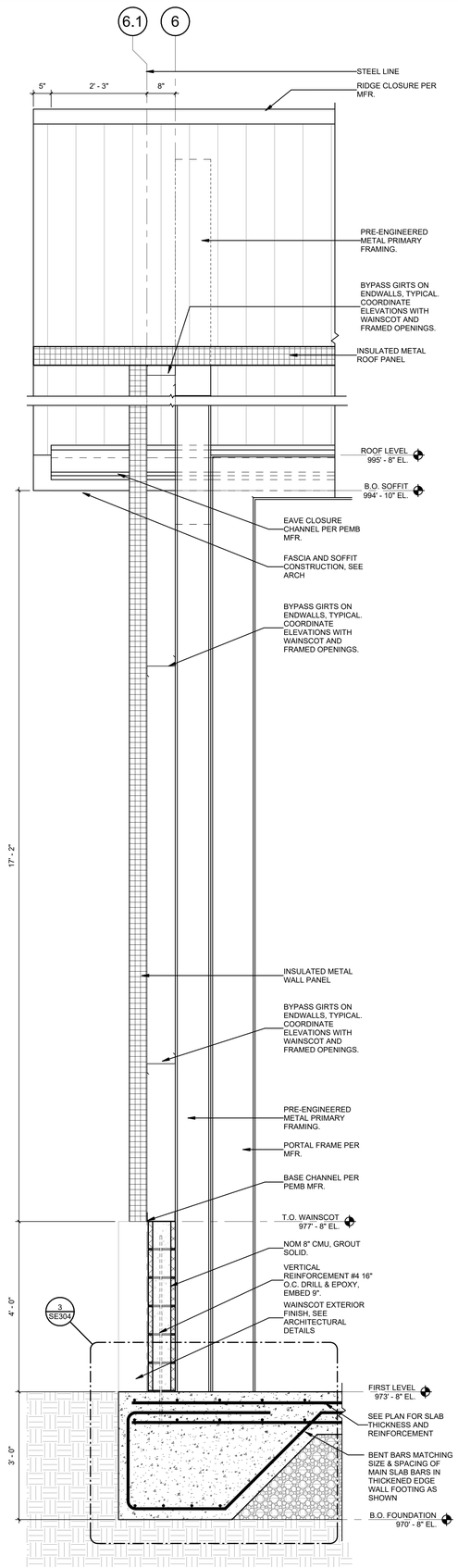
1 WALL SECTION 1

SCALE: 3/4" = 1'-0"



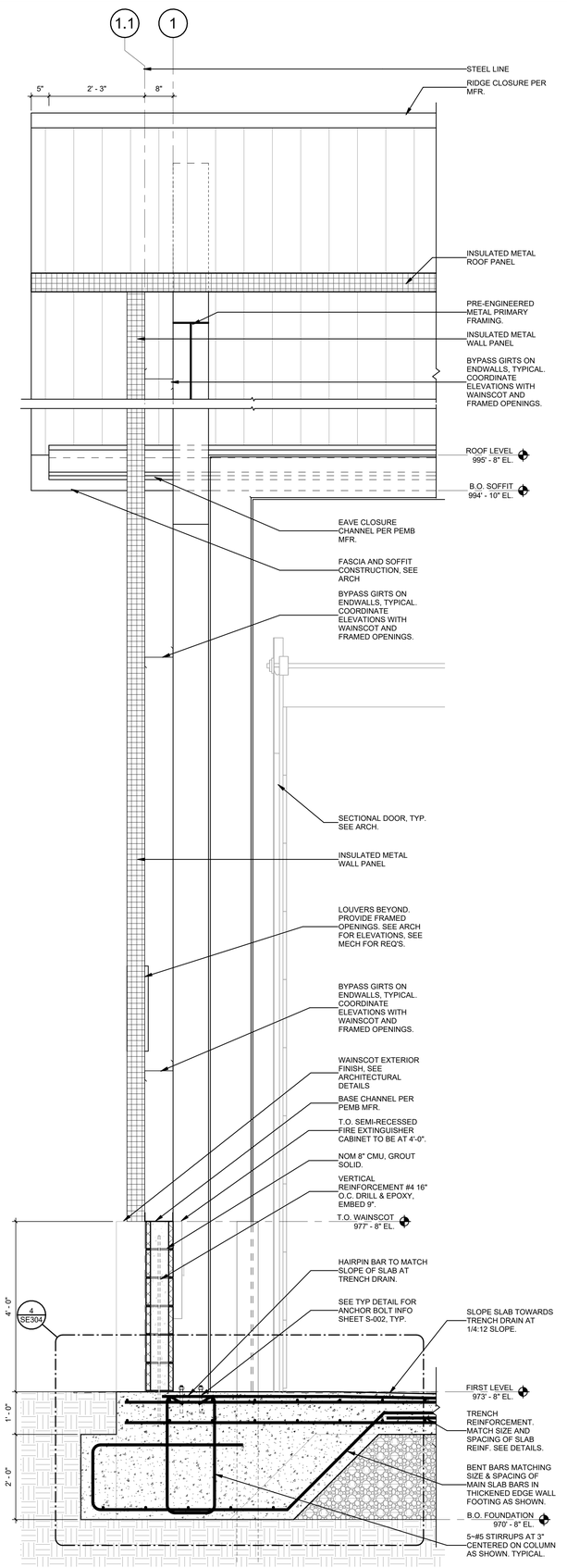
2 WALL SECTION 2

SCALE: 3/4" = 1'-0"



3 WALL SECTION 3

SCALE: 3/4" = 1'-0"



4 WALL SECTION 4

SCALE: 3/4" = 1'-0"

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MATTHEW W. CRAIG 24113 LICENSED PROFESSIONAL ENGINEER
STATE OF KANSAS

CONSTRUCTION DOCUMENTS

GRH PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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www.grhinc.com

WALL SECTIONS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
MWC	NEK	MWC	MWC

REVISIONS

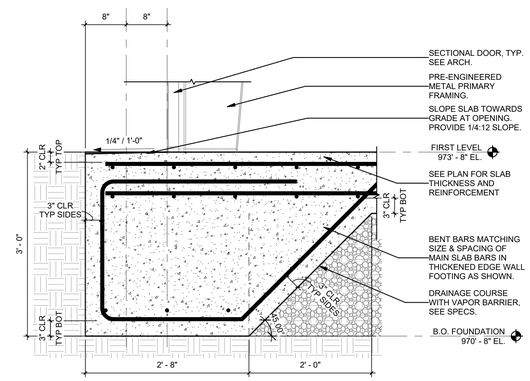
NO	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

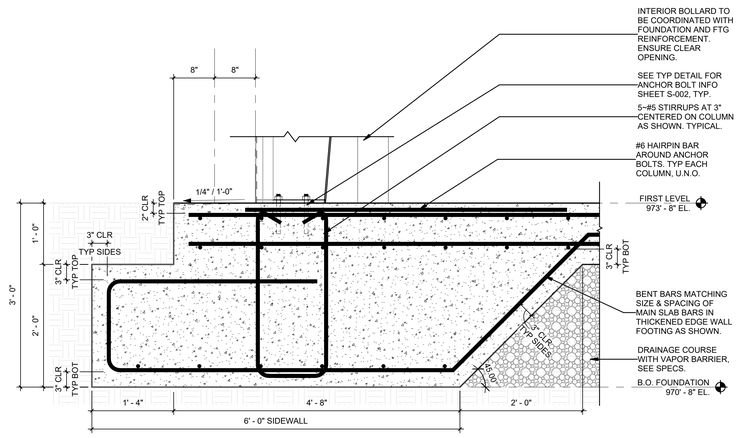
SCALE: 3/4" = 1'-0"

SHEET NO. SE303 03



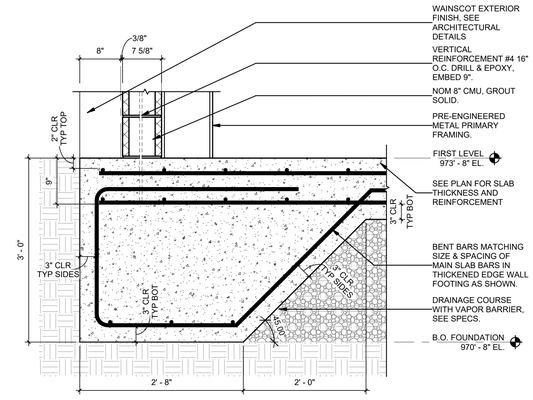
1 FOUNDATION DETAIL 1

SCALE: 1" = 1'-0"



2 FOUNDATION DETAIL 2

SCALE: 1" = 1'-0"



3 FOUNDATION DETAIL 3

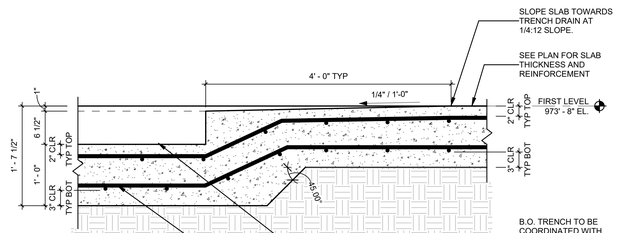
SCALE: 1" = 1'-0"

4 FOUNDATION DETAIL 4

SCALE: 1" = 1'-0"

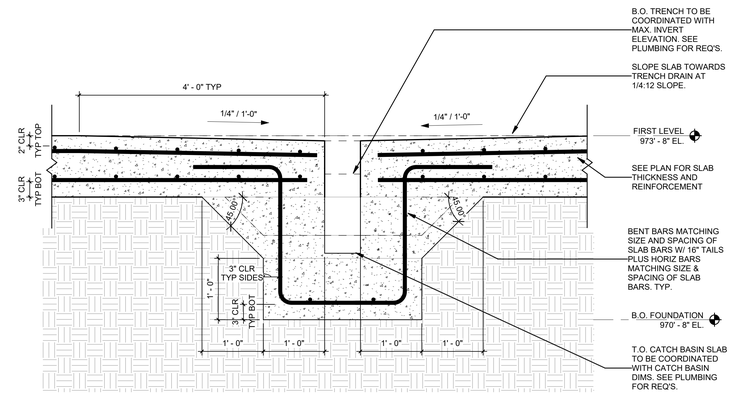
5 FOUNDATION DETAIL - TRENCH DRAIN CATCH BASIN SLAB

SCALE: 1" = 1'-0"



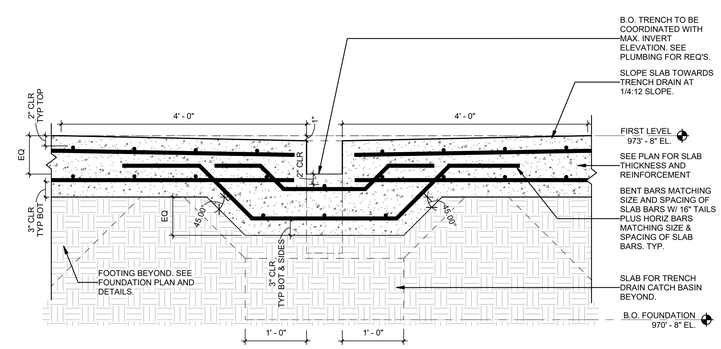
6 FOUNDATION DETAIL - TRENCH DRAIN SLAB

SCALE: 1" = 1'-0"



7 FOUNDATION DETAIL - TRENCH DRAIN CATCH BASIN

SCALE: 1" = 1'-0"



8 FOUNDATION DETAIL - TRENCH DRAIN

SCALE: 1" = 1'-0"

MATTHEW W. CRAIG 24113 LICENSED PROFESSIONAL ENGINEER
GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025
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CONSTRUCTION DOCUMENTS

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FOUNDATION DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED	MWC
DRAWN	NEK
REVIEWED	MWC
APPROVED	MWC

REVISIONS

NO	REVISION DESCRIPTION	DATE

IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1" = 1'-0"

SHEET NO. SE304 03

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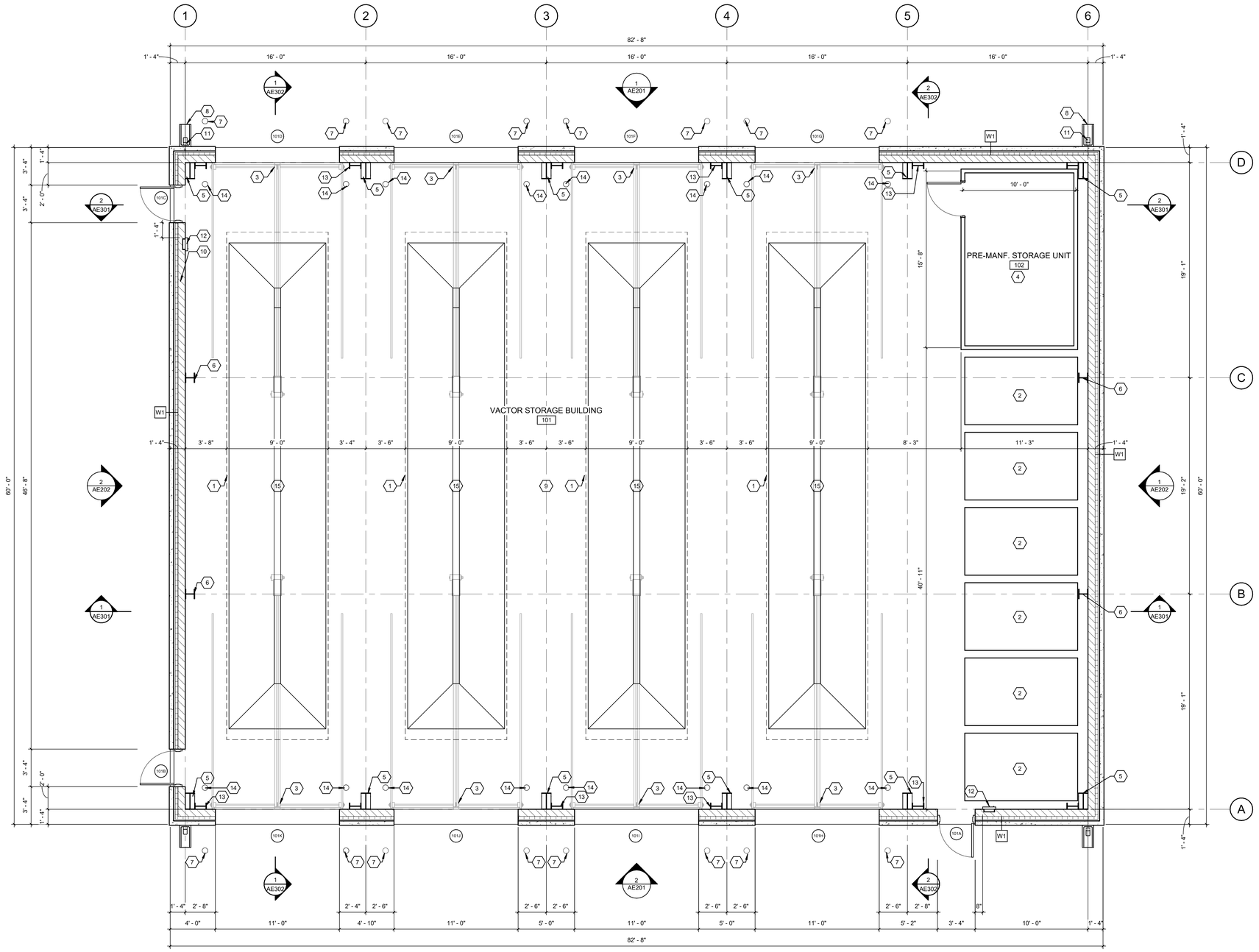

1 FIRST LEVEL
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE SITE/CIVIL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - VACTOR TRUCK (9' X 45') (OFOI)
2	EQUIPMENT - PUMP (6' X 10') (OFOI)
3	SECTIONAL DOOR, TRACK AND MOTOR ABOVE
4	PREMANUFACTURED STORAGE UNIT. OFCI, VERIFY DIMENSIONS. SEE MECHANICAL AND ELECTRICAL FOR ADDITIONAL REQUIREMENTS.
5	PRE-ENGINEERED METAL PRIMARY FRAMING.
6	PRE-ENGINEERED METAL PRIMARY FRAMING. ENDWALL COLUMN
7	EXTERIOR BOLLARD, COORDINATE WITH CIVIL. ENSURE BOLLARD IS OUTSIDE OF FOOTING AND IS CLEAR OF OVERHEAD DOOR OPENING
8	PROVIDE DOWNSPOUT SPLASH BLOCK
9	12" CONCRETE MAT FOUNDATION WITH TURN-DOWN OVER 10MIL VAPOR BARRIER AND GRANULE DRAINAGE COURSE. SEE STRUCTURAL FOR REINFORCEMENT AND FOUNDATION REQ'S.
10	WAINSCOT. 4" NOM. SPLIT-FACED CMU OVER 1 3/4" AIR GAP, 3" RIGID INSULATION AND 8" CMU SEE ELEVATIONS AND SECTIONS.
11	PRE-FINISHED METAL DOWNSPOUT, SEE SPECS.
12	T.O. SEMI-RECESSED FIRE EXTINGUISHER CABINET TO BE AT 4'-0".
13	PRE-ENGINEERED METAL PORTAL FRAME.
14	INTERIOR BOLLARD TO BE COORDINATED WITH FOUNDATION AND FTG REINFORCEMENT. ENSURE CLEAR OPENING.
15	TRENCH DRAIN. SEE STRUCTURAL AND PLUMBING FOR REQ'S.

AREA KEY PLAN

PLAN NORTH

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH
08/15/25

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB
70-2025

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FIRST LEVEL - FLOOR PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/4" = 1'-0"
SHEET NO.: AE101 03

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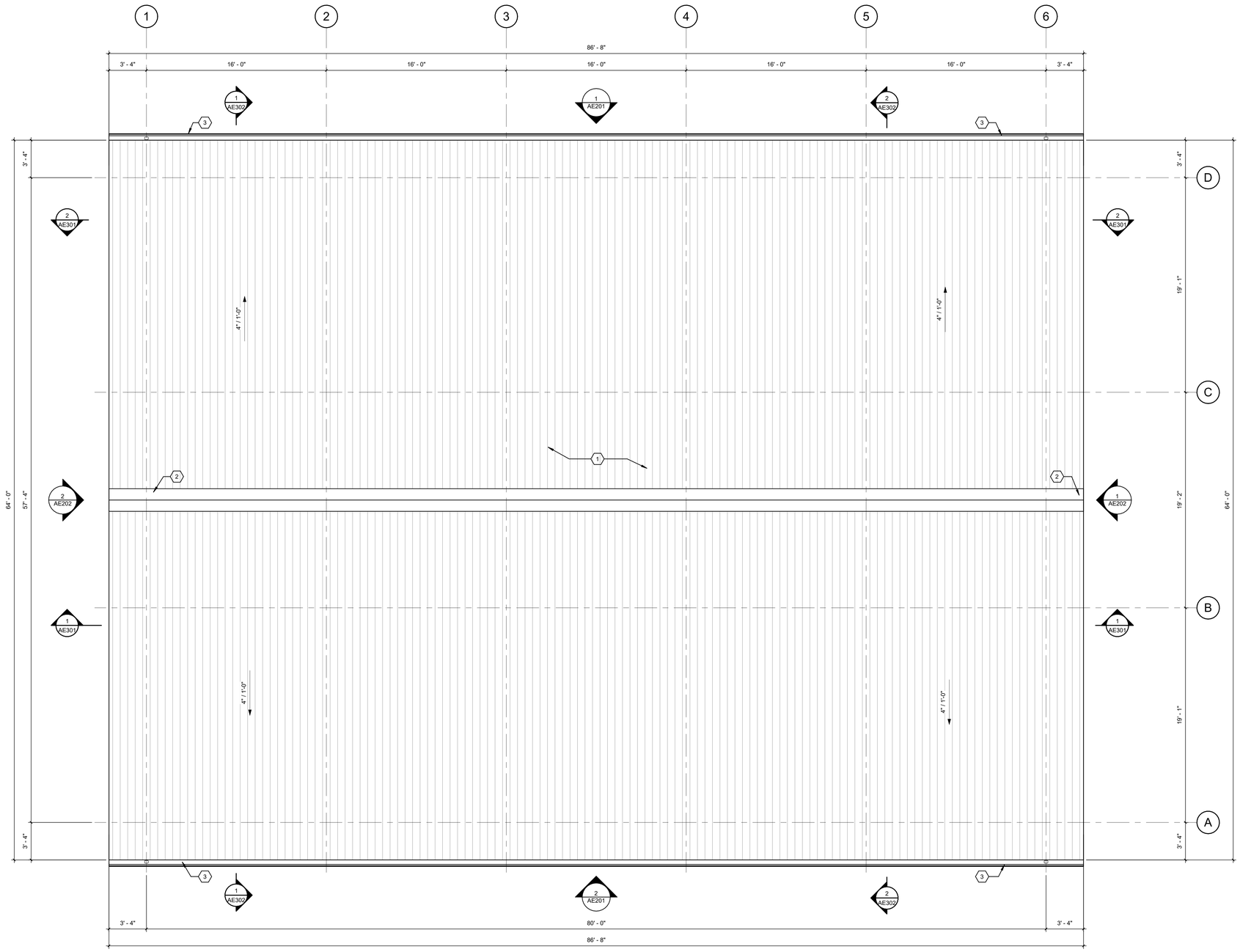

1 ROOF LEVEL
SCALE: 1/4" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1. PROVIDE SNOW GUARDS. FULL LENGTH OF ROOF EDGE, BOTH SIDES. SEE SPECS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE SITE/CIVIL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	INSULATED METAL ROOF PANEL
2	RIDGE CLOSURE PER MFR.
3	PRE-FINISHED METAL GUTTER, SEE SPECS.

AREA KEY PLAN

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ROOF LEVEL - PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY

REVISION DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

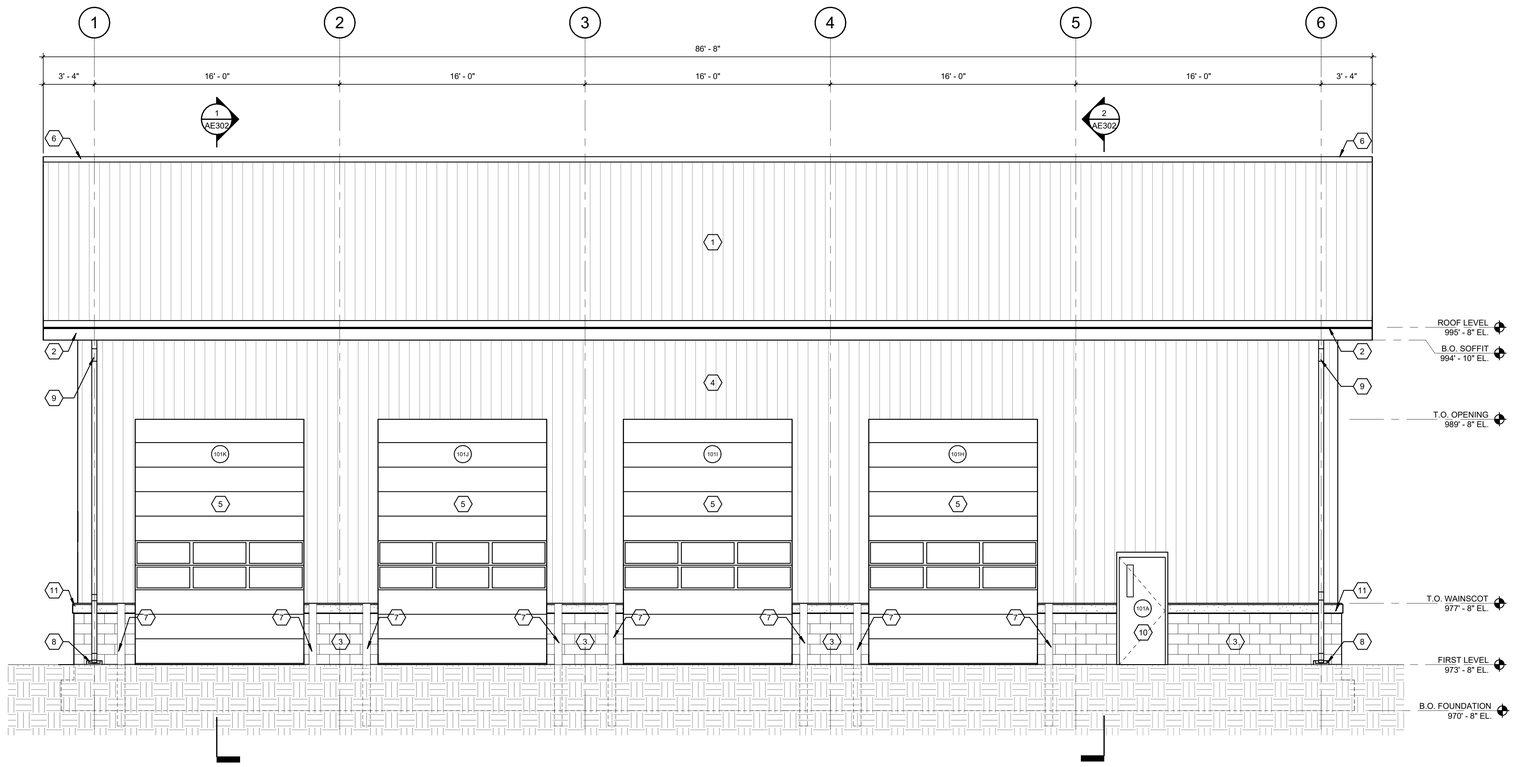
SCALE: 1/4" = 1'-0"

SHEET NO.: AE102 03

BUILDING 1 of 1.DS Rel G:\GA7-FLF\CD DWG\ HCB\Working\Drawings\Revit Arch\Central Model\GA7TAKEOFF.rvt

1 EXTERIOR NORTH ELEVATION

SCALE: 1/4" = 1'-0"



2 EXTERIOR SOUTH ELEVATION

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE SITE/CIVIL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	INSULATED METAL ROOF PANEL
2	PRE-FINISHED METAL GUTTER, SEE SPECS.
3	WAINSCOT EXTERIOR FINISH - 4" NOM. SPLIT-FACED CMU.
4	INSULATED METAL WALL PANEL
5	SECTIONAL DOOR, TYP. SEE SCHEDULE.
6	RIDGE CLOSURE PER MFR.
7	EXTERIOR BOLLARD, COORDINATE WITH CIVIL. ENSURE BOLLARD IS OUTSIDE OF FOOTING AND IS CLEAR OF OVERHEAD DOOR OPENING
8	PROVIDE DOWNSPOUT SPLASH BLOCK
9	PRE-FINISHED METAL DOWNSPOUT, SEE SPECS.
10	HOLLOW METAL DOOR, SEE SCHEDULE.
11	PRECAST WATER TABLE, TYP.

AREA KEY PLAN

JAMES E. K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH

GRX PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

EXTERIOR ELEVATIONS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: AE201 03

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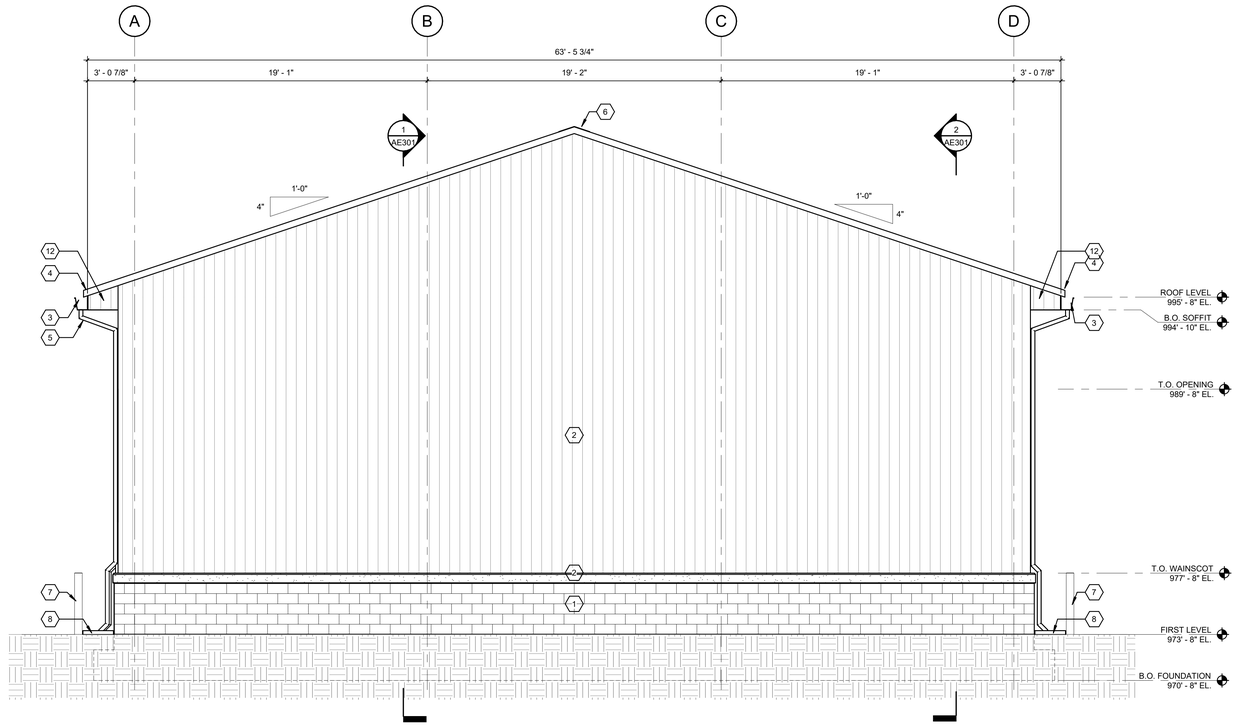
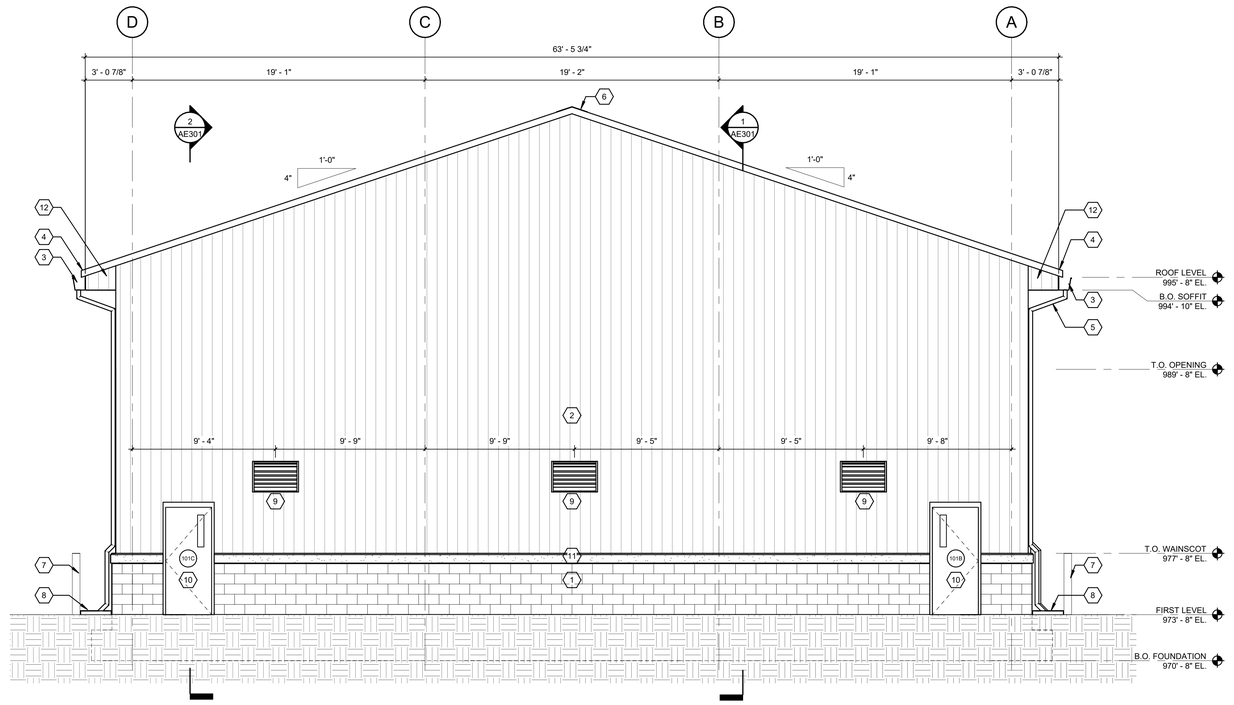


1 EXTERIOR EAST ELEVATION

SCALE: 1/4" = 1'-0"



2 EXTERIOR WEST ELEVATION

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE SITE/CIVIL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	WAINSCOT EXTERIOR FINISH - 4" NOM. SPLIT-FACED CMU.
2	INSULATED METAL WALL PANEL
3	PRE-FINISHED METAL GUTTER, SEE SPECS.
4	INSULATED METAL ROOF PANEL
5	PRE-FINISHED METAL DOWNSPOUT, SEE SPECS.
6	RIDGE CLOSURE PER MFR.
7	EXTERIOR BOLLARD, COORDINATE WITH CIVIL. ENSURE BOLLARD IS OUTSIDE OF FOOTING AND IS CLEAR OF OVERHEAD DOOR OPENING
8	PROVIDE DOWNSPOUT SPLASH BLOCK.
9	PROVIDE INTAKE LOUVER. B.O. LOUVER TO BE AT 8'0" A.F.F. SEE MECHANICAL.
10	HOLLOW METAL DOOR, SEE SCHEDULE.
11	PRECAST WATER TABLE, TYP.
12	EAVE CLOSURE PANEL ENDWALL

AREA KEY PLAN

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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www.grm-inc.com

CONSTRUCTION DOCUMENTS

EXTERIOR ELEVATIONS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY

DESCRIPTION

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: AE202 03

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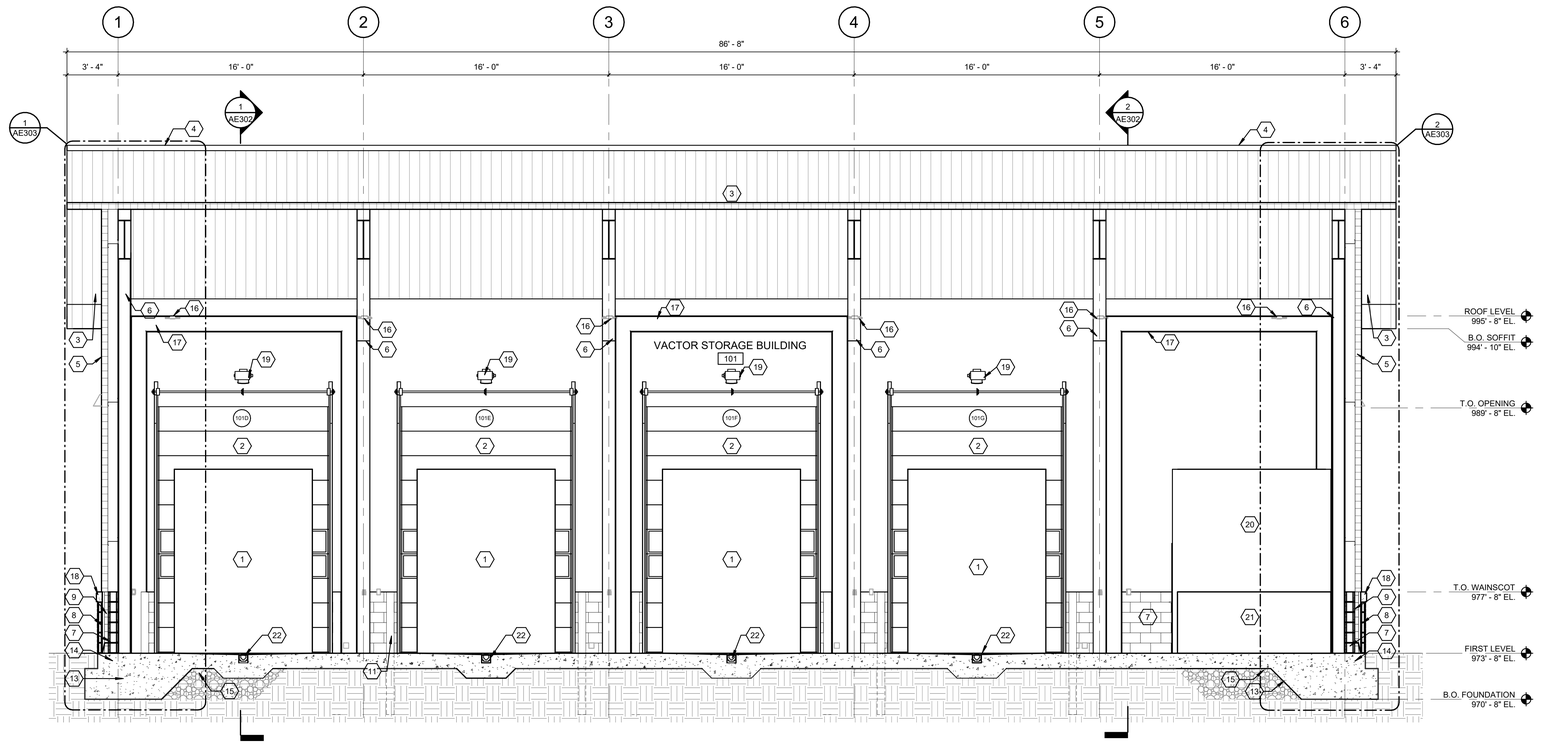
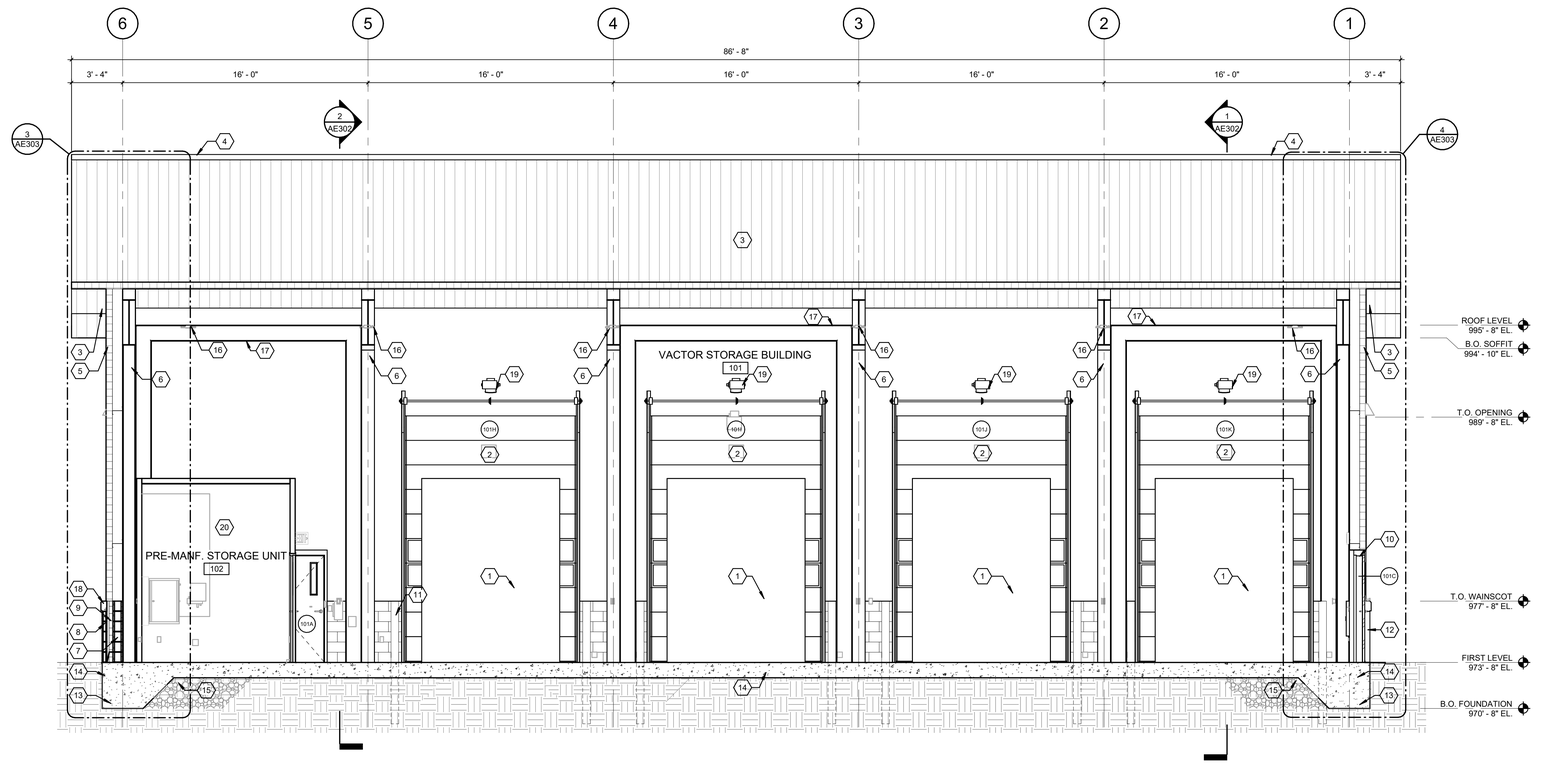


1 LONGITUDINAL BUILDING SECTION 1

SCALE: 1/4" = 1'-0"



2 LONGITUDINAL BUILDING SECTION 2

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE SITE/CIVIL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - VACTOR TRUCK (9' X 45') (OFOI)
2	SECTIONAL DOOR, TYP. SEE SCHEDULE.
3	INSULATED METAL ROOF PANEL
4	RIDGE CLOSURE PER MFR.
5	INSULATED METAL WALL PANEL.
6	PRE-ENGINEERED METAL PRIMARY FRAMING.
7	8" NOM CMU, GROUT SOLID. SEE STRUCTURAL FOR REINFORCEMENT REQ'S.
8	4" NOM SPLIT-FACED CMU
9	RIGID INSULATION. SEE SPECS FOR REQ'S.
10	HOLLOW METAL DOOR, SEE SCHEDULE.
11	INTERIOR BOLLARD TO BE COORDINATED WITH FOUNDATION AND FTG REINFORCEMENT. ENSURE CLEAR OPENING.
12	WAINSCOT BEYOND, SEE ARCHITECTURAL DETAILS
13	SEE STRUCTURAL FOR FOUNDATION REQ'S.
14	SEE STRUCTURAL FOR SLAB REQ'S.
15	DRAINAGE COURSE WITH VAPOR BARRIER, SEE SPECS.
16	LIGHTING FIXTURE, SEE ELECTRICAL.
17	PRE-ENGINEERED METAL PORTAL FRAME.
18	PRECAST WATER TABLE. SEE DETAILS.
19	SECTIONAL DOOR MOTOR, TYP. SEE SPECS.
20	PREMANUFACTURED STORAGE UNIT. OFCI, VERIFY DIMENSIONS. SEE MECHANICAL AND ELECTRICAL FOR ADDITIONAL REQUIREMENTS.
21	EQUIPMENT - PUMP (6' X 10') (OFOI)
22	TRENCH DRAIN, SEE STRUCTURAL AND PLUMBING FOR REQ'S.

AREA KEY PLAN

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

GRM ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grmi nc.com

LONGITUDINAL BUILDING SECTIONS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DATE	BY	REVISION DESCRIPTION

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO. AE301 03

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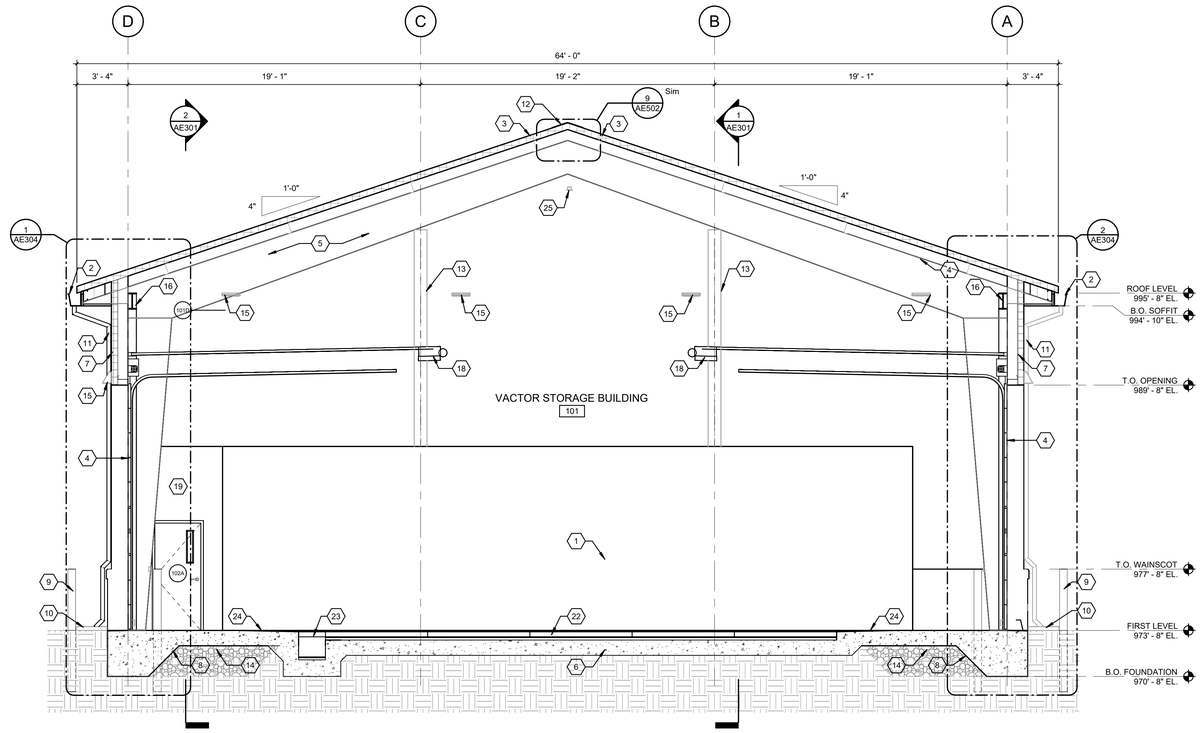
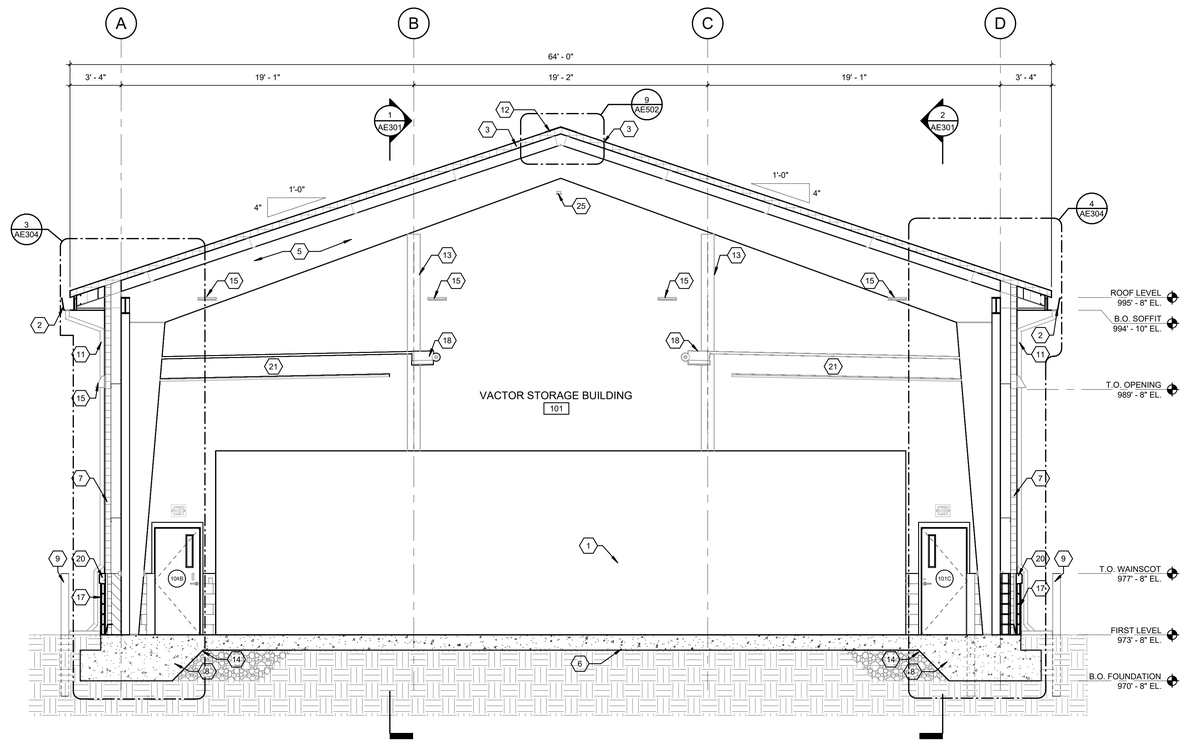


1 TRANSVERSE BUILDING SECTION 1

SCALE: 1/4" = 1'-0"



2 TRANSVERSE BUILDING SECTION 2

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE SITE/CIVIL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - VACTOR TRUCK (9' X 45') (OFOI)
2	PRE-FINISHED METAL GUTTER, SEE SPECS.
3	INSULATED METAL ROOF PANEL
4	SECTIONAL DOOR, TYP. SEE SCHEDULE.
5	PRE-ENGINEERED METAL PRIMARY FRAMING.
6	SEE STRUCTURAL FOR SLAB REQ'S.
7	INSULATED METAL WALL PANEL
8	SEE STRUCTURAL FOR FOUNDATION REQ'S.
9	EXTERIOR BOLLARD, COORDINATE WITH CIVIL ENSURE BOLLARD IS OUTSIDE OF FOOTING AND IS CLEAR OF OVERHEAD DOOR OPENING
10	PROVIDE DOWNSPOUT SPLASH BLOCK
11	PRE-FINISHED METAL DOWNSPOUT, SEE SPECS.
12	RIDGE CLOSURE PER MFR.
13	PRE-ENGINEERED METAL PRIMARY FRAMING ENDWALL COLUMN
14	DRAINAGE COURSE WITH VAPOR BARRIER, SEE SPECS.
15	LIGHTING FIXTURE, SEE ELECTRICAL.
16	PRE-ENGINEERED METAL PORTAL FRAME.
17	WAINSCOT EXTERIOR FINISH - 4" NOM. SPLIT-FACED CMU.
18	SECTIONAL DOOR MOTOR AND TRACK, PROVIDE SUPPORTS REQ PER MFR.
19	PREMANUFACTURED STORAGE UNIT. OFCI, VERIFY DIMENSIONS. SEE MECHANICAL AND ELECTRICAL FOR ADDITIONAL REQUIREMENTS.
20	PRECAST WATER TABLE, TYP.
21	SECTIONAL DOOR, TRACK AND MOTOR ABOVE
22	TRENCH DRAIN, SEE STRUCTURAL AND PLUMBING FOR REQ'S.
23	TRENCH DRAIN CATCH BASIN, SEE STRUCTURAL AND PLUMBING FOR REQ'S.
24	SLOPE SLAB TOWARDS TRENCH DRAIN AT 1/4:12 SLOPE.
25	WIFI ACCESS POINT, SEE ELECTRICAL

AREA KEY PLAN

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grminc.com

TRANSVERSE BUILDING SECTION

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DATE	BY	REVISION DESCRIPTION

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: AE302 03

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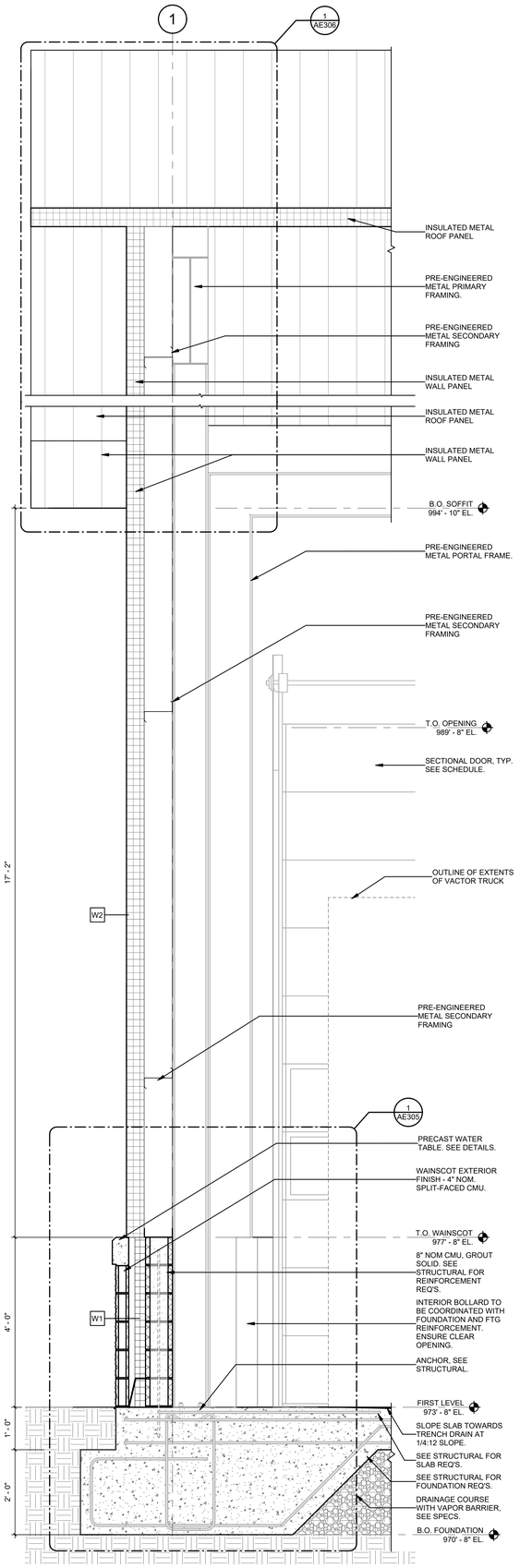
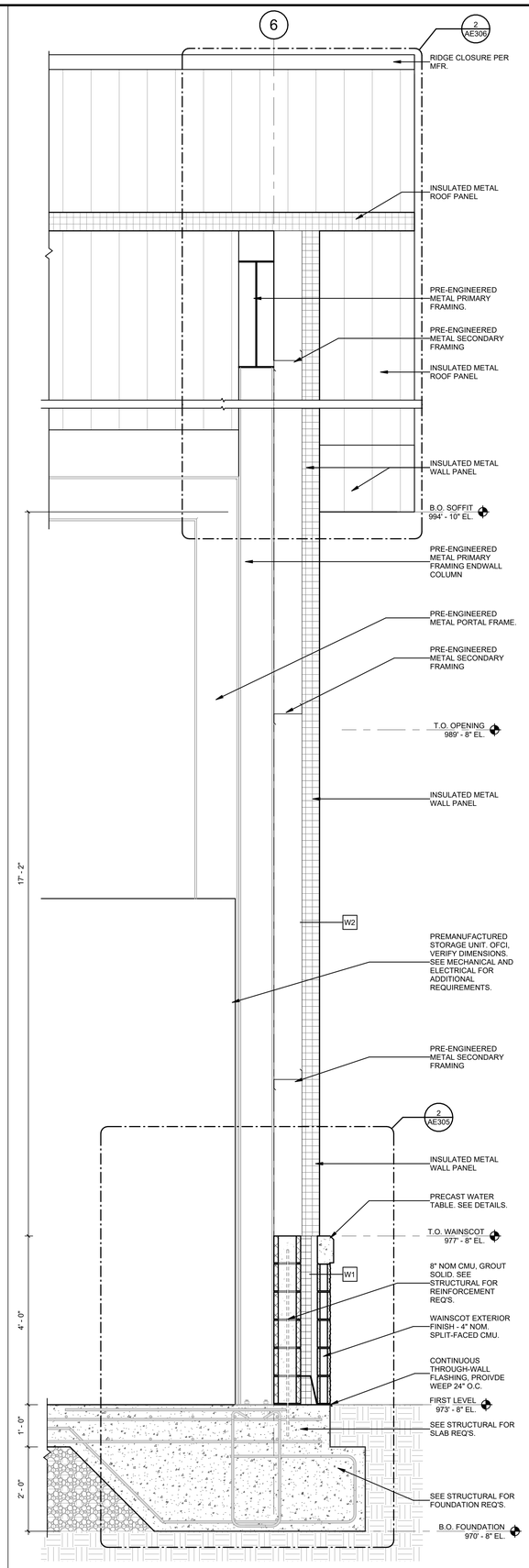
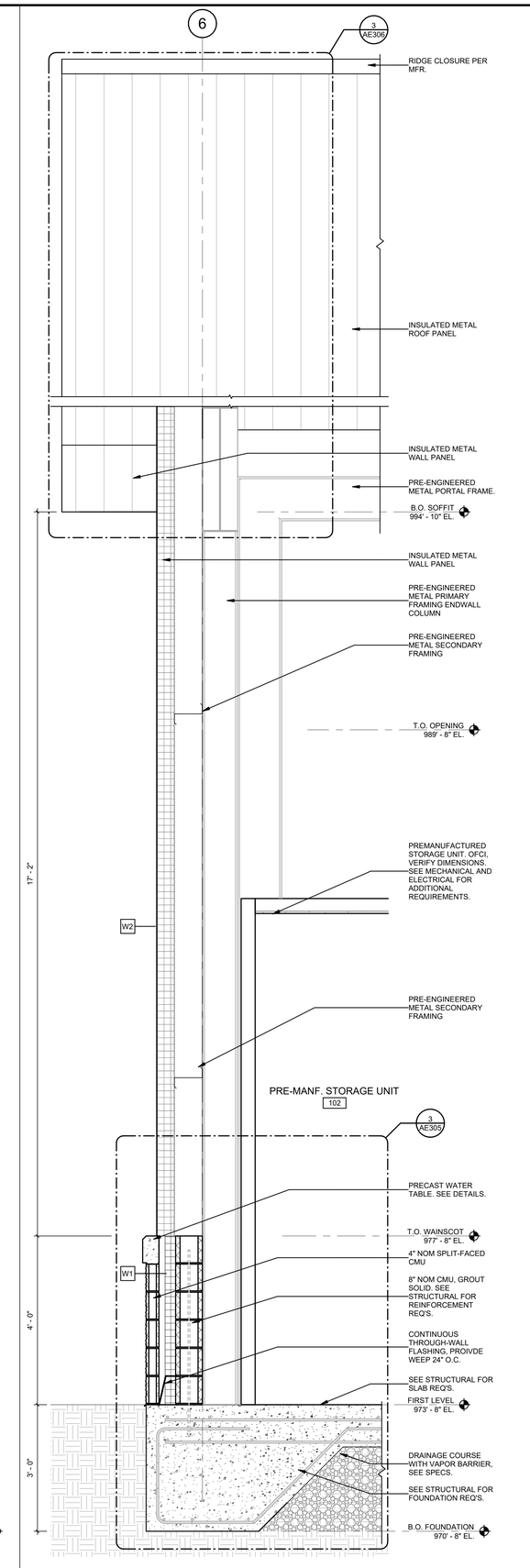


1 WALL SECTION 01
SCALE: 3/4" = 1'-0"



2 WALL SECTION 02
SCALE: 3/4" = 1'-0"



3 WALL SECTION 03
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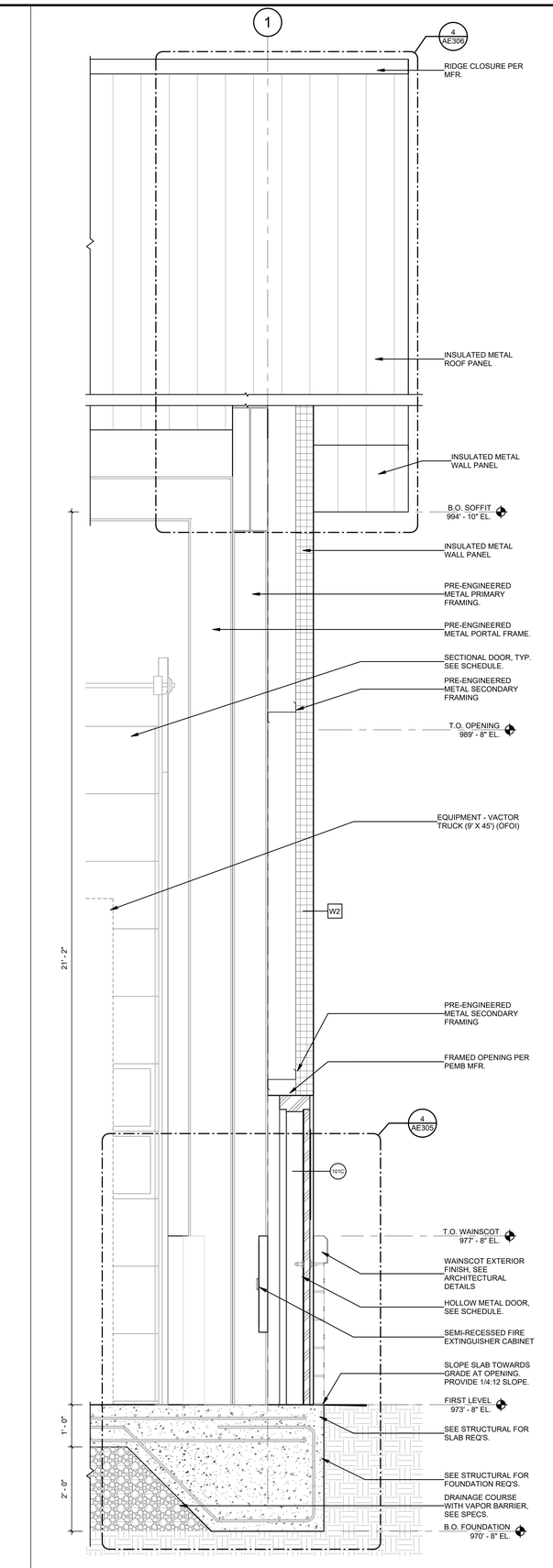

4 WALL SECTION 04
SCALE: 3/4" = 1'-0"

JAMES K. PIPER JR.
REGISTERED NO. 4447
COMMONWEALTH

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grminc.com

WALL SECTIONS
LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO	DATE	BY	REVISION DESCRIPTION

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 3/4" = 1'-0"
SHEET NO.: AE303 03

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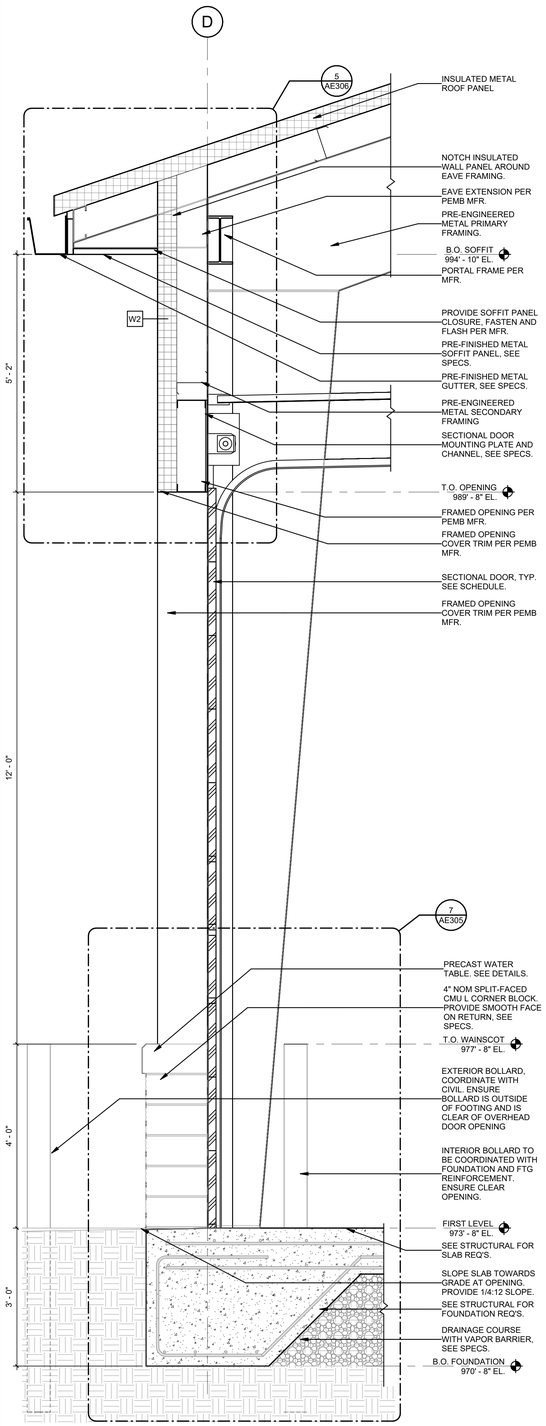
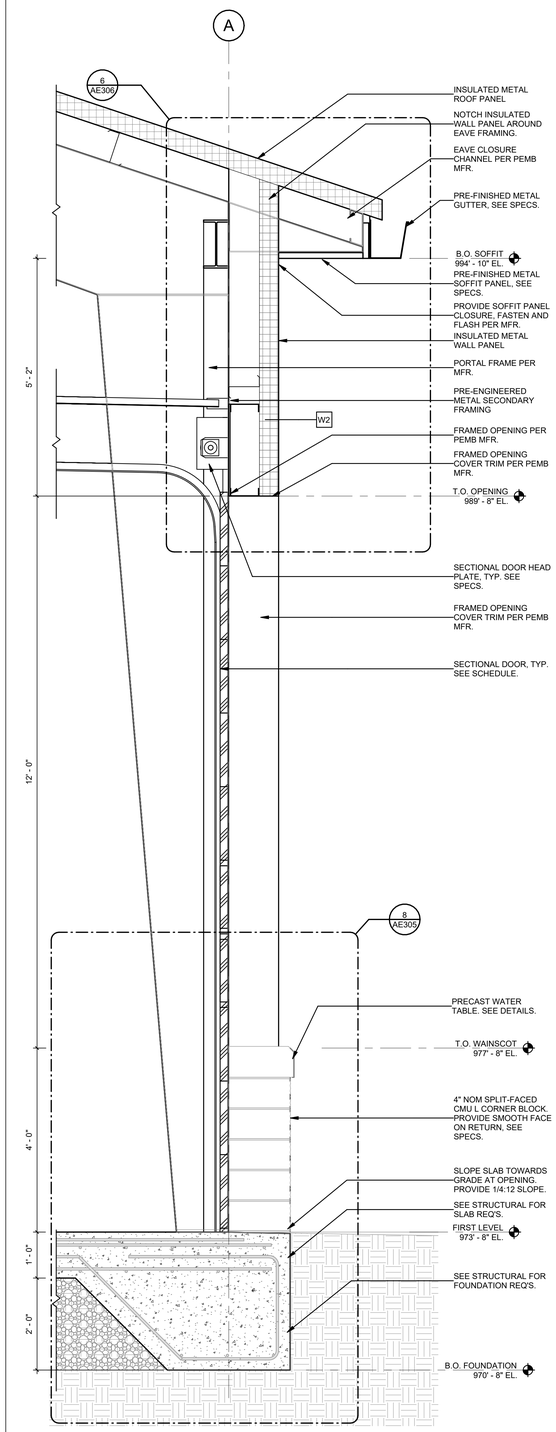


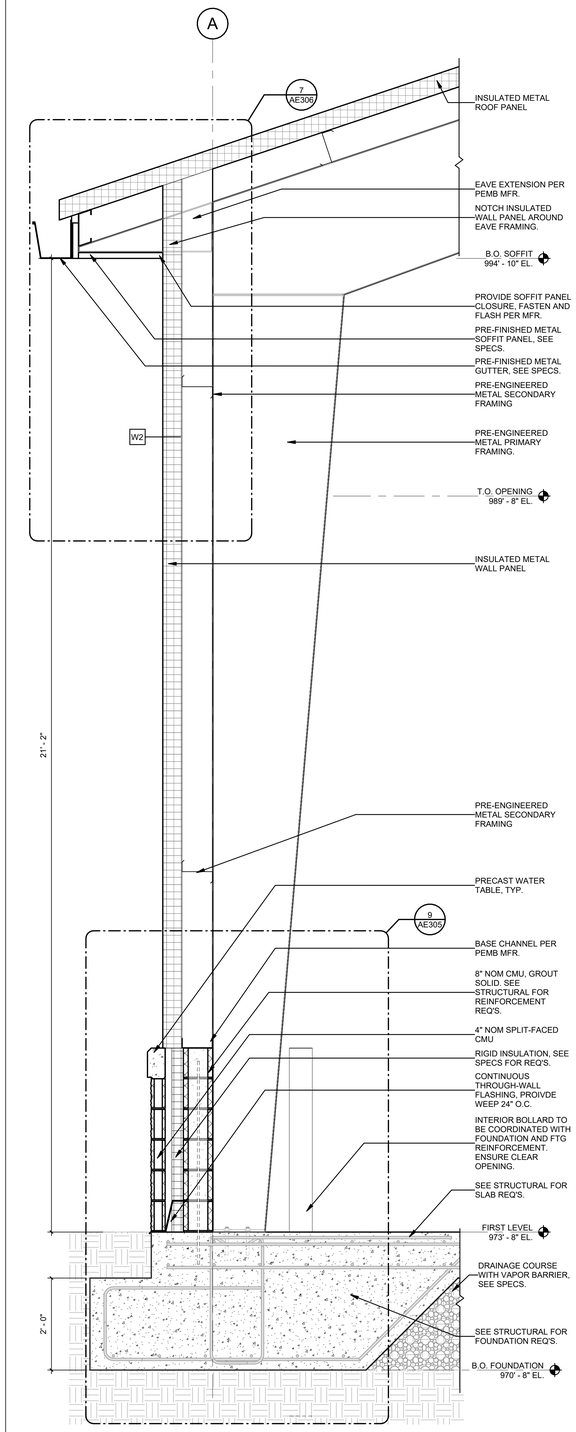
1 WALL SECTION 05

SCALE: 3/4" = 1'-0"



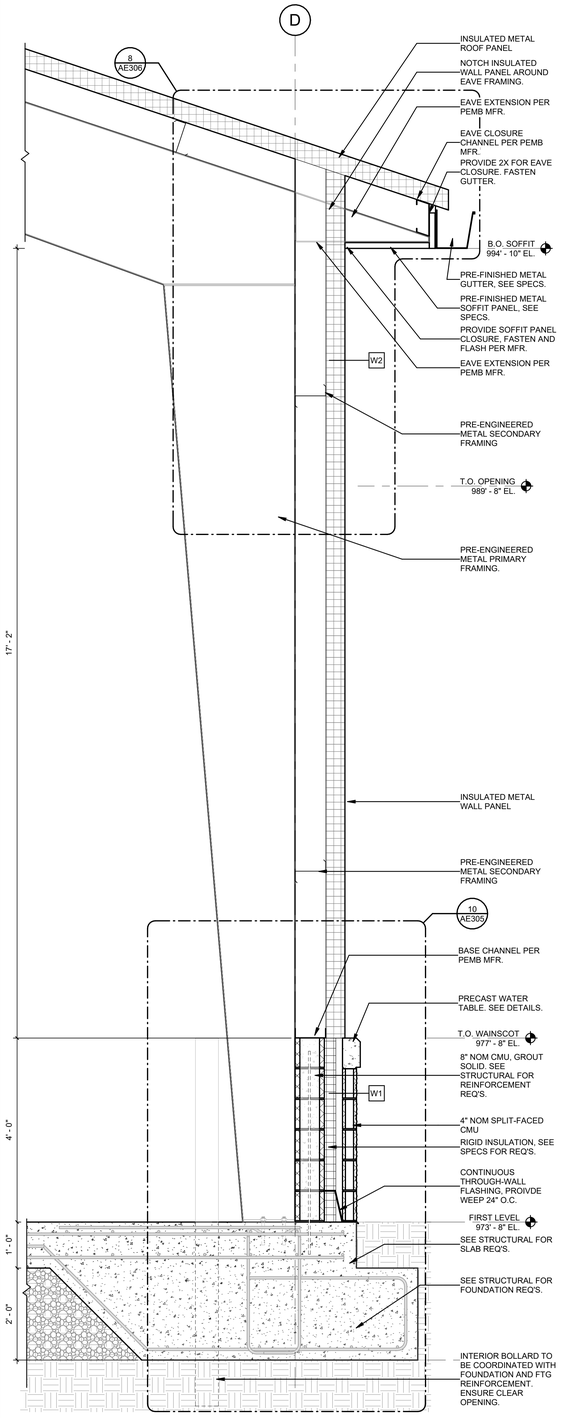
2 WALL SECTION 06

SCALE: 3/4" = 1'-0"



3 WALL SECTION 07

SCALE: 3/4" = 1'-0"



4 WALL SECTION 08

SCALE: 3/4" = 1'-0"

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JAMES K. PIPER JR.
REGISTERED
NO. 4447
COMMONWEALTH
8/15/25

CONSTRUCTION DOCUMENTS

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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GRM

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WALL SECTIONS

LFUCG VACTOR BUILDING

134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

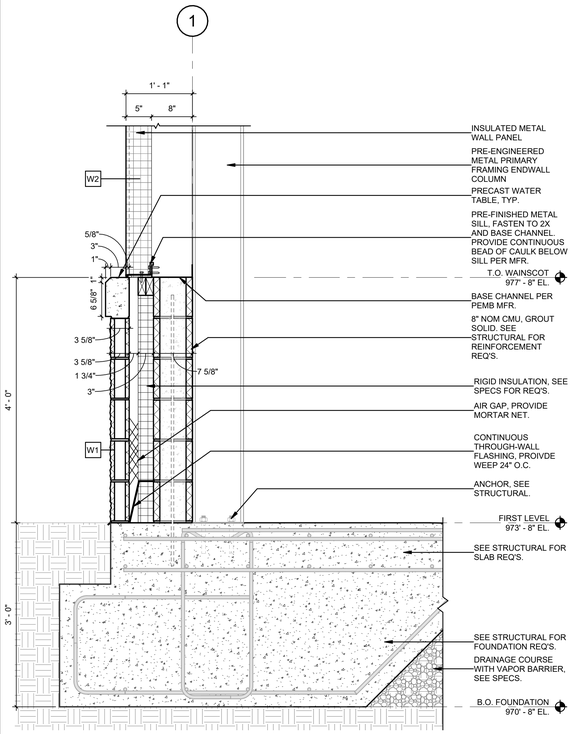
NO.	DESCRIPTION	DATE:	BY:

SCALE CHECK 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

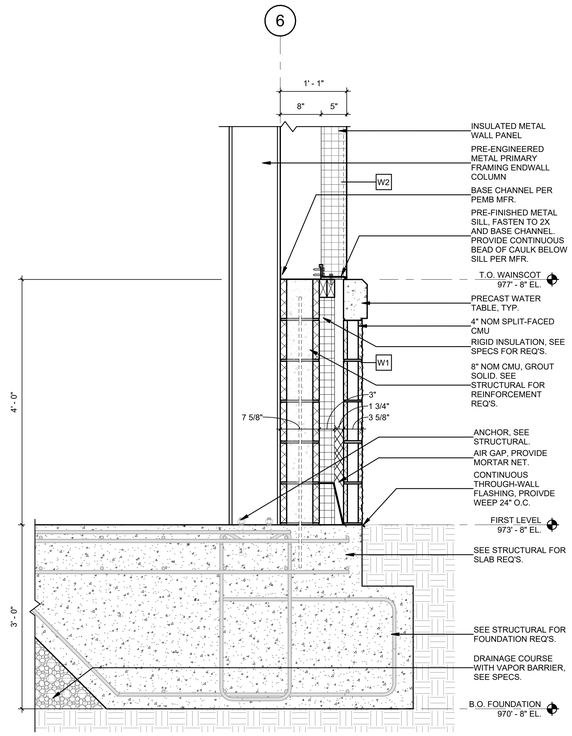
DATE: AUGUST 15, 2025

SCALE: 3/4" = 1'-0"

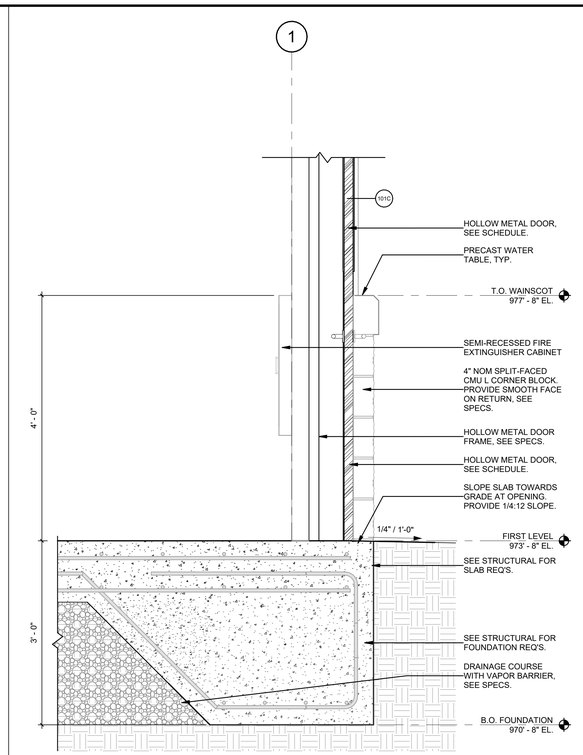
SHEET NO.: AE304 03



1 SILL DETAIL 01
SCALE: 1" = 1'-0"



2 SILL DETAIL 02
SCALE: 1" = 1'-0"



4 SILL DETAIL 03
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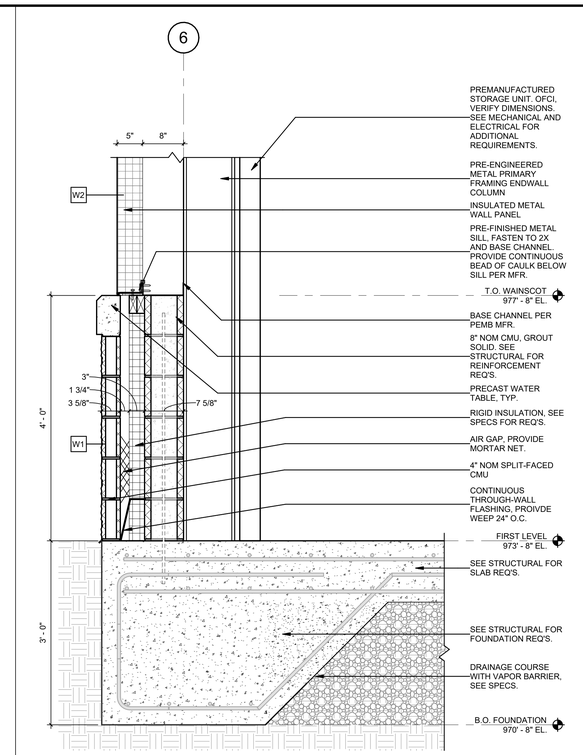

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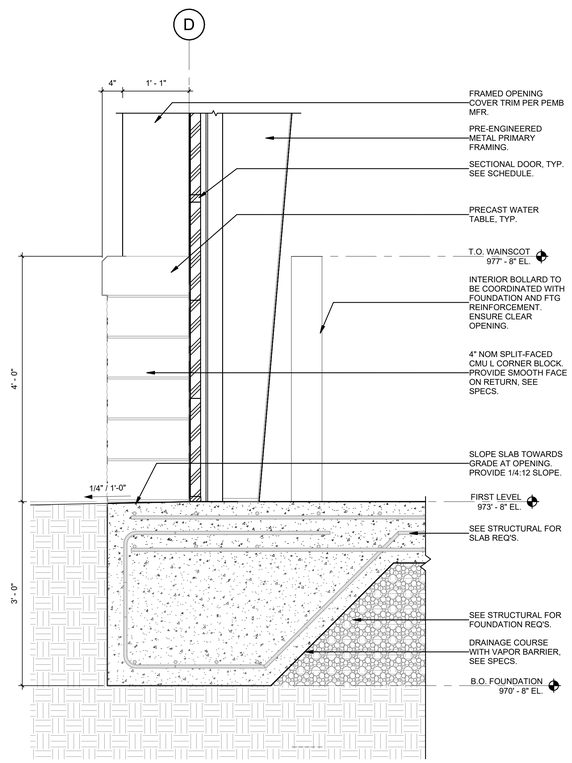

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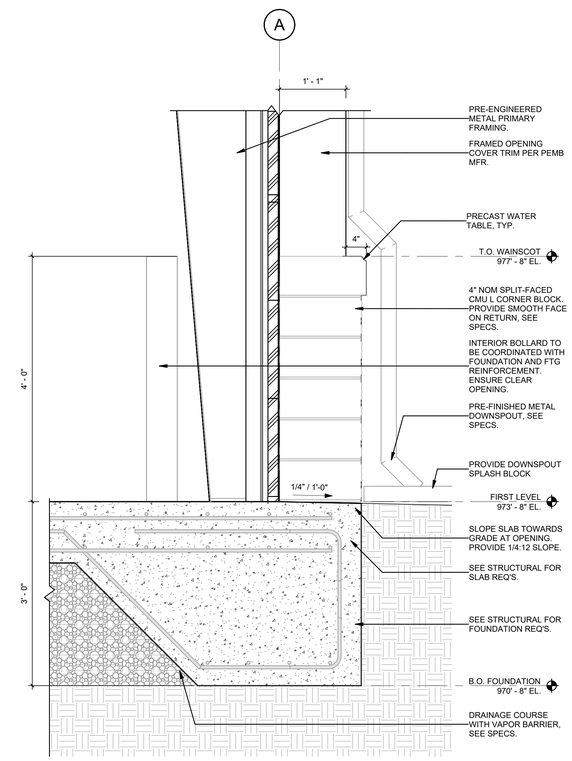

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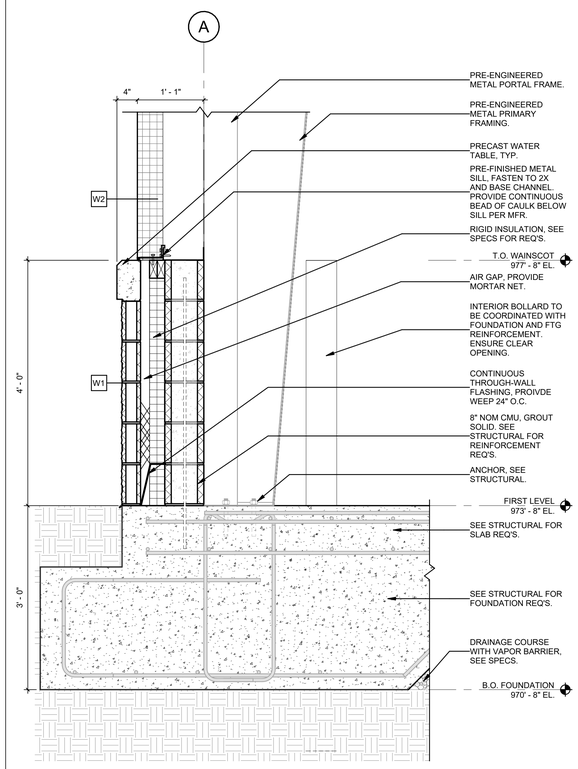

9 SILL DETAIL 07
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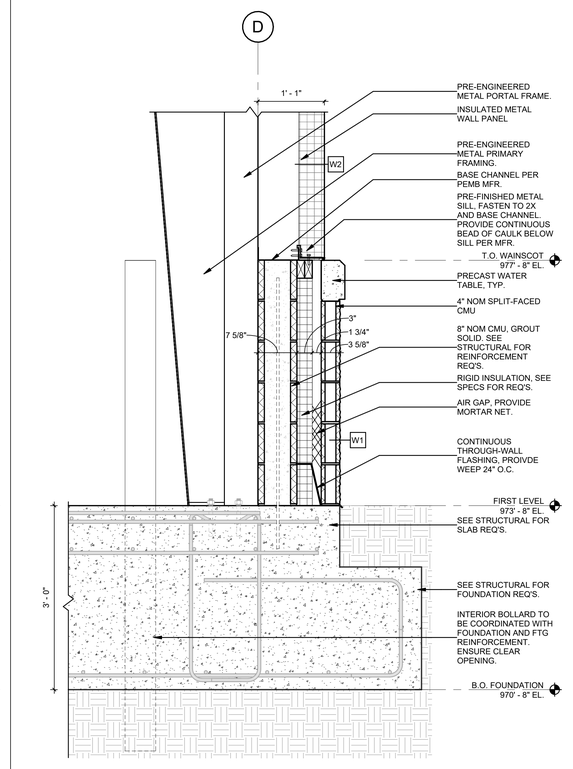

10 SILL DETAIL 08
SCALE: 1" = 1'-0"

JAMES K. PIPER JR.
REGISTERED
NO. 4447
COMMONWEALTH

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

GRM ENGINEERING - ARCHITECTURE - GEOSPATIAL
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SILL DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: NEK
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	DESCRIPTION	DATE	BY

SCALE CHECK: 1 INCH MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1" = 1'-0"

SHEET NO. AE305 03

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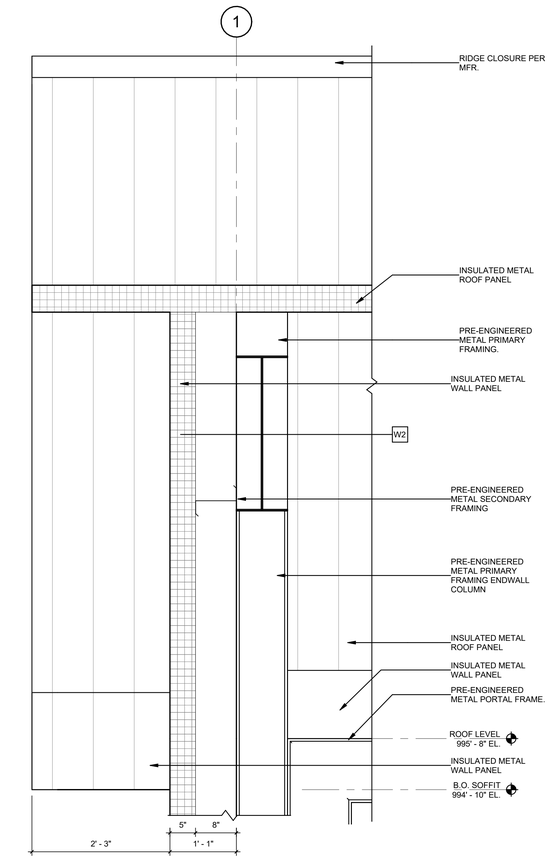
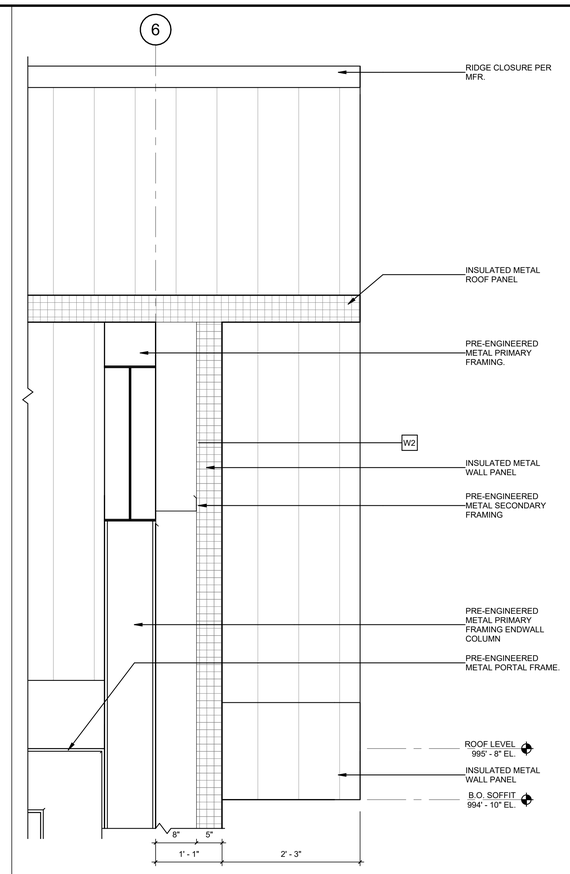


1 CORNICE DETAIL 01
SCALE: 1" = 1'-0"



2 CORNICE DETAIL 02
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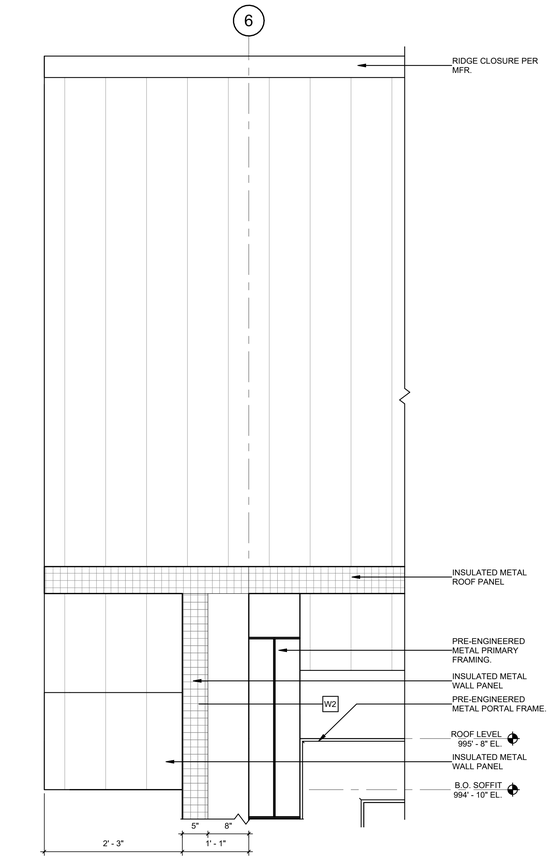

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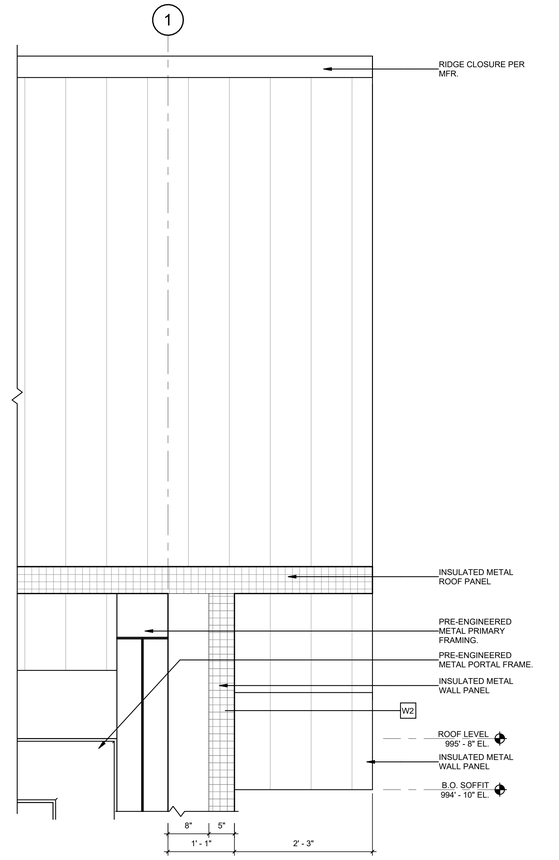
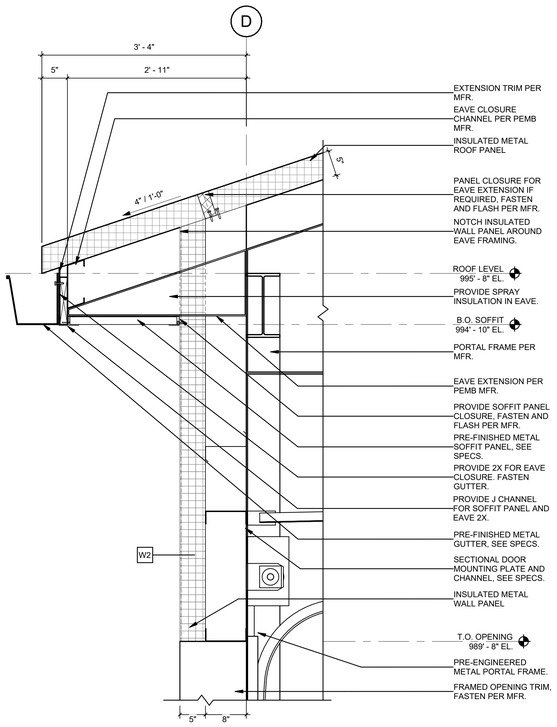
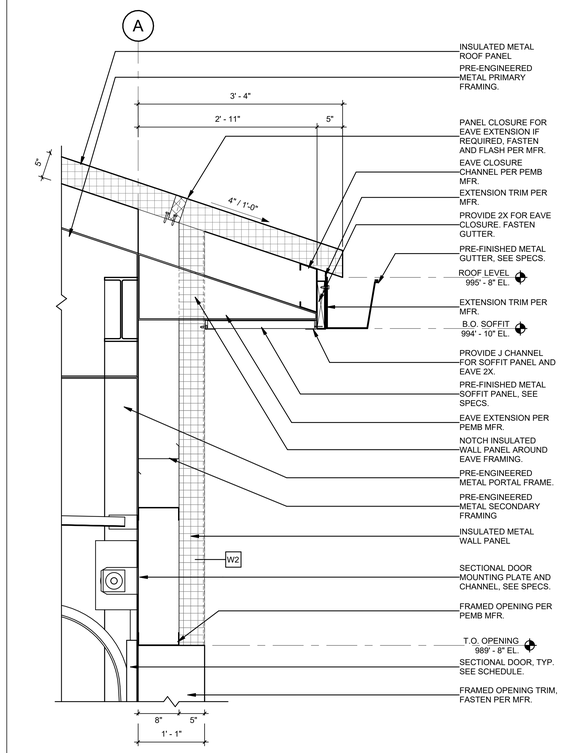


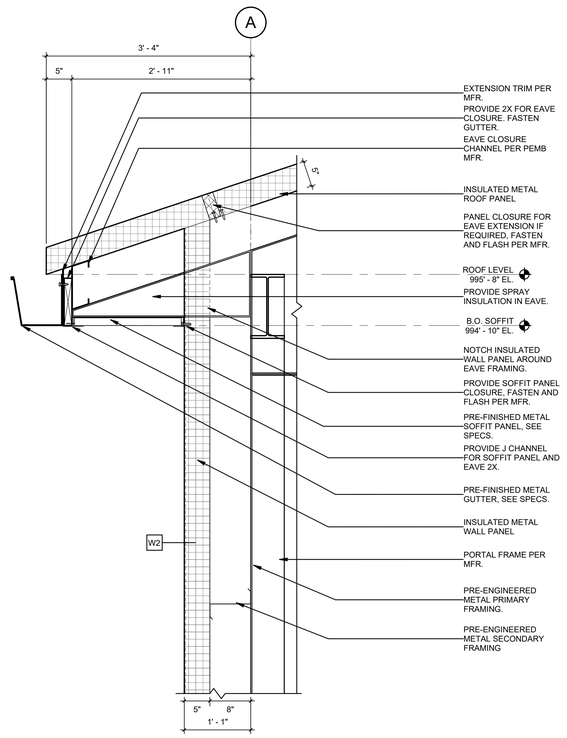
4 CORNICE DETAIL 04
SCALE: 1" = 1'-0"



5 CORNICE DETAIL 05
SCALE: 1" = 1'-0"



6 CORNICE DETAIL 06
SCALE: 1" = 1'-0"



7 CORNICE DETAIL 07
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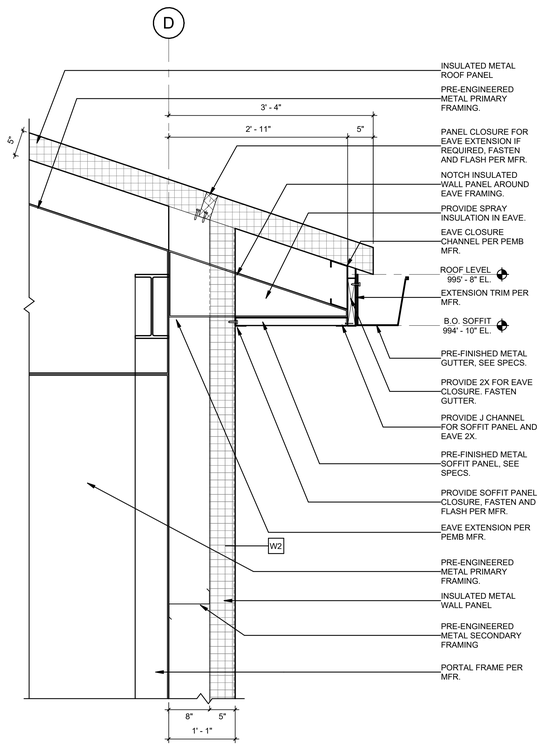

8 CORNICE DETAIL 08
SCALE: 1" = 1'-0"

R:\42025.1-67-1\ PM\ G:\GA1-FLEUCG DWG\ dd$Workbox Drawings\RenEvents\Central Market\GA1GA1GN0020.rvt

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH
8/15/25

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB
70-2025

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CONSTRUCTION DOCUMENTS

ENGINEERING - ARCHITECTURE - GEOSPATIAL
www.grm-inc.com

CORNICE DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	NEK
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

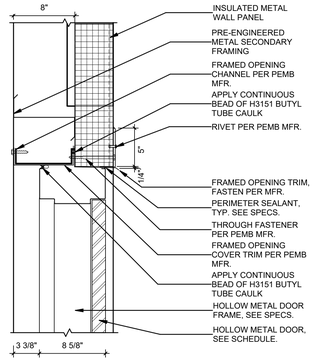
NO.	DATE:	BY:
	REVISION DESCRIPTION	

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE:
AUGUST 15, 2025

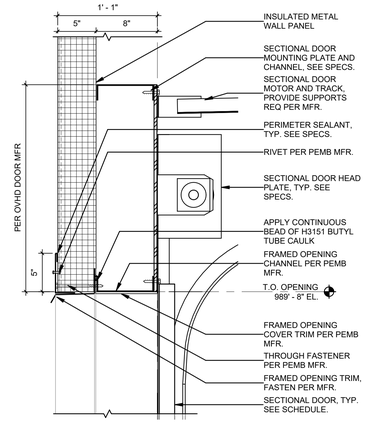
SCALE:
1" = 1'-0"

SHEET NO.:
AE306 03



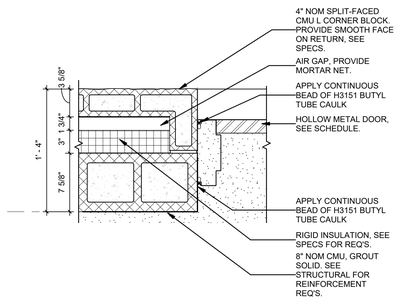
1 DOOR DETAIL - HEAD 01

SCALE: 1 1/2" = 1'-0"



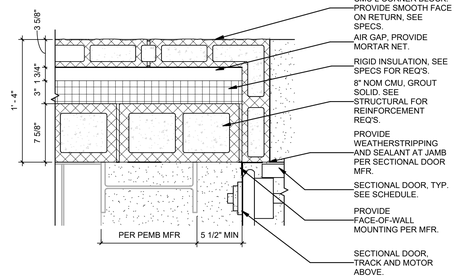
5 DOOR DETAIL - HEAD 02

SCALE: 1 1/2" = 1'-0"



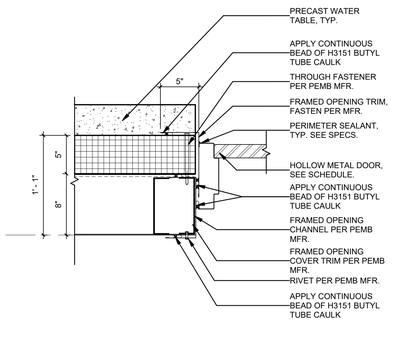
2 DOOR DETAIL - JAMB 01A

SCALE: 1 1/2" = 1'-0"



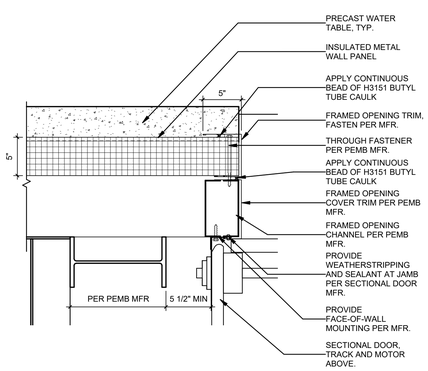
6 DOOR DETAIL - JAMB 02A

SCALE: 1 1/2" = 1'-0"



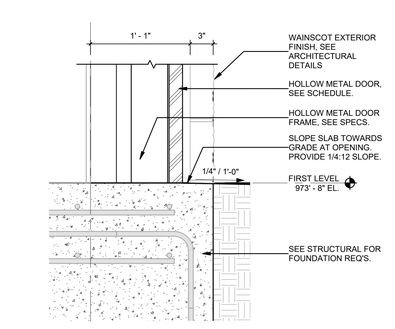
3 DOOR DETAIL - JAMB 01B

SCALE: 1 1/2" = 1'-0"



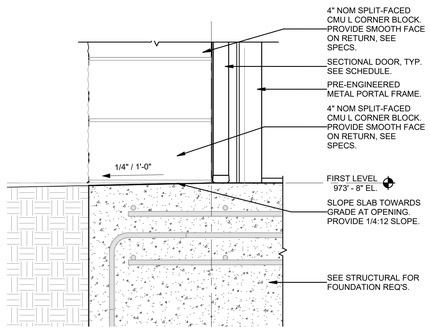
7 DOOR DETAIL - JAMB 02B

SCALE: 1 1/2" = 1'-0"



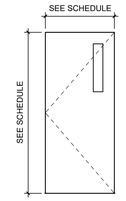
4 DOOR DETAIL - SILL 01

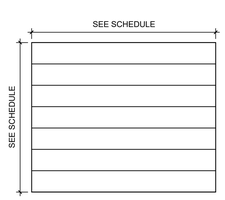
SCALE: 1 1/2" = 1'-0"



8 DOOR DETAIL - SILL 02

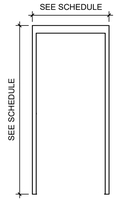
SCALE: 1 1/2" = 1'-0"





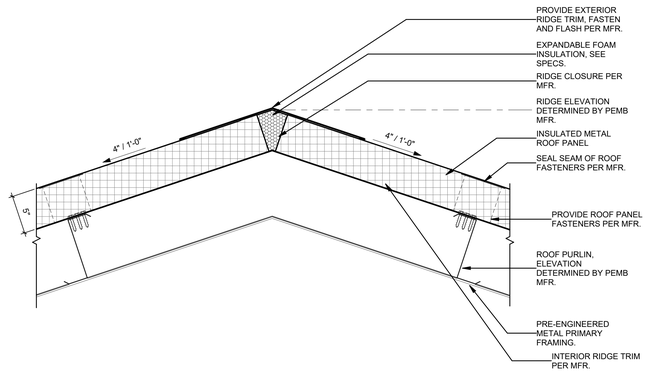
DOOR TYPES

SCALE: 3/8" = 1'-0"



FRAME TYPES

SCALE: 3/8" = 1'-0"



9 PEMB ROOF - RIDGE, TYP

SCALE: 1 1/2" = 1'-0"

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH
8/15/25

GRM PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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www.grmtec.com

DOOR DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
DRV	NEK	DRV	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: As indicated

SHEET NO.: AE502 03

8/14/2025 1:47:54 PM C:\USAFILES\CI OWG MDB\Working Drawings\Revit Arch\Central Model\05247UKSTA2B001.rvt

ROOM FINISH SCHEDULE

BUILDING IDENTIFICATION	ROOM IDENTIFICATION					AREA			FLOOR		WALLS								CEILING			USE AND OCCUPANCY CLASSIFICATION			
	DEPARTMENT NUMBER	DEPARTMENT TYPE	ROOM NUMBER	ROOM NAME	LEVEL	PROGRAMMED AREA	ACTUAL AREA	DELTA	FLOOR FINISH	BASE FINISH	BUILDING ORIENTATION INDICATES PLAN NORTH														
											NORTH		SOUTH		EAST		WEST								
											MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT (A.F.F.)	USE GROUP	OCCUPANT LOAD FACTOR	OCCUPANT LOAD	COMMENTS
03	02	11	101	VACTOR STORAGE BUILDING	FIRST LEVEL	5000.00 SF	4421.33 SF	-88.43%	SEALED CONCRETE	NONE	INSULATED METAL WALL PANEL	PRE-FINISHED	INSULATED METAL WALL PANEL	PRE-FINISHED	INSULATED METAL WALL PANEL	PRE-FINISHED	INSULATED METAL WALL PANEL	PRE-FINISHED	INSULATED METAL ROOF PANEL	PRE-FINISHED	24' - 0"	S1	100 SF	44	
03	02	11	102	PRE-MANF. STORAGE UNIT	FIRST LEVEL	120.00 SF	148.22 SF	123.52%	PRE-FINISHED	NONE	MODULAR WALL PANEL	PRE-FINISHED	MODULAR WALL PANEL	PRE-FINISHED	MODULAR WALL PANEL	PRE-FINISHED	MODULAR WALL PANEL	PRE-FINISHED	MODULAR CEILING PANEL	PRE-FINISHED	8' - 0"	S1	100 SF	1	
Grand total: 2							4569.56 SF																	46	

DOOR AND FRAME SCHEDULE

BUILDING IDENTIFICATION	DOOR IDENTIFICATION			DOOR						FRAME						FIRE RATING LABEL	HARDWARE		COMMENTS
	DOOR MARK	FROM ROOM	TO ROOM	SIZE			DOOR MATERIAL	TYPE MARK	DOOR GLAZING	FRAME MATERIAL	FRAME TYPE	FRAME GLAZING	DETAIL				SET NUMBER	KEYSIDE ROOM NUMBER	
				WIDTH	HEIGHT	THICKNESS							HEAD DETAIL	JAMB DETAIL	SILL DETAIL				
03	101A	VACTOR STORAGE BUILDING	EXTERIOR	3' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	A	GL-1	ALUMINUM	1	N/A	1/AE502	2 & 3/AE502	4/AE502	0HR	AC-02	101	
03	101B	VACTOR STORAGE BUILDING	EXTERIOR	3' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	A	GL-1	ALUMINUM	1	N/A	1/AE502	2 & 3/AE502	4/AE502	0HR	AC-02	101	
03	101C	VACTOR STORAGE BUILDING	EXTERIOR	3' - 0"	7' - 0"	1 3/4"	HOLLOW METAL	A	GL-1	ALUMINUM	1	N/A	1/AE502	2 & 3/AE502	4/AE502	0HR	AC-02	101	
03	101D	VACTOR STORAGE BUILDING		11' - 0"	16' - 0"	2"	GALV. STEEL	B	1/2" INSULATED	GALV. STEEL	PER MFR	N/A	5/AE502	6 & 7/AE502	8/AE502	0HR	RU.2	101	
03	101E	VACTOR STORAGE BUILDING		11' - 0"	16' - 0"	2"	GALV. STEEL	B	1/2" INSULATED	GALV. STEEL	PER MFR	N/A	5/AE502	6 & 7/AE502	8/AE502	0HR	RU.2	101	
03	101F	VACTOR STORAGE BUILDING		11' - 0"	16' - 0"	2"	GALV. STEEL	B	1/2" INSULATED	GALV. STEEL	PER MFR	N/A	5/AE502	6 & 7/AE502	8/AE502	0HR	RU.2	101	
03	101G	VACTOR STORAGE BUILDING		11' - 0"	16' - 0"	2"	GALV. STEEL	B	1/2" INSULATED	GALV. STEEL	PER MFR	N/A	5/AE502	6 & 7/AE502	8/AE502	0HR	RU.2	101	
03	101H	VACTOR STORAGE BUILDING		11' - 0"	16' - 0"	2"	GALV. STEEL	B	1/2" INSULATED	GALV. STEEL	PER MFR	N/A	5/AE502	6 & 7/AE502	8/AE502	0HR	RU.2	101	
03	101I	VACTOR STORAGE BUILDING		11' - 0"	16' - 0"	2"	GALV. STEEL	B	1/2" INSULATED	GALV. STEEL	PER MFR	N/A	5/AE502	6 & 7/AE502	8/AE502	0HR	RU.2	101	
03	101J	VACTOR STORAGE BUILDING		11' - 0"	16' - 0"	2"	GALV. STEEL	B	1/2" INSULATED	GALV. STEEL	PER MFR	N/A	5/AE502	6 & 7/AE502	8/AE502	0HR	RU.2	101	
03	101K	VACTOR STORAGE BUILDING		11' - 0"	16' - 0"	2"	GALV. STEEL	B	1/2" INSULATED	GALV. STEEL	PER MFR	N/A	5/AE502	6 & 7/AE502	8/AE502	0HR	RU.2	101	
03	102A	VACTOR STORAGE BUILDING	PRE-MANF. STORAGE UNIT	3' - 0"	7' - 0"	1 3/4"	OFCI	OFCI	OFCI	OFCI	OFCI	OFCI	OFCI	OFCI	OFCI		OFCI	101	OFCI

AREA SCHEDULE (GROSS BUILDING)

AREA TYPE	LEVEL	PERIMETER	AREA	COMMENTS
Gross Building Area	FIRST LEVEL	274' - 8"	4960 SF	5000 SQFT MAX UNSUPRESSED

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRVI PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

SCHEDULES

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO	REVISION DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE:

SHEET NO.
AE601 03

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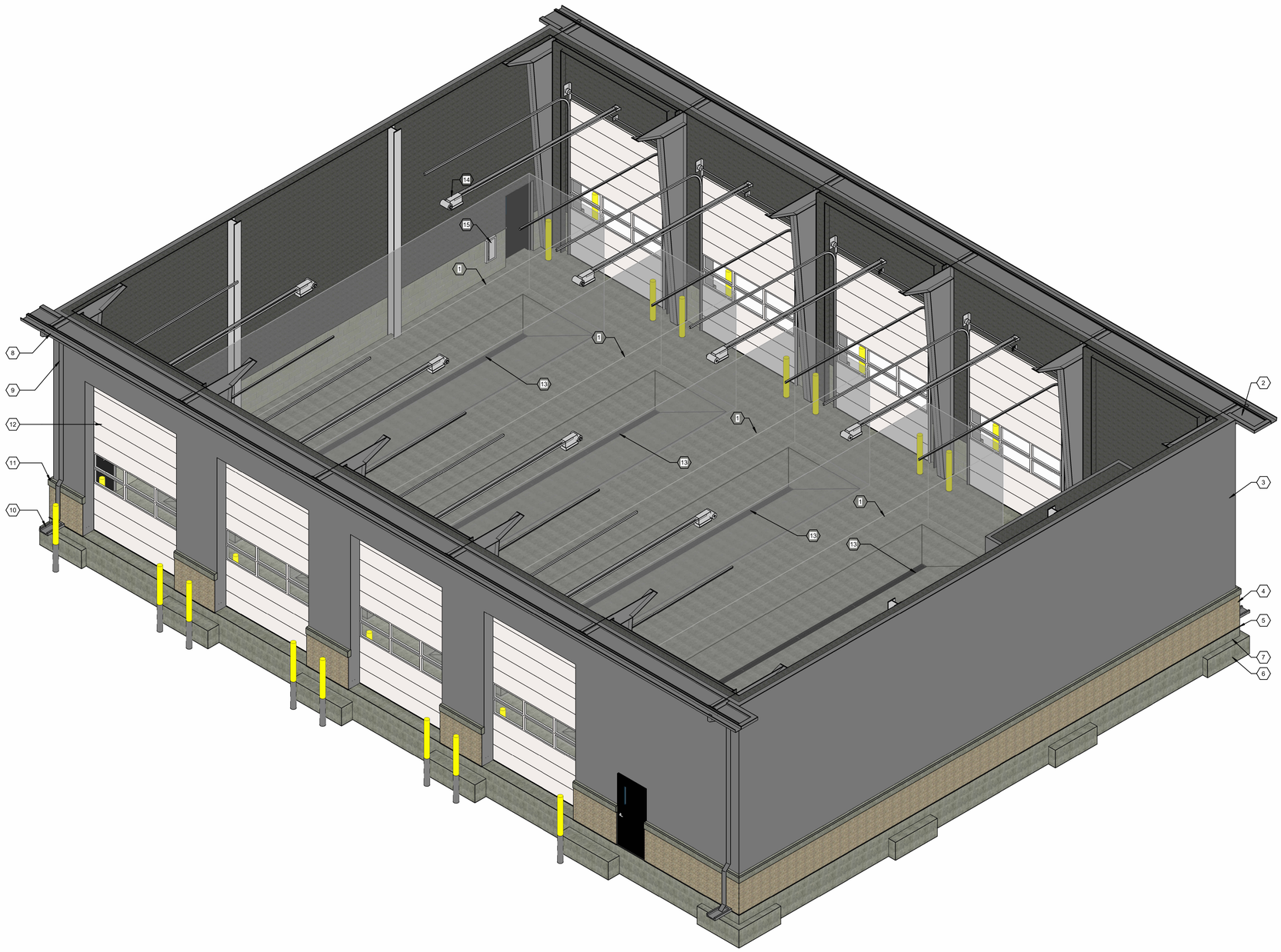

1 ISOMETRIC VIEW
SCALE:

GENERAL NOTES:

1. PROVIDE SNOW GUARDS, FULL LENGTH OF ROOF EDGE, BOTH SIDES. SEE SPECS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE SITE/CIVIL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - VACTOR TRUCK (9' X 45') (OFOI)
2	PROVIDE PRE-FINISHED ALUMINUM SOFFIT FOR EAVE EXTENSION, SEE DETAILS.
3	INSULATED METAL WALL PANEL
4	4" NOM SPLIT-FACED CMU
5	CONTINUOUS THROUGH-WALL FLASHING, PROIVDE WEEP 24" O.C.
6	SEE STRUCTURAL FOR FOUNDATION REQ'S.
7	SEE STRUCTURAL FOR SLAB REQ'S.
8	PRE-FINISHED METAL GUTTER, SEE SPECS.
9	PRE-FINISHED METAL DOWNSPOUT, SEE SPECS.
10	PROVIDE DOWNSPOUT SPLASH BLOCK
11	PRECAST WATER TABLE, TYP.
12	SECTIONAL DOOR, TYP. SEE SCHEDULE.
13	TRENCH DRAIN, SEE STRUCTURAL AND PLUMBING FOR REQ'S.
14	SECTIONAL DOOR MOTOR AND TRACK, PROVIDE SUPPORTS REQ PER MFR.
15	SEMI-RECESSED FIRE EXTINGUISHER CABINET

AREA KEY PLAN

JAMES K. PIPER JR.
REGISTERED
NO.
4447
COMMONWEALTH

GRM PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

ISOMETRIC VIEWS
LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/4" = 1'-0"
SHEET NO.: AE901 03

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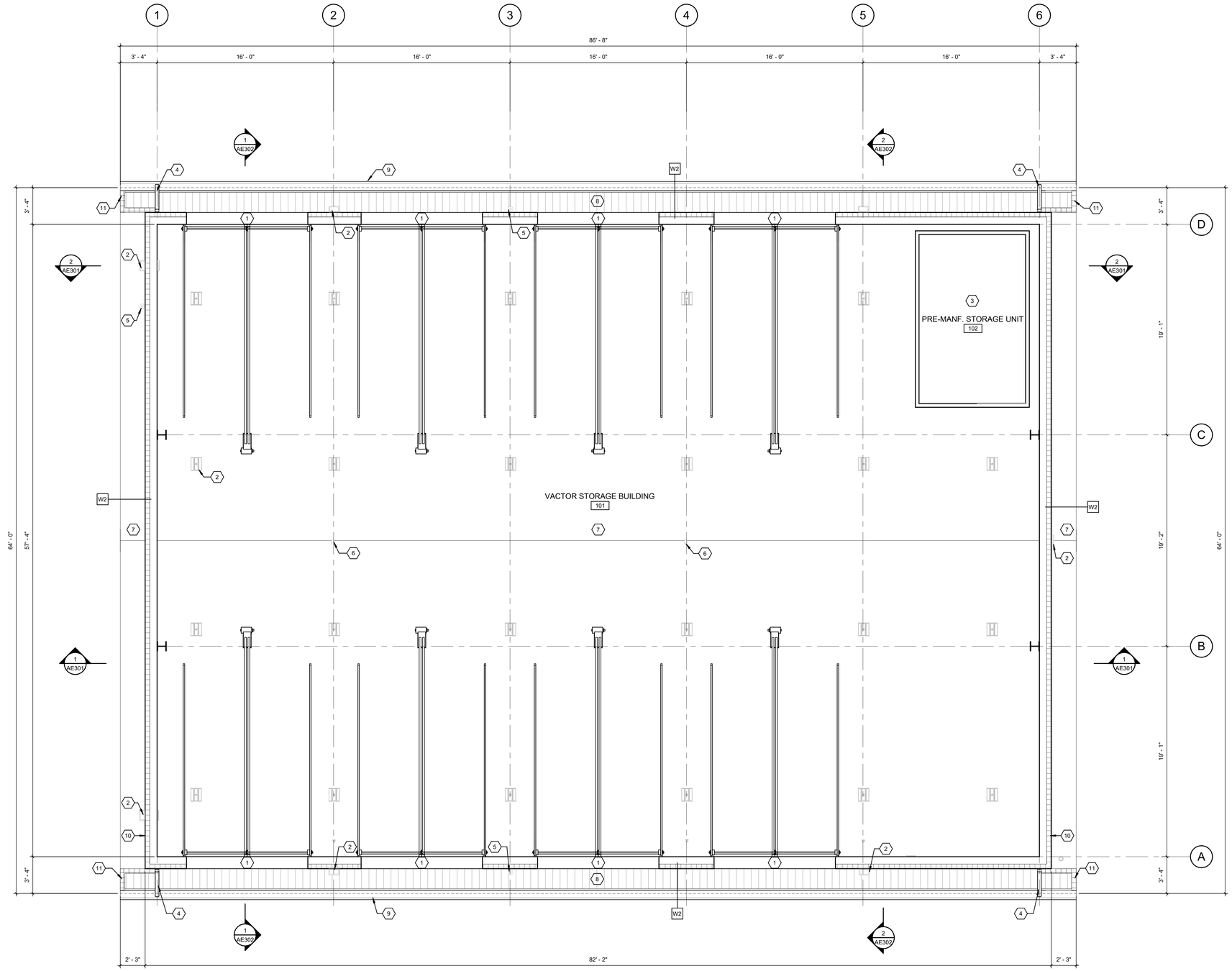

1 FIRST LEVEL
SCALE: 1/4" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1. PROVIDE SNOW GUARDS. FULL LENGTH OF ROOF EDGE, BOTH SIDES. SEE SPECS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE SITE/CIVIL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	SECTIONAL DOOR, TRACK AND MOTOR ABOVE
2	LIGHTING FIXTURE, SEE ELECTRICAL.
3	PREMANUFACTURED STORAGE UNIT. OFCI, VERIFY DIMENSIONS. SEE MECHANICAL AND ELECTRICAL FOR ADDITIONAL REQUIREMENTS.
4	PRE-FINISHED METAL DOWNSPOUT, SEE SPECS.
5	CAMERA, SEE ELECTRICAL.
6	WIFI ACCESS POINT, SEE ELECTRICAL.
7	INSULATED METAL ROOF PANEL
8	PRE-FINISHED METAL SOFFIT PANEL, SEE SPECS.
9	PRE-FINISHED METAL GUTTER, SEE SPECS.
10	INSULATED METAL WALL PANEL
11	EAVE CLOSURE PANEL ENDWALL

AREA KEY PLAN

JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH 8/15/25

CONSTRUCTION DOCUMENTS

GRV PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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FIRST LEVEL - REFLECTED CEILING PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK 1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: AF101 03

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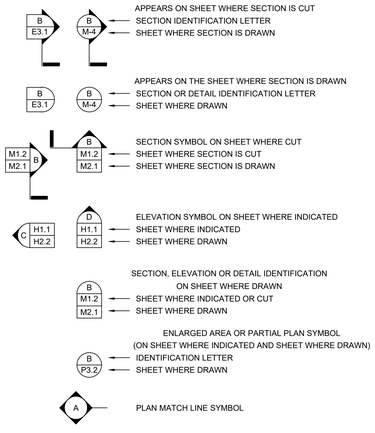
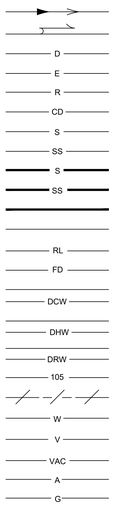
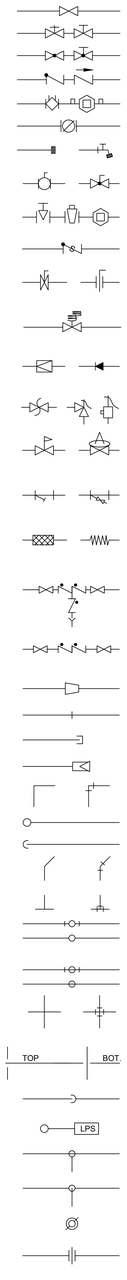
GENERAL LEGEND

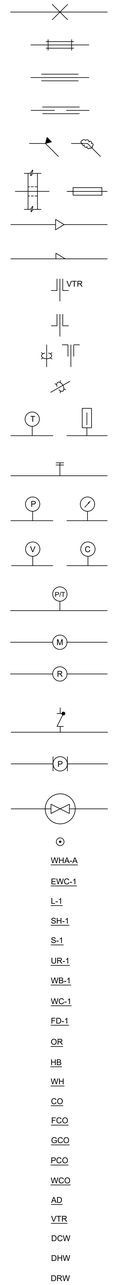


NOTE: LEGENDS ALSO APPEAR ON INDIVIDUAL PLANS, SCHEDULES AND DETAILS.

PLUMBING LEGEND







WHA-A	WATER HAMMER ARRESTOR: PDI SIZE A
EWC-1	PLUMBING FIXTURE DESIGNATOR - ELECTRIC WATER COOLER
L-1	PLUMBING FIXTURE DESIGNATOR - LAVATORY
SH-1	PLUMBING FIXTURE DESIGNATOR - SHOWER
S-1	PLUMBING FIXTURE DESIGNATOR - SINK
UR-1	PLUMBING FIXTURE DESIGNATOR - URINAL
WB-1	PLUMBING FIXTURE DESIGNATOR - WASHER BOX
WC-1	PLUMBING FIXTURE DESIGNATOR - WATER CLOSET
FD-1	FLOOR DRAIN I.D. NUMBER; PLAN & RISER
OR	OPEN RECEPTACLE
HB	HOSE BIBB
WH	WALL HYDRANT
CO	CLEAN OUT
FCO	FLOOR CLEAN OUT
GCO	GRADE CLEAN OUT
PCO	PIPE CLEAN OUT
WCO	WALL CLEAN OUT
AD	ACCESS DOOR
VTR	VENT THRU ROOF; PLAN & RISER
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DRW	DOMESTIC RECIRCULATING HOT WATER

PLUMBING GENERAL NOTES:

1. GENERAL NOTES, WHEREVER THEY ARE FOUND, APPLY TO ALL WORK IN THE PROJECT, UNLESS OTHERWISE INDICATED. CONFLICTS BETWEEN GENERAL NOTES AND SPECIFICATIONS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER - THE MORE STRINGENT REQUIREMENT SHALL APPLY. SHEET KEYNOTES, UTILIZING NOTE SYMBOLS, APPLY ONLY TO THE SHEET ON WHICH THEY ARE FOUND, UNLESS OTHERWISE STATED. THE MEANING OF NOTE SYMBOLS AND NUMBERS VARIES FROM SHEET TO SHEET.
2. CONTRACTOR SHALL UTILIZE ALL INFORMATION IN THE CONTRACT DOCUMENTS FOR PROVIDING THE WORK. CONTRACTOR SHALL UTILIZE DETAILS AND RISER DIAGRAMS FOR THE WORK WHERE APPROPRIATE, WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED ON THE PLAN OR SUPPORTING DRAWINGS.
3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONTRACT DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK RELATING TO THOSE CONDITIONS IS PERFORMED.
4. LEGENDS OR LISTS OF SYMBOLS AND ABBREVIATIONS ARE GENERAL IN NATURE AND MAY CONTAIN ITEMS NOT USED IN THE CONTRACT DOCUMENTS. IF ANY SUCH ITEMS ARE FOUND WHICH ARE NOT DEFINED ON THE PLANS OR IN THE SPECIFICATIONS, THE ENGINEER SHALL BE CONTACTED FOR CLARIFICATION BEFORE THE BID.
5. CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS.
6. PROVIDE ALL MISCELLANEOUS STEEL, AS REQUIRED, TO SUPPORT ALL PIPING SYSTEMS, FIXTURES AND EQUIPMENT. DO NOT HANG ANYTHING FROM MECHANICAL OR ELECTRICAL ITEMS.
7. NO STRUCTURAL MEMBERS SHALL BE CUT, BURNED, WELDED OR DRILLED WITHOUT SPECIFIC PERMISSION OF THE ENGINEER.
8. DO NOT CHANGE PATH OF PIPING, ADD TURNS OR OFFSETS OR PIPE SIZE WITHOUT FIRST CONSULTING THE ENGINEER. PIPE SIZES SHOWN ON DRAWINGS ARE NOMINAL UNLESS OTHERWISE INDICATED.
9. CONTRACTOR SHALL MAKE MINOR OFFSETS AND LOCATION CHANGES IN PIPE AS REQUIRED IN CONGESTED CEILING OR MECHANICAL SPACES. GENERALLY, THESE WILL BE AT NO COST TO THE OWNER AND APPROVED BY THE ENGINEER WITHOUT FORMAL DOCUMENTS. MAJOR REROUTING OF LINES OR MAJOR ADDITION OF FITTINGS WILL BE REVIEWED AND APPROVED AS A CHANGE ORDER OR A FORMAL DIRECTIVE. ENGINEER ALONE SHALL CLASSIFY CHANGES AS MAJOR OR MINOR.
10. ALL COPPER PIPING SHALL BE ASSEMBLED WITH WROUGHT COPPER OR CAST COPPER ALLOY FITTINGS AND 95/5 TIN ANTIMONY SOLDER OR SILVER BRAZING. NO SOLDER CONTAINING MORE THAN 0.2% LEAD SHALL BE USED IN MANUFACTURING OR IN FIELD ASSEMBLY OF POTABLE WATER SYSTEM COMPONENTS. ALL PIPING, FITTINGS, FIXTURES AND EQUIPMENT IN CONTACT WITH POTABLE WATER SHALL BE CERTIFIED BY THE SOURCE OF THE PRODUCT TO BE 'LEAD-FREE' (TO CONTAIN LESS THAN 0.25% LEAD) IN COMPLIANCE WITH THE EPA AND SDWA (SAFE DRINKING WATER ACT AND U.S. PUBLIC LAW 111-380).
11. ALL INTERRUPTIONS OF UTILITY SERVICE REQUIRED FOR COMPLETION OF THE WORK SHALL BE SCHEDULED 7 DAYS IN ADVANCE.
12. COORDINATE ALL PLUMBING WITH NEW MECHANICAL AND ELECTRICAL WORK, INCLUDING HVAC, PLUMBING, FIRE PROTECTION, ELECTRICAL, FIRE ALARM AND COMMUNICATIONS.
13. DO NOT USE BULL-HEADED TEE FITTINGS ON PIPE, UNLESS SPECIFICALLY SHOWN.
14. PROVIDE ALL PLUMBING CONNECTIONS, PIPING, FIXTURES AND EQUIPMENT AS INDICATED, NOTED AND SCHEDULED, FOR A COMPLETE WORKING SYSTEM. WORK SHALL BE PROVIDED BY A LICENSED PLUMBING CONTRACTOR, IN ACCORDANCE WITH KENTUCKY PLUMBING CODE, AND SHALL BE ACCOMPANIED BY A CERTIFICATE OF INSPECTION AND APPROVAL.
15. ALL EQUIPMENT, ACCESSORIES, PIPING, AND OTHER WORK, WHICH IS INSTALLED IN FINISHED SPACES SHALL BE CONCEALED IN WALLS, FLOORS, CHASES OR SUSPENDED CEILINGS, UNLESS OTHERWISE INSTRUCTED ON PLANS.
16. PROVIDE ALL ACCESS DOORS AS SHOWN, EXCEPT THOSE SPECIFIED UNDER OTHER DIVISIONS. IN ADDITION, PROVIDE ANY OTHER ACCESS DOORS (WHETHER OR NOT SHOWN ON PLANS) NECESSARY FOR ACCESS TO CONCEALED EQUIPMENT, VALVES OR OTHER OPERATIONAL OR SERVICEABLE ITEMS, UNLESS ITEM IS REASONABLY ACCESSIBLE THROUGH LAY-IN CEILING PANELS.
17. SEE RISER DIAGRAMS FOR SIZES NOT SHOWN ON PLANS.
18. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY SUSPECTED HAZARDOUS MATERIALS, INCLUDING ASBESTOS-CONTAINING MATERIALS (ACM), LEAD-BASED PAINTS EXCEPT AS INSTRUCTED IN THIS CONTRACT. IF ANY MATERIAL NOT COVERED BY THE CONTRACT IS ENCOUNTERED, NOTIFY THE ENGINEER AT ONCE.
19. ALL DEMOLISHED OR REMOVED EQUIPMENT, PIPING, FIXTURES, SUPPORTS, AND THE LIKE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE NOTED.
20. REINSULATE ALL PIPE, VALVES AND FITTINGS WHERE EXISTING INSULATION HAS BEEN REMOVED OR DAMAGED DURING THE PROJECT.
21. FINAL PRODUCT SHALL BE A COMPLETE AND FUNCTIONING SYSTEM CONFORMING TO ALL REQUIREMENTS OF THE CURRENT BUILDING CODES OF KENTUCKY. CONTRACTOR IS RESPONSIBLE FOR MAKING ALL REQUIRED CONNECTIONS FOR A COMPLETE SYSTEM.
22. EXAMINE THE CONTRACT DOCUMENTS AND IMMEDIATELY REPORT ANY ERROR, DISCREPANCY OR OMISSION. THE ENGINEER WILL DETERMINE WHICH INTERPRETATION TAKES PRECEDENCE WHERE TWO OR MORE CONFLICTING STATEMENTS OCCUR. OTHERWISE, THE CONTRACTOR IS RESPONSIBLE FOR THE MORE STRINGENT (OR EXPENSIVE) INTERPRETATION. IN GENERAL, SCHEDULES, WHEREVER THEY APPEAR, SUPERSEDE SPECIFICATIONS AND SPECIFICATIONS SUPERSEDE PLANS.
23. APPLICABLE KENTUCKY CODES ARE:
KENTUCKY STATE PLUMBING LAW, REGULATIONS & CODE (815 KAR CHAPTER 20)
STATE BOILER REGULATION
2018 KENTUCKY BUILDING CODE
2015 INTERNATIONAL EXISTING BUILDING CODE
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL FIRE CODE
2012 INTERNATIONAL ENERGY CONSERVATION CODE
2012 NFPA NATIONAL FUEL GAS CODE

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COBY V. SHERROD
STATE OF KENTUCKY
LICENSED PROFESSIONAL ENGINEER
8/15/25
GRW PROJECT NO. 6524J7-01
CLIENT PROJECT NO. RFB 70-2025
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CONSTRUCTION DOCUMENTS

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PLUMBING LEGEND AND GENERAL NOTES

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED	CVS
DRAWN	JC
REVIEWED	CVS
APPROVED	CVS

REVISIONS

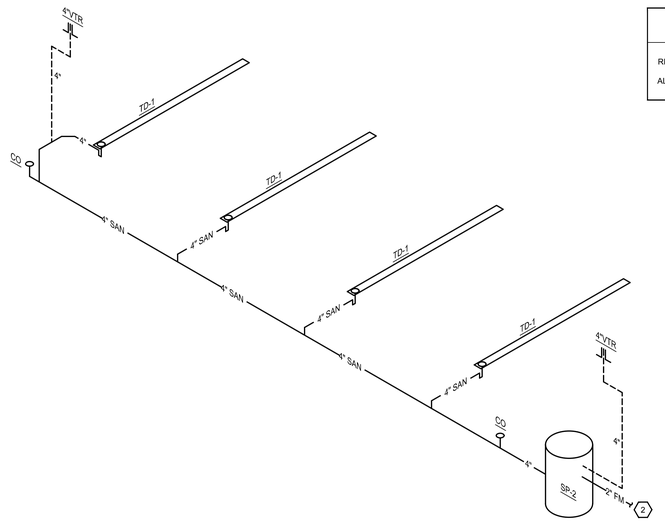
NO.	DESCRIPTION:	DATE	BY

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

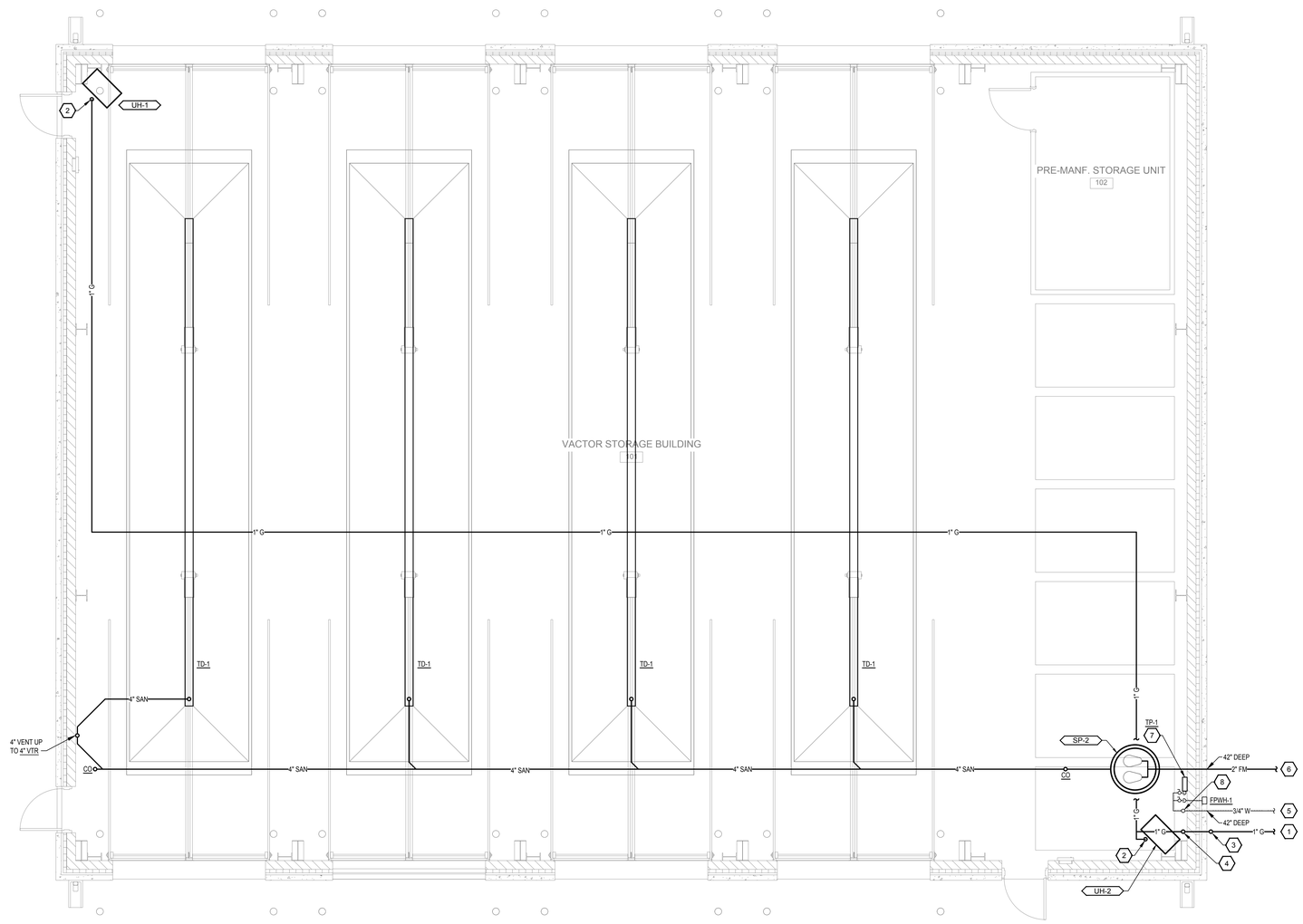
DATE: AUGUST 15, 2025
SCALE: NOT TO SCALE
SHEET NO.: P-001 03

ADD ALTERNATE #1:

REFER TO ARCHITECTURAL AND CIVIL DRAWINGS FOR REVISED VACTOR BUILDING LOCATION FOR THIS ALTERNATE. THIS ALTERNATE DOES NOT AFFECT THE PLUMBING DESIGN LAYOUT.



2 SOIL, WASTE AND VENT RISER DIAGRAM
NOT TO SCALE



1 FIRST LEVEL - PLUMBING PLAN
SCALE: 1/4"=1'-0"

PLAN NORTH

0 2' 4' 8'

GENERAL NOTES:

1. REFER TO VOLUME 1 - SHEETS P-501 01 AND P-502 01 FOR PLUMBING DETAIL REQUIREMENTS.
2. REFER TO VOLUME 1 - SHEET P-601 01 FOR PLUMBING FIXTURE SCHEDULE REQUIREMENTS.

SHEET KEYNOTES:

1. CONNECT TO EXISTING GAS PIPING ON SITE - APPROXIMATELY 50 LINEAR FEET. FIELD VERIFY EXACT TIE-IN LOCATION. REFER TO SHEET C100 - CIVIL SITE UTILITIES PLAN FOR CONTINUATION.
2. REFER TO MECHANICAL DRAWINGS FOR UNIT HEATER LOCATION, REQUIREMENTS & SPECIFICATIONS.
3. GAS PIPING SHALL ENTER BUILDING ABOVE FINISHED GRADE.
4. GAS PIPING UP TO UNIT HEATERS.
5. 3/4" WATER PIPING - REFER TO CIVIL DRAWINGS.
6. 2" FORCE MAIN PIPING - REFER TO CIVIL DRAWINGS.
7. ELECTRONIC TRAP PRIMER MANIFOLD MOUNT TO WALL. PROVIDE MAKE-UP WATER SUPPLIES FROM MANIFOLD TO ALL TRENCH DRAINS.
8. DOMESTIC WATER ENTRANCE INSTALLED IN VERTICAL POSITION. PROVIDE A MAIN SHUT-OFF BALL VALVE WHERE PIPING TURNS UP FROM UNDERSLAB. DOWNSTREAM OF BALL VALVE PROVIDE A STRAINEER THEN A WATTS, MODEL NO. LF007, DOUBLE CHECK VALVE ASSEMBLY.

AREA KEY PLAN

COBY V. SHARPE
15106
LICENSED PROFESSIONAL ENGINEER
FINAL
8/15/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 21-0283

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - PLUMBING PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

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SCALE CHECK:

DESIGNED	CVS
DRAWN	SPB
REVIEWED	CVS
APPROVED	CVS

DATE: AUGUST 15, 2025

SCALE: 1/4" - 1'0"

SHEET NO.: P-101 03

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GENERAL LEGEND

- APPEARS ON SHEET WHERE SECTION IS CUT
- SECTION IDENTIFICATION LETTER
- SHEET WHERE SECTION IS DRAWN

- APPEARS ON THE SHEET WHERE SECTION IS DRAWN
- SECTION OR DETAIL IDENTIFICATION LETTER
- SHEET WHERE DRAWN

- SECTION SYMBOL ON SHEET WHERE CUT
- SHEET WHERE SECTION IS CUT
- SHEET WHERE SECTION IS DRAWN

- ELEVATION SYMBOL ON SHEET WHERE INDICATED
- SHEET WHERE INDICATED
- SHEET WHERE DRAWN

- SECTION, ELEVATION OR DETAIL IDENTIFICATION ON SHEET WHERE DRAWN
- SHEET WHERE INDICATED OR CUT
- SHEET WHERE DRAWN

- ENLARGED AREA OR PARTIAL PLAN SYMBOL (ON SHEET WHERE INDICATED AND SHEET WHERE DRAWN)
- IDENTIFICATION LETTER
- SHEET WHERE DRAWN

- PLAN MATCH LINE SYMBOL
- CONNECTION OF NEW WORK TO EXISTING
- LINE OR EQUIPMENT TO BE REMOVED

123	ROOM NUMBER
9'-6"	CEILING HEIGHT
AFF	ABOVE FINISHED FLOOR
TOS, BOS	TOP OF STEEL, BOTTOM
TOB, BOB	TOP OF BEAM, BOTTOM
TOJ, BOJ	TOP OF JOIST, BOTTOM
TOC, BOC	TOP OF CONCRETE, BOTTOM
TOP, BOP	TOP OF PIPE, BOTTOM
BOD	BOTTOM OF DUCT

MECHANICAL LEGEND
HVAC & PLUMBING

- NEW DUCT - 1ST FIGURE IS DIMENSION SHOWN
- SUPPLY OR OUTSIDE AIR DUCTWORK; PLAN, UP & DOWN
- RETURN OR EXHAUST DUCTWORK
- DROP AND RISE IN DIRECTION OF FLOW
- ACOUSTIC LINED DUCTWORK; PLAN
- SUPPLY AIR DUCT
- OUTSIDE AIR DUCT
- RETURN AIR DUCT
- EXHAUST AIR DUCT
- TRANSFER AIR DUCT
- HIGH VELOCITY SUPPLY DUCT (MEDIUM PRESSURE)
- FLAT OVAL DUCT
- LOW PRESSURE FLEXIBLE DUCT
- HIGH PRESSURE FLEXIBLE DUCT
- ROUND DUCTWORK; PLAN, UP AND DOWN
- AIR FLOW; DIRECTION
- REHEAT COIL IN DUCT
- MANUAL VOLUME DAMPER; PLAN, ONE LINE DIAGRAM
- BACKDRAFT DAMPER
- MOTOR OPERATED DAMPER; PLAN, ONE LINE DIAGRAM
- FIRE DAMPER

- SMOKE DAMPER; PLAN, ONE LINE DIAGRAM (FIRE/SMOKE - FSD)
- SPLITTER DAMPER: SD; SHOWN IN TEE WITH TURNING VANES.
- AIR TURNING VANES; PLAN, ONE LINE DIAGRAM
- DUCT BRANCH TAKE OFF WITH RAKE OFF DAMPER; PLAN, ONE DIAGRAM
- DUCT TRANSITION; PLAN, ONE LINE DIAGRAM
- ACCESS DOOR, VERTICAL OR HORIZONTAL
- CEILING DIFFUSERS
- DUCT OR PIPE SECTION
- SUPPLY DIFFUSER; ONE, TWO, THREE AND FOUR WAY
- RETURN, EXHAUST OR TRANSFER GRILLE
- RETURN GRILLE WITH ACOUSTIC BAFFLE
- EXHAUST OR RETURN BOTTOM WALL REGISTER OR GRILLE
- EXHAUST OR RETURN TOP WALL REGISTER OR GRILLE
- DOOR GRILLE
- AIR DEVICE DESIGNATION. (S) SUPPLY, (R) RETURN, (E) EXHAUST, (T) TRANSFER, (L) LOUVER; I.E. SUPPLY TYPE 2, 200 C.F.M.
- SLOT TYPE LINEAR SUPPLY DIFFUSER
- SLOT TYPE LINEAR RETURN GRILLE
- FLEXIBLE DUCT CONNECTOR; PLAN, ONE LINE DIAGRAM
- A DIRECTION OF PIPE FLOW
- DIRECTION OF PIPE PITCH

HWS	HOT WATER SUPPLY PIPING
HWR	HOT WATER RETURN PIPING
CWS	CONDENSER WATER SUPPLY PIPING
CWR	CONDENSER WATER RETURN PIPING
CHWS	CHILLED WATER SUPPLY PIPING
CHWR	CHILLED WATER RETURN PIPING
HCWS	HOT/CHILLED WATER SUPPLY PIPING
HCWR	HOT/CHILLED WATER RETURN PIPING
HPWS	WATER SOURCE HEAT PUMP SUPPLY
HPWR	WATER SOURCE HEAT PUMP RETURN
MU	MAKE-UP(NON-POTABLE)
HMU	MAKE-UP(NON-POTABLE)HOT
HRS	HEAT RECOVERY SUPPLY PIPING
HRR	HEAT RECOVERY RETURN PIPING
FOS	FUEL OIL SUPPLY PIPING
FOR	FUEL OIL RETURN PIPING
FOV	FUEL OIL VENT PIPING
RS	REFRIGERANT SUCTION PIPING
RL	REFRIGERANT LIQUID PIPING
D	EQUIPMENT OR SYSTEM DRAIN PIPING
E	EXPANSION LINE
R	SAFETY OR RELIEF VALVE DISCHARGE PIPING
CD	CONDENSATE DRAIN PIPING
G	NATURAL GAS PIPING
S	EXISTING SANITARY SEWER PIPING (SITE)
SS	EXISTING STORM SEWER PIPING (SITE)
S	SANITARY SEWER PIPING (SITE)
SS	STORM SEWER PIPING (SITE)
	SOIL & WASTE PIPING
	DWV VENT PIPING
RL	ROOF LEADER PIPING
FD	FOUNDATION DRAIN PIPING

AW	ACID WASTE
AV	ACID VENT
DCW	DOMESTIC COLD WATER PIPING
DHW	DOMESTIC HOT WATER (140 F) PIPING
DRW	DOMESTIC RECIRCULATING HOT WATER PIPING
105	DOMESTIC HOT WATER (105 F) PIPING
	HOT WATER PIPING (FOR EXAMPLE) HEAT TRACED
W	WATER SERVICE PIPING (EXTERIOR)
V	VENT PIPING
A	COMPRESSED AIR PIPING

- VALVE (IN GENERAL - SEE SPECS)
- GATE VALVES (GV)
- GLOBE VALVES
- CHECK VALVE
- BALANCING VALVE (WITH READ OUT)
- BALANCING COCK ONLY (NON-SHUTOFF)
- HOSE CONNECTION, BOILER DRAIN
- BALL VALVES (BV)
- PLUG COCKS, BALANCING COCKS
- SILENT CHECK VALVE
- BUTTERFLY VALVES (BFV)
- CONTROL VALVE; TWO WAY, THREE WAY
- SOLENOID OR QUICK-OPENING VALVE
- MOTOR OPERATED VALVE
- FLOW MEASURING DEVICE
- SELF REGULATING FLOW CONTROL VALVE
- RELIEF VALVE; PLAN, ELEVATION
- PRESSURE REDUCING VALVE (PRV)
- TRI-FUNCTION VALVE (TDV)
- STRAINER; STRAINER WITH BLOW DOWN.
- FLOAT VALVE
- FLEXIBLE CONNECTOR
- BACKFLOW PREVENTER, REDUCED PRESSURE (STRAINER NOT SHOWN) (BFP - RPZ)
- DOUBLE CK. VALVE ASSEMBLY (DCA)
- REDUCING BUSHING
- COUPLING, JOINT
- CAP
- PLUG
- 90° ELBOW
- 90° ELBOW TURNED UP
- 90° ELBOW TURNED DOWN
- 45° ELBOW
- TEE OR SIDE CONNECTION
- TEE OUTLET UP
- TEE OUTLET DOWN

- CROSS
- UNCONNECTED CROSSING PIPES
- RISE OR DROP IN PIPE
- BOTTOM CONNECTION TO LINE
- TOP CONNECTION TO LINE
- RISER IN SLEEVE
- UNION
- STRUCTURAL PIPE ANCHOR
- BUILDING ENTRANCE PIPE ANCHOR
- PIPE GUIDE
- EXPANSION JOINT
- THRUST BLOCK
- WALL SLEEVE
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- VENT THROUGH ROOF, PLAN & RISER
- THROUGH ROOF
- THROUGH FLOOR
- THROUGH WALL
- THERMOMETERS
- THERMOMETER WELL
- PRESSURE GAUGES
- VACUUM AND COMPOUND GAUGES
- PRESSURE/TEMPERATURE TEST PLUG
- FLOW SWITCH
- ORIFICE FLOW METER
- METER: WATER, CONDENSATE OR GAS
- POT OR SHOT FEEDER
- THERMOSTAT, OR TEMP. CONTROLLER
- PRESSURE CONTROLLER
- HUMIDISTAT, OR HUM. CONTROLLER
- CONDUCTIVITY CONTROLLER
- MANUAL AIR VENT
- AUTOMATIC AIR VENT
- AUTOMATIC AIR ELIMINATOR
- VACUUM BREAKER
- FLOAT AND THERMOSTATIC TRAP, TRAP SET
- INVERTED BUCKET TRAP, TRAP SET
- FLOAT, STEAM OR AIR TRAP
- MAIN OR END OF MAIN DRIP TRAP SET

- HORIZONTAL UNIT HEATER
- PUMP
- ROOF EXHAUST HOOD, EXHAUST FAN
- ROOF INTAKE HOOD, SUPPLY FAN
- WALL HYDRANT
- HOSE BIBB
- OPEN RECEPTACLE
- RISER SYMBOL ON PLAN SHEET; SHEET WHERE WASTE & WATER RISERS APPEAR
- RISER SYMBOL ON PLAN SHEET; SHEET WHERE WASTE RISER APPEARS; SHEET WHERE WATER RISER APPEARS
- RISER SYMBOLS FOR WASTE (SANITARY) AND WATER ON RISER SHEET

GENERAL NOTES:

1. FURNISH ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED FOR THE COMPLETION & OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES, ASHRAE, SMACNA, NFPA, EPA, ETC.
2. REFER TO ALL PROJECT DRAWINGS FOR DETAILS OF CONSTRUCTION AND INSTALLATION REQUIREMENTS.
3. CONTRACTOR SHALL BECOME, PRIOR TO BID, THOROUGHLY FAMILIAR WITH THE REQUIREMENTS OF THESE NOTES AS WELL AS OTHER NOTES SHOWN ON THE CONTRACT DOCUMENTS.
4. THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIC REFERENCE PRODUCTS (SEE SCHEDULES). THE SELECTION OF WHICH HAS INFLUENCED THE DESIGNS OF OTHER TRADES (ELECTRICAL, STRUCTURAL, ETC.). IF SUBSTITUTE MANUFACTURERS, SIZES, OR MODEL NUMBERS ARE BID, SUBMITTED OR INSTALLED, IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR AND ALL HIS SUBCONTRACTORS TO COORDINATE ALL DIFFERENCES PRIOR TO BID. ALL COSTS OF ALL TRADES ASSOCIATED WITH THE SUBSTITUTION SHALL BE INCLUDED IN THE BID.
5. COORDINATION OF ALL MODIFICATIONS TO EACH DISCIPLINE WHICH RESULT FROM SUBSTITUTION OF EQUIPMENT OR MATERIALS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSTITUTIONS WHICH ARE INSTALLED AND SUBSEQUENTLY ARE PROVEN UNSATISFACTORY BY OWNER AND/OR ENGINEER, WITHIN THE WARRANTY PERIOD, SHALL BE REMOVED COMPLETELY BY THE CONTRACTOR AND REPLACED WITH THE ORIGINAL DESIGN OR CORRECTED AS DIRECTED BY THE ENGINEER WITHOUT ADDITIONAL COST TO THE OWNER.
6. ALL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRICAL RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, SEQUENCE, DEVICE, OPTION, FITTING, VALVE, OR COMPONENT.
7. INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS OR DETAILS, BUT NOT SHOWN ON PLANS, AND VICE VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED BY BOTH.
8. CONTRACTOR SHALL NOT SCALE DRAWINGS. DRAWINGS SPECIFIC TO THIS DISCIPLINE DO NOT LIMIT THE RESPONSIBILITY OF WORK REQUIRED BY THE CONTRACT DOCUMENTS.
9. EXACT LOCATIONS OF ALL EQUIPMENT, DUCTS, DIFFUSERS, ETC. SHALL BE COORDINATED WITH OTHER TRADES. CEILING MOUNTED LIGHTING, AND ELECTRICAL REQUIREMENTS TAKE PRECEDENCE OVER CEILING MOUNTED MECHANICAL REQUIREMENTS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES. REFER TO ELECTRICAL AND OTHER DRAWINGS FOR COMPLETE INFORMATION PRIOR TO BID.
11. ALL MECHANICAL CONSTRUCTION DETAILS SHALL BE AS SHOWN AND AS REQUIRED TO MAINTAIN "UL" ASSEMBLY RATINGS. SEAL AROUND ALL PENETRATIONS THROUGH ALL "UL" RATED ASSEMBLIES, FIRE, AND SMOKE WALLS. COORDINATE WITH GENERAL CONTRACTOR.
12. NO OTHER TRADES, I.E., ELECTRICAL, CEILING, PLUMBING, ETC., SHALL BE SUSPENDED, HUNG, OR SUPPORTED FROM DUCTWORK OR PIPING.
13. ALL BUILDING PENETRATIONS MUST BE COORDINATED WITH ENGINEER AND SHALL BE FLASHED AND SEALED WEATHERTIGHT. ALL MATERIALS AND COLORS MUST BE PRE-APPROVED BY ENGINEER.
14. ROUTE DUCTWORK AS HIGH AS POSSIBLE TO FACILITATE ACCESS TO ABOVE CEILING SPACE. COORDINATE ROUTING WITH OTHER SERVICES AND TRADES.
15. ALL DUCTWORK AND PIPING SHALL BE SUPPORTED FROM STRUCTURE.
16. ALL DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
17. MAXIMUM FLEXIBLE DUCT LENGTH SHALL BE 5'-0". ALL FLEXIBLE DUCT SHALL CONFORM TO THE REQUIREMENTS OF U.L. 181 FOR CLASS 1 FLEXIBLE AIR DUCTS. SUPPORT TO ELIMINATE SAGGING & KINKING.
18. ALL HVAC EQUIPMENT TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS AS SHOWN. UTILIZE FACTORY FILTERS DURING CONSTRUCTION.
19. ALL PIPING, DUCTS, VENTS, ETC., EXTENDING THROUGH WALLS SHALL BE FLASHED, COUNTER FLASHED IN WATERPROOF MANNER W/LEAD ROOF JACK.
20. CONTRACTOR TO COORDINATE DUCTWORK WITH OTHER TRADES, OFF-SET AS REQUIRED, RUN DUCTWORK BETWEEN JOIST WHERE POSSIBLE.
21. CONTRACTOR SHALL VISIT THE JOB SITE & BE FAMILIAR WITH ALL PROJECT CONDITIONS PRIOR TO FABRICATING ANY EQUIPMENT, DUCTWORK, ETC. NO ALLOWANCES WILL BE MADE FOR CONTRACTOR UNFAMILIARITY WITH PROJECT CONDITIONS.
22. MECHANICAL CONTRACTOR SHALL BALANCE SYSTEM TO AIR QUANTITIES INDICATED ON PLANS AND PROVIDE OWNERS REPRESENTATIVES WITH COMPLETE NEBB/AABC BALANCE REPORT.
23. ALL SQUARE ELBOWS SHALL HAVE TURNING VANES. NO EXCEPTIONS.
24. PROVIDE A MANUAL VOLUME DAMPER AT ALL BRANCH TAKE-OFFS.
25. ALL DUCT DIMENSIONS SHOWN ARE INTERIOR CLEAR DUCT DIMENSIONS.
26. ALL CONTROL WIRING & CONDUIT SHALL COMPLY WITH NEC.
27. PIPE AND DUCT ROUTING SHOWN IS SCHEMATIC. HVAC CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS, INCLUDING DIVIDED DUCTS, REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES AS ENCOUNTERED IN THE FIELD.
28. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND DRAWINGS FOR CONNECTIONS AND LOCATION OF ALL EQUIPMENT.
29. CONTRACTOR SHALL MAINTAIN A SET OF PROJECT RECORD DRAWINGS AT THE JOB SITE AND SHALL BE RESPONSIBLE FOR MAKING CLEAR, NEAT CHANGES TO THE DRAWINGS, REFLECTING CHANGES TO THE WORK AND VARIANCE IN EXISTING CONDITIONS.
30. CONSULT ROOF PLAN AND STRUCTURAL DRAWINGS FOR PLACEMENT OF ROOF MOUNTED EQUIPMENT. PROVIDE ALL NECESSARY ROOF CURBS, EQUIPMENT RAILS AND BASES AND ANY ADDITIONAL REQUIRED FRAMING IN COORDINATION WITH STRUCTURAL AND ROOFING WORK.
31. ALL EQUIPMENT, DUCT, PIPING AND ACCESSORIES INSTALLED OUTSIDE OR OTHERWISE EXPOSED TO THE ELEMENTS SHALL BE ADEQUATELY WEATHERPROOFED, IN KEEPING WITH THE SPECIFICATIONS. ALL FERROUS METAL FRAMING COMPONENTS SHALL BE STAINLESS STEEL OR HOT-DIP GALVANIZED.
32. PROVIDE ALL ACCESS DOORS AS SHOWN, EXCEPT THOSE SPECIFIED UNDER OTHER DIVISIONS. IN ADDITION, PROVIDE ANY OTHER ACCESS DOORS WHETHER OR NOT SHOWN ON PLANS, NECESSARY FOR ACCESS TO CONCEALED EQUIPMENT, VALVES, DAMPERS, ACTUATORS, JUNCTION BOXES, CONTROLS OR OTHER OPERATIONAL OR SERVICEABLE ITEMS, UNLESS ITEM IS REASONABLY ACCESSIBLE THROUGH LAY-IN CEILING PANELS.
33. PROVIDE LINTELS AS REQUIRED FOR ALL NEW OPENINGS GREATER THAN 12" WIDE IN MASONRY OR LOAD-BEARING WALLS, MATERIAL TO BE APPROVED BY ENGINEER.
34. ANY AND ALL DAMAGE DUE TO DEMOLITION OR CONSTRUCTION IS TO BE REPAIRED OR REPLACED AS APPROPRIATE, SUBJECT TO ENGINEER'S APPROVAL, AND AT NO ADDITIONAL COST TO THE OWNER.
35. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY SUSPECTED HAZARDOUS MATERIALS, INCLUDING ASBESTOS-CONTAINING MATERIALS (ACM), LEAD-BASED PAINTS, ELECTRICAL GEAR CONTAINING PCB'S OR ANY OTHER, EXCEPT AS INSTRUCTED IN THIS CONTRACT. IF ANY MATERIAL NOT COVERED BY THE CONTRACT IS ENCOUNTERED, NOTIFY THE ENGINEER AT ONCE.
36. ALL DEMOLISHED OR REMOVED EQUIPMENT, PIPING, DUCTWORK, SUPPORTS, CONTROLS AND THE LIKE SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE NOTED.
37. ALL EQUIPMENT PROVIDED WITH FILTERS SHALL HAVE FILTERS IN PLACE AT THE TIME OF STARTUP. ALL NEW FILTERS SHALL BE INSTALLED AT THE TIME OF OWNER OCCUPANCY, AND A COMPLETE SET OF EXTRA FILTERS SHALL BE TURNED OVER TO THE OWNER AT THIS TIME. IN THE EVENT THAT CARE IS NOT TAKEN DURING INITIAL OPERATION TO PREVENT CONTAMINATION OF THE FILTERS WITH CONSTRUCTION DUST, ADDITIONAL SETS OF FILTERS SHALL BE PROVIDED TO PROTECT THE EQUIPMENT.
38. PROVIDE ADDITIONAL INPUT/OUTPUT POINTS REQUIRED TO IMPLEMENT CONTROL SEQUENCES SPECIFIED.
39. PAINT ALL EXPOSED PLENUMS AND DUCTWORK BEHIND GRILLES AND DIFFUSERS WITH FLAT BLACK PAINT.

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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MECHANICAL LEGEND AND GENERAL NOTES
LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED	DRAWN	REVIEWED	APPROVED
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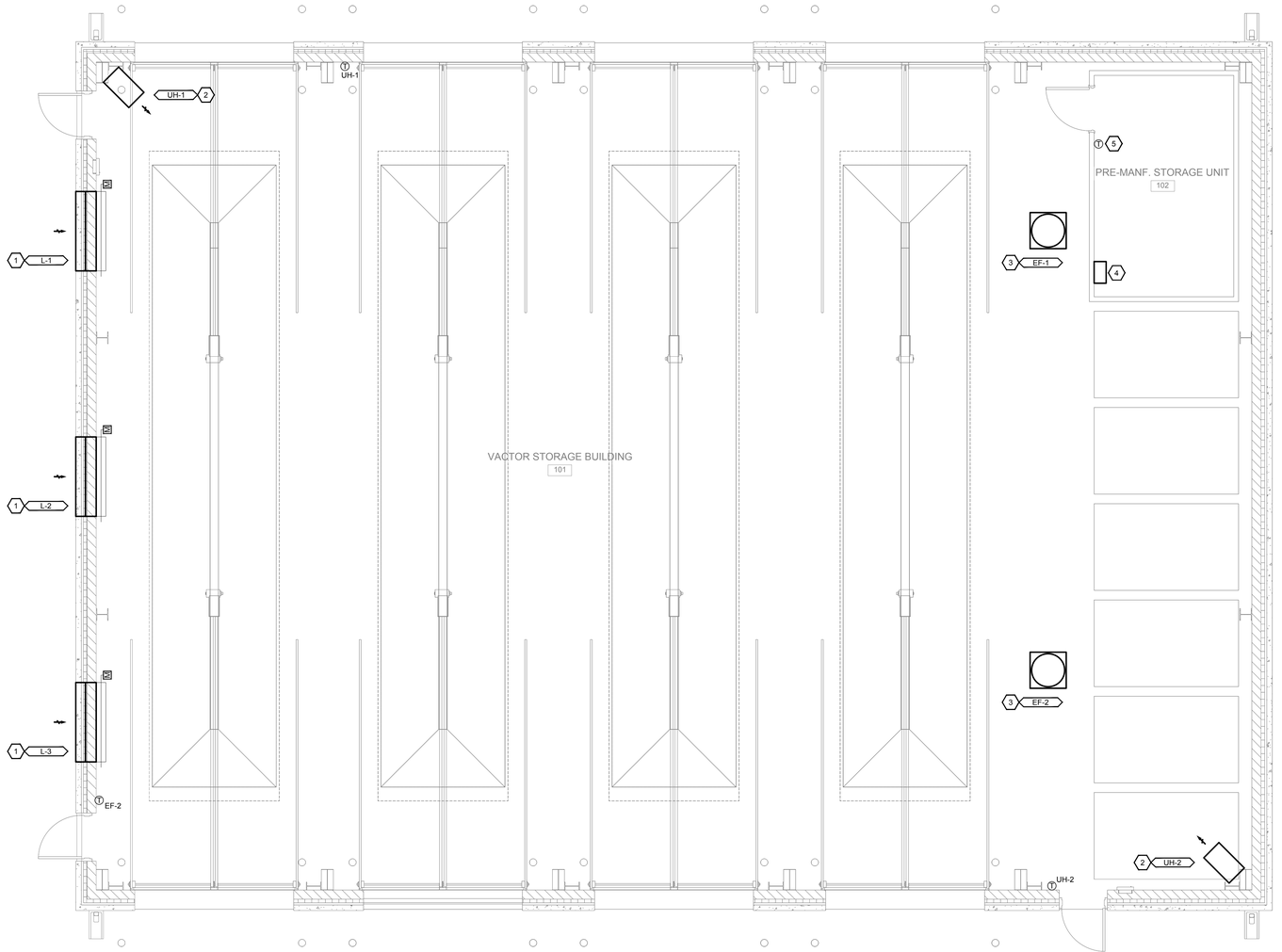
ADD ALTERNATE #1:

REFER TO ARCHITECTURAL AND CIVIL DRAWINGS FOR REVISED VACTOR BUILDING LOCATION FOR THIS ALTERNATE. THIS ALTERNATE DOES NOT AFFECT THE MECHANCIAL DESIGN LAYOUT.



GENERAL NOTES:

1. CONTROL WIRING CONDUIT IS BEING PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR FROM VACTOR BUILDING TO THE STORAGE BUILDINGS. TEMPERATURE CONTROLS CONTRACTOR SHALL PULL ALL CONTROL WIRING NEEDED FROM CONTROL PANEL IN VACTOR BUILDING TO THE STORAGE BUILDINGS.

SHEET KEYNOTES:

1. FURNISH AND INSTALL NEW INTAKE LOUVER AND MOTORIZED CONTROL DAMPER FOR VENTILATION SYSTEM. COORDINATE LOUVER INSTALLATION HEIGHT WITH GENERAL CONTRACTOR & ARCHITECT.
2. FURNISH AND INSTALL NEW GAS-FIRED UNIT HEATER. HANG FROM WALL BRACKET.
3. FURNISH AND INSTALL NEW ROOF MOUNTED EXHAUST FAN. PROVIDE WITH ROOF CURB TO FIT ROOF SLOPE
4. PROVIDE AND INSTALL MAIN BAS CONTROL PANEL IN LOCATION SHOWN BELOW. COORDINATE LOCATION WITH OWNER AND OWNER'S IT DEPARTMENT. ALSO COORDINATE WITH ELECTRICAL AND CONTROLS CONTRACTORS.
5. PROVIDE TEMPERATURE SENSOR CONNECTED TO BAS TO MONITOR AIR TEMPERATURE IN ROOM. REFER TO CONTROLS DRAWINGS FOR ADDITIONAL INFORMATION.

AREA KEY PLAN

1 FIRST LEVEL - HVAC PLAN
SCALE: 1/4"=1'-0"

PLAN NORTH

0 2' 4' 8'

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
28306
LICENSED PROFESSIONAL ENGINEER
8/15/2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - HVAC PLAN
LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

REVISIONS			
NO.	DESCRIPTION	DATE	BY

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SCALE CHECK

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

DATE: AUGUST 15, 2025
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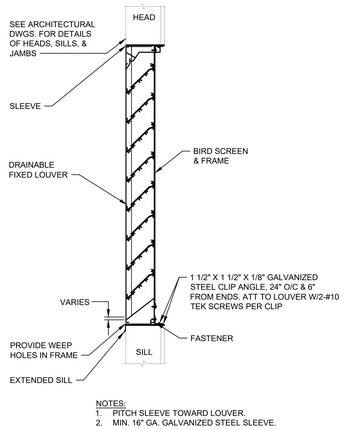
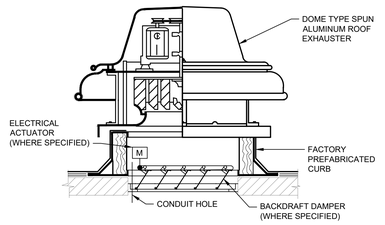


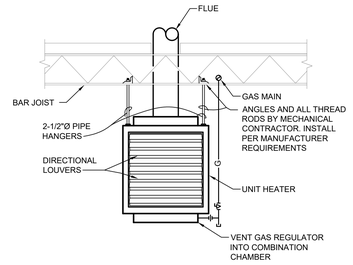
NOTES:
1. PITCH SLEEVE TOWARD LOUVER.
2. MIN. 16" GA. GALVANIZED STEEL SLEEVE.

1 FIXED LOUVER DETAIL
NOT TO SCALE

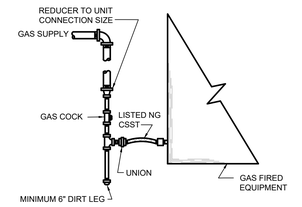


NOTES:
1. SEE ARCHITECTURAL SHEETS FOR CURB INSTALLATION, FLASHING AND FRAMING.
2. SEE SPECIFICATIONS FOR DUCTWORK REQUIREMENTS.

2 TYPICAL ROOF EXHAUST FAN DETAIL
NOT TO SCALE



3 TYPICAL GAS UNIT HEATER DETAIL
NOT TO SCALE



NOTES: SEE EQUIPMENT MANUFACTURER FOR EQUIPMENT ADDITIONAL CONNECTION REQUIREMENTS.

MUST REPLACE NATURAL GAS PIPE FROM SHUTOFF VALVE TO CONNECTION OF NEW UNIT, INCLUDING THE SHUTOFF VALVE.

4 EQUIPMENT GAS PIPING CONNECTION DETAIL
NOT TO SCALE

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CONSTRUCTION DOCUMENTS

MECHANICAL DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

REVISIONS

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ADD ALTERNATE #3:

MECHANICAL CONTRACTOR SHALL INCLUDE PRICING FOR ADD ALTERNATE #3 TO INCLUDE ALL PREVENTATIVE MAINTENANCE WORK FOR ALL MECHANICAL EQUIPMENT FOR A PERIOD OF THREE YEARS FROM DATE OF SUBSTANTIAL COMPLETION. ALL PREVENTATIVE MAINTENANCE WORK SHALL BE PER MANUFACTURER'S INSTALLATION AND MAINTENANCE GUIDES. BASE BID AND WARRANTY WORK INCLUDES ONE YEAR FROM SUBSTANTIAL COMPLETION. ADD ALTERNATE #3 PRICING INCLUDES THE TWO ADDITIONAL YEARS AFTER THE FIRST YEAR.

LOUVER SCHEDULE

MARK	MANUFACTURER	MODEL	INTAKE / EXHAUST	SIZE			CFM	PRESSURE DROP (IN)	FREE AREA (SQ FT)	VELOCITY (FPM)	REMARKS
				WIDTH	HEIGHT	DEPTH					
IL-1	GREENHECK	EAD-635	INTAKE	36	24	6"	1,550	0.035"	2.9	530	ALL
IL-2	GREENHECK	EAD-635	INTAKE	36	24	6"	1,550	0.035"	2.9	530	ALL
IL-3	GREENHECK	EAD-635	INTAKE	36	24	6"	1,550	0.035"	2.9	530	ALL

REMARKS:
1. LOUVER COLOR SELECTED BY ARCHITECT
2. COORDINATE ALL LOUVER LOCATIONS WITH ARCHITECT AND GENERAL CONTRACTOR PRIOR TO INSTALLATION
3. ALUMINUM CONSTRUCTION
4. DRAINABLE BLADES
5. MAXIMUM NC LEVEL OF 25
6. PROVIDE WITH MOTORIZED 120V CONTROL DAMPER.
7. PROVIDE BIRD SCREEN
8. PROVIDE INSECT SCREEN

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: RUSKIN, UNITED. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

GAS FIRED UNIT HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	GAS INFORMATION		FAN MOTOR ELECTRICAL			FLUE	ELECTRICAL			REMARKS
			INPUT (MBH)	OUTPUT (MBH)	HP	RPM	AMPS	SIZE	V/Ø/Hz	MCA	MOCP	
UH-1	DAYTON	2RYU8	45	37.4	1/20	1650	1.9	4"	115/1/60	4	20	ALL
UH-2	DAYTON	2RYU8	45	37.4	1/20	1650	1.9	4"	115/1/60	4	20	ALL

REMARKS:
1. WALL MOUNTED INSTALLATION
2. INSTALL AS HIGH AS POSSIBLE TO AVOID WORKING AREA BELOW
3. ROUTE FLUE VENTS UP TO ROOF. COORDINATE FLUE PENETRATIONS WITH ROOFING CONTRACTOR
4. CONTROL VIA WALL MOUNTED THERMOSTAT, REFER TO FLOOR PLANS

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: REZNOR, MODINE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

EXHAUST FAN SCHEDULE

MARK	MANUFACTURER	MODEL	SERVICE	TYPE	CFM	ESP (IN H20)	SONES	DRIVE TYPE	RPM	ELECTRICAL				REMARKS
										V/Ø/Hz	HP	MCA	MOCP	
EF-1	GREENHECK	G-095-VG	VACTOR STORAGE	ROOF-DOWNBLAST	300	0.4	9.5	DIRECT	1725	120/1/60	1/6	3.0	15	1,2,3,4,5,6,7
EF-2	GREENHECK	G-240-C-VGD	VACTOR STORAGE	ROOF-DOWNBLAST	4,300	0.4	10.9	DIRECT	1000	460/3/60	2	4.5	15	1,2,3,4,5,6,8

REMARKS:
1. PROVIDE WITH UNIT MOUNTED DISCONNECT
2. PROVIDE WITH UNIT MOUNTED SPEED CONTROL
3. PROVIDE WITH GRAVITY BACKDRAFT DAMPER
4. PROVIDE WITH HIGH EFFICIENCY ECM FAN MOTOR
5. PROVIDE FAN WITH BIRD SCREEN
6. ROOF MOUNTED, DOWN BLAST, PROVIDE WITH APPROPRIATE ROOF CURB (MIN. 12"). ROOF SLOPE SHALL BE CONFIRMED PRIOR TO ORDERING ROOF CURB
7. FAN SHALL OPERATE CONTINUOUS PER BAS CONTROL.
8. FAN SHALL OPERATE VIA WALL MOUNTED THERMOSTAT DURING OCCUPIED HOURS FROM BAS. REFER TO CONTROLS DRAWINGS. PROVIDE LOW VOLTAGE TRANSFORMER AS NEEDED FOR THERMOSTAT CONTROL.

OTHER ACCEPTABLE MANUFACTURERS INCLUDE: CARNES, COOK. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

STATE OF KENTUCKY
CHRISTOPHER J. BOGGS
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LICENSED PROFESSIONAL ENGINEER
8/15/2025

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CONSTRUCTION DOCUMENTS

MECHANICAL SCHEDULES

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: CVS
DRAWN: SPB
REVIEWED: CVS
APPROVED: CVS

REVISIONS

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EF POINTS LIST								
TAG	POINT DESCRIPTION	UNITS	DI	DO	AI	AO	ALARM	TREND
FS-1	FAN STATUS	ON/OFF	X				X	

SEQUENCE OF OPERATION - EF

EXHAUST FANS - EF-1 AND EF-2

FANS
EF-1 SHALL RUN CONTINUOUS DURING OCCUPIED HOURS. FAN SHALL BE OFF DURING UNOCCUPIED HOURS. VERIFY OCCUPIED HOURS WITH OWNER. MOTORIZED CONTROL DAMPERS ON LOUVERS SHALL BE INTERLOCKED WITH FAN STATUS. IF ANY FAN IS ON, THEN LOUVER DAMPERS SHALL OPEN. IF BOTH FANS ARE OFF, THEN LOUVER DAMPERS SHALL BE CLOSED. FAN ON/OFF STATUS SHALL TIE INTO BAS MONITORING SYSTEM.

EF-2 SHALL BE CONTROLLED VIA WALL MOUNTED THERMOSTAT. WHEN SPACE TEMPERATURE IS 65F (ADJ) OR BELOW, FAN SHALL BE OFF. WHEN SPACE TEMPERATURE RISES ABOVE 65F (ADJ), FAN SHALL RUN CONTINUOUS DURING OCCUPIED HOURS. DURING UNOCCUPIED HOURS, FAN SHALL BE OFF..

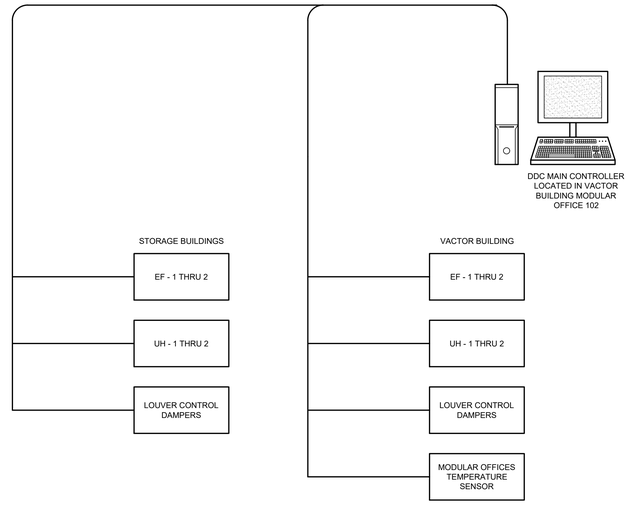
LOUVER CONTROL DAMPER OPEN/CLOSE STATUS SHALL BE VIEWABLE AND CONNECT TO BAS.

EMERGENCY SHUTOFF: IF SPACE TEMPERATURE DROPS TO 45F (ADJ) OR BELOW, EF-1 AND EF-2 SHALL TURN OFF AND THE LOUVER MOTORIZED DAMPERS SHALL CLOSE. WHEN SPACE TEMPERATURE RISES ABOVE 45F (ADJ), FANS SHALL RESUME NORMAL OPERATION.

OPERATING PARAMETERS: UH

FUNCTION	SET POINT ADJUSTABLE	REMARKS
TEMPERATURE SETPOINT	65 F (ADJ)	SEND ALARM TO DDC SYSTEM IF SPACE TEMPERATURE FALLS BELOW 55F (ADJ).
BAS INTERFACE		-ON/OFF STATUS TO BAS MONITORING SYSTEM. -HEAT STATUS TO BAS MONITORING SYSTEM. -SPACE TEMPERATURE TO BAS MONITORING SYSTEM.

UNIT HEATER POINTS LIST (UH 1-2)								
TAG	POINT DESCRIPTION	UNITS	DI	DO	AI	AO	ALARM	TREND
	UH 1-2							
TS-1	ROOM THERMOSTAT	DEG F				X	X	
SF-1	SUPPLY AIR FAN	ON/OFF	X					



1 CONTROL NETWORK COMMUNICATIONS DIAGRAM
NOT TO SCALE

MODULAR OFFICE TEMPERATURE SENSOR

TEMPERATURE SENSOR SHALL BE CONNECTED TO BAS TO MONITOR SPACE TEMPERATURE INSIDE ROOM.

BAS SHALL ALARM IF SPACE TEMPERATURE RISES ABOVE 85F (ADJ) OR FALLS BELOW 55F (ADJ).

NOTE:

PER DIRECTION FROM OWNER, ALL CONTROL WIRING SHALL BE ORANGE AND SHALL NOT CONFLICT WITH OTHER SYSTEM'S WIRING. TCC SHALL COORDINATE WIRING COLOR WITH OWNER AND OWNER'S IT DEPARTMENT PRIOR TO INSTALLATION.

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MECHANICAL CONTROLS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

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CVS	SPB	CVS	CVS

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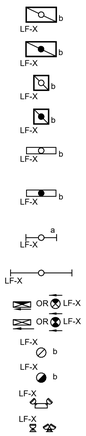
INTERIOR LIGHTING

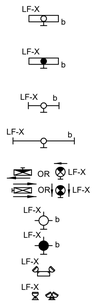
SUBSCRIPTS INDICATE THE FOLLOWING:

LF-X	=	INDICATES LUMINAIRE TYPE
E	=	INDICATES EMERGENCY BATTERY BACKUP
a	=	DENOTES SINGLE SWITCH DESIGNATION
a/b	=	DENOTES DUAL SWITCH DESIGNATION

CEILING MTD



WALL MTD

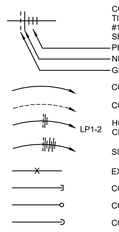


INTERIOR LIGHTING CONTROLS

SUBSCRIPTS INDICATE THE FOLLOWING:

a	=	SWITCH DESIGNATION
D	=	DIMMER
2	=	DOUBLE-POLE
3	=	THREE-WAY
4	=	FOUR-WAY
K	=	KEY-OPERATED
OC	=	OCCUPANCY SENSOR
P	=	PILOT LIGHT
T	=	TIMER
L	=	LOW-VOLTAGE
M	=	MOTOR RATED WITH OVERLOAD PROTECTION
IG	=	ISOLATED GROUND
EXP	=	EXPLOSION PROOF
WP	=	WEATHERPROOF
DR	=	DOOR SWITCH

INTERIOR CONDUIT & WIRE



SHEET IDENTIFICATION LEGEND

DISCIPLINE DESIGNATOR	DESCRIPTION
E-	ELECTRICAL GENERAL
ED	ELECTRICAL DEMOLITION
ES	ELECTRICAL SITE
EL	ELECTRICAL LIGHTING
EC	ELECTRICAL LIGHTING CONTROLS
EP	ELECTRICAL POWER
ET	ELECTRICAL TELECOMMUNICATIONS
EY	ELECTRICAL AUXILIARY SYSTEMS
SHEET NUMBER	**DESCRIPTION**
-00X	GENERAL (SYMBOLS LEGEND, NOTES, ETC.)
-1XX	PLANS
-2XX	ELEVATIONS
-3XX	SECTIONS
-4XX	ENLARGED PLANS
-5XX	DETAILS
-6XX	DIAGRAMS
-7XX	SCHEDULES
BUILDING	**DESCRIPTION**
01	LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
02	LFUCG EXTERIOR STRUCTURES
03	LFUCG VACTOR BUILDING

SHEET IDENTIFICATION

DISCIPLINE DESIGNATOR - SHEET NUMBER BUILDING
EXAMPLE: EP-102 02
(ELECTRICAL POWER PLAN FOR LFUCG EXTERIOR STRUCTURES)

POWER WIRING DEVICES

SUBSCRIPTS INDICATE THE FOLLOWING:

WP	=	WEATHERPROOF, IN-USE COVER
WR	=	WEATHER-RESISTANT WIRING DEVICE
GFCI	=	GROUND FAULT CIRCUIT INTERRUPTER
GF-BF	=	BLANK FACE GROUND FAULT INTERRUPTER
IG	=	ISOLATED GROUND
EWC	=	ELECTRIC WATER COOLER - GFCI TYPE UNLESS NOT READILY ACCESSIBLE (SEE SHEET KEYNOTES)
EXP	=	EXPLOSION PROOF
ACT	=	ABOVE COUNTER TOP
TR	=	TAMPER-RESISTANT WIRING DEVICE
AFCI	=	ARC FAULT CIRCUIT INTERRUPTER
SPD	=	SURGE PROTECTION DEVICE

POWER DEVICES

TELECOMMUNICATIONS

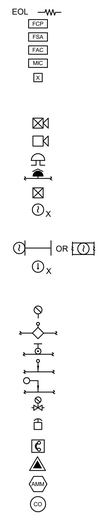
SUBSCRIPTS INDICATE THE FOLLOWING:

X	=	DATA AND/OR VOICE OUTLET
AV	=	AUDIO VISUAL OUTLET

FACEPLATE CONFIGURATION TYPE - SEE DETAIL SHEETS

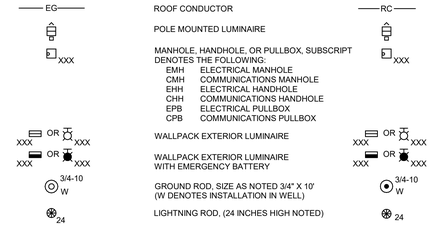
SECURITY SYSTEMS

FIRE ALARM/SUPPRESSION SYSTEM DEVICES



POWER DEVICES

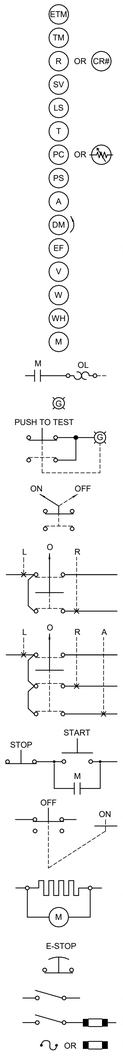
EXTERIOR



DEMOLITION

ITEMS / AREAS THAT ARE TO BE DEMOLISHED ARE INDICATED WITHIN A HATCH PATTERN

SINGLE LINE DIAGRAMS/CONTROLS



GENERAL NOTES:

1. THE MINIMUM STANDARD FOR ALL WORK SHALL BE THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE WITH IN STATE AMENDMENTS AND THE NATIONAL ELECTRICAL CODE (NEC).
2. ALL ELECTRICAL WORK SHALL BE PERFORMED BY AN IN-STATE LICENSED ELECTRICIAN.
3. ALL PERMITS NEEDED TO LEGALLY PERFORM THE ELECTRICAL WORK SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO START OF WORK. COST OF PERMITTING IS BY THE CONTRACTOR.
4. AT COMPLETION OF THE WORK, A CERTIFICATE OF COMPLIANCE FROM THE LOCAL AHJ OVER THE ELECTRICAL WORK SHALL BE PROVIDED TO THE ENGINEER AND OWNER. COST OF ELECTRICAL INSPECTION IS BY THE CONTRACTOR.
5. ALL MATERIALS USED IN THE PROJECT GENERALLY SHALL BE NEW AND UNUSED, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL NEW MATERIALS SHALL BE LISTED AND LABELED BY UL OR OTHER ACCEPTABLE LISTING AGENCY, WHERE A LISTING EXISTS.
6. THE CONTRACTOR SHALL VISIT THE SITE(S) PRIOR TO BIDDING TO FAMILIARIZE THEMSELVES WITH PROJECT REQUIREMENTS AND EXISTING CONDITIONS.
7. FIRESTOP ALL NEW CONDUIT INSTALLED THROUGH EXISTING OR NEW FIRE RATED ASSEMBLIES.
8. SHOP DRAWINGS SHALL BE SUBMITTED ON ALL ELECTRICAL MATERIALS AND EQUIPMENT FOR ACCEPTANCE PRIOR TO PURCHASE BY THE CONTRACTOR.
9. WHEN AN ITEM DEMOLISHED IS REMOVED, REMOVE ALL CONCRETE PADS, FASTENERS, CONDUIT AND WIRING. SCARIFY SURFACE AND RESTORE TO MATCH EXISTING SURROUNDING SURFACE, INCLUDING PAINTING TO MATCH.
10. ALL NEW WIRING SHALL BE ENCLOSED IN AN APPROVED RACEWAY SYSTEM. OPEN WIRING IS PROHIBITED.
11. CIRCUIT BREAKERS USED FOR HVAC EQUIPMENT LOADS SHALL BE HACR TYPE.
12. ENSURE DEDICATED ELECTRICAL SPACE IS PROVIDED AT ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC ARTICLE 110.26.
13. UP TO 3 CIRCUITS MAY BE COMBINED IN ONE CONDUIT, AS LONG AS NEC DERATING RULES ARE FOLLOWED.
14. ALL CIRCUITS SHALL HAVE A DEDICATED NEUTRAL. SHARED NEUTRALS AND MULTI-WIRE CIRCUITS ARE NOT TO BE USED EXCEPT POSSIBLY TO COORDINATE WITH SYSTEMS FURNITURE. SEE POWER PLAN.
15. 120 VOLT CIRCUITS THAT EXCEED 75 LINEAR CIRCUIT FEET SHALL BE INCREASED TO #10 AWG AS A GENERAL RULE. OTHER CIRCUITS WILL BE DESIGNED SPECIFICALLY WITH VOLTAGE DROP CONSIDERED IN CONDUCTOR SIZING.
16. COORDINATE ALL MOTOR STARTERS, FEEDERS AND DISCONNECT SWITCHES FOR HVAC AND OTHER UTILIZATION EQUIPMENT ACTUALLY PROVIDED IN ACCEPTED SHOP DRAWINGS.
17. IN ORDER TO COMPLY WITH OSHA REQUIREMENTS, NO OPERATOR DEVICE OF ANY PANEL OR DISCONNECT OR MOTOR CONTROL SHALL BE HIGHER THAN 6'-6" AFF.
18. PROVIDE AN EXTERIOR RATED SERVICE RECEPTACLE WITHIN 25 FEET HORIZONTALLY OF ANY EXTERIOR OR ROOFTOP HVAC OUTDOOR UNIT (HEATING OR AIR CONDITIONING ONLY).
19. INSTALL A NYLON PULLSTRING IN ALL SPARE CONDUITS, ACCESSIBLE AT BOTH ENDS. CAP OFF SPARE CONDUITS ON BOTH ENDS.
20. DEVICE PLATES SHALL BE INSTALLED PLUMB. JUMBO OR OVERSIZED PLATES SHALL NOT BE USED.
21. NEW RECEPTACLES SHALL BE INSTALLED WITH GROUND PIN ORIENTATION TO MATCH EXISTING. IN NEW CONSTRUCTION, GROUND PIN DOWN ABOVE COUNTERS OR WORK BENCHES AND UP FOR LOW WALL MOUNTED DEVICES.
22. AT COMPLETION OF PROJECT, ALL ELECTRICAL, TELECOMMUNICATIONS, AND ELECTRONIC SAFETY SYSTEMS SHALL BE FULLY OPERATIONAL.
23. EGRESS LUMINAIRES AND EXIT SIGNS REQUIRE UNSWITCHED LIGHTING CONDUCTOR.
24. SUPPORT ALL LUMINAIRES FROM THE STRUCTURE, NOT FROM THE SUSPENDED CEILING GRID. ALSO ATTACH THE LUMINAIRES TO THE GRID SYSTEM USING EARTHQUAKE CLIPS (SIMILAR TO ERICO/CADDY FASTENERS OR T&B/STEEL CITY).
25. WHERE DUPLEX RECEPTACLES ARE INDICATED GENERALLY BACK TO BACK ON OPPOSITE SIDES OF A PARTY WALL, THE RECEPTACLES SHALL NOT BE INSTALLED IN THE SAME STUD SPACE, BUT SHALL BE SEPARATED BY AT LEAST ONE STUD SPACE.
26. PROVIDE LABEL WITH ESTIMATED FAULT CURRENT AND DATE CALCULATED ON THE MAIN SERVICE DISCONNECT ENCLOSURE. PROVIDE COORDINATION STUDY AND ARC FLASH STUDY, AND APPLY JOB SPECIFIC ARC FLASH HAZARD WARNING LABELS ON ALL SWITCHBOARDS, SWITCHGEAR, MCC'S AND PANELBOARDS.
27. CIRCUIT BREAKERS, 1200 AMPERE OR LARGER, SHALL COMPLY WITH NEC ARTICLE 240.87, ARC ENERGY REDUCTION.

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
22012
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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STANDARD ELECTRICAL SYMBOLS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE	BY	DESCRIPTION
00			AS ISSUED FOR PERMIT

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SCALE CHECK

DATE: AUGUST 15, 2025

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SHEET NO.: E-001 03

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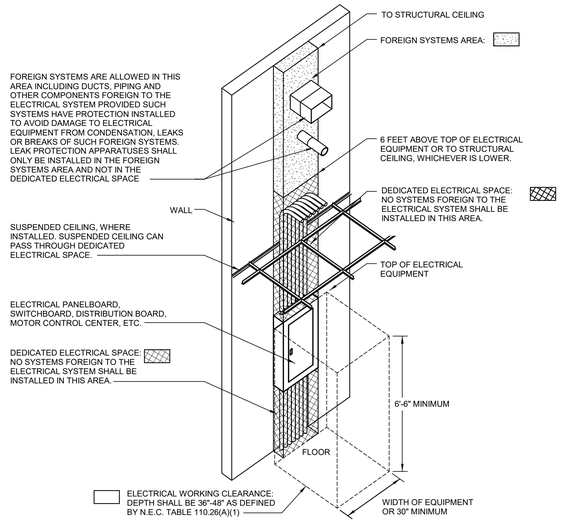
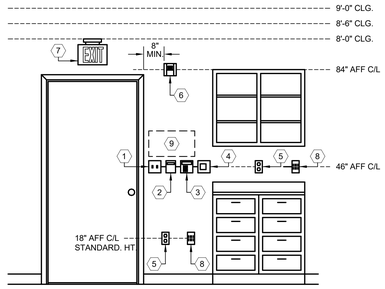


1 DEDICATED ELECTRICAL SPACE DETAIL

NOT TO SCALE



SHEET KEYNOTES:

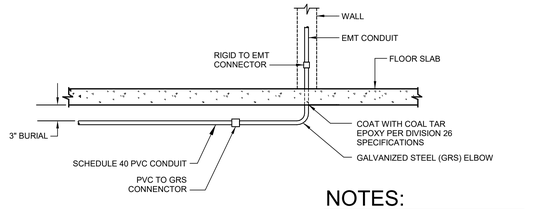
1. MOUNT EDGE OF LIGHTING CONTROL DEVICES CLOSEST TO DOOR AT A DISTANCE OF TWO INCHES FROM THE EDGE OF THE FACE PLATE TO THE DOOR FRAME INCLUDING ALL APPLIED TRIM UNLESS OTHERWISE NOTED. MOUNT REMAINING DEVICES IN THE FOLLOWING ORDER:

   A. FIRE ALARM INITIATION DEVICES.
   B. SECURITY/ACCESS CONTROL DEVICES.
   C. HVAC THERMOSTAT/HUMIDISTAT DEVICES.
   D. OTHER DEVICES.

   MOUNT THE EDGE OF DEVICE OR DEVICE FACE PLATES TWO INCHES APART. PROVIDE BLOCKING AS NECESSARY IN THE WALL OR PROVIDE MANUFACTURED SUPPORTS SIMILAR TO CADDY 'RB' SERIES OR EQUAL. ALL DEVICES TO BE MOUNTED WITH CENTER LINE AT HEIGHT INDICATED.
2. FIRE ALARM INITIATING DEVICE.
3. SECURITY/ACCESS CONTROL KEYPAD.
4. HVAC THERMOSTAT/HUMIDISTAT CONTROL DEVICE.
5. ABOVE COUNTER ELECTRICAL/COMMUNICATIONS DEVICE, COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL INTERIOR ELEVATIONS. SHOWN AT TYPICAL HEIGHT.
6. FIRE ALARM NOTIFICATION APPLIANCE.
7. INSTALL WALL MOUNTED EXIT SIGNS WITH BOTTOM EDGE OF SIGN APPROXIMATELY FOUR INCHES FROM TOP OF DOOR FRAME.
8. COMMUNICATIONS OUTLET.
9. WHEN SIGNAGE WITH TACTILE CHARACTERS ARE TO BE INSTALLED, THE BOTTOM OF TACTILE SIGNAGE SHALL BE MOUNTED AT 50" AFF MINIMUM WITH THE TOP MOUNTED AT A MAXIMUM OF 60" AFF. PROVIDE A CLEAR SPACE OF 18" IN FRONT OF SIGNAGE. ALL OTHER PROVISIONS AND SPACINGS REQUIRED BY A.D.A. SHALL BE FOLLOWED.

2 DEVICE MOUNTING COORDINATION DETAIL

NOT TO SCALE

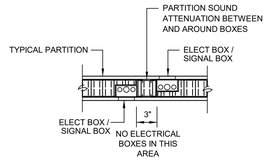


NOTES:

1. THIS DETAIL APPLIES TO ALL RISERS THROUGH SLAB ON GRADE, EITHER IN WALL OR EXPOSED.

3 THROUGH-SLAB CONDUIT DETAIL

NOT TO SCALE

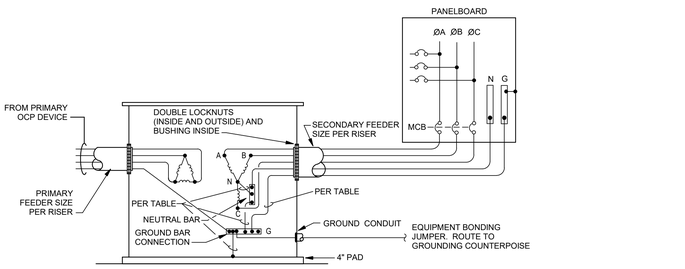


NOTES:

1. ROUGH-IN BOXES MAY BE MOUNTED IN ADJACENT STUD SPACE ONLY IF THE BOXES FACE THE SAME DIRECTION. BACK-TO-BACK BOXES MUST BE SEPARATED PER THIS DETAIL.
2. DO NOT PLACE BOXES BACK-TO-BACK EVEN IF SHOWN GRAPHICALLY ON DRAWINGS AS BACK-TO-BACK. BOXES SHALL BE INSTALLED SEPARATED PER THIS DETAIL. PROVIDE ADDITIONAL METAL FRAMING AS NECESSARY TO INSTALL BOXES SEPARATED AS INDICATED.
3. ELEC/SIGNAL BOXES WITH OPENING AREAS NOT EXCEEDING 16 SQUARE INCHES PLACED IN RATED WALLS FACING IN OPPOSITE DIRECTIONS SHALL BE SEPARATED A MINIMUM OF 24 INCHES. INSTALLATION SHALL BE IN ACCORDANCE WITH KENTUCKY BUILDING CODE SECTION 711.3.2 "MEMBRANE PENETRATIONS".

4 BACK-TO-BACK BOX MOUNTING DETAIL

NOT TO SCALE

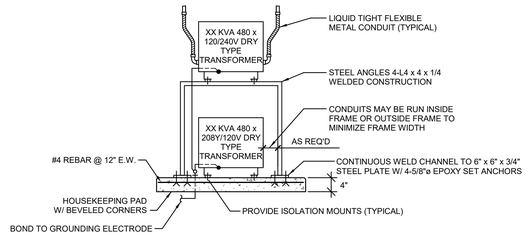


NOTES:

1. DETAIL IS FOR 3-PHASE DRY-TYPE TRANSFORMERS WITH PRIMARY 480-VOLTS DELTA AND SECONDARY 208/120-VOLT WYE.
2. BOND JUMPER AND GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED PER TABLE 250.66 OF NEC 2017.
3. BOND JUMPER AND REQUIRED GROUNDING ELECTRODE CONDUCTOR SHALL BE SAME SIZE. IF THE SECONDARY FEEDER CONDUCTORS ARE GREATER THAN 1100 MCM COPPER OR 1750MCM ALUMINUM, THE BOND JUMPER SHALL BE INCREASED IN SIZE TO 12.5 PERCENT OF THE CROSS-SECTIONAL AREA OF THE SECONDARY PHASE CONDUCTOR.

5 GROUNDING FOR DRY-TYPE (600V OR LESS) TRANSFORMER

NOT TO SCALE



NOTES:

1. AT THE CONTRACTORS DISCRETION, THE TRANSFORMER LOCATED ON TOP OF THE RACK MAY BE WALL-MOUNTED UTILIZING THE PROPER WALL-MOUNT BRACKET (FURNISHED BY THE MANUFACTURER).
2. ALL TRANSFORMERS FOR WALL MOUNTING SHALL BE PROVIDED WITH APPROPRIATE MOUNTING BRACKET BY THE TRANSFORMER MANUFACTURER.
3. SLEEVE GROUNDING ELECTRODE BONDING BACK TO MAIN SERVICE GROUND.

6 TRANSFORMER MOUNTING DETAIL - RACK MOUNTED

NOT TO SCALE

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STATE OF KENTUCKY
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8/19/25

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ELECTRICAL DETAILS I

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DATE:	BY:

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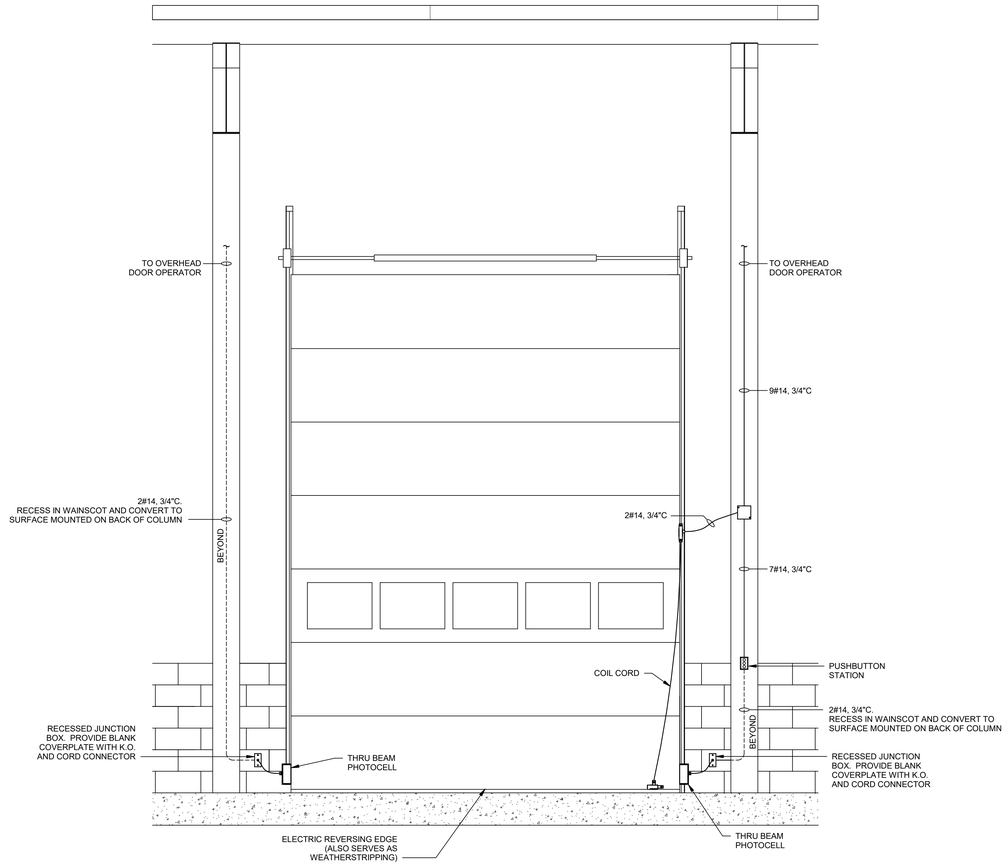

NOTES:

1. FIELD WIRING IS REQUIRED FROM DOOR OPERATOR PANEL FOR THE FOLLOWING:
   - 2#14 FOR SENSING EDGE SWITCH
   - 5#14 FOR PUSHBUTTON STATION
   - 2#14 FOR EACH PHOTOEYE SNESOR
2. ALL WIRING SHALL BE IN CONDUIT.
3. CONTRACTOR SHALL VERIFY EXACT FIELD WIRING REQUIREMENTS WITH ARCHITECT / ENGINEER APPROVED SHOP DRAWINGS.

1 FIELD CONNECTIONS - SECTIONAL DOOR

NOT TO SCALE

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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ELECTRICAL DETAILS II

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

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BRANCH PANEL: VL1

LOCATION: VACTOR STORAGE BUILDING 101
SUPPLY FROM: DP
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 480Y/277V
PHASES: 3
WIRES: 4

A.I.C. RATING: 18,000
MAINS TYPE: MCB
MAINS RATING: 250 A
MCB RATING: 200 A

NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	BUILDING MT'D LIGHTING	20 A	1	2#12, 1#12 GND, 3/4"C	329 VA	892 VA					2#12, 1#12 GND, 3/4"C	1	20 A	LIGHTING	2
3	VR2 TRANSFORMER	70 A	2	2#4, 1#8 GND, 1-1/4"C			6240 VA	0 VA			--	1	20 A	SPARE	4
5	--	--	--	--					6240 VA	0 VA	--	1	20 A	SPARE	6
7	LIGHTING	20 A	1	2#12, 1#12 GND, 3/4"C	1016 VA	1021 VA					2#12, 1#12 GND, 3/4"C	1	20 A	LIGHTING	8
9	SPARE	20 A	1	--			0 VA	903 VA			3#12, 1#12 GND, 3/4"C	3	15 A	EF-2	10
11	VR1 TRANSFORMER	200 A	3	3#3/0, 1#6 GND, 2-1/2"C					29898...	903 VA	--	--	--	--	12
13	--	--	--	--	29696...	903 VA					--	--	--	--	14
15	--	--	--	--			29675...	1164 VA			3#12, 1#12 GND, 3/4"C	3	20 A	OVERHEAD DOORS	16
17	OVERHEAD DOORS	20 A	3	3#12, 1#12 GND, 3/4"C					1164 VA	1164 VA	--	--	--	--	18
19	--	--	--	--	1164 VA	1164 VA					--	--	--	--	20
21	--	--	--	--			1164 VA	1164 VA			3#12, 1#12 GND, 3/4"C	3	20 A	OVERHEAD DOORS	22
23	OVERHEAD DOORS	20 A	3	3#12, 1#12 GND, 3/4"C					1164 VA	1164 VA	--	--	--	--	24
25	--	--	--	--	1164 VA	1164 VA					--	--	--	--	26
27	--	--	--	--			1164 VA	0 VA			--	1	20 A	SPARE	28
29	SPARE	20 A	1	--					0 VA	0 VA	--	1	20 A	SPARE	30
31	SITE LIGHTING	20 A	1	2#12, 1#12 GND,1"C	711 VA	0 VA					--	1	20 A	SPARE	32
33	SPARE	20 A	1	--			0 VA	--			--	1	--	SPACE ONLY	34
35	SPARE	20 A	1	--					0 VA	--	--	1	--	SPACE ONLY	36
37	SPACE ONLY	--	1	--	--	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					39224 VA		41474 VA		41697 VA						
					142 A		151 A		152 A						

LEGEND:

Equipment	100 VA	100.00%	100 VA
HVAC	253 VA	100.00%	253 VA
Heating	768 VA	100.00%	768 VA
Other	0 VA	0.00%	0 VA
Receptacle	3880 VA	100.00%	3880 VA
Power	113425 VA	100.00%	113425 VA
Lighting	3969 VA	100.00%	3969 VA

BRANCH PANEL: VR2(E)

LOCATION: PRE-MANF. STORAGE UNIT 102
SUPPLY FROM: VR2 TRANSFORMER
MOUNTING: RECESSED
ENCLOSURE: NEMA 1

VOLTS: 240/120V
PHASES: 1
WIRES: 3

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 100 A
MCB RATING: 100 A

NOTES:
PANELBOARD IS FURINSHED WITH THE PRE-MANUFACTURED STORAGE UNIT.

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		FEEDER	#P	BKR	DESCRIPTION	NO.
1	RECEPTACLE - EAST SIDE	15 A	1	--	0 VA	0 VA			--	2	20 A	AC UNIT	2
3	RECEPTACLE - EAST SIDE	15 A	1	--			0 VA	0 VA	--	--	--	--	4
5	RECEPTACLES - UNDER PANEL	15 A	1	--	0 VA	0 VA			--	1	15 A	RECEPTACLE - OPPOSITE WALL	6
7	LIGHTING	15 A	1	--			0 VA	0 VA	--	1	15 A	RECEPTACLE - OPPOSITE WALL	8
					0 VA		0 VA						
					0 A		0 A						

LEGEND:

BRANCH PANEL: VR1

LOCATION: VACTOR STORAGE BUILDING 101
SUPPLY FROM: VR1 TRANSFORMER
MOUNTING: SURFACE
ENCLOSURE: NEMA 1

VOLTS: 208Y/120V
PHASES: 3
WIRES: 4

A.I.C. RATING: 10,000
MAINS TYPE: MCB
MAINS RATING: 400 A
MCB RATING: 400 A

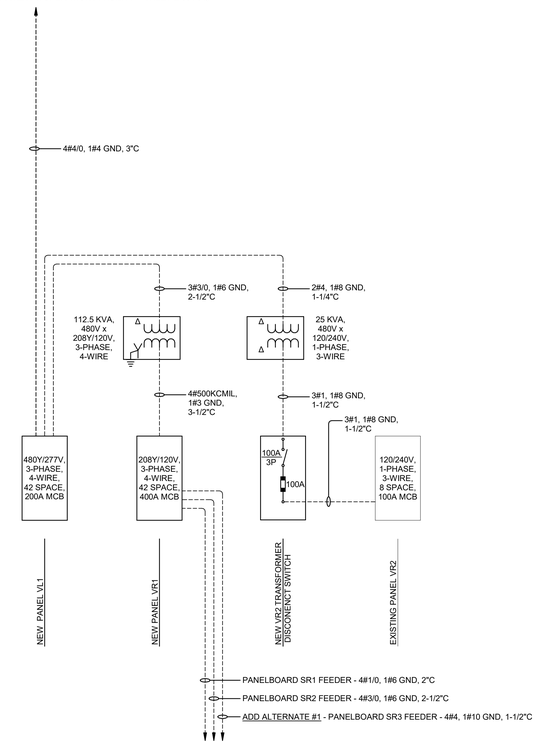
NOTES:

NO.	DESCRIPTION	BKR	#P	FEEDER	A		B		C		FEEDER	#P	BKR	DESCRIPTION	NO.
1	SUMP PUMP CONTROL PANEL	20 A	1	2#12, 1#12 GND, 3/4"C	100 VA	384 VA					2#12, 1#12 GND, 3/4"C	1	15 A	GAS-FIRED UNIT HEATER, UH-1	2
3	EF-1	15 A	1	2#12, 1#12 GND, 3/4"C			253 VA	384 VA			2#12, 1#12 GND, 3/4"C	1	15 A	GAS-FIRED UNIT HEATER, UH-2	4
5	TELECOMM RECEPTS	20 A	1	2#12, 1#12 GND, 3/4"C					360 VA	500 VA	2#12, 1#12 GND, 3/4"C	1	20 A	BAS CONTROL PANEL	6
7	RECEPTACLES	20 A	1	2#12, 1#12 GND, 3/4"C	720 VA	900 VA					2#12, 1#12 GND, 3/4"C	1	20 A	RECEPTACLES	8
9	ACS: POWER SUPPLIES	20 A	1	2#10, 1#10 GND, 3/4"C			1440 VA	645 VA			2#12, 1#12 GND, 3/4"C	2	15 A	SUMP PUMP #1	10
11	RECEPTACLES	20 A	1	2#12, 1#12 GND, 3/4"C					900 VA	645 VA	--	--	--	--	12
13	EQUIPMENT RACK	20 A	1	2#12, 1#12 GND, 3/4"C	1000 VA	0 VA					--	1	20 A	SPARE	14
15	SUMP PUMP #2	15 A	2	2#12, 1#12 GND, 3/4"C			645 VA	3172 VA			4#4, 1#10 GND, 1-1/2"C	3	60 A	PANELBOARD SR3 (EXT. STRUCT.)	16
17	--	--	--	--					645 VA	4000 VA	--	--	--	--	18
19	PANELBOARD SR1 (EXT. STRUCT.)	100 A	3	4#1/0, 1#6 GND, 2"C	8125 VA	3000 VA					--	--	--	--	20
21	--	--	--	--			7654 VA	0 VA			--	1	20 A	SPARE	22
23	--	--	--	--					8578 VA	0 VA	--	1	20 A	SPARE	24
25	PANELBOARD SR2 (EXT. STRUCT.)	200 A	3	4#3/0, 1#6 GND, 2-1/2"C	15669...	0 VA					--	1	20 A	SPARE	26
27	--	--	--	--			15503...	0 VA			--	1	20 A	SPARE	28
29	--	--	--	--					14047...	0 VA	--	1	20 A	SPARE	30
31	SPARE	20 A	1	--	0 VA	--					--	1	--	SPACE ONLY	32
33	SPARE	20 A	1	--			0 VA	--			--	1	--	SPACE ONLY	34
35	SPARE	20 A	1	--					0 VA	--	--	1	--	SPACE ONLY	36
37	SPARE	20 A	1	--	0 VA	--					--	1	--	SPACE ONLY	38
39	SPACE ONLY	--	1	--			--	--			--	1	--	SPACE ONLY	40
41	SPACE ONLY	--	1	--					--	--	--	1	--	SPACE ONLY	42
					29898 VA		29696 VA		29675 VA						
					249 A		247 A		247 A						

LEGEND:

Equipment	100 VA	100.00%	100 VA
HVAC	253 VA	100.00%	253 VA
Heating	768 VA	100.00%	768 VA
Receptacle	3880 VA	100.00%	3880 VA
Power	84268 VA	100.00%	84268 VA

ADD ALTERNATE #1 - PROVIDE PANELBOARD SR3 FEEDER



PLEASE NOTE: PAENLBOARD SR3 FEEDER SHALL BE PROVIDED AS PART OF ADD ALTERNATE #1

1 ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING

NOT TO SCALE

PATRICK J. BAISDEN
12012
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/19/25

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ELECTRICAL ONE-LINE DIAGRAM AND PANELBOARD SCHEDULES

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	REVISION/ISSUE/DESCRIPTION	DATE	BY

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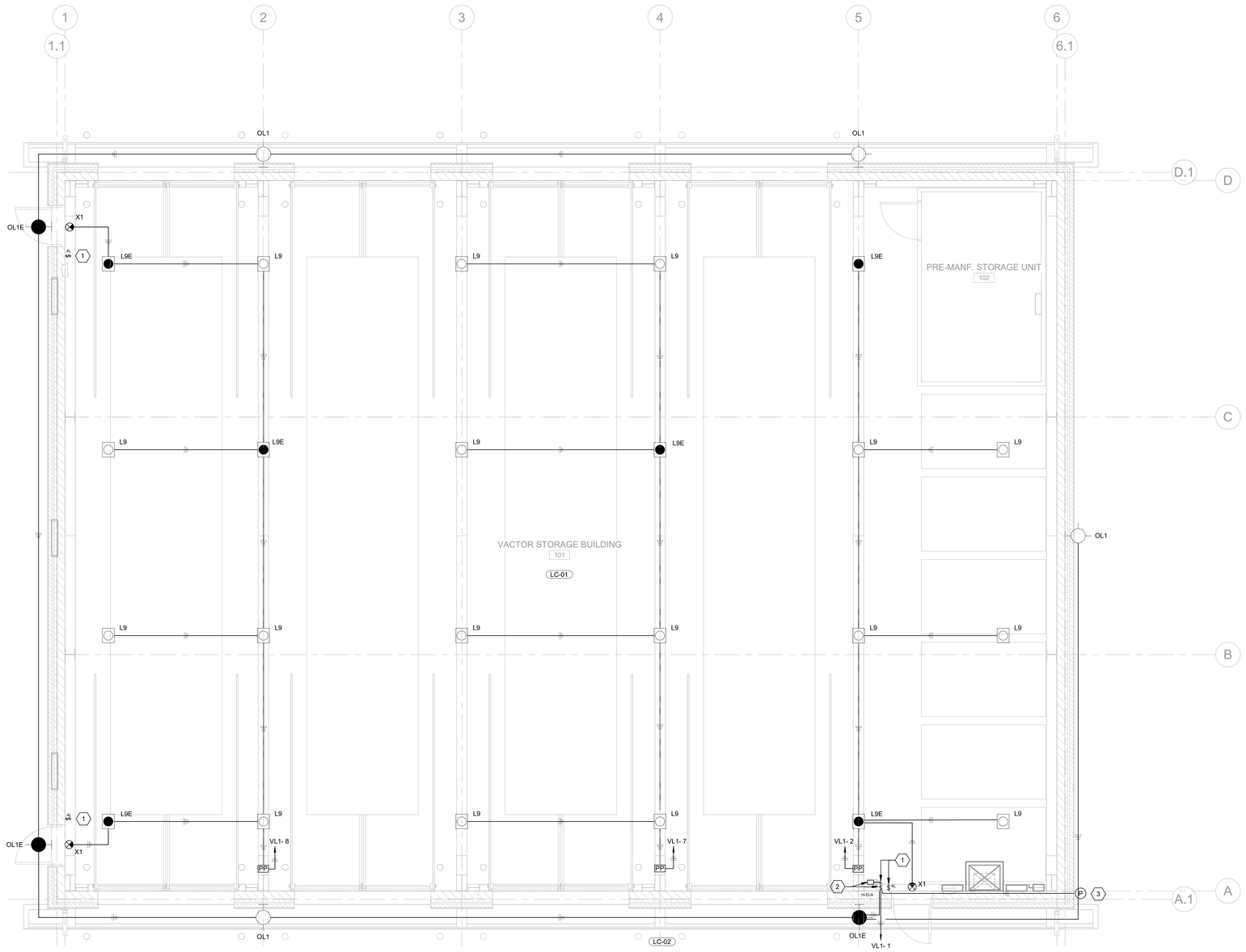

GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
3	LIGHTING CONTROL IS DESIGNATED WITH A CIRCULAR SYMBOL WITH "LC-#". REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501.
4	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.
5	L9/L9E SHALL BE MOUNTED AT 22'-0" AFF.
6	OL1/OL1E SHALL BE MOUNTED AT 16'-6" AFF.

SHEET KEYNOTES

1	RECESS MOUNT SWITCH AS HIGH AS POSSIBLE IN MASONRY WAINSCOT.
2	EXTERIOR LIGHTING CONTROLS (3-POSITION SWITCH AND ASTRONOMICAL TIME CLOCK). REFER TO LIGHTING CONTROL CIRCUIT DETAIL ON SHEET EL501.
3	PHOTOCELL FOR EXTERIOR LIGHTING CONTROLS - MOUNT AT 8'-0"AFF.

AREA KEY PLAN

PLAN NORTH

1 FIRST LEVEL - LIGHTING PLAN
SCALE: 1/4" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

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FIRST LEVEL - LIGHTING PLAN
LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

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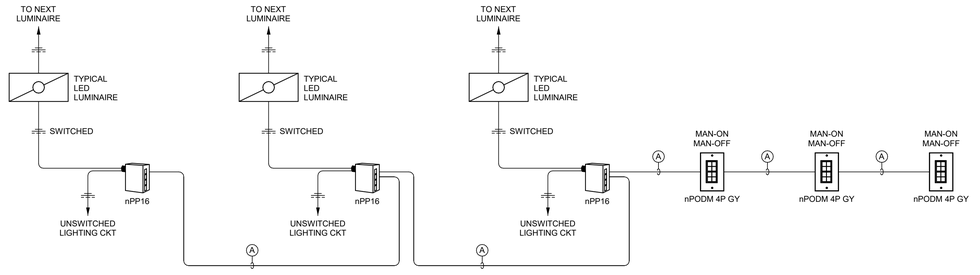
LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	COLOR TEMP	LAMP TYPE	LUMENS	WATTS	VOLTAGE	MOUNTING TYPE	MOUNTING HEIGHT	MANUFACTURER	MODEL NUMBER	EQUIVALENT MANUFACTURER
L9	LED HIGH BAY	4000 K	LED	18936	127 W	277 V	SUSPENDED	22' 0" AFF	LITHONIA LIGHTING	CPHB 18000LM HEF GCL MD MVOLT 40K 80CRI	ORION, H.E. WILLIAMS OR APPROVED EQUIVALENT
L9E	LED HIGH BAY WITH EMERGENCY BATTERY PACK	4000 K	LED	18936	127 W	277 V	SUSPENDED	22' 0" AFF	LITHONIA LIGHTING	CPHB 18000LM HEF GCL MD MVOLT 40K 80CRI E10W	ORION, H.E. WILLIAMS OR APPROVED EQUIVALENT
OL1	LED WALL LUMINAIRE	4000 K	LED	4177	47 W	277 V	WALL	AS NOTED	LITHONIA LIGHTING	WDGE2 LED P4 40K 80CRI T4M MVOLT SRM (NOTE 1)	BEACON, COOPER, ILP OR APPROVED EQUIVALENT
OL1E	LED WALL LUMINAIRE WITH EMERGENCY BATTERY BACKUP	4000 K	LED	4177	47 W	277 V	WALL	AS NOTED	LITHONIA LIGHTING	WDGE2 LED P4 40K 80CRI T4M MVOLT SRM E20WC (NOTE 1)	BEACON, COOPER, ILP OR APPROVED EQUIVALENT
X1	SINGLE FACE EXIT SIGN WITH EMERGENCY BATTERY PACK	4000 K	LED	0	3 W	277 V	WALL	APPROX 8' 0" AFF	LITHONIA LIGHTING	LE S W 1 R EL N SD	DUAL-LITE, H.E. WILLIAMS OR APPROVED EQUIVALENT

NOTES:

1. FINISH TO BE SELECTED BY OWNER/ARCHITECT DURING SHOP DRAWING PHASE.



LC-01 MULTI-ENTRY / MULTI-ZONE - MANUAL ONLY

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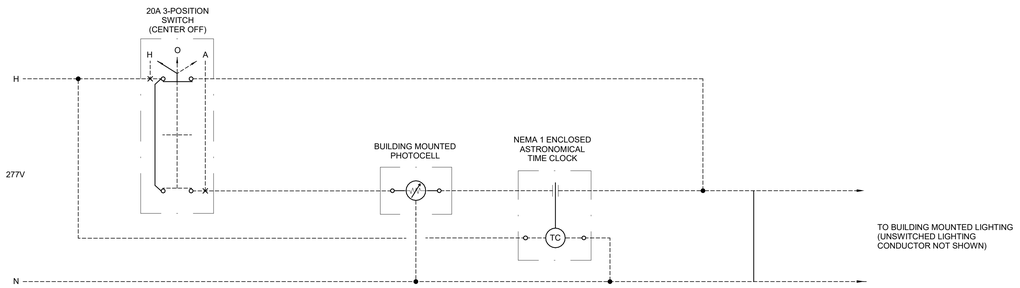

LC-02 EXTERIOR LIGHTING CONTROL

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PROGRAMMING/GENERAL NOTES:

1. ALL AREAS SHALL BE PROGRAMMED FOR AUTOMATIC-OFF AFTER 30 MINUTES OF INACTIVITY.
2. WALL MOUNTED LIGHTING CONTROL DEVICES SHALL BE WHITE WITH WHITE NYLON THERMOPLASTIC PLATE. TYPICAL.
3. LIGHTING CONTROLS SHALL BE AS DEFINED BY SPECIFICATION SECTION 260943.

WIRING LEGEND:

- (A) #24 AWG, 4 PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL WHITE JACKET. TERMINATE ALL ENDS WITH A NON-BOOTED RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
- (B) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 0-10 VDC DRIVER DIMMING CONTROL.
- (C) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR CLASS II PHOTOCELL CONNECTION.
- (D) TWO (2) #18 AWG INSIDE JUNCTION BOX.
- (E) #18 AWG, 4 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 24V DC OCCUPANCY CONTROL.

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — 8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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LUMINAIRE SCHEDULE AND LIGHTING CONTROL DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO. EL501 03

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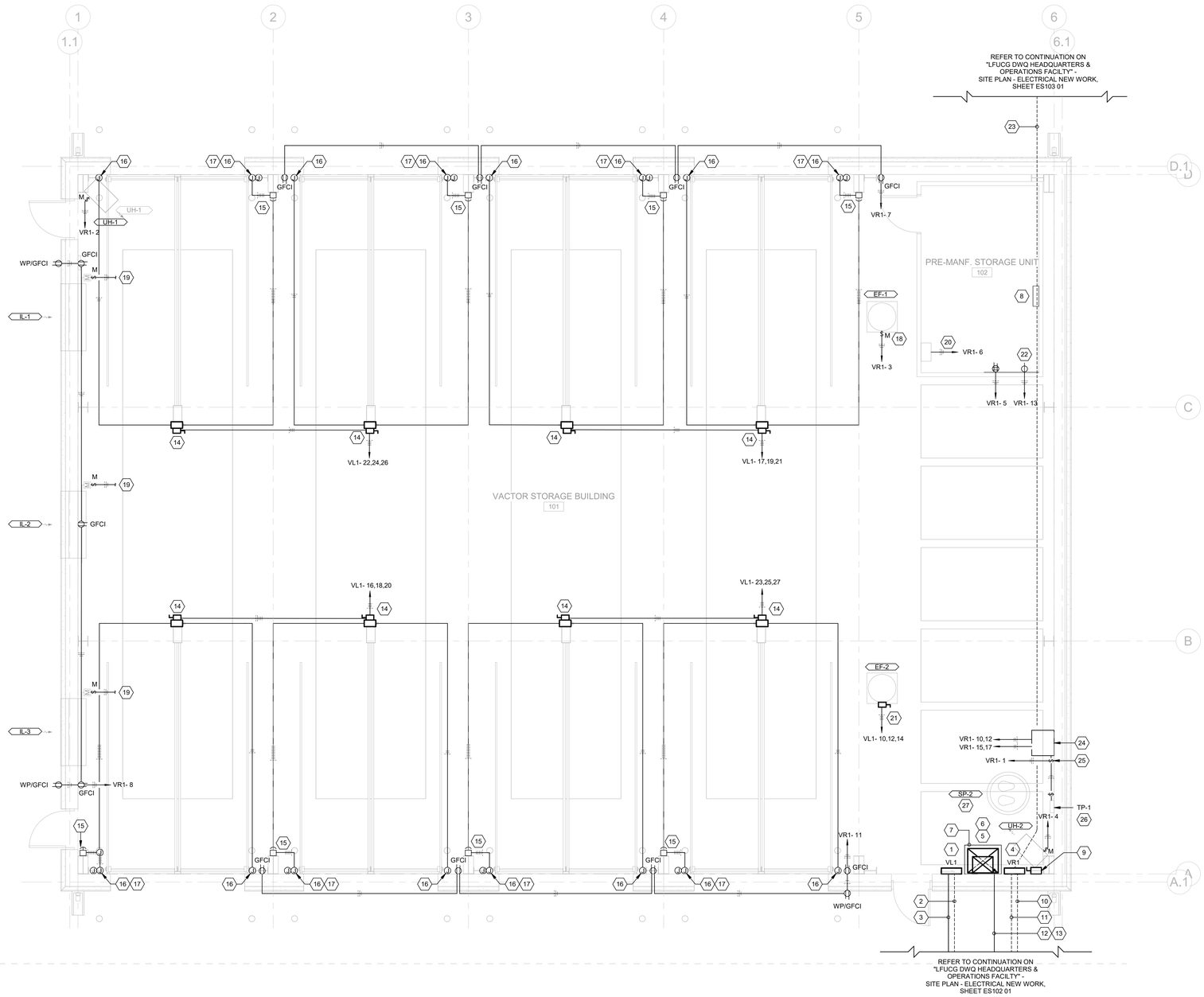

GENERAL NOTES:

1	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZE FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
2	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUTI SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
3	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

SHEET KEYNOTES

1	PANELBOARD VL1 (200A MCB, 480Y/277V, 3-PHASE, 4-WIRE).
2	PANELBOARD VL1 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
3	BARE #2 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD VL1 TO GROUNDING TRIAD (REFER TO "LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY" - SITE PLAN - ELECTRICAL NEW WORK", SHEET ES102 01).
4	PANELBOARD VR1 (400A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
5	PANELBOARD VR1 TRANSFORMER (112.5 KVA, 480V X 208Y/120V, 3-PHASE, 4-WIRE DRY-TYPE TRANSFORMER - FLOOR MOUNTED).
6	PANELBOARD VR2 TRANSFORMER (25 KVA, 480V X 120/240V, 1-PHASE, 3-WIRE DRY-TYPE TRANSFORMER - RACK MOUNTED ABOVE VR1 TRANSFORMER). REFER TO MOUNTING REQUIREMENTS ON DETAIL 6, SHEET E-501.
7	4" CONCRETE HOUSEKEEPING PAD.
8	EXISTING PANELBOARD VR2 (100A MCB, 120/240V, 1-PHASE, 3-WIRE). PANELBOARD WILL BE PROVIDED WITH THE PRE-MANUFACTURERED STORAGE UNIT.
9	100A/240V/1-PHASE FUSIBLE DISCONNECT (NEMA 1 ENCLOSURE) FOR SECONDARY OVERCURRENT PROTECTION OF PANELBOARD VR2 TRANSFORMER. FUSE AT 100 AMPS.
10	PANELBOARD SR1 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601. REFER TO PANELBOARD LOCATION ON "LFUCG EXTERIOR STRUCTURES" - FIRST LEVEL - POWER PLAN, SHEET EP101 02.
11	PANELBAORD SR2 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601. REFER TO PANELBOARD LOCATION ON "LFUCG EXTERIOR STRUCTURES" - FIRST LEVEL - POWER PLAN, SHEET EP101 02.
12	BARE #2 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR1 TRANSFORMER Xo TO GROUNDING ELECTRODE CONDUCTOR.
13	BARE #6 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR2 TRANSFORMER TO GROUNDING ELECTRODE CONDUCTOR.
14	30A/600V/3-PHASE NON-FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE). PROVIDE CONNECTION TO OVERHEAD DOOR CONTROLLER, AS REQUIRED. COORDINATE REQUIREMENTS WITH OVERHEAD DOOR INSTALLER. REFER TO FIELD CONNECTION DETAIL 1 ON SHEET E-502 FOR ADDITIONAL INFORMATION.
15	UP/DOWN/STOP PUSHBUTTON FOR OVERHEAD DOOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
16	PROVIDE CONNECTION TO OVERHEAD DOOR SAFETY BEAM PHOTO SENSOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
17	PROVIDE CONNECTION TO OVERHEAD DOOR SENSING EDGE. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
18	HVAC UNIT IS PROVIDED WITH FACTORY MOUNTED DISCONNECT SWITCH.
19	ROUTE THE 120V CIRCUIT SERVING EXHAUST FAN (EF-1) THROUGH A N.O. CONTACT ON THE FACTORY MOUNTED DAMPER CONTROL TRANFORMER INTEGRAL TO THE EXHAUST FAN AND PROVIDE CONNECTION TO THE MOTORIZED DAMPER.
20	PROVIDE 120V CONNECTION TO THE BAS CONTROL PANEL. COORDINATE LOCATION OF CONTROL PANEL WITH MECHANICAL CONTROLS CONTRACTOR.
21	HVAC UNIT PROVIDED WITH STARTER AND DISCONNECT.
22	PROVIDE DEDICATED RECEPTACLE (NEMA L5-20R) FOR TELECOMMUNICATIONS EQUIPMENT.
23	ADD ALTERNATE #1 - PROVIDE NEW BRANCH PANELBOARD SR3 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601. REFER TO PANELBOARD LOCATION ON "LFUCG EXTERIOR STRUCTURES" - ADD ALTERNATE #1 - FIRST LEVEL - POWER PLAN, SHEET EP102 02.
24	SUMP PUMP CONTROL PANEL (FURNISHED/INSTALLED BY DIV 23). PROVIDE TWO (2) 208V CIRCUITS FOR PUMP POWER.
25	PROVIDE 120V CONNECTION TO SUMP PUMP CONTROL PANEL FOR CONTROL/ALARM POWER. ROUTE THROUGH ADJACENT SWITCH.
26	PROVIDE 120V CONNECTION TO TRAP PRIMER. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR.
27	PROVIDE 2" CONDUIT FROM SUMP PUMP BASIN TO SUMP PUMP CONTROL PANEL (COORDINATE WITH PLUMBING CONTRACTOR). PROVIDE SEAL OFF FITTING IN CONDUIT WITH FIBER FILLER AND SEALING CEMENT (INSTALL PER NEC 500 AND 502). CONDUIT SHALL BE USED FOR FACTORY PUMP AND FLOAT CABLES.

AREA KEY PLAN

PLAN NORTH

1 FIRST LEVEL - POWER PLAN

SCALE: 1/4" = 1'-0"

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

CONSTRUCTION DOCUMENTS

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FIRST LEVEL - POWER PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	DATE	BY	DESCRIPTION

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/4" = 1'-0"

SHEET NO.: EP101 03

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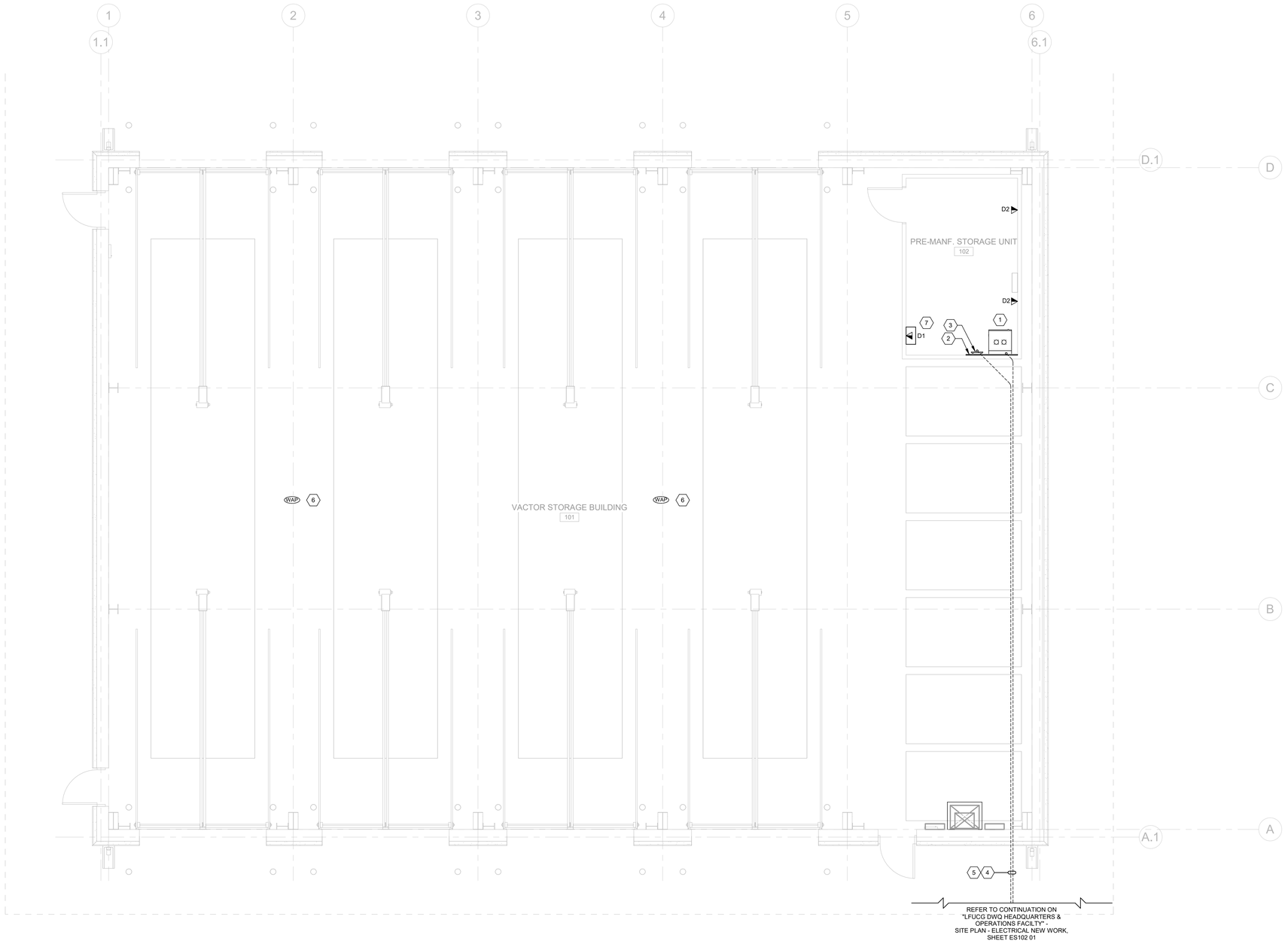

GENERAL NOTES:

1	TELEPHONE DEVICE TAGS INDICATE THE ASSOCIATED CONFIGURATION TYPE. REFER TO SHEET ET501 FOR ADDITIONAL INFORMATION.
2	CONDUIT SHALL BE UTILIZED FOR HORIZONTAL CABLING.
3	THE ENTIRE TELECOMMUNIATIONS SYSTEM INCLUDING OUTLETS, PATCH PANELS, ETC. SHALL BE LABELED IN ACCORDANCE WITH TIA/EIA-6060A. LABELS SHALL BE MACHINE GENERATED.
4	INSTALL NYLON BUSHINGS ON ALL CONDUIT TERMINATIONS FOR CABLE PROTECTION.
5	REFER TO DIVISION 27 SPECIFICATIONS FOR ADDTIIONAL INFORMATION.

SHEET KEYNOTES

1	WALL-MOUNTED TELECOMMUNICATIONS EQUIPMENT CABINET. REFER TO SHEET ET501 FOR ADDITIONAL INFORMATION.
2	TELECOMMUNICATIONS PLYWOOD BACKBOARD RIGIDLY ATTACHED TO WALL. PLYWOOD SHALL BE FIRE-RATED AND TIA/EIA APPROVED.
3	PROVIDE A 1/4" X 4" X 24" (MIN.) TELECOMMUNICATIONS MAIN GROUND BAR (TMGB). MOUNT TO WALL WITH NON-CONDUCTIVE MATERIAL.
4	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET TO THE TELECOMMUNICATIONS EQUIPMENTS RACK (COMPUTER / SERVER 01 11 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY" - SHEET ET402 01).
5	PROVIDE #6 AWG (MIN.) GROUND FROM TMGB TO GROUNDING ELECTRODE CONDUCTOR (SHEET ES102 01).
6	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX - MOUNT TO BOTTOM OF STRUCTURE.
7	PROVIDE DATA NETWORK CONNECTION TO BAS CONTROL PANEL.

AREA KEY PLAN

PLAN NORTH

1 FIRST LEVEL - TELECOMMUNICATIONS PLAN
SCALE: 1/4" = 1'-0"

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - TELECOMMUNICATIONS PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	DESCRIPTION	DATE

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DATE: AUGUST 15, 2025
SCALE: 1/4" = 1'-0"
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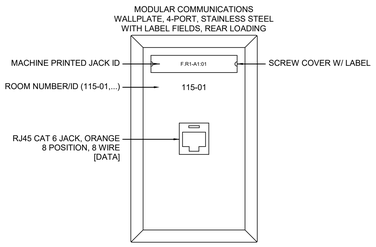

1 COMM. OUTLET - TYPE 'D1'

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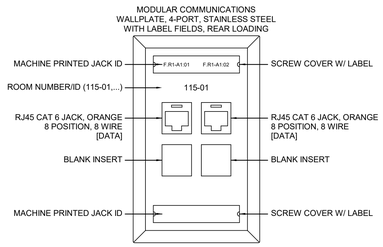

2 COMM. OUTLET - TYPE 'D2'

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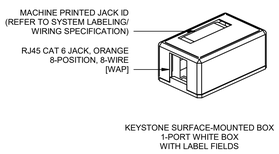

3 COMM. OUTLET - TYPE 'WAP'

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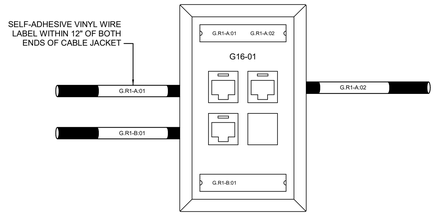
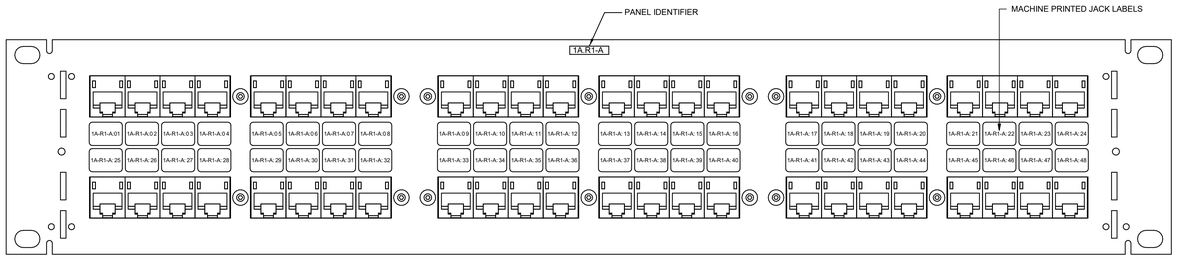


4 TYPICAL CABLE IDENTIFICATION

NOT TO SCALE



5 TYPICAL 48-PORT PATCH PANEL FOR COMM. RACK

NOT TO SCALE

SYSTEM LABELING / WIRING SPECIFICATION

DATA LABELING:

F:XY-R:P

F = IDENTIFIES FLOOR OF TELECOMMUNICATION SPACE
XY = RACK IDENTIFIER
R = PATCH PANEL IDENTIFIER
P = PATCH PANEL PORT IDENTIFIER

PATCH PANEL TYPES:

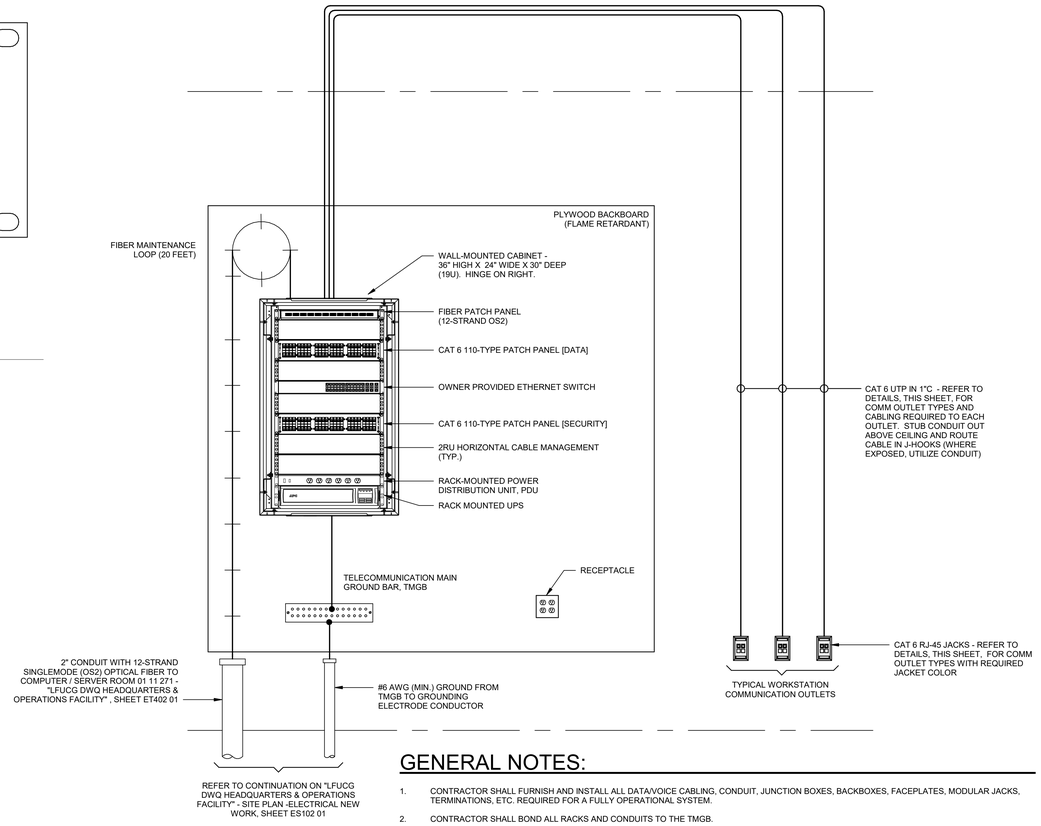
TYPE A - FOR TERMINATION OF DATA CABLES ONLY (ORANGE JACKS)
TYPE B - FOR TERMINATION OF WAP CABLES ONLY (ORANGE JACKS)
TYPE C - FOR TERMINATION OF SECURITY CABLES ONLY (PURPLE JACKS)

COLOR CODE TELECOMMUNICATION OUTLETS AND CABLING AS FOLLOWS:

DATA - BLUE CABLING (ORANGE JACKS)
WAP - BLUE CABLING (ORANGE JACKS)
SECURITY - PURPLE CABLING (PURPLE JACKS)

NOTES:

1. DATA/VOICE/SECURITY: CATEGORY 6 UTP CABLE (JACKET COLOR AS INDICATED OR SPECIFIED ELSEWHERE)
2. HDMI CABLING: HIGH DEFINITION MULTIMEDIA CABLE (BLACK JACKET)



GENERAL NOTES:

1. CONTRACTOR SHALL FURNISH AND INSTALL ALL DATA/VOICE CABLING, CONDUIT, JUNCTION BOXES, BACKBOXES, FACEPLATES, MODULAR JACKS, TERMINATIONS, ETC. REQUIRED FOR A FULLY OPERATIONAL SYSTEM.
2. CONTRACTOR SHALL BOND ALL RACKS AND CONDUITS TO THE TMGB.
3. TELECOMMUNICATION CABLING SHALL BE ROUTED IN CONDUIT TO ABOVE CEILING AND UTILIZE J-HOOKS FOR ABOVE CEILING. WHERE EXPOSED (NO CEILING), CABLING SHALL BE ROUTED IN CONDUIT.
4. NOT SHOWN ON THIS DETAIL; HOWEVER, THE ACCESS CONTROL PANEL AND POWER SUPPLY SHALL BE MOUNTED ON THE PLYWOOD BACKBOARD. REFER TO EY101 AND EY601 FOR ADDITIONAL INFORMATION.
5. NOT SHOWN ON THIS DETAIL; HOWEVER, ACCESS CONTROL AND CAMERA HORIZONTAL CABLING SHALL TERMINATE ON THE SECURITY PATCH PANEL WITHIN THIS EQUIPMENT CABINET. REFER TO SECURITY RISER DIAGRAMS ON SHEET EY601.

   BASE BID - ACCESS CONTROL AND CAMERA HORIZONTAL CABLING SHALL BE ROUTED BACK TO THIS EQUIPMENT CABINET FOR ACCESS CONTROL AND CAMERA HORIZONTAL CABLING FOR THE "LFCUCG EXTERIOR STRUCTURES". REFER TO SECURITY RISER DIAGRAMS ON "LFUCG EXTERIOR STRUCTURES", SHEETS EY601 02 AND EY602 02 FOR ADDITIONAL INFORMATION.

   ADD ALTERNATE #1 - 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER WILL BE ROUTED TO A TELECOMMUNICATIONS EQUIPMENT CABINET LOCATED AT THE "LFUCG EXTERIOR STRUCTURES." ACCESS CONTROL AND CAMERA HORIZONTAL CABLING FOR THE "LFUCG EXTERIOR STRUCTURES" WILL BE ROUTED TO THAT TELECOMMUNICATIONS EQUIPMENT CABINET. PROVIDE ADDITIONAL FIBER TERMINATION PANEL IN THE "LFUCG VACTOR BUILDING" TELECOMMUNICAITONS EQUIPMENT CABINET TO ACCOMMODATE. REFER TO SECURITY RISER DIAGRAMS ON "LFUCG EXTERIOR STRUCTURES", SHEETS EY601 02 AND EY603 02 FOR ADDITIONAL INFORMATION.
6. RACK-MOUNTED POWER DISTRIBUTION UNIT, PDU, SHALL BE OWNER PROVIDED / CONTRACTOR INSTALLED.

6 TELECOMMUNICATIONS RACK DETAIL - VACTOR BUILDING

NOT TO SCALE

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/11/25

CONSTRUCTION DOCUMENTS

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TELECOMMUNICATIONS DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO	DATE	BY

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DATE: AUGUST 15, 2025

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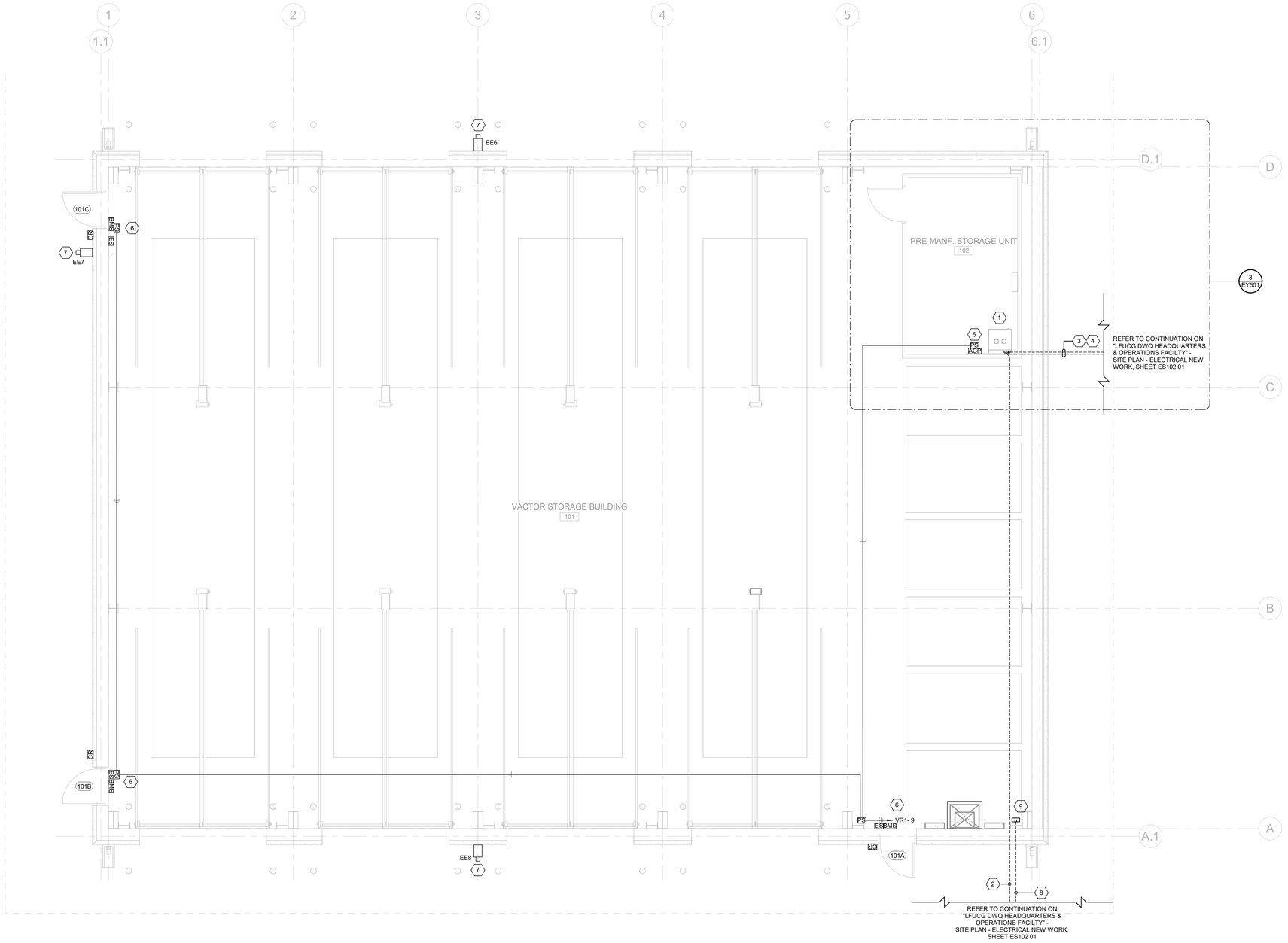

1 FIRST LEVEL - SECURITY PLAN

SCALE: 1/4" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	UNLESS OTHERWISE NOTED, SECURITY EQUIPMENT AND DEVICES WILL BE PROVIDED AS PART OF A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS, AND PATCH PANELS.
2	ALL ACCESS CONTROL SYSTEM AND VIDEO SURVEILLANCE SYSTEM CABLING SHALL BE INSTALLED IN CONDUIT.
3	REFER TO ACCESS CONTROL SYSTEM AND VIDEO SURVEILLANCE SYSTEM RISER DIAGRAMS ON SHEET EY601.
4	COORDINATE WITH DOOR HARDWARE INSTALLER FOR ALL REQUIRED ACCESS CONTROL SYSTEM CONNECTIONS AND ROUGH-IN REQUIREMENTS.

SHEET KEYNOTES

1	WALL-MOUNTED TELECOMMUNICATIONS EQUIPMENT CABINET. REFER TO SHEET ET501 FOR ADDITIONAL INFORMATION.
2	BASE BID ONLY - PROVIDE CAT 6, 1"C FROM TELECOMMUNICATIONS EQUIPMENT CABINET TO ACCESS CONTROL PANEL (SM STORAGE E 105 - "LFUCG EXTERIOR STRUCTURES" - SHEET EY101 02).
3	BASE BID ONLY - PROVIDE FIVE (5) CAT 6 CABLES (CAMERAS) IN 1-1/2"C FROM TELECOMMUNICATIONS EQUIPMENT CABINET TO CAMERAS AT THE EXTERIOR STRUCTURES (COLUMN G8 - "LFUCG EXTERIOR STRUCTURES" - SHEET EY 101 02).
4	BASE BID ONLY - PROVIDE SIX (6) CAT 6 CABLES (CAMERAS) IN 1-1/2"C FROM TELECOMMUNICATIONS EQUIPMENT CABINET TO CAMERAS AT THE EXTERIOR STRUCTURES (COLUMN E18 - "LFUCG EXTERIOR STRUCTURES" - SHEET EY 101 02).
5	ACCESS CONTROL PANEL AND POWER SUPPLY. REFER TO SHEET EY601 FOR ADDITIONAL INFORMATION.
6	SINGLE DOOR WITH ELECTRIC STRIKE. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ACCESS CONTROL PANEL. REFER TO DETAIL 2, SHEET TY601.
7	OWNER FURNISHED/OWNER INSTALLED WALL-MOUNTED CAMERA (REFER TO DETAIL 2, SHEET EY501). PROVIDE CAT 6 CABLE, 1"C BACK TO TELECOMMUNICATIONS EQUIPMENT CABINET.
8	PROVIDE 1-1/2"CONDUIT W/ PULL STRING FROM THE VACTOR BUILDING TO THE EXTERIOR STRUCTURES (SHEET EY101 02) FOR BAS CABLING. CABLING BY THE CONTROLS CONTRACTOR.
9	PROVIDE PULLBOX FOR BAS CONDUIT.

AREA KEY PLAN

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - SECURITY PLAN

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/4" = 1'-0"
SHEET NO.: EY101 03

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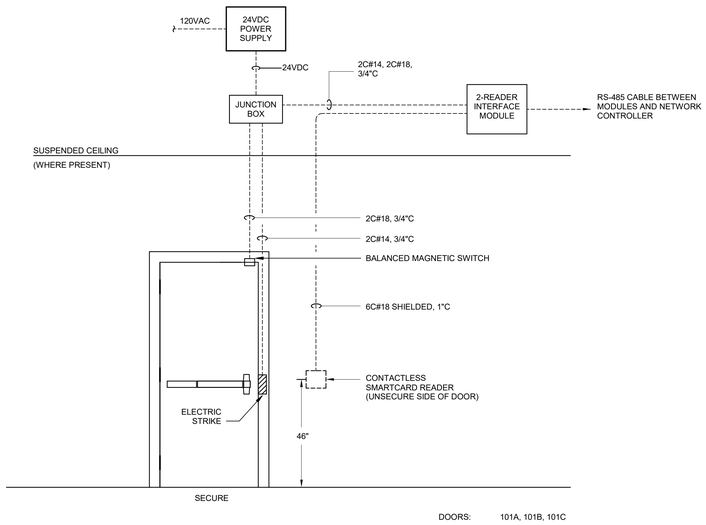
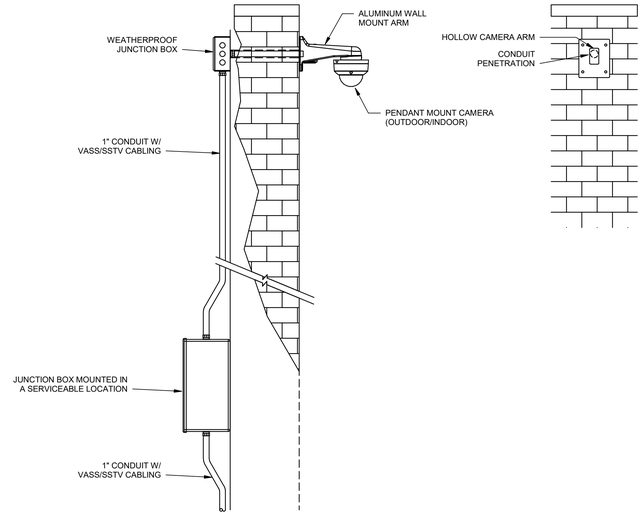


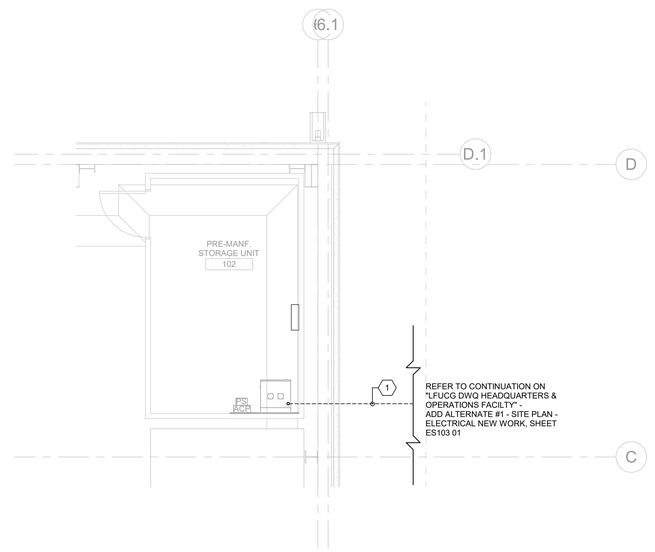
1 TYPICAL SINGLE DOOR WITH ELECTRIC STRIKE DETAIL

NOT TO SCALE



2 TYPICAL WALL-MOUNTED CAMERA (INDOOR/OUTDOOR)

NOT TO SCALE



3 ADD ALTERNATE #1 - FIRST LEVEL - SECURITY PLAN

SCALE: 1/4" = 1'-0"

ADD ALTERNATE #1

1	ADD ALTERNATE #1 WILL REQUIRE THE WORK SHOWN ON THE BASE BID DRAWING (SHEET EY101); HOWEVER, A 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS) OPTICAL FIBER WILL BE UTILIZED FOR THE SECURITY NETWORK (CAMERAS AND ACCESS CONTROLS) IN LIEU OF INDIVIDUAL CAT 6 CABLES SHOWN ON THE BASE BID DRAWING (SHEET EY101).

SHEET KEYNOTES

1	ADD ALTERNATE #1 - PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET TO THE TELECOMMUNICATIONS EQUIPMENT CABINET (SM STORAGE 3 105 - "LFUCG EXTERIOR STRUCTURES" - SHEET EY101 02).

CONSTRUCTION DOCUMENTS

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/14/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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SECURITY DETAILS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
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REVISIONS

NO	REVISION DESCRIPTION	BY	DATE

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SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: As indicated
SHEET NO. EY501 03

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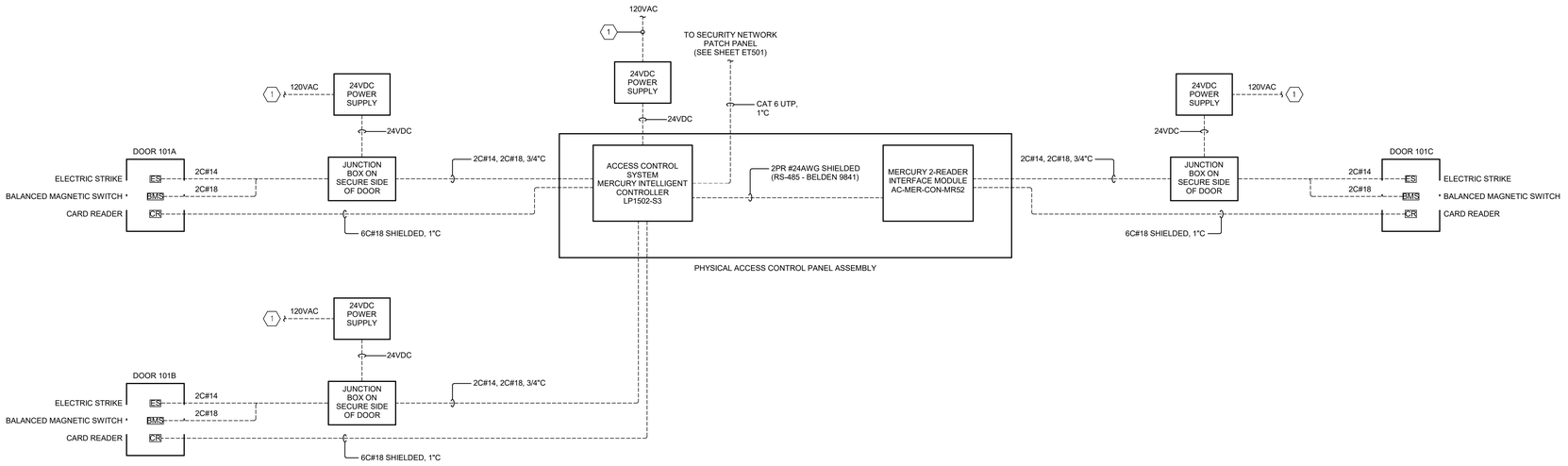


1 PHYSICAL ACCESS CONTROL SYSTEM RISER DIAGRAM - VACTOR BUILDING

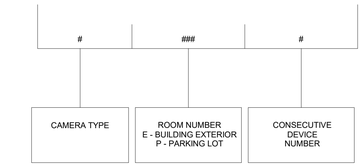
NOT TO SCALE

GENERAL NOTES:

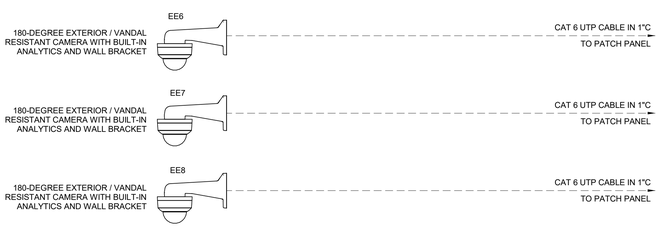
1. ACCESS CONTROL EQUIPMENT/DEVICES (ACCESS CONTROL PANELS, CARD READERS, BALANCED MAGNETIC SWITCHES, REX PUSHBUTTONS, REX MOTION SENSORS, AND ASSOCIATED POWER SUPPLIES) SHALL BE PROVIDED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF THE ACCESS CONTROL EQUIPMENT/DEVICES AND SHALL PROVIDE AND INSTALL ALL ASSOCAITED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
2. ACTUAL WIRING CONFIGURATION AND TYPE/SIZE OF CONDUCTORS SHALL BE AS RECOMMENDED BY THE ACS MANUFACTURER/SUPPLIER WITHIN MINIMUM REQUIREMENTS STATED IN SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH THE ACCESS CONTROL SYSTEM MANUFACTURER/SUPPLIER FOR REQUIREMENTS.
3. ACS COMPONENTS SHOWN CONSTITUTE THE TYPE, PRODUCT QUALITY, MATERIAL AND DESIRED OPERATING FEATURES REQUIRED. CONTRACTOR SHALL COORDINATE WITH THE ACCESS CONTROL SYSTEM MANUFACTURER/SUPPLIER FOR ANY ADDITIONAL REQUIREMENTS.
4. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION RELATING TO ELECTRIFIED DOOR HARDWARE. EXIT DEVICES, ELECTRIC LOCKS, LATCHBOLT/DOOR STATUS SWITCHES, POWER SUPPLIES, ETC. ARE FURNISHED AND INSTALLED BY THE DOOR HARDWARE CONTRACTOR. WIRING FROM ELECTRIFIED DOOR HARDWARE WILL BE INSTALLED COMPLETE TO JUNCTION BOX LOCATED ABOVE CEILING. CONTRACTOR SHALL PROVIDE ALL OTHER REQUIRED CONNECTIONS.
6. ACS MANUFACTURER/SUPPLIER SHALL INTEGRATE THE NEW ACS CONTROLLERS AND FIELD DEVICES INTO THE OWNER'S EXISTING SECURITY NETWORK AS REQUIRED FOR ALL MONITORING, CONTROLLING, PROGRAMMING AND SERVICE.
7. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
8. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - VACTOR BUILDING, SHEET ET501.

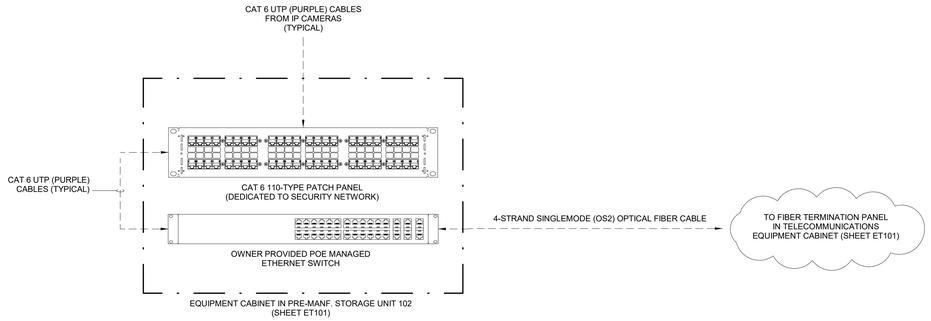
SHEET KEYNOTES:

1. REFER TO ELECTRICAL DRAWINGS FOR CIRCUIT INFORMATION.



VIDEO SURVEILLANCE SYSTEM ADDRESS DESIGNATONS





GENERAL NOTES:

1. ETHERNET SWITCH AND CAMERAS SHALL BE PROVIDED AND INSTALLED BY THE OWNER VIA A SEPARATE CONTRACT. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ASSOCIATED CONDUIT, BACKBOXES, CABLING, CABLING TERMINATIONS AND PATCH PANELS.
2. ACTUAL WIRING CONFIGURATION AND TYPE/SIZE OF CABLING SHALL BE AS RECOMMENDED BY THE VASS MANUFACTURER/ SUPPLIER WITHIN MINIMUM REQUIREMENTS STATED IN SPECIFICATIONS. CONTRACTOR SHALL COORDINATE WITH THE VASS MANUFACTURER/SUPPLIER FOR REQUIREMENTS.
3. VASS MANUFACTURER/SUPPLIER SHALL INTEGRAGE THE NEW VASS CAMERAS INTO THE OWNER'S EXISTING SECURITY NETWORK AS REQUIRED FOR MONITORING, CONTROLLING, PROGRAMMING, AND SERVICE.
4. CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL PURPLE JACKET. TERMINATE ALL ENDS WITH A RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
5. PROVIDE SURGE SUPPRESION FOR ALL EXTERIOR CABLING.
6. TERMINATE SECURITY HORIZONTAL CABLING AT A DEDICATED SECURITY NETWORK PATCH PANEL. REFER TO TELECOMMUNICATIONS RISER DIAGRAM - VACTOR BUILDING, SHEET ET501.
7. NOT SHOWN ON THIS RISER DIAGRAM; HOWEVER, CAMERAS FOR THE EXTERIOR STRUCTURES SHALL TERMINATE AT THE DEDICATED SECURITY NETWORK PATCH PANEL AT THIS FACILITY ("LFUCG VACTOR BUILDING"). REFER TO SERCURITY RISER DIAGRAM ON "LFUCG EXTERIOR STRUCTURES", SHEET EY602 02 FOR ADDITIONAL INFORMATION.

2 VIDEO SURVEILLANCE RISER DIAGRAM - VACTOR BUILDING

NOT TO SCALE

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STATE OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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SECURITY RISER DIAGRAMS

LFUCG VACTOR BUILDING
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO	DESCRIPTION	DATE	BY

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO. EY601 03

MAYOR LINDA GORTON

LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

ADDENDUM #1

Bid Number: **#70-2025**

Date: September 16, 2025

Subject: **Division of Water Quality Facility Renovation**

Address inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

1. **The bid submittal deadline has been extended to September 25, 2025 at 2:00 PM EST.**
2. **Please see all the attached clarifications and attachments.**

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: _____

ADDRESS: _____

SIGNATURE OF BIDDER: _____

DOCUMENT 009113 - ADDENDA

1.1 ADDENDUM

A. Addendum No. One.

1.2 PROJECT INFORMATION

A. Project Name: LFUCG DWQ Headquarters & Operations Facility

B. Owner: Lexington Fayette Urban County Government.

C. Owner Project Number: RFB #70-2025.

D. Architect: GRW Engineering Architecture Geospatial.

E. Architect Project Number: 5247-01.

F. Date of Addendum: September 12, 2025.

1.3 NOTICE TO BIDDERS

A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

C. The date for receipt of bids is changed to the following, at same time and location.

1. Bid Date: **September 25th, 2025.**

1.4 ATTACHMENTS

A. This Addendum includes the following attached Documents and Specification Sections:

1. Document: Bidding Questions and Responses, dated September 15, 2025, (new).
2. Document: Geotechnical Engineering Exploration Report dated August 20, 2025, (new).
3. Document: Phase I ESA Report dated November 27, 2023, (new).
4. Document: Roof Investigation Report dated May 15, 2025, (new).
5. Document: Pre-Bid Sign in Sheet dated August 26, 2025, (new).
6. Document: Asbestos Bulk Sampling Report dated October 30, 2024, (new).
7. Document: Site Visit Sign in Sheet dated August 28 and September 4, 2025, (new).

8. Specification Section 005100 Notice of Award dated August 15, 2025, (reissued).
9. Specification Section 011000 Summary dated August 15, 2025, (reissued).
10. Specification Section 093013 Ceramic Tiling dated August 15, 2025, (reissued).

B. This Addendum includes the following attached sheets:

1. Civil Sheet C100, dated September 12, 2025 (reissued).
2. Landscape Sheet L200, dated September 12, 2025 (reissued).
3. Landscape Sheet L301, dated September 12, 2025 (reissued).
4. Landscape Sheet LK200, dated September 12, 2025 (reissued).
5. Landscape Sheet LK300, dated September 12, 2025 (reissued).
6. Landscape Sheet LK400, dated September 12, 2025 (reissued).
7. Landscape Sheet LK401, dated September 12, 2025 (reissued).
8. Architectural Sheet AD201, dated September 12, 2025, (reissued).
9. Architectural Sheet AE201, dated September 12, 2025, (reissued).
10. Architectural Sheet AE403, dated September 12, 2025, (reissued).
11. Architectural Sheet AE409, dated September 12, 2025, (reissued).
12. Architectural Sheet AE410, dated September 12, 2025, (reissued).
13. Architectural Sheet AE412, dated September 12, 2025, (reissued).
14. Architectural Sheet AE414, dated September 12, 2025, (reissued).
15. Architectural Sheet AE415, dated September 12, 2025, (reissued).
16. Architectural Sheet AE601, dated September 12, 2025, (reissued).
17. Architectural Sheet AE602, dated September 12, 2025, (reissued).
18. Architectural Sheet GJ404, dated September 12, 2025, (reissued).
19. Electrical Sheet ES102 01, dated September 12, 2025, (reissued).
20. Electrical Sheet ES103 01, dated September 12, 2025, (reissued).
21. Electrical Sheet ES401 01, dated September 12, 2025, (reissued).
22. Electrical Sheet EL401 01, dated September 12, 2025, (reissued).
23. Electrical Sheet EL402 01, dated September 12, 2025, (reissued).
24. Electrical Sheet EL403 01, dated September 12, 2025, (reissued).
25. Electrical Sheet EL502 01, dated September 12, 2025, (reissued).
26. Electrical Sheet EP403 01, dated September 12, 2025, (reissued).
27. Electrical Sheet ET403 01, dated September 12, 2025, (reissued).
28. Electrical Sheet EP101 02, dated September 12, 2025, (reissued).
29. Electrical Sheet EP102 02, dated September 12, 2025, (reissued).

C. This Addendum includes the attached Addendum Drawings:

1. Civil Addendum Drawing C100, dated September 12, 2025, revising Sheet C100.

2. Landscape Addendum Drawing L200, dated September 12, 2025, revising Sheet L200.

3. Landscape Addendum Drawing L301, dated September 12, 2025, revising Sheet L301

4. Landscape Addendum Drawing LK200, dated September 12, 2025, revising Sheet LK200

5. Landscape Addendum Drawing LK300, dated September 12, 2025, revising Shet LK300.

6. Landscape Addendum Drawing LK400, dated September 12, 2025, revising Sheet LK400.

7. Landscape Addendum Drawing LK401, dated September 12, 2025, revising Sheet LK401.
8. Architectural Addendum Drawing: AD201 01 X1, dated September 12, 2025, revising Sheet AD201 01.
9. Architectural Addendum Drawing: AE201 01 X1, dated September 12, 2025, revising Sheet AE201 01.
10. Architectural Addendum Drawing: AE403 01 X1, dated September 12, 2025, revising Sheet AE403 01
11. Architectural Addendum Drawing: AE409 01 X1, dated September 12, 2025, revising Sheet AE409 01
12. Architectural Addendum Drawing: AE410 01 X1, dated September 12, 2025, revising Sheet AE410 01
13. Architectural Addendum Drawing: AE412 01 X1, dated September 12, 2025, revising Sheet AE412 01
14. Architectural Addendum Drawing: AE414 01 X1, dated September 12, 2025, revising Sheet AE414 01
15. Architectural Addendum Drawing: AE415 01 X1, dated September 12, 2025, revising Sheet AE415 01
16. Architectural Addendum Drawing: AE601 01 X1, dated September 12, 2025, revising Sheet AE601 01
17. Architectural Addendum Drawing: AE602 01 X1, dated September 12, 2025, revising Sheet AE602 01
18. Architectural Addendum Drawing: GJ404 01 X1, dated September 12, 2025, revising Sheet GJ404 01
19. Electrical Addendum Drawing: ES102 01 X1, dated September 12, 2025, revising Sheet ES102 01.
20. Electrical Addendum Drawing: ES103 01 X1, dated September 12, 2025, revising Sheet ES103 01.
21. Electrical Addendum Drawing: ES401 01 X1, dated September 12, 2025, revising Sheet ES401 01.
22. Electrical Addendum Drawing: EL401 01 X1, dated September 12, 2025, revising Sheet EL401 01.
23. Electrical Addendum Drawing: EL402 01 X1, dated September 12, 2025, revising Sheet EL402 01.
24. Electrical Addendum Drawing: EL403 01 X1, dated September 12, 2025, revising Sheet EL403 01.
25. Electrical Addendum Drawing: EL502 01 X1, dated September 12, 2025, revising Sheet EL502 01.
26. Electrical Addendum Drawing: EP403 01 X1, dated September 12, 2025, revising Sheet EP403 01.
27. Electrical Addendum Drawing: ET403 01 X1, dated September 12, 2025, revising Sheet ET403 01.
28. Electrical Addendum Drawing: EP101 02 X1, dated September 12, 2025, revising Sheet EP101 02.
29. Electrical Addendum Drawing: EP102 02 01 X1, dated September 12, 2025, revising Sheet EP102 02.

1.5 REVISIONS TO DIVISION 00 PROCUREMENT REQUIREMENTS AND CONTRACTING REQUIREMENTS

A. Document 005100 Notice of Award, (reissued).

1. Paragraph 1.1F: Owner project number revised.

B. Document 009113 Addenda, (reissued).

1. Paragraph 1.2C: Owner project number revised.

1.6 REVISIONS TO DIVISION 01 GENERAL REQUIREMENTS

A. Specification Section 011000 Summary, (reissued).

1. Paragraph 1.8 A 5 and 6: Coordination with occupants added.

1.7 REVISIONS TO DIVISIONS 02 - 49 SPECIFICATION SECTIONS

A. Specification Section 093013 Ceramic Tiling, (reissued).

1. Paragraph 2.3 and 3.9: Ceramic tile location clarified.

1.8 REVISIONS TO DRAWING SHEETS

A. Sheet C100 BASE BID SITE CIVIL UTILITIES PLAN (reissued).
1. Added Keynote 11, indicating ¾" water service line into new Vactor building.

B. Sheet L200 BASE BID SITE DEMOLITION PLAN (reissued).

1. Revised area of pavement demolition to allow additional room to adjust grades at pavement west / northwest of Base Bid Vactor Building location.

2. Added note regarding fence demolition / replacement at south edge / adjoining residential properties. Fence adjacent to residential properties must be removed and replaced the same day, no sections shall be left open overnight.

3. Removed Keynote 5 indicating fence removal around existing dumpster, there is no existing fence to be removed at this location.

4. Remove existing honeysuckle growth at south yard area, up to existing fence. Remove prior to removing / replacing fence (remove along fenceline as part of fence removal and replacement same day).

C. Sheet L301 STORM PIPE PROFILES (reissued)
   1. Added profile for Additive Alternate #1 pipe outlet from new underground detention (Pipe 5).

D. Sheet L500 SITE LANDSCAPE PLAN (not reissued)
   1. Delete Keynote 2 (honeysuckle to be removed per Addendum) and add 5 additional Picea Abies (PA) trees, for a total of 13 at this location.

E. Sheet LK200 ADDITIVE ALTERNATE #1 SITE DEMOLITION PLAN (reissued).

   1. Revised area of pavement demolition to accommodate add-alternate underground stone / detention

   2. Additional pavement demolition at new flume for new downspouts location per add-alternate, as indicated on Drawing.
   3. Remove existing honeysuckle growth at south yard area, up to existing fence. Remove prior to removing / replacing fence (remove along fenceline as part of fence removal and replacement same day).

F. Sheet LK300 ADDITIVE ALTERNATE #1 SITE GRADING & DRAINAGE PLAN (reissued).

   1. Add area of underground stone / detention per add-alternate underground stone / detention

   2. Additional grade information and new flume detail for new downspouts location per add-alternate, as indicated on Drawing.

   3. Corrected storm information to match Base Bid Sheet L300.

   4. Added Details A and B for flume (A) and pipe outlet at new flume (B).

G. Sheet LK400 ADDITIVE ALTERNATE #1 SITE LAYOUT PLAN (reissued).

   1. Revised dimensions at curb island and new flume per add-alternate downspouts.

H. Sheet LK401 ADDITIVE ALTERNATE #1 SITE MATERIALS PLAN (reissued).

   1. Revised Detail A to include permeable pavers and underground stone / detention area details per add-alternate condition.

   2. Reference to new concrete flume per add-alternate downspout condition.

I. Sheet AD201 01 - EXTERIOR ELEVATION - DEMOLITION (reissued).

   1. Drawing AD201 01: Revised downspouts in coordination with add-alternate one storm water drainage requirements.

J. Sheet AE201 01 - EXTERIOR ELEVATION (reissued).

   1. Drawing AE201 01: Revised downspouts in coordination with add-alternate one storm water drainage requirements.

K. Sheet AE403 01 – FIRST LEVEL – AREA C (reissued).

1. Drawing AE403 01: Removed interior furnishings (OFOI)

L. Sheet AE409 01 – ENLARGED PLAN AND ELEVATIONS (reissued).

1. Drawing AE409 01: Revised signage at west elevation lobby detail 4/AE409

M. Sheet AE410 01 – ENLARGED PLAN AND ELEVATIONS (reissued).

1. Drawing AE410 01: Removed solid surface countertop over existing flat files (OFOI)

N. Sheet AE412 01 – ENLARGED PLAN AND ELEVATIONS (reissued).

1. Drawing AE412 01: relocated wall mounted television in Cane Run Conference Room 223.

O. Sheet AE414 01 – ENLARGED PLAN AND ELEVATIONS (reissued).

1. Drawing AE414 01: Revised wall mounted casework over microwaves and refrigerators from a depth of 12 inches to a depth of 24" See detail 11/AE414.

P. Sheet AE415 01 – ENLARGED PLAN AND ELEVATIONS (reissued).

1. Drawing AE415 01: Revised signage on east elevation of lobby. See detail 5/AE415.

Q. Sheet AE601 01 – SCHEDULE – NEW ROOM FINISH (reissued).

1. Drawing AE601 01: Updated schedule in coordination with ceramic tile installation schedule in ceramic tiling specification section 093013

R. Sheet AE602 01 – SCHEDULE – NEW ROOM FINISH (reissued).

1. Drawing AE602 01: Updated schedule in coordination with ceramic tile installation schedule in ceramic tiling specification section 093013

S. Sheet GJ404 01 – PROGRAM VALIDATION PLAN – AREA D (reissued).

1. Drawing GJ404 01: Revised pallet rack shelving spacing at keynote 13 location only.

T. Sheet E-602 01 - ELECTRICAL ONE-LINE DIAGRAM II – EXISTING: (not reissued)

1. Existing Panelboard AL1 electrical feeder shall be removed and disposed of completely. Refer to Sheet E-606 01 – Electrical One-Line Diagram III – New Work for new electrical feeder back to new Distribution Panelboard, DP.'

U. Sheet E-603 01 - ELECTRICAL ONE-LINE DIAGRAM III – EXISTING: (not reissued)

1. Existing 30A/3P breaker serving existing RTU-4 shall remain. Reuse breaker for new Roof Top Unit, RTU-10 (refer to Sheet E-605 01).

V. Sheet E-604 01 -ELECTRICAL ONE-LINE DIAGRAM I – NEW WORK: (not reissued)

1. Keynote #2 shall be modified to read "PROVIDE NEW ELECTRICAL FEEDER TO THE NEW DISTRIBUTION PANELBOARD, DP."

W. Sheet ED402 01 – FIRST LEVEL – ELECTRICAL DEMOLITION – AREA B: (not reissued)

1. Keynote #35 shall be modified to read "EXISTING FIRE ALARM AUDIO/VISUAL DEVICE TO BE RELOCATED. REFER TO SHEET EY402 FOR NEW LOCATION."

X. Sheet ED403 01 – FIRST LEVEL – ELECTRICAL DEMOLITON – AREA C: (not reissued)

1. Keynote #16 shall be modified to read "EXISTING FIRE ALARM AUDIO/VISUAL DEVICE TO BE RELOCATED. REFER TO SHEET EY403 FOR NEW LOCATION."

Y. Refer to Sheet ED404 01 – First Level – Electrical Demolition – Area D: (not reissued)

1. Keynote #24 shall be modified to read "EXISTING FIRE ALARM MANUAL PULL STATION TO BE RELOCATED. REFER TO SHEET EY404 FOR NEW LOCATION."

Z. Refer to Sheet ES102 01 –SITE PLAN – ELECTRICAL NEW WORK: (reissued)

1. Two (2) 4" conduits with pullstring added between the LFUCG DWQ Headquarters & Operations Facility and the LFUCG Exterior Structures. Refer to reissued sheet for additional information.
2. Keynote #23 shall be modified to read "POLE-MOUNTED SECURITY CAMERA(S) AND NEMA 4X SURVEILLANCE CABINET (CAMERA AND CAMERA MOUNT PROVIDED BY OWNER AS PART OF A SEPARATE CONTRACT). CONTRACTOR SHALL PROVIDE AND INSTALL NEMA 4X SURVEILLANCE CABINET INCLUDING MEDIA CONVERTER SWITCH, POE INJECTOR, AND 12VDC POWER SUPPLY. REFER TO DETAIL 1, SHEET EY502 01 FOR ADDITIONAL INFORMATION."
3. Within the call out for Detail 3, Sheet ES401, Pedestrian Gate shown shall be referenced as Pedestrian Gate No. 1.
4. General Notes have been modified to reflect full sheet numbers (added building numbers).
5. Keynote #28 shall be modified to read "SLIDE GATE NO. 1 CARD READERS (ACCESS CONTROL) – TWO (2) 6C#18 SHIELDED CABLE, 1-1/4"C. CONNECTED TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 – "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET EY401 01."
6. Keynote #30 shall be modified to read "SLIDE GATE NO. 1 OPERATOR CONTROL (REMOTE/ACCESS CONTROL) – 2#12, 1#12 GND, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 – "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET EY401 01)."
7. Keynotes #32, 39, 41, 44 through 45 have been modified to reflect full sheet numbers (added building numbers).

AA. Refer to Sheet ES103 01 – ADD ALTERNATE #1 – SITE PLAN – ELECTRICAL NEW WORK: (reissued)

1. Two (2) 4" conduits with pullstring added between the LFUCG DWQ Headquarters & Operations Facility and the LFUCG Exterior Structures. Refer to reissued sheet for additional information.
2. Keynote #11 shall be modified to read "POLE-MOUNTED SECURITY CAMERA(S) AND NEMA 4X SURVEILLANCE CABINET (CAMERA AND CAMERA MOUNT PROVIDED BY OWNER AS PART OF A SEPARATE CONTRACT). CONTRACTOR SHALL PROVIDE AND INSTALL NEMA 4X SURVEILLANCE CABINET INCLUDING MEDIA CONVERTER SWITCH, POE INJECTOR, AND 12VDC POWER SUPPLY. REFER TO DETAIL 1, SHEET EY502 01 FOR ADDITIONAL INFORMATION."
3. Within the call out for Detail 3, Sheet ES401, Pedestrian Gate shown shall be referenced as Pedestrian Gate No. 1.
4. Keynote #28 has been moved to be more legible.
5. Add Alternate #1 Notes and General Notes have been modified to reflect full sheet numbers (added building numbers).
6. Keynote #30 shall be modified to read "PROVIDE TWO (2) 36" X 36" CONCRETE HANDHOLES FOR POWER AND OPTICAL FIBER CONDUIT. LOCATE OUTSIDE VEHICULAR TRAFFIC. REFER TO DETAIL 7, SHEET E-501 01 FOR ADDITIONAL INFORMATION."

BB. Refer to Sheet ES401 01 – SITE PLAN – ENLARGED ELECTRIAL NEW WORK: (reissued)

1. Detail 3, Enlarged Site Plan – Slide Gate No. 3 – Pedestrian Gate shown shall be referenced as Pedestrian Gate No. 1.
2. Keynote #11 shall be modified to read "DUAL HEIGHT CARD READER/INTERCOM PEDESTAL WITH PROTECTION BOLLARD. COORDINATE SETBACK (18'-6") FROM GATE WITH LFUCG PRIOR TO ROUGH-IN. REFER TO DETAIL 1, SHEET EY503 FOR ADDITIONAL INFORMATION."
3. Equipment/devices have been moved to reflect new gate locations – typical for each.

CC. Refer to Sheet EL401 01 – FIRST LEVEL – LIGHTING PLAN – AREA A: (reissued)

1. Provide 4-zones of lighting for the North and South Elkhorn Training Rooms 150 and 151 in lieu of 3-zones.
2. Keynote #10 shall be modified to read "JUNCTION BOXES FOR OL7 LUMINAIRES SHALL BE LOCATED BEHIND PARAPET WALL ON ROOF."
3. Keynote #11 shall be modified to read "MOUNT OL7 LUMINAIRES 2' ABOVE TOP OF BUILDING SIGNAGE. COORDINATE WITH ARCHITECTURAL DRAWINGS."

DD. Refer to Sheet EL402 01 – FIRST LEVEL – LIGHTING PLAN – AREA B: (reissued)

1. Luminaires within Vestibule 153 shall be switched/controlled with the luminaires located in the perimeter/walkways of the adjacent Open Office Area 154.
2. Provide standalone lighting controls for Administration Principal AD08 206.

EE. Refer to Sheet EL403 01 – FIRST LEVEL – LIGHTING PLAN – AREA C: (reissued)

1. Provide an additional two-channel wallpod with on/off + raise/lower control. Locate in Open Office Area 154 (outside Corridor – PS 214).

FF. Refer to Sheet EL404 01 – FIRST LEVEL – LIGHTING PLAN – AREA D: (not reissued)

1. Keynote tag #7 is incorrectly located in Mens Locker 238. Keynote tag #7 shall be located adjacent to Keynote tag #6.

GG. Refer to Sheet EL502 01 – LIGHTING CONTROL DETAILS II: (reissued)

1. Modify Detail LC-11 Training Room – Occupancy and Dimming to reflect additional lighting zone.
2. Modify Detail LC-13 Multi-Entry / Multi-Zone Open Office – Occupancy and Dimming to reflect additional two-channel wallpod with on/off + raise/lower control.

HH. Refer to Sheet EC401 01 – FIRST LEVEL – LIGHTING CONTROL PLAN – AREA A: (not reissued)

1. Provide 4-zones of lighting for North and South Elkhorn Training Room 150 and 151 in lieu of 3-zones. Refer to the modifications made to EL401 issued as part of this addendum for additional information.

II. Refer to Sheet EC402 01 – FIRST LEVEL – LIGHTING CONTROL PLAN – AREA B: (not reissued)

1. Provide standalone lighting controls for Administration Principal AD08 207. Utilize Lighting Control, LC-05. Refer to the modifications made to EL402 01 issued as part of this addendum for additional information.

JJ. Refer to Sheet EC403 01 – FIRST LEVEL – LIGHTING CONTROL PLAN – AREA C: (not reissued)

1. Provide an additional two-channel wallpod with on/off + raise/lower control. Locate in Open Office Area 154 (outside Corridor PS214). Refer to the modifications made to EL403 01 issued as part of this addendum for additional information.

KK. Refer to Sheet EC404 01 – FIRST LEVEL – LIGHTING CONTROL PLAN – AREA D: (not reissued)

1. Switch located in Warehouse 246 leading into Locker Room Vestibule 237 shall be tagged with “4L” annotation.

LL. Refer to Sheet EP401 01 – FIRST LEVEL – POWER PLAN – AREA A: (not reissued)

1. Tap On Desk 152 – receptacle at copier shall be tagged with Keynote #8 tag.
2. Keynote #27 shall be modified to read “CONTRACTOR SHALL PROVIDE AN ALUMINUM TELE-POWER POLE. PROVIDE RECEPTACLE MOUNTED AT 46” AFF. TELE-POWER POLE SHALL INCLUDE MOUNTING HARDWARE, ENTRANCE END CAPS, AND CEILING TRIM PLATES (EQUIVALENT TO WIREMOLD AMTC-4). REFER TO SHEET ET401 FOR TELECOMMUNICATION OUTLET REQUIREMENTS.”

MM. Refer to Sheet EP403 01 – FIRST LEVEL – POWER PLAN – AREA C: (reissued)

1. Modified receptacle locations in Cane Run Conf Room 223. Modification includes new location for TV.

NN. Refer to Sheet ET401 01 – FIRST LEVEL – TELECOMMUNICATIONS PLAN – AREA A: (not reissued)

1. As shown on EP401, Cubical Spaces 278 – 285 shall be provided with tele-power poles for power and telecommunications cabling. Refer to Keynote #15 on Sheet EP401 01 for information on tele-power pole.

OO. Refer to Sheet ET403 01 – FIRST LEVEL – TELECOMMUNICATIONS PLAN – AREA C: (reissued)

1. Modified telecommunication outlet locations in Cane Run Conf Room 223. Modification includes new location for TV.

PP. Refer to Sheet EY401 01 – FIRST LEVEL – FIRE ALARM AND SECURITY PLAN – AREA A: (not reissued)

1. Keynote #4 shall be modified to read "ACCESS CONTROL PANEL AND POWER SUPPLY. REFER TO ACCESS CONTROL SYSTEM RISER DIAGRAM ON SHEET EY602 AND EY603 FOR ADDITIONAL INFORMATION."

QQ. Refer to Sheet EY402 01 – FIRST LEVEL – FIRE ALARM AND SECURITY PLAN – AREA B: (not reissued)

1. Keynote #2 shall be modified to read "ACCESS CONTROL PANEL AND POWER SUPPLY. REFER TO ACCESS CONTROL SYSTEM RISER DIAGRAM ON SHEET EY604 FOR ADDITIONAL INFORMATION."
2. Common Work Area 116 – Duct smoke detector (DS-116-1) missing Keynote tag #6.

RR. Refer to Sheet EY403 01 – FIRST LEVEL – FIRE ALARM AND SECURITY PLAN – AREA C: (not reissued)

1. Keynote tag #5 is incorrectly located in Files – AD34 180. Keynote tag #5 shall be located adjacent to Fire Alarm Visual Device (A-222-1) located in Office 202.

SS. Refer to Sheet EY404 01 – FIRST LEVEL – FIRE ALARM AND SECURITY PLAN – AREA D: (not reissued)

1. Keynote tag #8 is incorrectly located in Multi-Purpose Training / Break Room 290. Keynote tag #8 shall be located adjacent to Fire Alarm Addressable Control Module (HVLS-1) in Warehouse 246.

TT. Refer to Sheet EY501 01 – SECURITY DETAILS I: (not reissued)

1. Add door 237A to list of applicable doors for Detail 1 – Typical Single Door with Electrical Strike Detail.
2. Modify View Title for Detail 4 – revise name to "TYPICAL SINGLE DOOR WITH LOCAL ALARM DETAIL".

UU. Refer to Sheet EP101 02 – FIRST LEVEL – POWER PLAN: (reissued)

1. Add two (2) 4" conduits with pullstring between LFUCG Exterior Structures.

VV. Refer to Sheet EP102 02 – ADD ALTERNATE #1 - FIRST LEVEL – POWER PLAN: (reissued)

1. Add two (2) 4" conduits with pullstring between LFCUG Exterior Structures.
2. Add one (1) 4" conduit with pullstring to the LFCUG Canopy Structure.

WW. Refer to Sheet PD402 01 – FIRST LEVEL - DEMOLITION - AREA B - PLUMBING PLAN: (not reissued)

1. Refer to Office-11QQ55 - Rework existing floor cleanout and associated piping to be flush with new finish floor. New floor finish is carpet tile.

XX. Refer to Sheet P-402 01 – FIRST LEVEL - AREA B - DOMESTIC WATER PLAN: (not reissued)

1. Refer to ENG SECT MANAGER-01 03 137 - Provide new floor cleanout and associated piping to be flush with finish floor. New floor finish is carpet tile.

YY. Refer to Sheet P-404 01 – FIRST LEVEL - AREA D - DOMESTIC WATER PLAN: (not reissued)

1. Refer to Mop Sink-02 09 298 in Warehouse. Faucet on Plan North shall be labelled as JS-3 in lieu of JS-2.

ZZ. Refer to Sheet P-601 01 – PLUMBING SCHEDULES: (not reissued)

Add the following fixture to the Plumbing Fixture Schedule: JS-3, SERVICE SINK FAUCET, T&S BRASS, MODEL NO. B-0133-ADF12-B.

END OF DOCUMENT 009113

1. Please find attached a copy of the Geotechnical Engineering Exploration Report prepared by LE Gregg Associates on August 20th, 2025, for your reference and per specification section 003119 1.1 D.

2. Please find attached a copy of the Phase I ESA Report prepared by Shield Environmental Associates, Inc. on November 27, 2023, for your reference and per specification section 003119 1.1 C.

3. Please find attached a copy of the roof investigation report prepared by GRW Engineering Architecture Geospatial on May 15, 2025, for your reference.

4. Please find attached the Pre-Bid Sign in Sheet conducted on August 26, 2025, at 134 West New Circle Road, Lexington KY.

5. What is the anticipated start date on this project?

    a. LFUCG's process to award projects of this size and scale would typically follow this timeline: Upon bid closing all bids received are reviewed for completeness and to assure they are compliant with submission criteria. Next the Low Bid is reviewed internally by the LFUCG Project Manager and externally by the Design Team. Upon acceptance by both parties the LFUCG Buyer send the low bidder a contract for signature and requests any required Bond and COI documents. This process can take 2-4 weeks. Upon receipt of a signed contract and all required documentation this project is submitted to Council for approval, typically 1-3 weeks. Upon approval the contractor is issued a Notice to Proceed. In summary, the time from bid opening to Notice to Proceed is typically 4-8 weeks.

6. Does the city already have a Tridium Supervisor that would pull in the BSC(s) on this job? Or is it the customers intent to have an additional supervisor for this job with all the licensing needed?

    a. LFUCG does have Triduim Supervisor license and maintains our own server. No supervisor license will be needed to be provided under the scope of this project. The controls contractor would be responsible for working with LFUCG controls staff to establish the initial data links to LFUCG's existing Tridium Supervisor for all new equipment and associated points installed under this project.

7. Is the TCC to provide 4, eight hour training sessions per quarter or just one per quarter totaling 4. Clarify 3.8 a.

    a. The Owner has stated that they only would like to receive one training session on the Temperature Controls System which should be 8 hours in length.

8. MBI (Munson Business Interiors) would like to propose a substitution to specification section 125000 – Interior Furnishings. We would like to propose Allsteel Office System "Terrace" as an approved manufacturer.

    a. Upon review of the proposed manufacturer substitution request Allsteel Office Systems "Terrace" is an acceptable alternate per specification section 125000 2.1 A.

    b. Architects' approval of substitute during bidding does not relieve Contractor of the responsibility to submit required Shop Drawings and to comply with all other requirements of the Contract Documents per specification section 002600 1.4 C.

    c. Provide equal workstation panels per specification section 125000 Technical Product Specification Answer Panel.

    d. Provide equal power and data in workstations panels per section 125000 technical product specifications Answer Panel C.5 Coordinate with electrical and data requirements per construction documents.

    e. Provide equal workstation worksurfaces per specification section 125000 Technical Product Specification Universal Tables and Universal Systems Worksurfaces.

    f. Finishes shall be selected during the shop drawing review process from manufacturer full range of color options.

    g. Action submittals shall be submitted per specification section 125000 1.5. Include product data, shop drawings including plans, elevations, power and data locations, samples for initial selection and samples for verification.

    h. Typical workstation dimensions are indicated on sheet AE410 01.

9. Please review a manufacturer substitution request for specification section 096813 SW Resuflor Screed Deco Quartz II Resinous Flooring as manufactured by Sherwin Willians to be approved for use as an equal to Stoneblend GSI as manufactured by Stonhard, Inc. Product data was emailed to the Architect for review.

    a. Upon review of the proposed substitution request please provide Stonehard, Inc Stoneblend GSI per specification section 096813 Resinous Flooring. The proposed manufacturer substitution does not meet the design intent of specification section 096813.

10. Please consider removing AWI's Quality Certification Program requirements from specification section 064116 1.7 A1 and B.

a. The intent of the AWI's Quality Certification Program requirements as specified in section 064116 1.6 and 1.7. is to establish a minimum level of expectation in quality and craftsmanship in the plastic laminate clad architectural cabinets in addition to the level of quality as defined in specification section 064116. Please provide manufacturers and installers who meet the requirements of specification section 064116 1.6 and 1.7.

11. Is Ebtron an acceptable manufacturer for the RTU airflow measuring stations?

    a. Yes, Ebtron will be allowed for the measuring stations.

    b. Architects' approval of substitute during bidding does not relieve Contractor of the responsibility to submit required Shop Drawings and to comply with all other requirements of the Contract Documents per specification section 002600 1.4 C.

12. The Finish Schedule on AE602 01 only lists ceramic or porcelain tile but doesn't list which of the 4 possibilities that is in the spec book. I need clarification of what tile goes where. Also, in the spec book it is written that CT-3 is to be used in the shower pan, but that is a 24"24" tile. Will need to be re-selected to a smaller faced tile.

    a. Room finishes schedule and specification section 093013 Ceramic Tiling has been revised to coordinate ceramic tile specified and installation location.

13. Please indicate per the attached marked-up snip that these are new bollards in the Alternate 1.

    a. The bollards at the New Vactor Building in add-alternate #1 are new bollards. Bollards at the Vactor Building in the Base Bid shall be removed from add alternate #1. Bollards at overhead door openings both on the inside and outside of the Vactor Building shall be in the base bid. See Architectural floor plan for requirements.

14. Are the Masonry Corner Block required at the split faced veneer at the Vactor Building or can we miter those corners?

    a. Masonry corner blocks are required at the split faced veneer of the Vactor Building. Mitered corners are not permitted. The cast stone water table shall also have a cast returned end. Mitered corners of the cast stone water table are not permitted.

15. Are the doors at the Pre-Manufactured Storage Units by the Owner? They are called out in the door schedules like they are CFCI.

    a. The doors at the Pre-Manufactured Storage Units are by the owner. The door schedule shall be clarified.

16. The new grades on C100 near the Vactor Building in the base bid will require the existing parking lot asphalt to be removed and the subgrade cut down beyond the indicated demo on sheet L200. Please clarify. See Grades from 970 to 974. There is a note 23 on sheet L401 addressing this but the grade change is as much as a foot raised on the “west” side.

    a. Refer to L300 Site Grading & Drainage Plan for Base Bid grades (not C100). The majority of the area indicated is fill / additional overlay up to 6" over existing asphalt pavement. A revised sheet L200 has been reissued with this addendum to indicate an additional area of pavement removal west of the Base Bid Vactor building location to allow for finish grades indicated.

17. In 251 Kitchen/Break Room (3/AE415) it only shows 2 new cabinets, and the rest already exist. Is this correct?

    a. Correct. Keynote 3 indicates existing plastic laminate cabinets. Keynote 4 indicates new plastic laminate cabinets to match the finish of the existing cabinets.

18. For tall cabinets with 4 doors (6/AE412, 9/AE414) are the doors a style and rail or can they be flush panel like the rest of the cabinets?

    a. The tall cabinets with 4 doors can be flush panels to match the rest of the cabinets. The construction shall be Face Frame with Reveal Overlay per specification section 064116 2.1

19. 1.7C What mockup cabinets are needed?

    a. One standard base cabinet can be used to satisfy the mockup requirements of specification section 064116 1.7 C. The intent is to define quality standard for aesthetic effects, craftsmanship, materials, and execution. Approved mock-up may be incorporated into final work.

20. Is this a QCP project or do you just want casework fabricators to be AWI Quality Certified?

    a. We just need the fabricators to be AWI Quality Certified. The intent is to define a level of minimum quality standards.

21. 2.3B calls for 170-degree hinges. Will 120 degrees be acceptable?

    a. Yes, 120-degree hinges are an acceptable alternate to the 170-degree hinges specified.

22. 2.1F.2 calls for laminate edging, will 1mm pvc edging be accepted? 2.1G a+b call for pvc edging. This is standard and protects better from dings

    a. At exposed surfaces. Provide laminate edging as specified.
    b. At Semi-exposed surfaces, Shelving, PVC is acceptable as specified

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LFUCG DWQ HOB – ROOF INVESTIGATION

GRW Project No. 5247-01

Phase: Construction Documents
Date: 5/15/2025
Location: 134 W New Circle Rd
Lexington, KY 40505

SUMMARY

1) Investigation

Existing and Record Drawings provided little information on the existing warehouse roof assembly. Identifying the construction of the roof assembly and the roof framing members was required to determine the structural capacity of the roof. Understanding the structural capacity of the existing roof system informed if ballasted solar panels could be installed on the warehouse roof.

A joist analysis was performed using the approximated dead loads of the existing roof assembly and proposed alternatives. The addition of solar panels is analyzed for each loading condition. The load conditions are summarized in Table 2. *Analysis of an 18S6 Joist*.

From the investigation and analysis, GRW does not recommend placing solar panels on the existing roof system of the warehouse. While removing some of the existing roof assembly in lieu of the entire assembly may reduce the total weight of the roof, the addition of solar panels on the existing roof slab exceeds the maximum allowable loading to the existing joists and is not recommended for solar-ready capabilities. Replacing the existing perlite-concrete slab and substrates with metal deck construction will reduce the applied roof load, allow for solar-ready capabilities and increase structural capacity between the span of the joists.

2) Findings

On Monday, February 24th, measurements collected by GRW of the existing bar joists indicated the joists are most likely 18S6 (per Steel Joist Institute). Information on the roof assembly was still needed to determine the applied roof load and the roof framing's structural capacity.

On Thursday, May 15th, the Owner, Design Team and Tri-State Roofing accessed the roof and samples of the roof assembly were collected by cutting pieces off adjacent to an infilled mechanical opening.

Dead loads of each material in the roof assembly were extracted from ASCE7-1 Table C3-1 *Minimum Design Dead Loads* and Table C3-2 *Minimum Densities for Design Loads from Materials*. Table C3-2 provides a range for vermiculite and perlite aggregate from 25 to 50 lb/ft3. A density of 50lb/ft3 was selected to calculate the weight of the perlite layer and account for the welded wire mesh. The total weight of the roof assembly is estimated at approximately 15.45 lb/ft2. The roof assembly and its associated material weights can be outlined as follows:

Table 1. Existing Roof Assembly Materials and Weights

	Substrate Type	Thickness	Weight
Exterior Face	EDPM Roof Membrane	-	0.7 psf
	Asphalt Sheeting	-	2.0 psf
	Ballast Substrate	1”	5.5 psf
	Gypsum or Perlite – Concrete Slab with Welded-Wire Mesh	Avg. 1 ½ ”	6.25 psf
Interior Face	Wood Fiber Substrate	1 ½”	1.0 psf

3) Structural Analysis

According to the Steel Joist Institute, the existing joists are most likely 18S6 – a joist type that was manufactured in the late 1950’s. This joist type may not represent every existing joist in the warehouse; there may be more joist types existing than measured. S-series joists are not standard to today’s industry and are not included in most recent joist catalogs or analysis programs. Historical Load tables for S-series joists were provided by the Steel Joist Institute.

The structural analysis considers the addition of solar panels at 5psf. The roof assembly weight, self-weight of the joist, collateral weight of MEP systems, solar panel weight and the minimum roof live load were used to determine the maximum end reactions and deflections for each load combination. The analysis compared the applied roof load, the load to an individual joist, and the end reactions of the existing roof assembly, the existing slab and proposed roof assembly of insulation and SBS membrane, and the replacement of the slab with metal deck.

A maximum joist span was noted at 31’-5” between gridlines D and C. For this analysis the joist was analyzed at a span of 31’-0” with an average spacing of 5’-0” between joists.

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Table 2. Analysis of a 18S6 Joist

	Actual Values				Historical Values for 18S6	
	Roof Load*	Load to Joist**	End Reaction	Deflection	Max End Reaction	Max Load to Joist
Existing Roof	44.95psf	224.75plf	3531lb	1.44" (L/261)	3600lb	189plf
With 5psf Solar	49.95psf	249.75plf	3923lb	1.61" (L/235)	3600lb	189plf
New Roof Insulation	37.80psf	189.0 plf	2971lb	1.22" (L/310)	3600lb	189plf
With 5psf Solar	42.80psf	214.0 plf	3363lb	1.37" (L274)	3600lb	189plf
New Roof Deck	33.56psf	165.3 plf	2637lb	1.08" (L/349)	3600lb	189plf
with 5psf Solar	38.56psf	190.3 plf	3029lb	1.24" (L/304)	3600lb	189plf

1. * Roof Load Includes a Dead Load of the Roof Assembly, 7.5psf collateral (electrical, fire protection, ceilings, etc.), 2psf self-weight of joist and a minimum Live Load of 20psf.
2. **Calculated using an assumed 5'-0" uniform spacing

Providing new roof insulation and membrane and removing the existing membrane, asphalt, and ballast material will reduce the roof load and the load to the joists by approximately 16%. The estimated load to the joist is 189plf, same as the historical 1959 design criteria specified for an 18S6 joist. The removal of the existing roof assembly down to the slab and providing the proposed roof assembly reduces the end reactions to below 3600lb and reduces the deflection of the joist to under 1 ¼". Under this load configuration, solar panels would not be allowed to be placed on the existing roof slab as the load to the joists exceeds the maximum by 60plf.

To bring the facility up to solar-ready capabilities, GRW recommends replacing the existing roof slab with metal deck. Removing the existing roof slab and providing new roof deck and insulation reduces the load to the joist by more than 25%. The addition of 5psf solar panels would be acceptable in relation to the end reactions and maximum load to the joist based on the 1959 Steel Joist Institute "*Allowable Total Safe Load per Linear Foor of 'S' Series and Nailer Steel Joists*."

4) Summary

- GRW does not recommend placing solar panels on the existing roof system. Removing the existing roof system down to the slab and providing rigid insulation would distribute 189plf to the existing joists, which is the maximum allowable load to an 18S6 joist. No additional load permitted.
- For solar-ready capabilities, GRW recommends replacing the existing roof slab with metal deck. The addition of solar panels to this roof assembly would distribute 190plf to the joist, which is only .5% past its "Allowable Total Safe Uniformly Distributed Load" for an 18S6 Joist, per Steel Joist Institute (1959).
- The age and existing condition of the existing perlite-concrete roof slab presents uncertainty in the structural capacity of the slab. The interior face substrate shows signs of water damage, deterioration and decay, creating the need for an architectural solution for a façade or cover-up. Removing the existing slab and deteriorating substrate would eliminate the need for additional architectural elements on the interior face of the roof structure.

Sign In Sheet
Pre-Bid Meeting
August 26, 2025

LFUCG DWQ Headquarters & Operations Facility
134 West New Circle Road, Lexington KY

	Name	Representing	Phone/email
1.	DAVID VAUGHT	GRW	DVAUGHT@GRWINC.COM.
2.	Patrick Baisden	GRW	859-223-3999 pbaisden@grwinc.com
3.	MARK WILKS	GCD	mwilks@priestly.com
4.	Chris Meikle	AE ELECTRICAL	cmeikle@aees.com 859-338-0694
5.	Ramona Fry	Element	ramona@element-sit.com
6.	Halee Rhodes	Kalkreuth Roofing	hrhodes@krsm.net 859-307-9551
7.	Jimmy Piper	GRW	JPiper@grwinc.com 859-338-5842
8.	CHRIS BOGGS	GRW	CBOGGS@GRWINC.com 502-680-4985
9.	Richard DUGAS	LFUCG	RDUGAS@LexingtonKy.GOV
10.	Sean Edwards	Sid Construction	Seanedwards89@gmail.com
11.	MIKE CLAYBORNE	LFUCG	
12.	RYAN WADE	LFUCG	RWADE@LexingtonKy.gov
13.			
14.			
15.			
16.			
17.			
18.			

Site visit 8/28 + 9/4

Name Company Email

William DeVries AE Electrical Solutions
wdevries@AEES.com

Toll Scott Pace Contracting
tscott@pacecontracting.com 502 491-1166
Mark Heckman Pace Contracting
markh@pacecontracting.com

JODY BANDY
jody@servicemrc.com
859 327 1290
Mechanical Refrigeration

DOCUMENT 005100 - NOTICE OF AWARD

1.1 BID INFORMATION

A. Bidder:

B. Bidder's Address:

C. Project Name: LFUCG DWQ Headquarters & Operations Facility.

D. Project Location: 134 West New Circle Road, Lexington KY 40505.

E. Owner: Lexington Fayette Urban County Government.

F. Owner Project Number: RFB #70-2025.

G. Architect: GRW Engineering Architecture Geospatial.

H. Architect Project Number: 5247-01.

1.2 NOTICE OF AWARD OF CONTRACT

A. Notice: The above Bidder is hereby notified that their Bid, dated <Insert date>, for the above Contract has been considered and the Bidder is hereby awarded a Contract for the LFUCG DWQ Headquarters & Operations Facility.

B. Alternates Accepted: Accepted alternates are indicated in the Owner/Contractor Agreement.

C. Contract Sum: The Contract Sum including accepted alternates is:

1. Indicated in the Owner/Contractor Agreement.

1.3 EXECUTION OF CONTRACT

A. Contract Documents: Executable copies of the Contract Documents will be made available to the Bidder immediately. The Bidder must comply with the following conditions precedent within 10 days of the above date of issuance of the Notice:

1. Deliver to Owner three sets of fully executed copies of the Owner/Contractor Agreement
2. Deliver with the executed Owner/Contractor Agreement the Bonds and Certificates of Insurance required by the Contract Documents.

B. Compliance: Failure to comply with conditions of this Notice within the time specified will entitle Owner to consider the Bidder in default, annul this Notice, and declare the Bidder's Bid security forfeited.

1. Within 10 days after the Bidder complies with the conditions of this Notice, Owner will return to the Bidder one fully executed copy of the Owner/Contractor Agreement.

1.4 NOTIFICATION

A. This Notice is issued by:

1. Owner: Lexington Fayette Urban County Government.

2. Authorized Signature: _____.

3. Signed By: **<Insert authorized signatory name>**.

4. Title: **<Insert authorized signatory title>**.

END OF DOCUMENT 005100

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Contractor's use of site and premises.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and Drawing conventions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.3 DEFINITIONS

A. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.4 PROJECT INFORMATION

A. Project Identification: LFUCG DWQ Headquarters & Operations Facility.

1. Project Location: 134 West New Circle Road, Lexington KY.

B. Owner: Lexington Fayette Urban County Government, 200E. Main Street Lexington Ky.

1. Owner's Representative: Richard Dugas, EQPW Commissioners Office 200 E. Main Street, Lexington Ky, Phone: 859-280-8520.

C. Architect: GRW Engineering Architecture Geospatial, 801 Corporate Drive, Lexington KY,

1. Architect's Representative: David Vaught, Phone: 859 880-2503.

D. Architect's Consultants: Architect has retained the following design professionals, who have prepared designated portions of the Contract Documents:

1. Landscape Architecture: Element Design.

a. Landscape Architect Representative: Ramona Fry, Phone: 859-389-6533.

E. Web-Based Project Software: Project software will be used for purposes of managing communication and documents during the construction stage.

1. See Section 013100 "Project Management and Coordination." for requirements for using web-based Project software.

1.5 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:

1. The project includes renovation and fit-up of approximately 67,873 square feet of business and storage space, one new vehicle storage building of approximately 4,960 square feet, structure demolition of one small canopy approximately 4,000 square feet including all below grade improvements in preparation for the new vehicle storage building, renovation of 17,200 square feet of covered parking canopies with small storage spaces and site improvements. The project also includes new HVAC roof top units and new light fixtures and other Work indicated in the Contract Documents.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.6 OWNER-FURNISHED/OWNER-INSTALLED (OFOI) PRODUCTS

A. The Owner will furnish and install products indicated.

1.7 CONTRACTOR'S USE OF SITE AND PREMISES

A. Unrestricted Use of Site: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. Limits on Use of Site: Limit use of Project site areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.

a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.8 COORDINATION WITH OCCUPANTS

A. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1. Architect will prepare a Certificate of Substantial Completion for each specific portion of the Work to be occupied prior to Owner acceptance of the completed Work.
2. Obtain a Certificate of Occupancy from authorities having jurisdiction before limited Owner occupancy.
3. Before limited Owner occupancy, mechanical and electrical systems shall be fully operational, and required tests and inspections shall be successfully completed. On occupancy, Owner will operate and maintain mechanical and electrical systems serving occupied portions of Work.
4. On occupancy, Owner will assume responsibility for maintenance and custodial service for occupied portions of Work.
5. Work hours and utility interruptions hours: Per Code / Ordinance for noise requirements of authorities having jurisdiction
6. Utility interruptions impacting Goodwill, need to be coordinated with Goodwill and Architect.

1.9 WORK RESTRICTIONS

A. Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work to between 7:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.

1. Weekend Hours: 7:00 a.m. to 5:00 p.m.
2. Hours for Utility Shutdowns: Coordinate utility shutdown with owner.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:

1. Notify Architect and Owner not less than two days in advance of proposed utility interruptions.

D. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.

1. Notify Architect and Owner not less than two days in advance of proposed disruptive operations.

E. Smoking and Controlled Substance Restrictions: Use of tobacco products and other controlled substances on Owner's property is not permitted.

F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.

G. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.

1. Maintain list of approved screened personnel with Owner's representative.

1.10 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.

C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Ceramic mosaic tile.
2. Porcelain tile.
3. Glazed wall tile.
4. Thresholds.
5. Tile backing panels.
6. Waterproof membranes.
7. Crack isolation membranes.

B. Related Requirements:

1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Section 092900 "Gypsum Board" for cementitious backer units.

1.2 DEFINITIONS

A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.

B. Face Size: Actual tile size, excluding spacer lugs.

C. Module Size: Actual tile size plus joint width indicated.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Show locations of each type of tile and tile pattern. Show widths, details, and locations of expansion, contraction, control, and isolation joints in tile substrates and finished tile surfaces.

C. Samples for Initial Selection: For tile, grout, and accessories involving color selection.

D. Samples for Verification:

1. Full-size units of each type and composition of tile and for each color and finish required. For ceramic mosaic tile in color blend patterns, provide full sheets of each color blend.
2. Assembled samples mounted on a rigid panel, with grouted joints, for each type and composition of tile and for each color and finish required. Make samples at least 36 inches square, but not fewer than four tiles. Use grout of type and in color or colors approved for completed Work.
3. Full-size units of each type of trim and accessory for each color and finish require.
4. Stone thresholds in 6-inch lengths.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Certificates: For each type of product.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.

1.7 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer is a Five-Star member of the National Tile Contractors Association
2. Installer's supervisor for Project holds the International Masonry Institute's Foreman Certification.
3. Installer employs only Ceramic Tile Education Foundation Certified Installers for Project.
4. Installer employs at least one installer for Project that has completed the Advanced Certification for Tile Installers (ACT) certification for installation of membranes and shower receptors.

B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockup of floor tile installation.
2. Build mockup of wall tile installation.

3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

D. Store liquid materials in unopened containers and protected from freezing.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Tile: Obtain tile from single source or producer.

1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.

B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.

1. Obtain setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.
2. Obtain waterproof membrane and crack isolation membrane, except for sheet products, from manufacturer of setting and grouting materials.

C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:

1. Stone thresholds.
2. Waterproof membrane.
3. Crack isolation membrane.
4. Cementitious backer units.

2.2 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.

1. Provide tile complying with Standard grade requirements.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.

1. Where tile is indicated for installation in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.

2.3 TILE PRODUCTS

A. Porcelain Tile Type: Floor CT-1 (Public Circulation Spaces)

1. DalTile Porcelain Stone Floor tile, Emerson Wood Series, or approved equal.
2. Face Size: 8 inch x 48 inch.
3. Face Size: 6 inch x 48 inch. (Base)
4. Thickness: 5/16 inch.
5. Face: Wood look with square or cushion edges.
6. Dynamic Coefficient of Friction: Not less than 0.42.
7. Tile Color, Glaze, and Pattern: As selected by Architect from manufacturer's full range.
8. Grout Color: As selected by Architect from manufacturer's full range.

B. Porcelain Tile Type: Floor CT-2 (Restroom Locker Room)

1. Crossville Porcelain Stone Floor tile and Mosaic, Trajectory Collection, or approved equal.
2. Certification: Tile certified by the Tile Council of North America (TCNA).
3. Face Size: 24 inch x 24 inch.
4. Face Size Variation: Rectified.
5. Thickness: 3/8 inch.
6. Face: Plain with square or cushion edges.
7. Dynamic Coefficient of Friction: Not less than 0.42.
8. Tile Color, Glaze, and Pattern: As selected by Architect from manufacturer's full range.
9. Grout Color: As selected by Architect from manufacturer's full range.

C. Porcelain Tile Type: Shower Floor CT-3

1. Crossville Porcelain Stone Floor tile and Mosaic, Trajectory Collection, or approved equal.
2. Certification: Tile certified by the Tile Council of North America (TCNA).
3. Face Size: 12 inch x 12 inch. (Cut 24 inch x 24 inch to 12 inch x 12 inch at showers)
4. Face Size Variation: Rectified.
5. Thickness: 3/8 inch.
6. Face: Plain with square or cushion edges.
7. Dynamic Coefficient of Friction: Not less than 0.6.
8. Tile Color, Glaze, and Pattern: As selected by Architect from manufacturer's full range.
9. Grout Color: As selected by Architect from manufacturer's full range.

D. Glazed Wall Tile Type: wet and Dry Walls. CT-4 (Restroom, Locker Room, Showers)

1. Crossville Porcelain Stone Field tile and Mosaic, Trajectory Collection, or approved equal.
2. Module Size: 2 inch x 4 inch Stacked Mosaic, Dot-mounted.
3. Module Size: 6 inch x 12 inch Cove Base
4. Face Size Variation: Rectified.
5. Thickness: 1/4” inch
6. Face: Plain with modified square edges or cushion edges
7. Finish: UPS.
8. Tile Color and Pattern: As selected by Architect from manufacturer's full range.
9. Grout Color: As selected by Architect from manufacturer's full range
10. Mounting: 12 inch x 12 inch Sheet.
11. Trim Units: Coordinated with sizes and coursing of adjoining flat tile where applicable and matching characteristics of adjoining flat tile. Provide shapes as follows, selected from manufacturer's standard shapes:

    a. Wainscot Cap for Thinset Mortar Installations: Surface bullnose, module size 3 inch x 24 inch.
    b. Internal Corners: Field-butted square corners. For coved base and cap use angle pieces designed to fit with stretcher shapes.

2.4 THRESHOLDS

A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.

1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch or less above adjacent floor surface.

2.5 TILE BACKING PANELS

A. Cementitious Backer Units: ANSI A118.9 or ASTM C1325, Type A, in maximum lengths available to minimize end-to-end butt joints.

1. USG Durock Brand Cement Board with edge guard or approved equal
2. Thickness: 5/8 inch.

2.6 WATERPROOF MEMBRANES

A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Waterproof Membrane, Fabric-Reinforced, Modified-Bituminous Sheet: Self-adhering, SBS-modified-bituminous sheet with fabric reinforcement facing; 0.040-inch nominal thickness.

2.7 CRACK ISOLATION MEMBRANES

A. General: Manufacturer's standard product that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

B. Crack Isolation Membrane, PVC Sheet: PVC heat-fused on both sides to facings of nonwoven polyester; 0.040-inch nominal thickness.

2.8 SETTING MATERIALS

A. Standard Dry-Set Mortar (Thinset): ANSI A118.1.

1. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.1.

2.9 GROUT MATERIALS

A. Sand-Portland Cement Grout: ANSI A108.10, consisting of white or gray cement and white or colored aggregate as required to produce color indicated.

B. Standard Cement Grout: ANSI A118.6.

2.10 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

B. Vapor-Retarder Membrane: Polyethylene sheeting, ASTM D4397, 4.0 mils thick.

C. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

D. Floor Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.

2.11 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
2. Verify that concrete substrates for tile floors installed with thin set mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.

    a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
    b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.

3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thin set mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

B. Where indicated, prepare substrates to receive waterproof membrane by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 1/4 inch per foot toward drains.

C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

3.3 INSTALLATION OF CERAMIC TILE

A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.

1. For the following installations, follow procedures in the ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:

    a. Tile floors in wet areas.
    b. Tile floors consisting of tiles 8 by 8 inches or larger.

B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

D. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.

E. Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.

F. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.

G. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:

1. Ceramic Mosaic Tile: 1/8 inch (2.5 MM).
2. Porcelain Tile: 1/8 inch (3 MM).

H. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.

I. Expansion Joints: Provide expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated. Form joints during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.

1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.

J. Stone Thresholds: Install stone thresholds in same type of setting bed as adjacent floor unless otherwise indicated.

1. At locations where mortar bed (thickset) would otherwise be exposed above adjacent floor finishes, set thresholds in modified dry-set mortar (thinset).
2. Do not extend waterproof membrane or crack isolation membrane under thresholds set in standard dry-set mortar. Fill joints between such thresholds and adjoining tile set on waterproof membrane or crack isolation membrane with elastomeric sealant.

K. Floor Sealer: Apply floor sealer to cementitious grout joints in tile floors according to floor-sealer manufacturer's written instructions. As soon as floor sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.4 INSTALLATION OF TILE BACKING PANELS

A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.

3.5 INSTALLATION OF WATERPROOF MEMBRANES

A. Install waterproof membrane to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.

B. Allow waterproof membrane to cure and verify by testing that it is watertight before installing tile or setting materials over it.

3.6 INSTALLATION OF CRACK ISOLATION MEMBRANES

A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.

B. Allow crack isolation membrane to cure before installing tile or setting materials over it.

3.7 ADJUSTING AND CLEANING

A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.

B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

1. Remove grout residue from tile as soon as possible.
2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3.8 PROTECTION

A. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.

B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.9 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

A. Interior Floor Installations, Concrete Subfloor:

1. TCNA F113 24 x 24 Porcelain: Thinset mortar.

   a. Ceramic Tile Type: 24x24 Porcelain.
   b. Thinset Mortar: Standard dry-**set** mortar.
   c. Grout: High-performance unsanded grout.

2. TCNA F113 8 x 48 Porcelain: Thinset mortar.

   a. Ceramic Tile Type: 8x48 Porcelain.
   b. Thinset Mortar: Standard dry-**set** mortar.
   c. Grout: High-performance unsanded grout.

3. TCNA F122 12 x 12 shower Floor: Thinset mortar on waterproof membrane.

   a. Ceramic Tile Type: 12x12.
   b. Thinset Mortar: Modified dry-set mortar.
   c. Grout: High-performance unsanded grout.

4. TCNA F125-Full 24 x 24: Thinset mortar on crack isolation membrane.

    a. Ceramic Tile Type: 24x24.
    b. Thinset Mortar: Modified dry-set mortar.
    c. Grout: High-performance unsanded grout.

B. Interior Wall Installations, Masonry or Concrete:

1. TCNA W202 2x4 Stacked: Thinset mortar.

    a. Ceramic Tile Type: 2x4 stacked.
    b. Thinset Mortar: Standard dry-set mortar.
    c. Grout: Standard sanded cement grout.

C. Interior Wall Installations, Wood or Metal Studs or Furring:

1. TCNA W244C or TCNA W244F 2x4 Stacked: Thinset mortar on cementitious backer units or fiber-cement backer board.

    a. Ceramic Tile Type: 2x4 stacked.
    b. Thinset Mortar: Standard dry-set mortar.
    c. Grout: Standard sanded cement grout.

D. Shower Receptor and Wall Installations:

1. TCNA B422 2x4 Stacked: Thinset mortar on waterproof membrane with integrated bonding flange for bonded membranes.

    a. Ceramic Tile Type: 2x4 stacked.
    b. Thinset Mortar: Standard dry-set mortar.
    c. Grout: Standard sanded cement grout.

END OF SECTION 093013

BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT B.U.D. @ # 811 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

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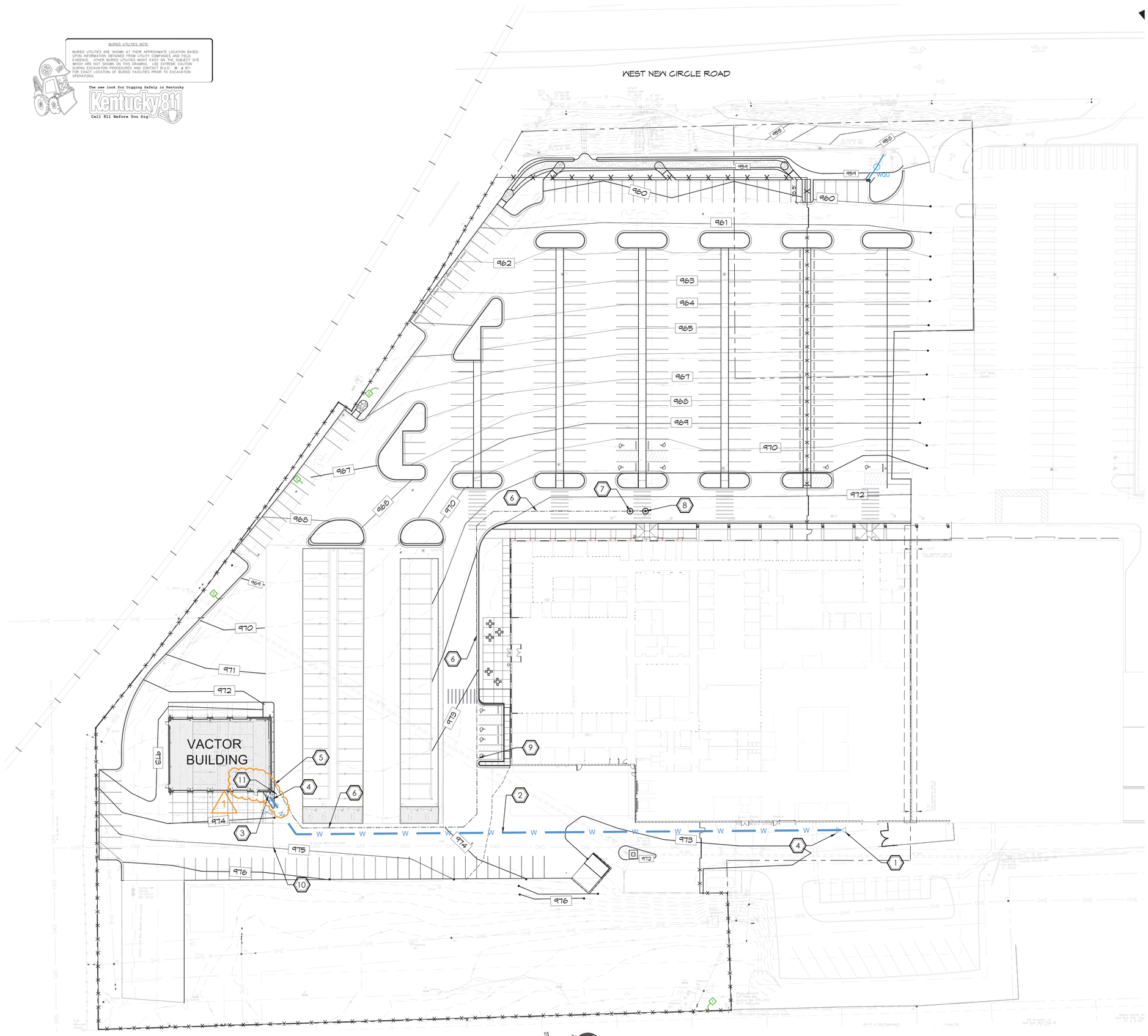

BASE BID CIVIL SITE UTILITIES PLAN

SCALE 1" = 30'-0"

15 0 30

GENERAL NOTES:

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN IS FROM A SURVEY PROVIDED BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.

B. THE DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION; THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL LOCATIONS.

C. PROTECT EXISTING TREES FROM POTENTIAL DAMAGE OF CONSTRUCTION OPERATIONS. STEEPEN GRADES UPHILL FROM EXISTING TREES TO A MAX. OF 2:1 TO AVOID FILLING SOILS ONTO TRUNKS.

D. UNLESS OTHERWISE INDICATED TO BE REMOVED, ALL ITEMS REMAINING WITHIN THE LIMIT OF CONTRACT ARE TO REMAIN AND BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

E. THE CONTRACTOR SHALL MAINTAIN STORM DRAINAGE SYSTEMS TO FUNCTION THROUGHOUT THE CONSTRUCTION PERIOD.

F. PROPOSED GRADES SHOWN ARE FINISHED GRADES. ELEVATIONS SHOWN AT CURBS ARE BOTTOM OF CURB UNLESS NOTED TC.

G. LIMIT OF GRADING EXTENTS TO INCLUDE ALL AREAS DISTURBED BY ALL SITE UTILITY WORK. REFER TO SITE UTILITY DRAWINGS FOR LOCATIONS OF PROPOSED SITE UTILITIES.

H. REFER TO SPECIFICATION / PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.

I. ADJUST RIM ELEVATIONS OF ALL EXISTING STRUCTURES TO MATCH PROPOSED FINISHED GRADES.

J. GRADE ALL NEW PAVEMENTS TO DRAIN. GRADE ALL NEW WALKS AT MAX. 2% CROSS SLOPE. GRADE ALL NEW WALKS TO MAX. 5% LONGITUDINAL SLOPE UNLESS OTHERWISE SPECIFICALLY INDICATED ON PLANS TO BE A RAMP.

CIVIL UTILITY LEGEND

- W — PROPOSED POTABLE WATER LINE
- PROPOSED FIRE PROTECTION SERVICE LINE
- STRM — PROPOSED STORM LINE- SEE L-300 FOR REQUIREMENTS
- PROPOSED WATER LINE VALVE
- FLUSHING HYDRANT
- S — MANHOLE

CIVIL UTILITY NOTES (1)

1. CONTRACTOR TO LOCATE EXISTING METER AND SERVICE LINE. CONNECT PROPOSED 2" WATER LINE TO EXISTING SERVICE LINE BETWEEN METER AND BUILDING
2. 2" PVC SDR-17 WATERLINE. REFER TO DETAIL A/C200. MAINTAIN 10 FEET SEPARATION FROM FORCE MAIN.
3. INSTALL FLUSH HYDRANT. REFER TO DETAIL D/C200.
4. PROPOSED WATER LINE VALVE. REFER TO DETAIL B/C200.
5. CONNECT FORCE MAIN TO THE BUILDING LIFT STATION. REFER TO MEP PLANS.
6. 2" HDPE FORCE MAIN. MAINTAIN 10 FEET SEPARATION FROM WATER LINE.
7. INSTALL MANHOLE TO ALLOW FOR FORCE MAIN TRANSITION TO GRAVITY FLOW, REFER TO DETAIL E/C200
8. INSTALL MANHOLE AT CONNECTION POINT TO EXISTING 8" SANITARY SEWER. FIELD VERIFY INVERT ELEVATION AT CONNECTION POINT PRIOR TO PURCHASING MANHOLE MATERIALS. PROVIDE ENGINEER WITH FIELD VERIFIED ELEVATIONS, REFER TO DETAIL E/C200.
9. FIELD VERIFY EXISTING UTILITY ELEVATIONS AND ADJUST PROPOSED UTILITY TO AVOID CONFLICT.
10. TAP EXISTING GAS LINE AND EXTEND 1" MDPE GAS LINE TO BUILDING POINT OF CONNECTION. REFER TO MEP PLANS FOR CONTINUATION.
11. 3/4" PVC SDR-17 WATERLINE INTO BUILDING, REFER TO MEP PLANS FOR ADDITIONAL REQUIREMENTS. PROVIDE SHUT OFF VALVE AT TEE.

(1)

STATE OF KENTUCKY — R. DEREK MOTSCH — 26439 — LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION DOCUMENTS

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SITE CIVIL UTILITIES PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED: BY

DRAWN: BY

REVIEWED: BY

APPROVED: BY

REVISIONS

NO.	REVISION DESCRIPTION	DATE
1	ADDENDUM 1	10/15/2025

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: SEPTEMBER 12, 2025

SCALE: Refer to Plan

SHEET NO. C100

BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT B.U.D. @ # 811 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

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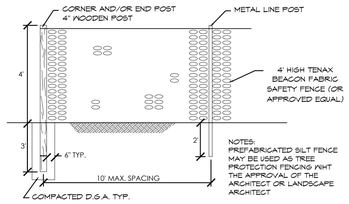

TREE PROTECTION FENCE A
N.T.S.

REFER TO LK200 FOR ADDITIVE ALTERNATE #1 SITE DEMOLITION

1
ADDENDUM 1
ADJUST LIMITS OF PAVEMENT REMOVAL, FULL SECTION, WEST OF PROPOSED VACTOR BUILDING LOCATION WEST APPROXIMATELY 15' TO ALLOW FOR ADDITIONAL GRADE ADJUSTMENT AS INDICATED ON L300

WEST NEW CIRCLE ROAD

START

EXISTING BUILDING

TYP

ADDENDUM 1
REMOVE HONEYSUCKLE / INVASIVE OVERGROWTH TO FENCELINE.

END

ADDENDUM 1
EXISTING FENCE TO BE REMOVED AND REPLACED. WHERE FENCE FENCE ABUTS RESIDENTIAL NEIGHBORS, FENCE MUST BE REMOVED AND REPLACED THE SAME DAY.

BASE BID SITE DEMOLITION PLAN

SCALE 1" = 30'-0"

0 15 30

DEMOLITION NOTES:

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED FROM A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
B. THE CONTRACT DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL UTILITY LOCATIONS.
C. SAWCUT EDGES OF EXISTING PAVEMENT WHERE NEW PAVEMENT ABUTS AND / OR EXISTING PAVEMENT IS INDICATED TO BE REMOVED.
D. CONTRACTOR TO PROTECT ALL EXISTING TREES TO REMAIN- ALL TREES WITHIN THE LIMITS OF WORK SHALL BE PROTECTED. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF ANY TREES ARE DAMAGED ON OR OFF SITE. NO MATERIALS ARE TO BE STORED UNDER A TREE IN ANY CIRCUMSTANCE. THE CONTRACTOR SHALL MAINTAIN TREE PROTECTION FENCING WHERE INDICATED AND FOR ALL EXISTING TREES WITHIN THE LIMITS OF THE CONSTRUCTION FENCING. TREE PROTECTION FENCING SHALL BE CONSTRUCTED OF SAFETY FENCE WITH STEEL 'T' SECTION FENCE POSTS SPACED AT 6' MAXIMUM; LIMIT OF FENCE TO ALIGN WITH CANOPY / DRIP EDGE OF TREES TO AVOID DAMAGE TO EXISTING TREES DURING CONSTRUCTION.
E. CONTRACTOR SHALL PROTECT ALL SURROUNDING AREAS. CONTRACTOR SHALL REPAIR ANY DAMAGES TO OFF OR ON SITE PROPERTY THAT IS NOT LISTED TO BE REMOVED AT NO ADDITIONAL COST TO OWNER.
F. SEE SPECIFICATIONS FOR OTHER DEMOLITION AND SITE CLEARING REQUIREMENTS.
G. CONTRACTOR SHALL PROTECT ALL UTILITY STRUCTURES. ANY DAMAGES TO UTILITIES ON OR OFF SITE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR REPAIR AT NO ADDITIONAL COST TO OWNER. THE CONTRACTOR SHALL SALVAGE AND REINSTALL ALL EXISTING UTILITY MARKERS IN NEW PAVEMENT.
H. PROTECT ALL WALKWAYS, WALLS, VEGETATION, TREES AND OTHER IMPROVEMENTS WITHIN THE CONSTRUCTION LIMITS THAT ARE NOT INDICATED FOR REMOVAL. ANY DAMAGE OR DESTRUCTION OF SUCH SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE OWNER.
I. WHERE ITEMS ARE INDICATED TO BE SALVAGED AND RETURNED TO OWNER, THE OWNER SHALL DESIGNATE A LOCATION FOR CONTRACTOR TO DELIVER AND OFFLOAD SALVAGED ITEMS.
J. FOR WORK SCOPE ITEMS OUTSIDE OF THE CONSTRUCTION FENCE, THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCE AND SIGNAGE TO DIRECT PEDESTRIANS AROUND CONSTRUCTION AREAS AS NEEDED FOR DEMOLITION AND CONSTRUCTION IN THESE AREAS. CONTRACTOR SHALL MINIMIZE THE DURATION OF WORK OUTSIDE OF THE CONSTRUCTION FENCE AS MUCH AS FEASIBLE, AND SHALL NOTIFY OWNER OF ANY PROPOSED CHANGES TO THE CONSTRUCTION FENCE AND WORK OUTSIDE OF THE CONSTRUCTION FENCE A MINIMUM OF 72 HOURS IN ADVANCE.

SITE DEMOLITION LEGEND

- ASPHALT PAVEMENT TO BE MILLED 1 ½", SEE KEYNOTE 3
- EXISTING ASPHALT PAVEMENT TO BE REMOVED- FULL PAVEMENT SECTION- SEE KEYNOTES 2 & 4
- EXISTING CONCRETE PAVEMENT TO BE REMOVED TO STONE BASE, SEE KEYNOTE 7 AND 8 FOR TYPE
- EXISTING CONCRETE PAVEMENT TO REMAIN, SEE KEYNOTES 9 AND 13
- EXISTING TURF AREA TO BE CLEARED FOR NEW SITE IMPROVEMENTS, SEE KEYNOTE 15
- EXISTING CHAIN LINK FENCING TO BE REMOVED, SEE KEYNOTES 5 & 6
- EXISTING FENCING TO REMAIN, SEE KEYNOTE 16
- EXISTING CONCRETE CURB TO BE REMOVED, SEE KEYNOTE 1
- EXISTING TREE TO BE REMOVED, SEE KEYNOTES AND SPECIFICATIONS 'SITE CLEARING' FOR ADDITIONAL REQUIREMENTS
- EXISTING TREE TO BE PROTECTED WITH TREE PROTECTION FENCING, SEE GENERAL NOTES. EXTEND TREE FENCING TO DRIP LINE OF TREE- SEE DETAIL A/L200. NO PARKING, MATERIAL STORAGE OR GRADING TO TAKE PLACE WITHIN DRIPLINE OF EXISTING TREES

DEMOLITION KEYNOTES 1

1. EXISTING CURB AND GUTTER TO BE REMOVED, FULL SECTION.
2. EXISTING ASPHALT PAVEMENT TO BE REMOVED, FULL SECTION INCLUDING STONE BASE, WHERE ASPHALT PAVEMENT HAS FAILED. REMEDIATE BASE WITH 6" #2 STONE CHOKED WITH 4" DGA TO PAVEMENT SUBGRADE. FIELD VERIFY EXTENTS WITH OWNER AND ARCHITECT.
3. EXISTING ASPHALT PAVEMENT TO BE MILLED 1 ½" AND PREPARED FOR NEW ASPHALT SURFACE.
4. EXISTING ASPHALT PAVEMENT TO BE REMOVED, FULL PAVEMENT SECTION INCLUDING STONE BASE. SEE L401 FOR PROPOSED IMPROVEMENTS.
5. EXISTING FENCE TO BE REMOVED, FENCING, FABRIC, POSTS AND FOOTINGS.
6. EXISTING PERIMETER FENCING AT EXISTING COVERED PARKING, FENCING TO BE REMOVED INCLUDING FABRIC, POSTS AND FOOTINGS. CUT FOOTINGS OFF AT GRADE AND GROUT OPENING SOLID.
7. EXISTING CONCRETE PAVEMENT TO BE REMOVED.
8. EXISTING HEAVY DUTY CONCRETE PAVEMENT TO BE REMOVED TO CONSTRUCT NEW VACTOR BUILDING. SAWCUT AT NEAREST CONTROL JOINT AND REMOVE PAVEMENT AND STONE BASE.
9. EXISTING HEAVY DUTY CONCRETE PAVEMENT AT COVERED PARKING AREA, TO REMAIN. TREAT AND REMOVE WEEDS IN CRACKS AND PATCH CRACKS WITH CONCRETE FILLER. PROTECT CONCRETE AND CANOPIES TO REMAIN FROM CONSTRUCTION ACTIVITIES.
10. EXISTING ASPHALT PAVEMENT, SUBGRADE FAILURE. REMOVE FULL ASPHALT PAVEMENT SECTION AND STONE BASE TO ADDRESS SUBGRADE FAILURE.
11. EXISTING OVERHEAD CANOPY TO BE REMOVED TO CONSTRUCT NEW VACTOR BUILDING. REMOVE CANOPY, FRAMING, POSTS AND FOOTINGS IN THEIR ENTIRETY. BACKFILL FOOTINGS WITH COMPACTED DGA IN MAX. 8" LIFTS TO NEW PAVEMENT OR BUILDING SUBGRADE.
12. REMOVE ALL EXISTING WHEELSTOPS, TYPICAL.
13. EXISTING CONCRETE PAVEMENT TO REMAIN.
14. EXISTING FENCE / GATE TO BE REMOVED AND RELOCATED 10' BACK. FIELD VERIFY NEW GATE LOCATION WITH OWNER AND ARCHITECT.
15. EXISTING TURF OR LANDSCAPE AREA TO BE CLEARED, EXCAVATED AND COMPACTED / PREPARED FOR NEW CONCRETE CURB AND GUTTER AND / OR ASPHALT PAVEMENT, SEE L400 AND L401 FOR REQUIREMENTS.
16. EXISTING FENCE ON ADJACENT PROPERTY TO REMAIN IN PLACE.
17. EXISTING CONCRETE DUMPSTER PAD AND BOLLARDS TO REMAIN FOR REUSE.
18. AREA OF EXISTING ASPHALT PAVEMENT TO BE SAWCUT AND REMOVED FOR NEW HEAVY DUTY CONCRETE UTILITY PAD, SEE L400 AND L401 FOR ADDITIONAL NOTES.
19. EXISTING CURB AT EAST EDGE OF EXISTING COVERED PARKING AREA TO BE REMOVED. REMOVE CURB AND REMOVE ASPHALT STRIP BEHIND CURB / BETWEEN CURB AND EXISTING COVERED CONCRETE PAVEMENT THAT REMAINS. ASPHALT STRIP THAT IS REMOVED SHALL BE REPLACED WITH NEW ASPHALT PAVEMENT TRANSITION FROM ASPHALT DRIVE TO CONCRETE PAVEMENT.
20. EXISTING FENCE TO BE REMOVED AROUND COVERED PARKING. REMOVE FENCE, POSTS, GATES AND GATE OPERATORS AND ALL APPURTENANCES. WHERE EXISTING POSTS ARE EMBEDED IN CONCRETE THAT REMAINS, CUT FENCE POST TO GRADE AND GROUT POST HOLES SOLID WITH NON-SHRINK GROUT.
21. EXISTING BUILDINGS TO REMAIN IN COVERED PARKING AREA.
22. REMOVE EXISTING WHEELSTOPS AND GROUT HOLES SOLID.
23. REMOVE EXISTING BOLLARD AND PATCH / GROUT HOLE SOLID.

STATE OF KENTUCKY RAMONA LEIF REGISTERED LANDSCAPE ARCHITECT

CONSTRUCTION DOCUMENTS

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SITE DEMOLITION PLAN
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED
DRAWN BY
REVIEWED
APPROVED

REVISIONS
NO. | REVISION DESCRIPTION | DATE

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: SEPTEMBER 12, 2025
SCALE: Refer to Plan
SHEET NO. L200

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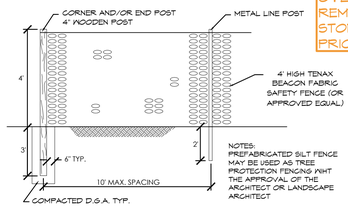

TREE PROTECTION FENCE (A)
N.T.S.

1
ADDENDUM 1
AS PART OF ADDITIVE ALTERNATE #1, ADD ADDITIONAL AREA OF FULL PAVEMENT REMOVAL AND REPLACEMENT AT NEW AREA OF UNDERGROUND STONE DETENTION. SEE LK300 AND LK401 FOR ADDITIONAL REQUIREMENTS.
NOTE AREA UNDER PROPOSED PERMEABLE PAVERS AND UNDER THIS ADDED AREA THAT WILL REQUIRE OVEREXCAVATION AND OFFSITE REMOVAL OF SOILS FOR UNDERGROUND STONE / DETENTION TO BE INCLUDED IN PRICING FOR ADDITIVE ALTERNATE #1

ADD ALTERNATE #1
APPROXIMATE LIMITS OF AREAS IMPACTED BY ADDITIVE ALTERNATE #1

ITEMS INCLUDED IN (BUT NOT LIMITED TO) ADDITIVE ALTERNATE #1 PRICING:
CREDIT FOR LEAVING EXISTING HEAVY DUTY CONCRETE PARKING AREA, CANOPY AND ASPHALT REMOVAL AT BASE BID VACTOR BUILDING LOCATION
ADDITIVE ALTERNATE #1 VACTOR BUILDING LOCATION AND ASSOCIATED SITE DEMOLITION, CLEARING, GRADING & DRAINAGE, CURBS, PAVEMENTS, UTILITIES.
PERMEABLE PAVERS AT NORTH PARKING AREA

EXISTING CANOPIES & PAVEMENT TO REMAIN

EXISTING CANOPIES & PAVEMENT TO REMAIN

EXISTING BUILDING

ADD ALTERNATE #1 DRAWING

SEE L200, L300, L301, L400, L401 & G100 FOR BASE BID CONDITIONS AND FOR ADDITIONAL NOTES AND REQUIREMENTS OF ALL AREAS NOT IMPACTED BY ADDITIVE ALTERNATE #1

1
ADDENDUM 1
REMOVE HONEYSUCKLE / INVASIVE OVERGROWTH TO FENCELINE.

1
ADDENDUM 1
EXISTING FENCE TO BE REMOVED AND REPLACED. WHERE FENCE FENCE ABUTS RESIDENTIAL NEIGHBORS, FENCE MUST BE REMOVED AND REPLACED THE SAME DAY.

ADD ALT #1 SITE DEMOLITION PLAN

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SITE DEMOLITION LEGEND

- ASPHALT PAVEMENT TO BE MILLED 1 ½", SEE KEYNOTE 3
- EXISTING ASPHALT PAVEMENT TO BE REMOVED- FULL PAVEMENT SECTION- SEE KEYNOTES 2 & 4
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- EXISTING CONCRETE PAVEMENT TO REMAIN, SEE KEYNOTES 9 AND 13
- EXISTING TURF AREA TO BE CLEARED FOR NEW SITE IMPROVEMENTS, SEE KEYNOTE 15
- EXISTING CHAIN LINK FENCING TO BE REMOVED, SEE KEYNOTES 5 & 6
- EXISTING FENCING TO REMAIN, SEE KEYNOTE 16
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DEMOLITION KEYNOTES (1)

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2. EXISTING ASPHALT PAVEMENT TO BE REMOVED, FULL SECTION INCLUDING STONE BASE, WHERE ASPHALT PAVEMENT HAS FAILED. REMEDIATE BASE WITH 6" #2 STONE CHOKED WITH 4" DGA TO PAVEMENT SUBGRADE. FIELD VERIFY EXTENTS WITH OWNER AND ARCHITECT.
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7. EXISTING CONCRETE PAVEMENT TO BE REMOVED.
8. NOTE NOT USED THIS SHEET.
9. EXISTING HEAVY DUTY CONCRETE PAVEMENT AT COVERED PARKING AREA, TO REMAIN. TREAT AND REMOVE WEEDS IN CRACKS AND PATCH CRACKS WITH CONCRETE FILLER. PROTECT CONCRETE AND CANOPIES TO REMAIN FROM CONSTRUCTION ACTIVITIES.
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11. NOTE NOT USED THIS SHEET.
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21. EXISTING BUILDINGS TO REMAIN IN COVERED PARKING AREA.
22. REMOVE EXISTING WHEELSTOPS AND GROUT HOLES SOLID.
23. REMOVE EXISTING BOLLARD AND PATCH / GROUT HOLE SOLID.

STATE OF KENTUCKY · RAMONA LEIF · REGISTERED · LANDSCAPE ARCHITECT

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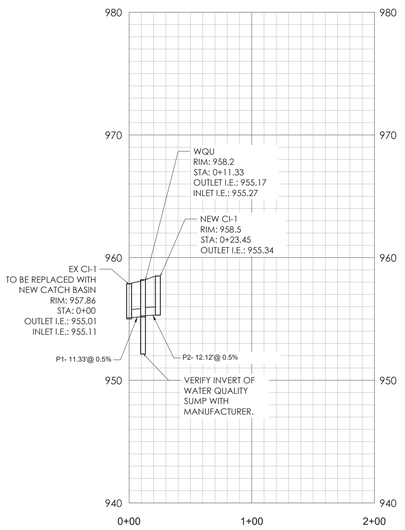
ADDITIVE ALTERNATE #1 SITE DEMOLITION PLAN
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED | DRAWN: BY | DATE | REVIEWED | APPROVED:

REVISIONS
NO. | REVISION DESCRIPTION | DATE

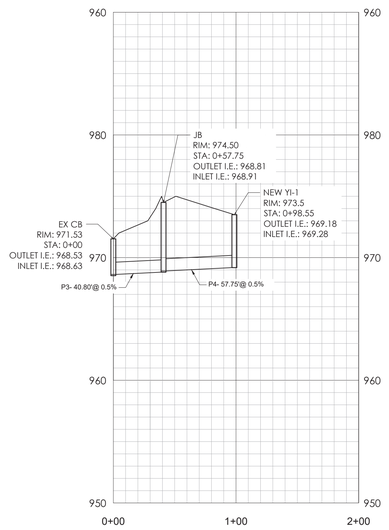
THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: SEPTEMBER 12, 2025
SCALE: Refer to Plan
SHEET NO. LK200



Horizontal Scale = 1 :50
Vertical Scale = 1 :5

BASE BID PIPES 1-2 PROFILES



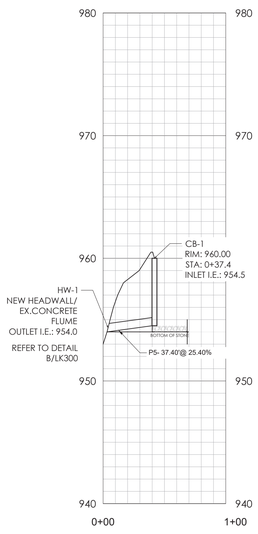
Horizontal Scale = 1 :50
Vertical Scale = 1 :5

ADDITIVE ALTERNATE #1 PIPES 3-4 PROFILE

ADD ALTERNATE #1
STORM PROFILE FOR ADDITIVE
ALTERNATE #1 PIPES 3 & 4

1

ADDENDUM 1
ADD PIPE 5 AS PART OF ADDITIVE
ALTERNATE #1



ADDITIVE ALTERNATE #1 PIPES 5 PROFILE

ADD ALTERNATE #1
STORM PROFILE FOR ADDITIVE
ALTERNATE #1 PIPE 5

CONSTRUCTION DOCUMENTS

STATE OF KENTUCKY
R. DEREK MOTSCH
26439
LICENSED
PROFESSIONAL ENGINEER

GRW PROJECT NO. 0000-00

CLIENT PROJECT NO. 0000-00

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STORM PROFILES

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:
DRAWN:
REVIEWED:
APPROVED:

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ADDENDUM 1	9/26/25	GRW

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE:
SEPTEMBER 12, 2025

SCALE:
Refer to Plan

SHEET NO.
L301

BURIED UTILITIES NOTE

BURIED UTILITIES ARE SHOWN AT THEIR APPROXIMATE LOCATION BASED UPON INFORMATION OBTAINED FROM UTILITY COMPANIES AND FIELD EVIDENCE. OTHER BURIED UTILITIES MIGHT EXIST ON THE SUBJECT SITE WHICH ARE NOT SHOWN ON THIS DRAWING. USE EXTREME CAUTION DURING EXCAVATION PROCEDURES AND CONTACT B.U.D. @ # 811 FOR EXACT LOCATION OF BURIED FACILITIES PRIOR TO EXCAVATION OPERATIONS.

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Kentucky811
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STORM PIPE SCHEDULE

PIPE NUMBER	APPROX. LENGTH	SIZE	APPROX. SLOPE %	MATERIAL
P-1	11.33	12"	0.50	PIPE
P-2	12.12	12"	0.50	PIPE
P-3	39.80	12"	0.50	PIPE
P-4	57.75	12"	0.50	PIPE
P-5	37.40	8"	25.40	SDR-35

NOTE: ALL PIPE LENGTHS ARE APPROXIMATE AND ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. CONTRACTOR TO FIELD VERIFY LENGTHS AND SLOPES NEED TO MEET THE REQUIREMENTS OF THE STORM SYSTEM AS INDICATED. CONTRACTOR MAY CHOOSE TO USE HDPE, HP STORM OR RCP WHERE THE MATERIAL IS NOTED AS "PIPE". WHERE MATERIAL IS SPECIFIED IN THE CHART ABOVE, THE CONTRACTOR IS TO USE THAT MATERIAL.

STORM STRUCTURE SCHEDULE

STRUCTURE #	RIM ELEVATION	INVERT IN	INVERT OUT	NOTES
CI-1	958.50	-	955.34	
JB	974.50	968.91	968.81	
YI-1	973.50	969.28	969.18	
CB-1	960.00	-	954.50	
HW-1	-	-	954.00	

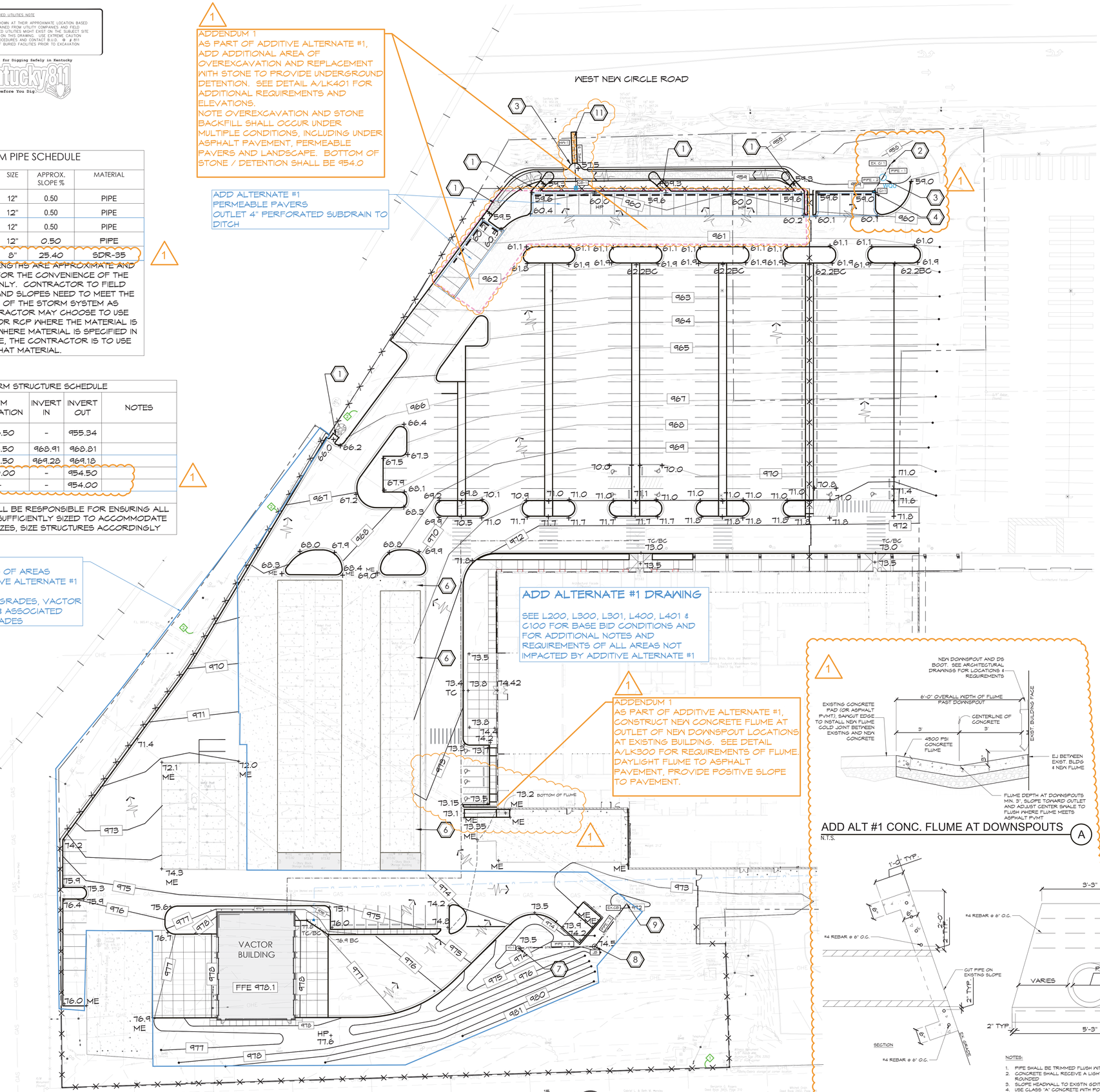
CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL STRUCTURES ARE SUFFICIENTLY SIZED TO ACCOMMODATE ALL INLET PIPE SIZES, SIZE STRUCTURES ACCORDINGLY

1
ADDENDUM 1
AS PART OF ADDITIVE ALTERNATE #1, ADD ADDITIONAL AREA OF OVEREXCAVATION AND REPLACEMENT WITH STONE TO PROVIDE UNDERGROUND DETENTION. SEE DETAIL A/LK401 FOR ADDITIONAL REQUIREMENTS AND ELEVATIONS.
NOTE OVEREXCAVATION AND STONE BACKFILL SHALL OCCUR UNDER MULTIPLE CONDITIONS, INCLUDING UNDER ASPHALT PAVEMENT, PERMEABLE PAVERS AND LANDSCAPE. BOTTOM OF STONE / DETENTION SHALL BE 954.0

ADD ALTERNATE #1
PERMEABLE PAVERS
OUTLET 4" PERFORATED SUBDRAIN TO DITCH

ADD ALTERNATE #1
APPROXIMATE LIMITS OF AREAS IMPACTED BY ADDITIVE ALTERNATE #1

REVISED PAVEMENT GRADES, VACTOR BUILDING LOCATION & ASSOCIATED PAVEMENTS AND GRADES



ADD ALTERNATE #1 DRAWING

SEE L200, L300, L301, L400, L401 & C100 FOR BASE BID CONDITIONS AND FOR ADDITIONAL NOTES AND REQUIREMENTS OF ALL AREAS NOT IMPACTED BY ADDITIVE ALTERNATE #1

1
ADDENDUM 1
AS PART OF ADDITIVE ALTERNATE #1, CONSTRUCT NEW CONCRETE FLUME AT OUTLET OF NEW DOWNSPOUT LOCATIONS AT EXISTING BUILDING. SEE DETAIL A/LK300 FOR REQUIREMENTS OF FLUME. DAYLIGHT FLUME TO ASPHALT PAVEMENT, PROVIDE POSITIVE SLOPE TO PAVEMENT.

ADD ALT #1 GRADING & DRAINAGE PLAN

SCALE 1" = 30'-0"

A. THE EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN IS FROM A SURVEY PROVIDED BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.

B. THE DRAWINGS SHOW THE APPROXIMATE LOCATION OF EXISTING AND PROPOSED UTILITY LINES. THESE LINES HAVE BEEN IDENTIFIED AND LOCATED AS ACCURATELY AS POSSIBLE USING AVAILABLE INFORMATION; THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL ACTUAL LOCATIONS.

C. PROTECT EXISTING TREES FROM POTENTIAL DAMAGE OF CONSTRUCTION OPERATIONS. STEEPEN GRADES UPHILL FROM EXISTING TREES TO A MAX. OF 2:1 TO AVOID FILLING SOILS ONTO TRUNKS.

D. UNLESS OTHERWISE INDICATED TO BE REMOVED, ALL ITEMS REMAINING WITHIN THE LIMIT OF CONTRACT ARE TO REMAIN AND BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

E. THE CONTRACTOR SHALL MAINTAIN STORM DRAINAGE SYSTEMS TO FUNCTION THROUGHOUT THE CONSTRUCTION PERIOD.

F. PROPOSED GRADES SHOWN ARE FINISHED GRADES. ELEVATIONS SHOWN AT CURBS ARE BOTTOM OF CURB UNLESS NOTED TC.

G. LIMIT OF GRADING EXTENTS TO INCLUDE ALL AREAS DISTURBED BY ALL SITE UTILITY WORK. REFER TO SITE UTILITY DRAWINGS FOR LOCATIONS OF PROPOSED SITE UTILITIES.

H. REFER TO SPECIFICATION / PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS.

I. ADJUST RIM ELEVATIONS OF ALL EXISTING STRUCTURES TO MATCH PROPOSED FINISHED GRADES.

J. GRADE ALL NEW PAVEMENTS TO DRAIN. GRADE ALL NEW WALKS AT MAX. 2% CROSS SLOPE. GRADE ALL NEW WALKS TO MAX 5% LONGITUDINAL SLOPE UNLESS OTHERWISE SPECIFICALLY INDICATED ON PLANS TO BE A RAMP.

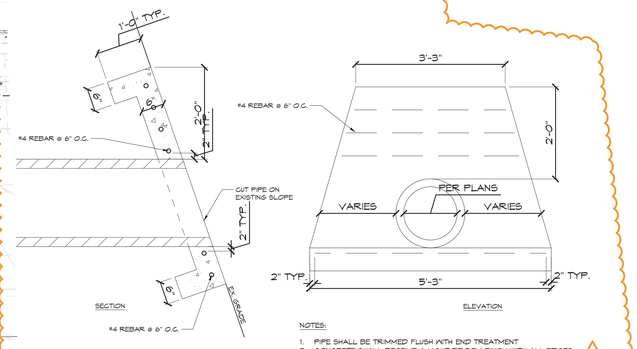
GRADING & DRAINAGE LEGEND

- 991 — PROPOSED CONTOUR
- +89.0 — PROPOSED SPOT ELEVATION
- ME — MATCH EXISTING
- BC — BOTTOM OF CURB
- TC — TOP OF CURB
- DRAINAGE DIRECTION
- STM — NEW STORM LINE, SEE DETAIL ON D/L600
- NEW 6 SUBDRAIN UNDER PERMEABLE PAVERS, SLOPE MIN. ⅛" / FOOT TO DRAIN, DAYLIGHT
- RIP RAP CHANNEL LINING, SEE DETAIL J/L600 (SIMILAR)
- JB — NEW JUNCTION BOX, SEE DETAIL J/L600
- CI — TYPE F CURB INLET, SEE DETAIL I/L600
- YI — NEW YARD INLET, SEE DETAIL F/300
- CB — NEW CATCH BASIN WITH OPEN BOTTOM, SEE DETAIL A/L401 AND DETAIL E/L600 (SIMILAR)

GRADING & DRAINAGE KEYNOTES 1

1. CURB CUT FLUMES AT NEW CURB WITH RIP RAP OUTLET CHANNEL, SEE DETAIL O/L601.
2. REPLACE EXISTING INLET WITH NEW CATCH BASIN. FIELD VERIFY EXISTING INVERTS. REFER TO DETAIL E/L600
3. WATER QUALITY INLET, REFER TO DETAIL G/L600.
4. CURB INLET. REFER TO DETAIL K AND L/L600. REFER TO PROFILE ON L301.
5. AT EXISTING CATCH BASIN TO REMAIN, POUR NEW HEAVY DUTY CONCRETE COLLAR AROUND CATCH BASIN PRIOR TO REPLACING ASPHALT AS INDICATED ON L401. CONCRETE COLLAR TO BE MIN. 6' WIDE AROUND CATCH BASIN X 8" DEEP CONCRETE OVER 8" DGA.
6. WHERE CURB WAS REMOVED AT COVERED PARKING, TRANSITION GRADE FROM EDGE OF DRIVE / EDGE OF MILLED / RESURFACED ASPHALT TO EDGE OF EXISTING CONCRETE PAVEMENT. USE NEW ASPHALT STRIP TO CREATE SMOOTH TRANSITION.
7. YARD INLET, REFER TO DETAIL F/L600.
8. JUNCTION BOX, REFER TO DETAIL J/L600.
9. CONNECT PROPOSED STORM TO EXISTING STORM STRUCTURE.
10. NEW CONCRETE FLUME TO CARRY ROOF DRAINS AT SOUTHWEST CORNER OF BUILDING, SEE DETAIL A/LK300.
11. EXISTING CONCRETE FLUME TO BE REMOVED AND REPLACED TO ALLOW FOR INSTALLATION OF NEW CONCRETE SLOPED PIPE OUTLET. SEE A/LK300 FOR CONCRETE FLUME (SIMILAR, MATCH EXISTING WIDTH) AND B/LK300 FOR PIPE OUTLET AT CONCRETE FLUME.

ADD ALT #1 CONC. FLUME AT DOWNSPOUTS (A)
N.T.S.



NOTES:
1. PIPE SHALL BE TRIMMED FLUSH WITH END TREATMENT
2. CONCRETE SHALL RECEIVE A LIGHT BROOM FINISH WITH ALL EDGES ROUNDED
3. SLOPE HEADWALL TO EXISTN GDITCH SLOPE
4. USE CLASS "A" CONCRETE WITH POLYPROPYLENE FIBERS.

1

HEADWALL OUTLET IN CONCRETE FLUME (B)
N.T.S.

STATE OF KENTUCKY
R. DEREK MOTSCH
26439
LICENSED PROFESSIONAL ENGINEER

CONSTRUCTION DOCUMENTS

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ADDITIVE ALTERNATE #1 SITE GRADING & DRAINAGE PLAN
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED BY
DRAWN BY
REVIEWED BY
APPROVED BY

REVISIONS
NO. | REVISION DESCRIPTION | DATE

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: SEPTEMBER 12, 2025
SCALE: Refer to Plan
SHEET NO. LK300

ADD ALTERNATE #1
PERMEABLE PAVERS

ADD ALTERNATE #1
APPROXIMATE LIMITS OF AREAS
IMPACTED BY ADDITIVE ALTERNATE #1

VACTOR BUILDING LOCATION &
ASSOCIATED PAVEMENTS

REVISED PERIMETER FENCE LOCATION

WEST NEW CIRCLE ROAD

EXISTING CANOPIES & PAVEMENT TO REMAIN

EXISTING CANOPIES & PAVEMENT TO REMAIN

VACTOR BUILDING

ADD ALTERNATE #1 DRAWING

SEE L200, L300, L301, L400, L401 & C100 FOR BASE BID CONDITIONS AND FOR ADDITIONAL NOTES AND REQUIREMENTS OF ALL AREAS NOT IMPACTED BY ADDITIVE ALTERNATE #1

1 ADDENDUM 1
AS PART OF ADDITIVE ALTERNATE #1, CONSTRUCT NEW CONCRETE FLUME . SEE DETAIL A/LK300

ADD ALT #1 SITE LAYOUT PLAN

SCALE 1" = 30'-0"

LAYOUT & MATERIALS NOTES

A. EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED FROM A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND PROTECT ALL UTILITIES PRIOR TO THE COMMENCEMENT OF DIGGING. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS.

B. DIMENSIONS GIVEN IN RELATIONSHIP TO BUILDINGS OR OTHER SITE ELEMENTS ARE MEASURED PERPENDICULAR FROM THE OUTSIDE FACE OF BRICK, STONE OR CONCRETE UNLESS OTHERWISE INDICATED. DIMENSIONS GIVEN AT ROADWAYS ARE FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED. DIMENSIONS GIVE AT WALKWAYS ARE FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT OR FACE OF CURB UNLESS OTHERWISE NOTED.

C. DIMENSIONS ARE REFERENCED AT 90 DEGREE ANGLES UNLESS OTHERWISE INDICATED. RADII ARE 5' UNLESS OTHERWISE INDICATED.

D. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL INVOLVED UTILITY COMPANIES AND COORDINATING WITH THEM ALL CONSTRUCTION ACTIVITIES AND VERIFYING ALL SITE UTILITIES PRIOR TO CONSTRUCTION ACTIVITY.

E. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

LAYOUT LEGEND:

	CENTERLINE
CL	CENTERLINE
ME	MATCH EXISTING DIMENSION
EQ	SPACE EQUALLY
+/-	DIMENSION MAY VARY DUE TO EXISTING FIELD CONDITIONS
PI	CENTERLINE POINT OF INTERSECTION
PC	CENTERLINE POINT OF CURVATURE
PT	CENTERLINE POINT OF TANGENCY
BC	BUILDING CORNER
CP	CENTER POINT OF CURVATURE
#1 N:XXX E:XXX	POINT COORDINATES
	SURVEY BENCHMARK- REFER TO SITE SURVEY

SITE LAYOUT KEYNOTES

1. ALIGN NEW ADA COMPLIANT CURB RAMP WITH CENTERLINE OF NEW DOORS.
2. NEW SECURITY FENCE TO FOLLOW PROPERTY LINE AT PERIMETER. LOCATE FENCE JUST INSIDE PROPERTY LINE TO ENSURE POSTS AND ALL COMPONENTS ARE WITHIN THE PROPERTY LINE.
3. ANGLE OF DRIVE CHANGES TO ACCOMMODATE TURNING MOVEMENT AROUND NEW VACTOR BUILDING.
4. ALIGN NEW LANDSCAPE ISLANDS AT OPENING TO EXISTING COVERED PARKING DRIVE LANES.
5. 6' CENTER WALK AISLE, TYPICAL, STRIPED ASPHALT.
6. 6' ASPHALT AISLE FOR NEW SECURITY FENCE, FENCE TO BE LOCATED IN CENTER OF AISLE.
7. NEW SECURITY FENCE VEHICULAR GATE, FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.
8. NEW SECURITY FENCE MAN GATE, FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.
9. NEW SECURITY FENCE LOCATION OFF PROPERTY LINE, FIELD VERIFY LOCATION WITH OWNER AND ARCHITECT PRIOR TO INSTALLATION.

STATE OF KENTUCKY · RAMONA LAF REGISTERED · LANDSCAPE ARCHITECT

CONSTRUCTION DOCUMENTS

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ADDITIVE ALTERNATE #1 SITE LAYOUT PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:
DRAWN:
REVIEWED:
APPROVED:

REVISIONS
NO. | REVISION DESCRIPTION | BY | DATE

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SCALE CHECK:

DATE: SEPTEMBER 12, 2025
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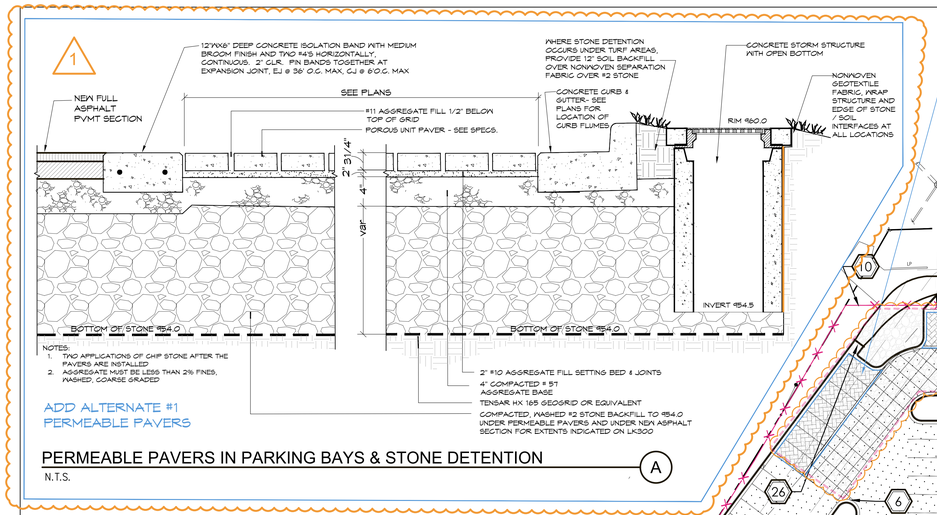
SHEET NO.: LK400



PERMEABLE PAVERS IN PARKING BAYS & STONE DETENTION (A)

N.T.S.

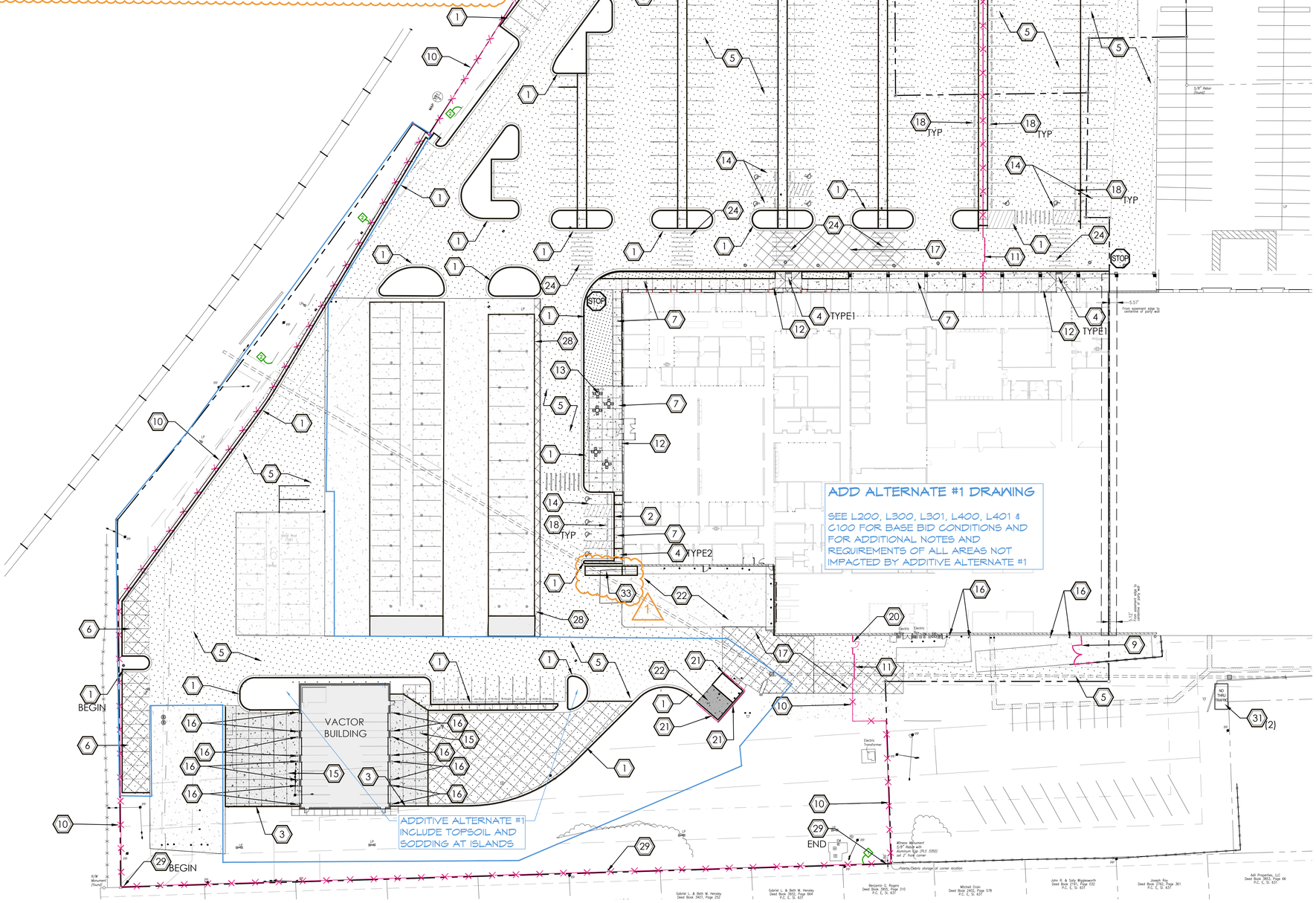
ADD ALTERNATE #1
PERMEABLE PAVERS

WEST NEW CIRCLE ROAD

ADDENDUM 1
AS PART OF ADDITIVE ALTERNATE #1, ADD ADDITIONAL AREA OF NOTE OVEREXCAVATION AND STONE BACKFILL SHALL OCCUR UNDER MULTIPLE CONDITIONS, INCLUDING UNDER ASPHALT PAVEMENT, PERMEABLE PAVERS AND LANDSCAPE. SEE DETAIL A/LK401
SEE LK300 FOR EXTENTS OF UNDERGROUND STONE / DETENTION

SEE ARCHITECTURAL DRAWINGS FOR NEW PYLON SIGN

RESERVE FOR EV CHARGERS



ADD ALT #1 SITE MATERIALS PLAN

SCALE 1" = 30'-0"

LAYOUT & MATERIALS NOTES

A. EXISTING TOPOGRAPHIC AND SITE INFORMATION SHOWN HAS BEEN PROVIDED FROM A SURVEY BY ENDRIS ENGINEERING. THIS INFORMATION IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OF THE INFORMATION SHOWN THEREON. CONTRACTOR TO VERIFY ALL INFORMATION SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION OF AND PROTECT ALL UTILITIES PRIOR TO THE COMMENCEMENT OF DIGGING. NOTIFY THE LANDSCAPE ARCHITECT OF ANY CONFLICTS.

B. DIMENSIONS GIVEN IN RELATIONSHIP TO BUILDINGS OR OTHER SITE ELEMENTS ARE MEASURED PERPENDICULAR FROM THE OUTSIDE FACE OF BRICK, STONE OR CONCRETE UNLESS OTHERWISE INDICATED. DIMENSIONS GIVEN AT ROADWAYS ARE FROM FACE OF CURB TO FACE OF CURB UNLESS OTHERWISE NOTED.

C. DIMENSIONS ARE REFERENCED AT 90 DEGREE ANGLES UNLESS OTHERWISE INDICATED. RADII ARE 5' UNLESS OTHERWISE INDICATED.

D. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL INVOLVED UTILITY COMPANIES AND COORDINATING WITH THEM ALL CONSTRUCTION ACTIVITIES AND VERIFYING ALL SITE UTILITIES PRIOR TO CONSTRUCTION ACTIVITY.

E. ANY EXISTING SIGNAGE ALONG SHILLITO PARK ROAD THAT IS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT NOT ADDITIONAL COST TO THE OWNER.

F. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

MATERIALS LEGEND:

- NEW 1 ½" ASPHALT SURFACE OVERLAY OVER MILLED PAVEMENT BASE
- NEW FULL ASPHALT PAVEMENT SECTION, SEE KEYNOTES 6 & 17
- AREA OF EXISTING ASPHALT PAVEMENT TO BE OVERLAID TO MEET FINISH GRADES INDICATED, SEE KEYNOTE 23
- NEW BROOMED 4" CONCRETE PAVEMENT WITH TOOLED CONTROL JTS SEE KEYNOTE 6
- NEW BROOMED HEAVY DUTY 6" CONCRETE PAVEMENT WITH TOOLED CONTROL JTS SEE KEYNOTES AND DETAIL C/L601
- NEW LANDSCAPE AREA, SEE L500
- NEW CONCRETE CURB & GUTTER - SEE KEYNOTE 1
- NEW HEADER CURB
- CURB TRANSITION FROM 6" TO FLUSH CURB CONDITION
- NEW CURB RAMP
- EJ — EXPANSION JOINT- SEE DETAIL E/L601
- CONTROL JOINT- SEE DETAIL D/L601
- NEW THERMOPLASTIC STRIPING AND ARROWS, SEE DETAIL D/L6.1 AND SPECIFICATIONS FOR REQUIREMENTS. COMPLY FHWA STANDARDS FOR DIRECTIONAL AND TURN ARROWS
- NEW WHEELSTOP, SEE DETAIL L/L601
- STOP — STOP SIGN AND STOP BAR, SEE DETAIL M/L601 FIELD VERIFY FINAL LOCATION
- NO THRU TRAFFIC — NO THRU TRAFFIC, SEE DETAIL M/L601 FIELD VERIFY FINAL LOCATION WITH LFUCG, SEE KEYNOTE 31
- PARKING SPACE STRIPING - 4" X 18' THERMOPLASTIC STRIPING TYPICAL FOR STANDARD SPACES
- TRASH RECEPTACLE BY OWNER AND NIC, SEE KEYNOTE 12
- MOVABLE TABLE AND CHAIR BY OWNER AND NIC, SEE KEYNOTE 13
- ADD ALTERNATE #1 PERMEABLE PAVERS, SEE DETAIL A/LK-401

SITE MATERIALS KEYNOTES

1. NEW CONCRETE CURB AND GUTTER, SEE DETAIL A/L601.
2. NEW FLUSH CONCRETE CURB AND GUTTER, SEE DETAIL A/L601.
3. NEW 6" HEADER CURB SEE DETAIL A/L601.
4. NEW CURB RAMP, SEE DETAIL F/L601.
5. NEW 1 ½" ASPHALT SURFACE OVER MILLED ASPHALT BASE, SEE DETAIL H/L601.
6. NEW FULL ASPHALT PAVEMENT SECTION, SEE DETAIL H/L601. FULLY COMPACT SUB BASE PRIOR TO INSTALLING NEW DGA STONE BASE.
7. NEW LIGHT DUTY CONCRETE PAVEMENT, SEE DETAIL B/L601.
8. NEW PROTECTIVE BOLLARD, SEE DETAIL E/L602.
9. EXISTING CHAIN LINK FENCE / GATES TO BE RELOCATED APPROXIMATELY 10' BACK N EXISTING PAVEMENT. FIELD VERIFY NEW GATE LOCATION WITH OWNER AND ARCHITECT.
10. NEW PERIMETER SECURITY FENCE, SEE DETAIL A/L602.
11. NEW 16' WIDE SLIDING VEHICULAR SECURITY GATE, SEE DETAIL B/L602. PROVIDE LEVEL GATE RETURN AREA AS REQUIRED BY MANUFACTURER (MIN. 24' LONG COUNTERBALANCE PANELS).
12. NEW TRASH RECEPTACLE SHOWN FOR REFERENCE ONLY. PROVIDED AND INSTALLED BY OWNER, NOT N CONTRACT.
13. NEW MOVABLE TABLE AND CHAIR SET SHOWN FOR REFERENCE ONLY. PROVIDED AND INSTALLED BY OWNER, NOT IN CONTRACT.
14. NEW ADA PARKING SPACE, SEE DETAIL H/L601 AND J/L602 FOR ADA PARKING SIGNS.
15. NEW HEAVY DUTY CONCRETE PAVEMENT APRON AT ENTRANCE TO VACTOR BUILDING, SEE DETAIL P/L601. NEW HEAVY DUTY CONCRETE PAVEMENT APRON AT ENTRANCE TO VACTOR BUILDING, SEE DETAIL P/L601, SEE ALSO N/L601 FOR WHERE NEW APRON MEETS BUILDING AT OVERHEAD DOORS.
16. NEW PROTECTIVE BOLLARDS AT ENTRANCES / OVERHEAD DOORS, SEE DETAIL E/L602.
17. NEW ASPHALT PAVEMENT, FULL SECTION, N AREA OF PREVIOUS SUBGRADE FAILURE. PLACE 8" #2 STONE CHOKED OFF WITH 4" DGA AND COMPACT PRIOR TO PLACING PAVEMENT DGA BASE. SEE DETAIL H/L601 FOR ASPHALT PAVEMENT SECTION.
18. NEW RECYCLED RUBBER WHEELSTOP WHERE INDICATED, SEE DETAIL L/601.
19. NEW PARKING SPACES / FUTURE LOCATION FOR EV CHARGERS (EV CHARGERS ARE NOT N CONTRACT).
20. NEW 36" WIDE CHAIN LINK PEDESTRIAN GATE WITH PANIC HARDWARE. REFER TO MEP PLANS FOR POWER SUPPLY. SEE DETAIL G/L602.
21. NEW 9' TALL CHAIN LINK SCREEN FENCE WITH PRIVACY SLATS, SEE DETAIL D/L602.
22. NEW HEAVY DUTY CONCRETE UTILITY PAD, SEE DETAIL P/L601.
23. AREA OF EXISTING ASPHALT PAVEMENT TO BE OVERLAID TO MEET FINISH GRADES INDICATED, SEE L300 FOR FINISH GRADES.
24. THERMOPLASTIC CROSSWALK STRIPING, SEE DETAIL M/L601.
25. NEW HEADER CURB IN PARKING ISLAND TO FORM CHANNEL FOR SLIDING GATE RETURN, SEE DETAIL A/L601.
26. CURB CUT AND CONCRETE FLUME DRAINAGE CHANNEL, SEE DETAIL O/L601.
27. NEW HEAVY DUTY CONCRETE COLLAR AROUND EXISTING CATCH BASIN, SEE L300.
28. AT AREA OF REMOVED CURB AND ASPHALT STRIP, INSTALL NEW ASPHALT PAVEMENT, FULL SECTION. ASPHALT SHALL TRANSITION FROM GRADE AT EDGE OF EXISTING DRIVE TO EXISTING GRADE AT CONCRETE PAVEMENT IN GOVERED PARKING AREA.
29. NEW SECURITY FENCE WITH PRIVACY SLATS ALONG SOUTH PROPERTY BOUNDARY. SEE DETAIL A/L602, PRIVACY SLAT CONDITION.
30. WHERE NEW SECURITY FENCE SPANS OVER CONCRETE FLUMES AND RIP RAP, LOCATE FENCE POSTS EQUALLY TO EITHER SIDE OF FLUME AND SPAN OVER FLUME WITH FENCE PANEL.
31. NO THRU TRAFFIC SIGN TO BE LOCATED EAST OF PROJECT SITE, TWO SIGNS. ONE AT LOCATION SHOWN BEHIND EXISTING GOODYALL BUILDING, THE SECOND SHALL BE LOCATED NEAR LIMESTONE STREET, TO PREVENT VEHICLES FROM DRIVING THROUGH / USING SERVICE DRIVE. FIELD VERIFY FINAL LOCATION WITH LFUCG.
32. ADDITIVE ALTERNATE #1 - AS PART OF ADDITIVE ALTERNATE #1, DEDUCT ASPHALT PAVEMENT AND ADD PERVIOUS PAVERS IN PARKING SPACES AS INDICATED, WITH 12"X6' CIP CONCRETE EDGE RESTRAINT BAND. SEE DETAIL A/LK-401.
33. ADDITIVE ALTERNATE #1 - AS PART OF ADDITIVE ALTERNATE #1, INSTALL NEW CONCRETE DRAINAGE FLUME AT WHERE INDICATED, TO CARRY FLOW FROM ROOF DOWNSPOUTS NEST. SEE DETAIL A/L300.

1

CONSTRUCTION DOCUMENTS

STATE OF KENTUCKY — RAMONA LEIF — REGISTERED LANDSCAPE ARCHITECT

GRW PROJECT NO. 0000-00

CLIENT PROJECT NO. 0000-00

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364 South Broadway
Lexington, KY 40508
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ADDITIVE ALTERNATE #1 SITE MATERIALS PLAN

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED | DRAWN | REVIEWED | APPROVED

REVISIONS

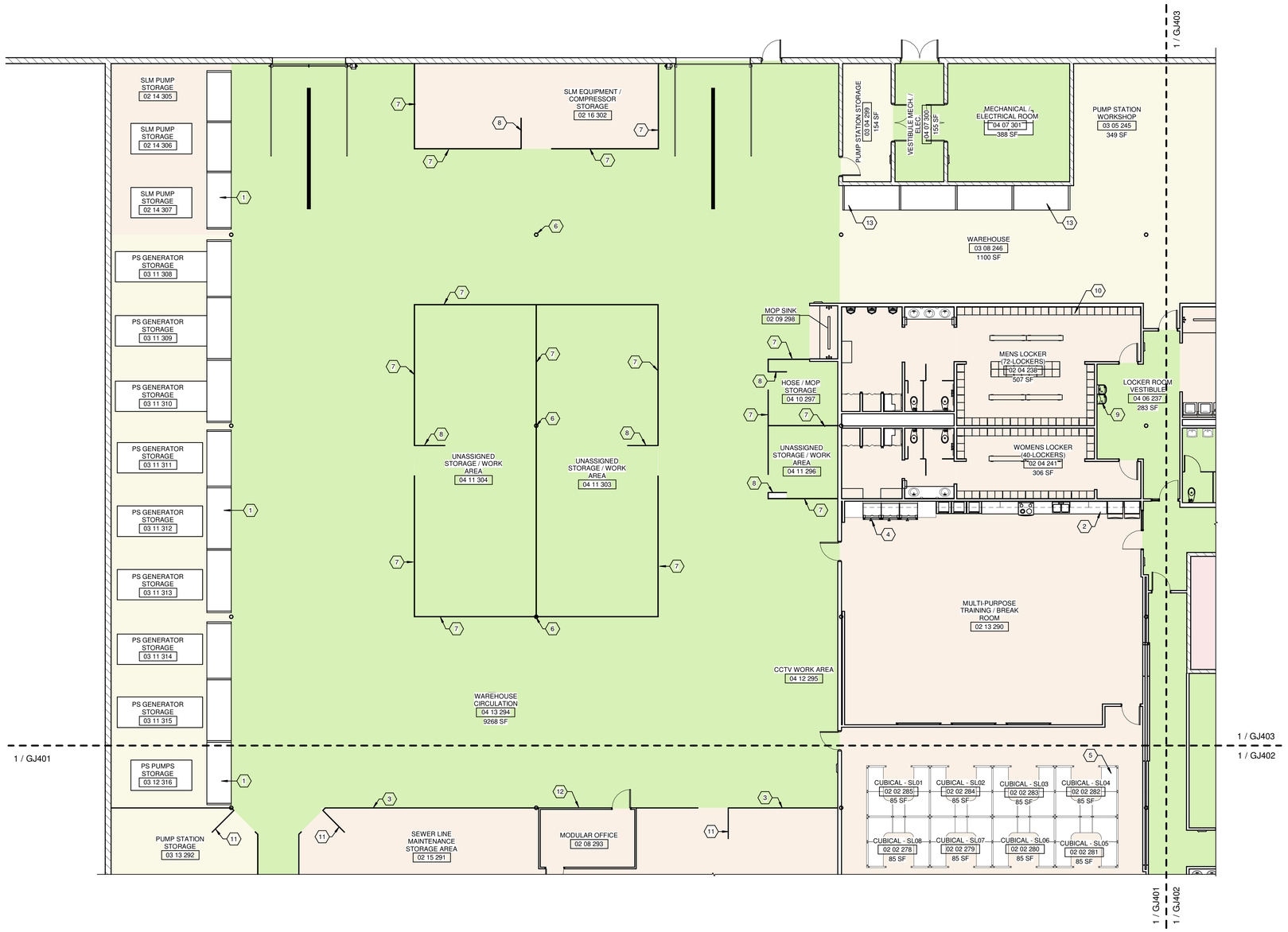
NO.	REVISION DESCRIPTION	DATE	BY
1	ADDENDUM 1	9/12/2025	MJC

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: SEPTEMBER 12, 2025

SCALE: Refer to Plan

SHEET NO. LK401



GENERAL NOTES:

1. SEE PROGRAM VALIDATION SCHEDULE FOR ADDITIONAL REQUIREMENTS. SHEET GJ601.
2. SEE ROOM FINISH SCHEDULE FOR ADDITIONAL REQUIREMENTS.
3. SEE LIFE SAFETY PLAN FOR ADDITIONAL REQUIREMENTS. SHEET GK101.
4. SEE FLOOR PLANS FOR ADDITIONAL REQUIREMENTS.

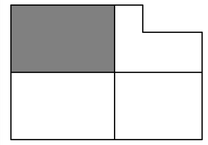
SHEET KEYNOTES:

1	EQUIPMENT - PALLET RACK SHELVING. (CFCI) FIRST RACK OF SHELVING SHALL BE 8'-0" A.F.F.
2	SOLID SURFACE COUNTERTOPS.
3	CHAIN LINK FENCE PARTITION. 8'-0" HIGH.
4	REFRIGERATOR - (OFCI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
6	EXISTING STRUCTURAL COLUMN TO REMAIN.
7	CHAIN LINK FENCE PARTITION. 8'-0" HIGH. (OFCI)
8	CHAIN LINK FENCE GATE. 8'-0" HIGH. (OFCI)
9	ADA COMPLIANT DRINKING FOUNTAIN.
10	METAL LOCKERS
11	CHAIN LINK FENCE GATE. 8'-0" HIGH.
12	PRE-FABRICATED MODULAR OFFICE. (OFCI) SEE MECHANICAL AND ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
13	EQUIPMENT - PALLET RACK SHELVING. (CFCI) SHELVING SHALL BE EQUALLY SPACED AT 3'-0" O.C.

1 FIRST LEVEL - PROGRAM VALIDATION - AREA D
SCALE: 1/8" = 1'-0"

PLAN NORTH

AREA KEY PLAN



CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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PROGRAM VALIDATION PLAN - AREA D

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	ADDENDA #	DATE	BY	DESCRIPTION
1	ADDENDA #1	9/17/25	DRV	PER LFUCGD DWQ COMMENTS

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO. GJ404 01 X1

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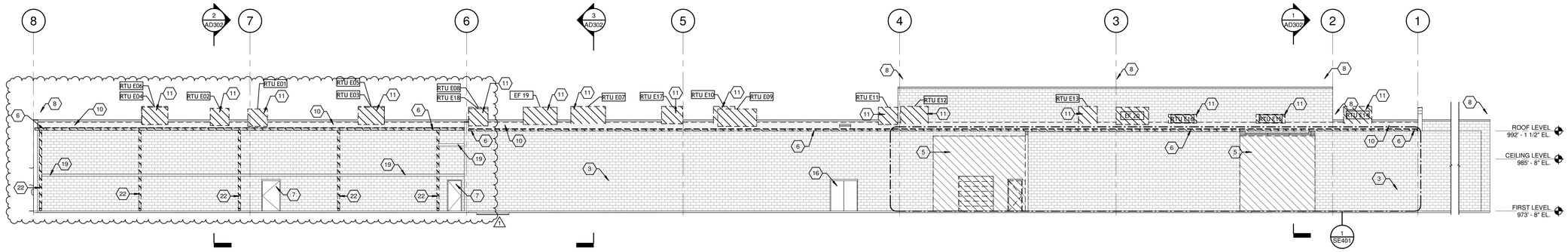
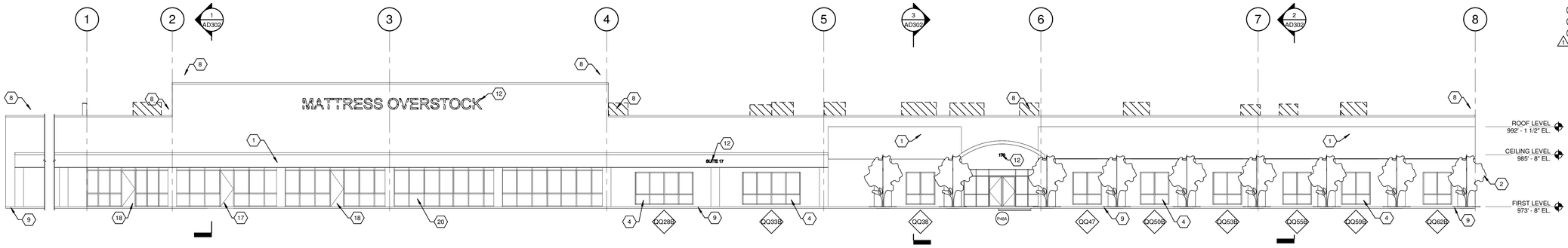


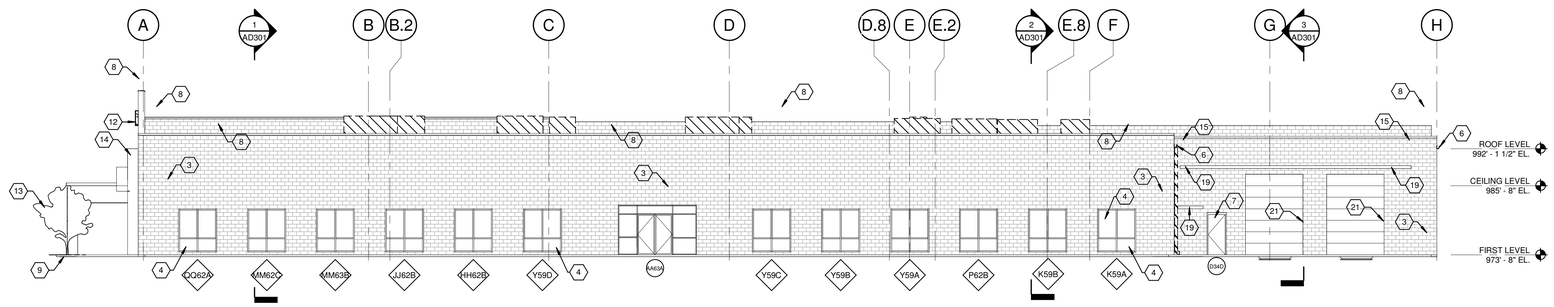
1 EXTERIOR NORTH ELEVATION - DEMOLITION

SCALE: 3/32" = 1'-0"



2 EXTERIOR SOUTH ELEVATION - DEMOLITION

SCALE: 3/32" = 1'-0"



3 EXTERIOR EAST ELEVATION - DEMOLITION

SCALE: 3/32" = 1'-0"

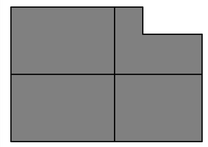
GENERAL NOTES:

1. SEE EXTERIOR ELEVATIONS FOR ADDITIONAL REQUIREMENTS.
2. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
3. SEE STRUCTURAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE PLUMBING DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE MECHANICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE ELECTRICAL DEMOLITION PLANS FOR ADDITIONAL REQUIREMENTS.
7. EXISTING GAS LINES TO RTU ARE NOT SHOWN FOR CLARITY. ALL EXISTING RTU GAS LINES SHALL BE REMOVED WITH EXISTING RTU TO BE REMOVED. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8. ADD ALTERNATE #2 - REMOVE EXISTING INSULATION BOARD AND LIGHTWEIGHT CONCRETE ROOF STRUCTURE. PREPARE EXISTING JOIST FOR NEW METAL DECKING. PROVIDE NEW METAL ROOF DECKING OVER EXISTING BAR JOIST.
9. REMOVE ALL EXISTING ROOFTOP EQUIPMENT, CURBS, MECHANICAL CURBS RAILS SATELLITE DISHES NOT SCHEDULED TO BE REUSED. SEE MECHANICAL PLANS FOR ADDITIONAL COORDINATION / REQUIREMENTS.

SHEET KEYNOTES:

1	SELECTIVE DEMOLITION - EXISTING EIFS SYSTEM TO REMAIN. PREPARE FOR NEW PAINT FINISH.
2	SELECTIVE DEMOLITION - EXISTING TREES TO BE REMOVED. PREPARE AREA FOR NEW LANDSCAPING.
3	EXISITNG NOM. 12" CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
4	EXISTING EXTERIOR STORFRONT FRAMING AND GLAZING TO REMAIN. CLEAN EXISTING FRAMING AND GLAZING.
5	SELECTIVE DEMOLITION - EXISTING CMU WALL TO BE REMOVED. PREPARE OPENING FOR NEW OVERHEAD DOOR. SEE STRUCTURAL PLANS.
6	EXISTING GUTTER AND DOWNSPOUT TO BE REMOVED. PREPARE FOR NEW GUTTER AND DOWNSPOUT. EXISTING DOWNSPOUT BOOTS TO REAMIN.
	EXISTING EXTERIOR HOLLOW METAL DOOR FRAME AND DOOR TO REMAIN. PREPARE FOR NEW PAINT FINISH.
8	SELECTIVE DEMOLITION - EXISTING WALL COPING AND WOOD BLOCKING TO BE REMOVED. PROVIDE NEW WOOD BLOCKING AND WALL COPING.
9	EXISTING CONCRETE SIDEWALK TO BE REMOVED. SEE CIVIL/LANDSCAPE PLANS.
10	SELECTIVE DEMOLITION - EXISTING LAYERS OF ROOFING TO BE REMOVED TO ROOF STRUCTURE. PREPARE ROOF STRUCTURE FOR NEW RIGID INSULATION AND SBS MODIFIED ROOFING. (ADD ALTERNATE #2 - REMOVE EXISTING ROOF SLAB. PROVIDE METAL DECKING OVER EXISTING JOIST.
11	SELECTIVE DEMOLITION - EXISTING RTU AND GAS LINE TO BE REMOVED. EXISTING RTU ROOF CURB TO REMAIN. PERPARE EXSTING CURB FOR NEW CURB EXTENSION. ADD ALTERNATE #2. PROVIDE NEW RTU CURB. SEE MECHANICAL PLANS.
12	SELECTIVE DEMOLITION - EXISTING SIGNAGE TO BE REMOVED. PREAPRE AREA FOR NEW SIGNAGE.
13	EXISTING TREE TO BE REMOVED. SEE SITE LANDSCAPE PLAN.
14	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
15	CONCRETE UNIT MASONRY - NOM. 12"
16	EXISTING HOLLOW METAL DOOR FRAME AND DOUBLE DOORS TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
17	SELECTIVE DEMOLITION - REMOVE EXISTING STOREFRONT DOOR. REWORK EXISTING STOREFRONT FRAMING AND GLAZING FOR NEW DOUBLE STOREFRONT DOOR. MATCH EXISTING LAYOUT.
18	SELECTIVE DEMOLITION - REMOVE EXISTING STOREFRONT DOOR. REWORK EXISTING STOREFRONT FRAMING AND GLAZING TO MATCH EXISTING LAYOUT.
19	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.
20	EXISTING STOREFRONT FRAMING AND GLAZING TO REMAIN.
21	SELECTIVE DEMOLITION - EXISTING OVERHEAD DOOR TO BE REMOVED.
22	SELECTIVE DEMOLITION - REMOVE EXISTING DOWNSPOUTS. PREPARE AREA FOR NEW DOWNSPOUTS. NEW DOWNSPOUTS TO MATCH EXISTING DOWNSPOUT SIZE AND PROFILE. SEE ADD ALTERNATE ONE FOR ALTERNATE DOWNSPOUT LOCATION.

AREA KEY PLAN



JAMES K. PIPER JR. REGISTERED NO. 4447 COMMONWEALTH

GRW PROJECT NO. 65247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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EXTERIOR ELEVATIONS - DEMOLITION

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ADDENDUM #1	8/7/25	DRV

IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 3/32" = 1'-0"

SHEET NO. AD201 01 X1

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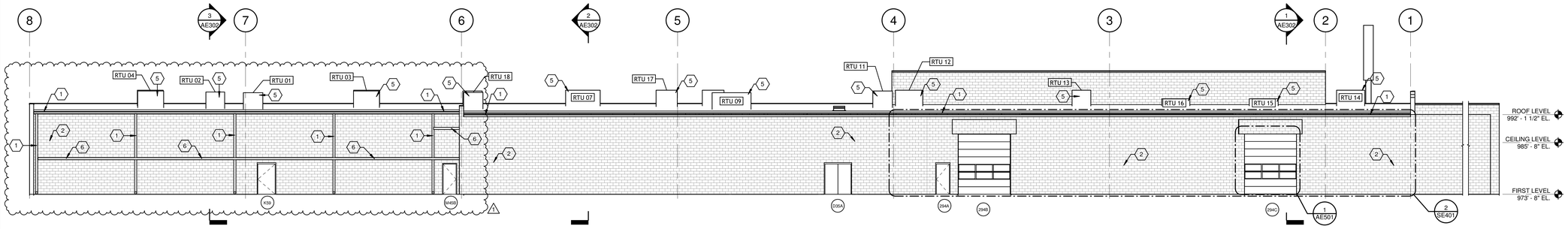
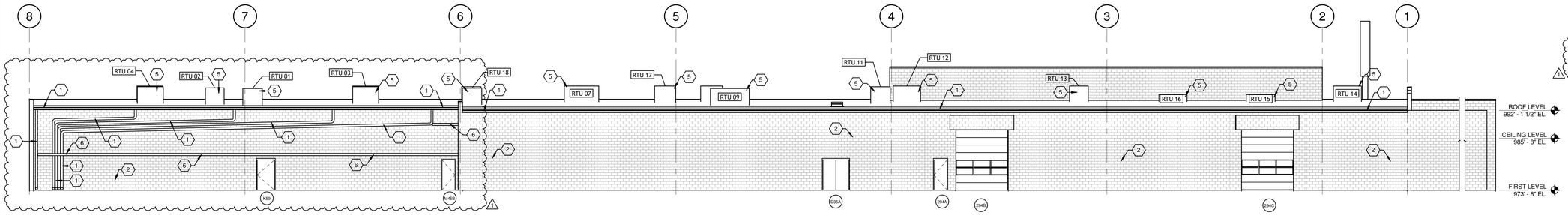


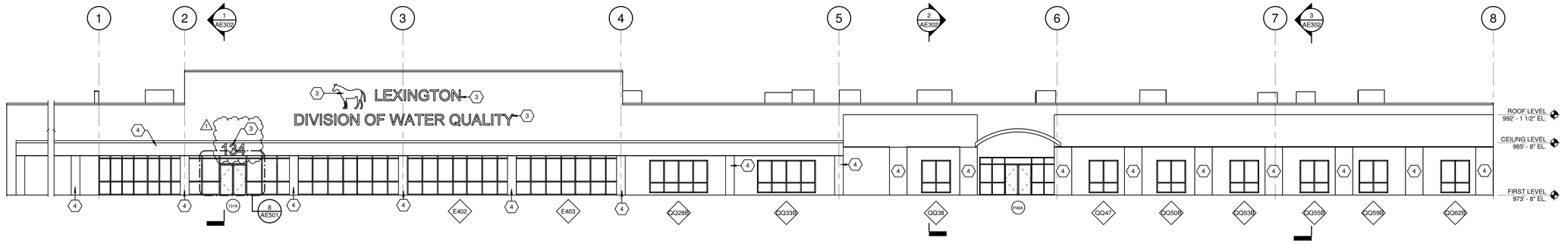
1 EXTERIOR NORTH ELEVATION - NEW CONSTRUCTION

SCALE: 3/32" = 1'-0"



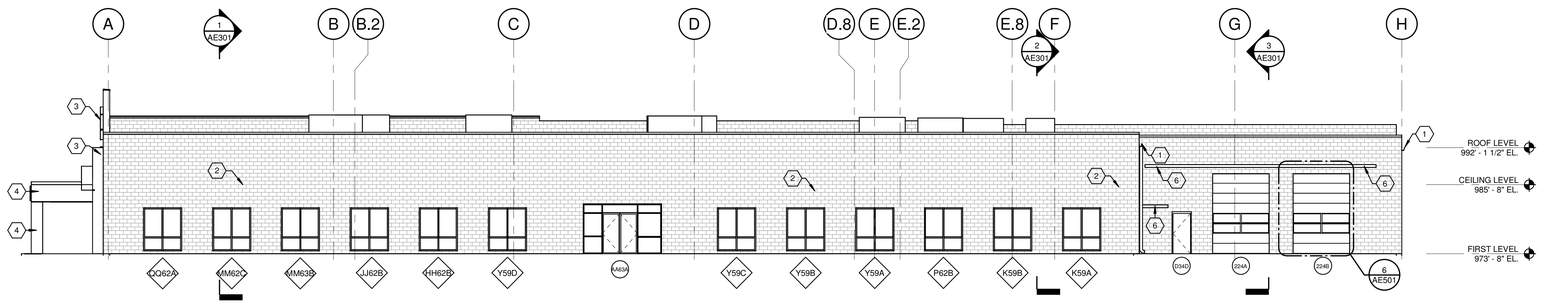
4 EXTERIOR NORTH ELEVATION - ADD ALTERNATE ONE

SCALE: 3/32" = 1'-0"



2 EXTERIOR SOUTH ELEVATION - NEW CONSTRUCTION

SCALE: 3/32" = 1'-0"



3 EXTERIOR EAST ELEVATION - NEW CONSTRUCTION

SCALE: 3/32" = 1'-0"

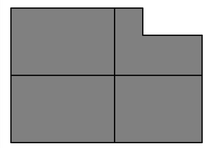
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	CONTINUOUS PRE-FINISHED METAL GUTTER AND DOWNSPOUTS. MATCH EXISTING SIZE AND PROFILE. SEE ADD ALTERNATE ONE FOR ALTERNATE LOCATION.
2	EXISTING CMU WALL TO REMAIN. REWORK / REPOINTING OPEN OR DAMAGED MORTAR JOINTS. CLEAN CMU AND PREPARE WALL FOR NEW PAINT FINISH.
3	DIMENSIONAL LETTER SIGNAGE ; 30" HIGH.
4	EXISTING EXTERIOR FRAMING WITH EFIS FINISH TO REMAIN. PATCH AND REPAIR DAMAGED EFIS SYSTEM. PREPARE FOR NEW PAINT FINISH.
5	NEW RTU AND ROOF CURB EXTENSION OVER EXISTING ROOF CURB. ADD ALTERNATE #2 - REMOVE EXISTING ROOF CURB PROVIDE NEW ROOF CURB OVER NEW METAL ROOF DECKING. SEE MECHANICAL PLANS.
6	EXISTING ALUMINUM AWNING TO REMAIN. REMOVE AND REINSTALL AS REQUIRED FOR INSTALATION OF NEW WORK.

AREA KEY PLAN



CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION
1	8/13/25	DRV	ADD2506A1.01

SCALE CHECK: IF THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

EXTERIOR ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DATE: AUGUST 15, 2025

SCALE: 3/32" = 1'-0"

SHEET NO.: AE201 01 X1

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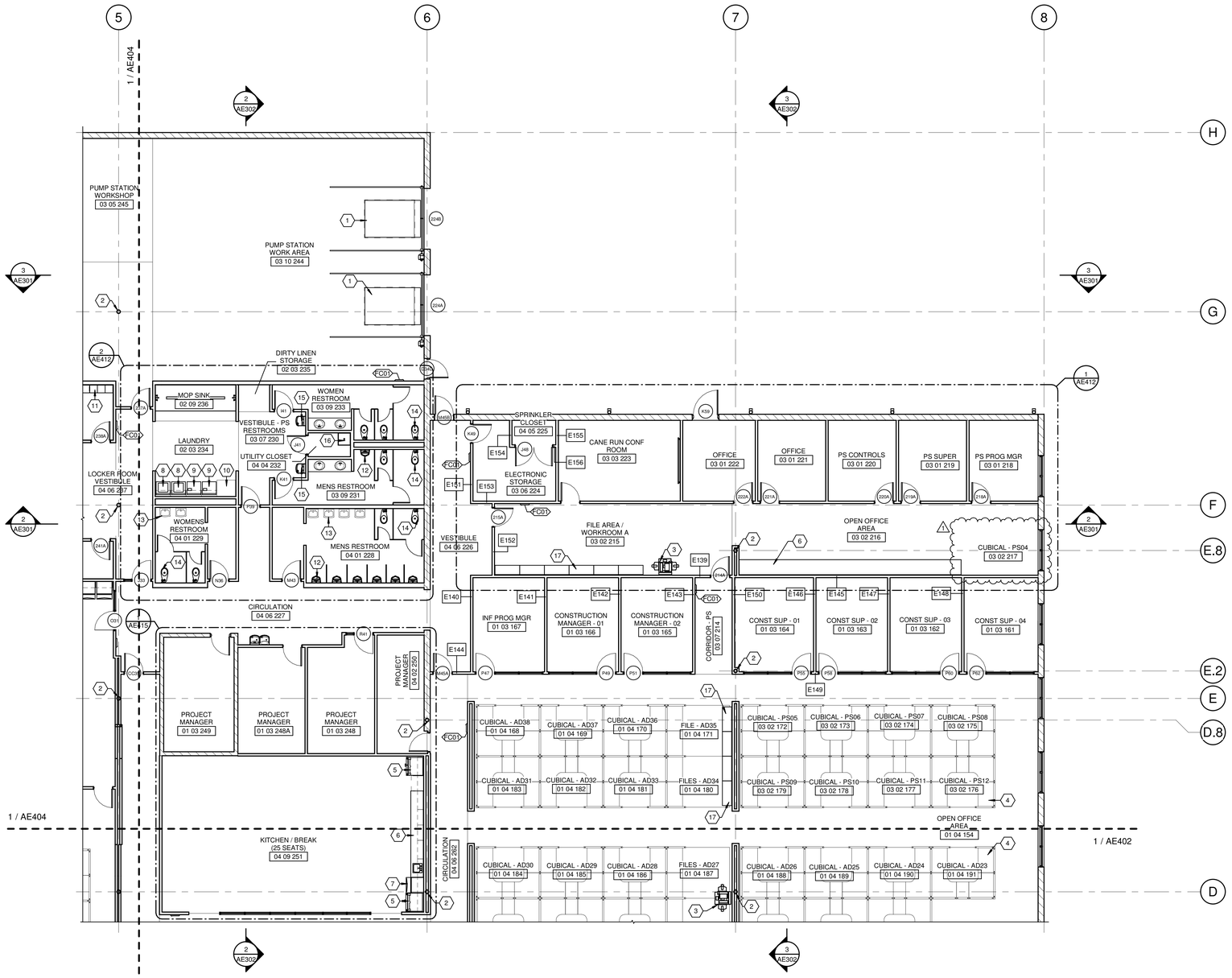


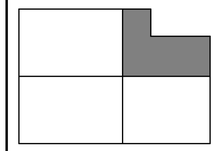
GENERAL NOTES:

1. SEE CORRESPONDING BUILDING SECTIONS INDICATED ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.
2. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
3. SEE WALL SCHEDULES - NEW CONSTRUCTION FOR WALL TYPE MARKS INDICATED ON THIS SHEET.
4. SEE STRUCTURAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
6. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES:

1	EXISTING SCISSOR DOCK LEVELER TO REMAIN. RECONDITION FOR SMOOTH OPERATION.
2	EXISTING STRUCTURAL COLUMN TO REMAIN.
3	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
5	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6	SOLID SURFACE COUNTERTOPS.
7	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
8	EQUIPMENT - RESIDENTIAL GRADE WASHER (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
9	EQUIPMENT - RESIDENTIAL GRADE DRYER (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
10	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
11	METAL LOCKERS
12	EXISTING URINAL TO REMAIN. SEE PLUMBING PLANS.
13	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
14	EXISTING WATER CLOSET TO REMAIN. SEE PLUMBING PLANS.
15	ADA COMPLIANT DRINKING FOUNTAIN.
16	24" X 24" MOP SINK.
17	FILING CABINETS. (OFOI)

AREA KEY PLAN



PLAN NORTH

1 FIRST LEVEL - AREA C
SCALE: 1/8" = 1'-0"

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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FIRST LEVEL - AREA C
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

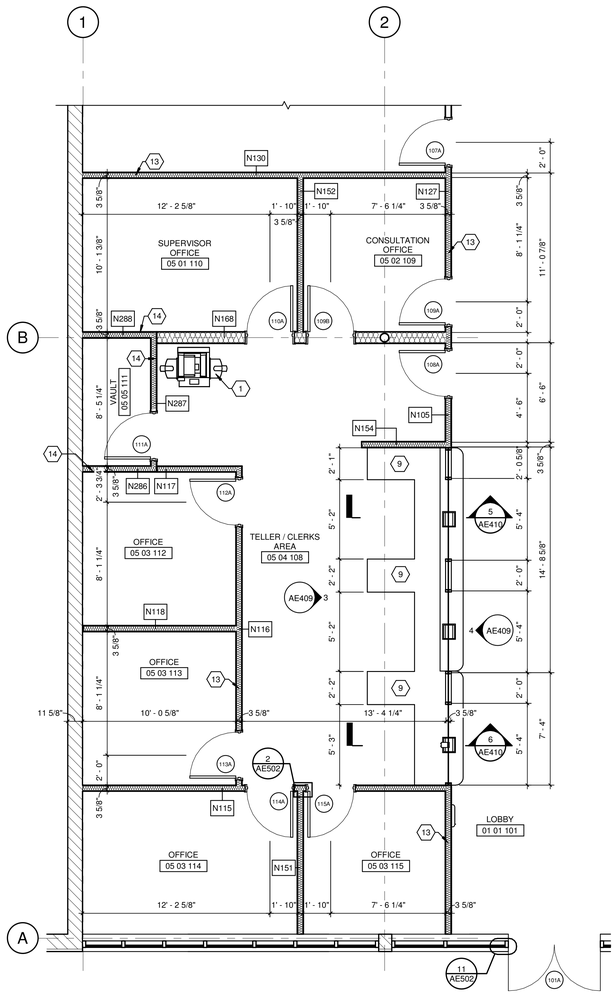
REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ADDENDUM #1	9/17/25	DRV

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

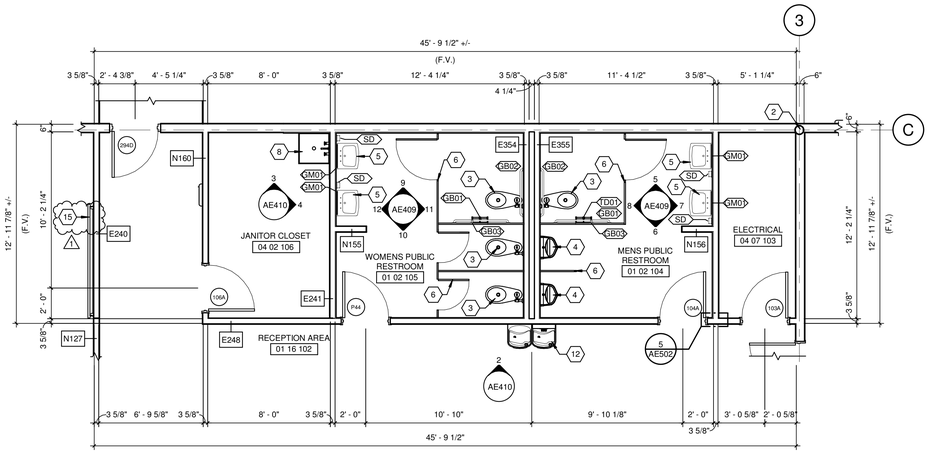
DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: AE403 01 X1

9/11/2025 2:46:11 PM G:\DSK\1 FILES\LFUCG DWQ HQ\BIM Workset Drawings\Revit Audit Central Model\SAT-NEOBRIDGH.rvt



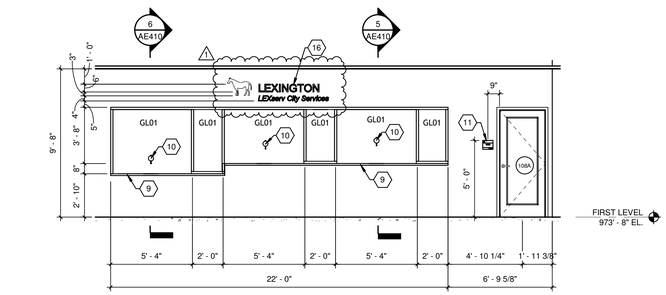
1 ENLARGED PLAN - LEX-SERV AREA

SCALE: 1/4" = 1'-0"



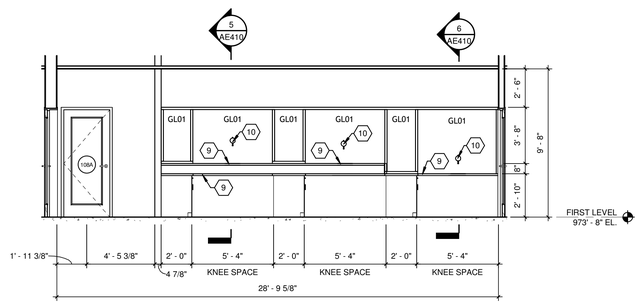
2 ENLARGED PLAN - PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"



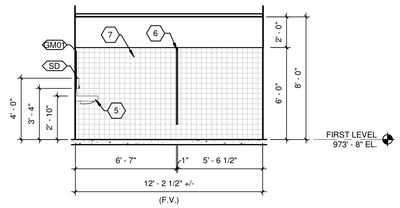
4 WEST ELEVATION - LOBBY

SCALE: 1/4" = 1'-0"



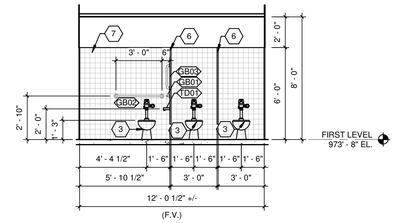
3 WEST ELEVATION - TELLER / CLERKS AREA

SCALE: 1/4" = 1'-0"



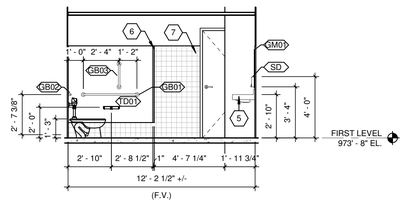
9 NORTH ELEVATION - WOMENS PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"



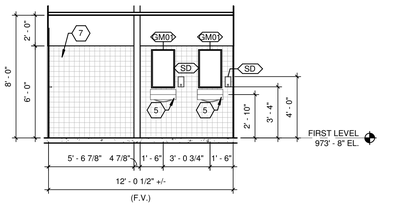
11 EAST ELEVATION - WOMENS PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"



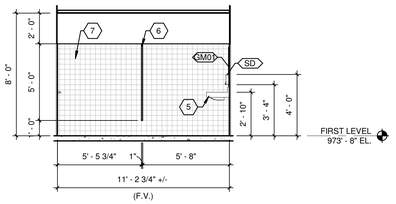
10 SOUTH ELEVATION - WOMENS PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"



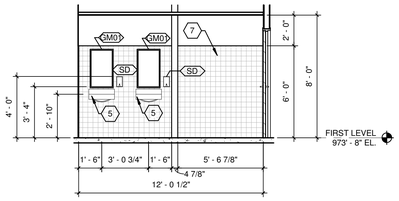
12 WEST ELEVATION - WOMENS PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"



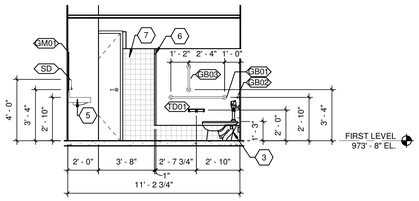
5 NORTH ELEVATION - MENS PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"



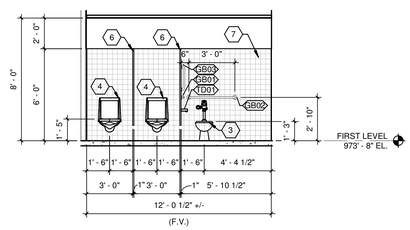
7 EAST ELEVATION - MENS PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"



6 SOUTH ELEVATION - MENS PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"



8 WEST ELEVATION - MENS PUBLIC RESTROOM

SCALE: 1/4" = 1'-0"

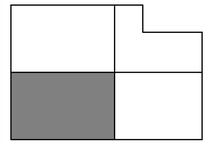
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
6. EXISTING DIMENSIONS ARE FROM RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITION DIMENSIONS. ADVISE ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITION AND CONSTRUCTION DOCUMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
2	EXISTING STRUCTURAL COLUMN TO REMAIN.
3	PROVIDE NEW ADA COMPLIANT WATER CLOSET.
4	PROVIDE NEW ADA COMPLIANT URINAL.
5	PROVIDE NEW ADA COMPLIANT LAVATORY.
6	PLASTIC TOILET COMPARTMENTS
7	CERAMIC TILE WAINSCOT.
8	24" X 24" MOP SINK.
9	SOLID SURFACE COUNTERTOPS.
10	AMPLIFIED SPEAK-THRU INTERCOM SYSTEM.
11	ROOM-IDENTIFICATION PANEL SIGNAGE. TYPICAL AT EACH DOOR INTO EACH ROOM. PROVIDE ADA RESTROOM SIGNAGE AT EACH RESTROOM / LOCKER ROOM DOOR.
12	ADA COMPLIANT DRINKING FOUNTAIN.
13	THERMAL INSULATION - SOUND BATT INSULATION.
14	FLATTENED EXPANDED METAL SHEET.
15	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
16	DIMENSIONAL LETTER SIGNAGE - 6" HIGH.

AREA KEY PLAN



GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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CONSTRUCTION DOCUMENTS

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www.grwinc.com

ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DATE	BY	DESCRIPTION
1	8/21/25	DRV	ADDENDUM #1

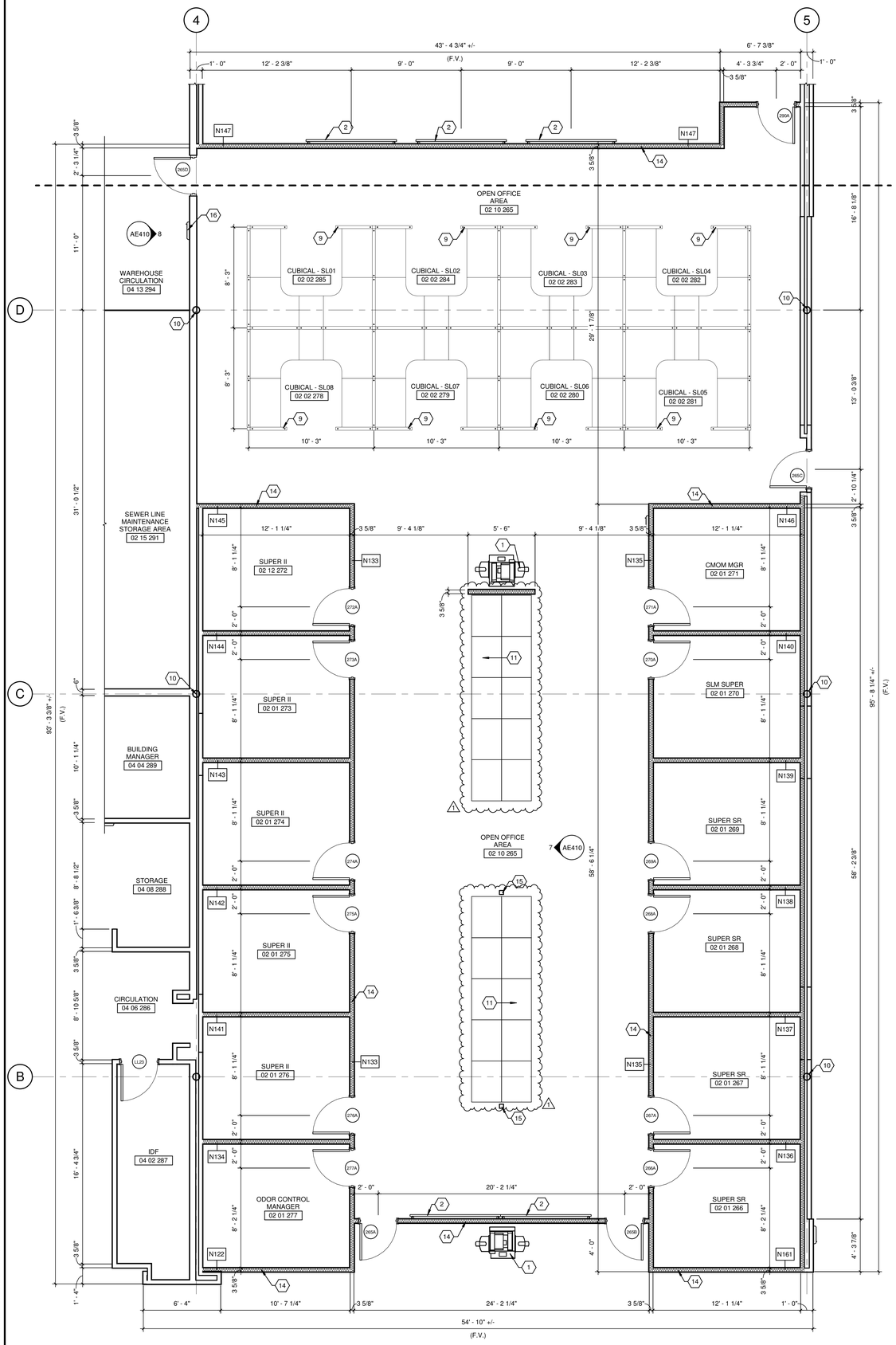
1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

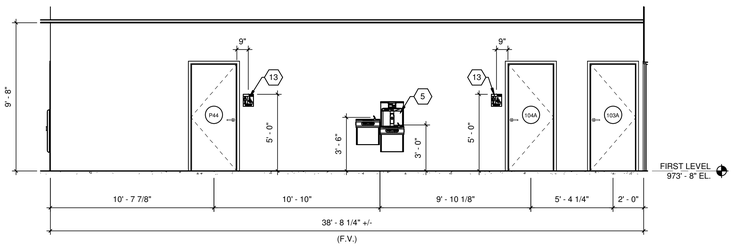
SCALE: 1/4" = 1'-0"

SHEET NO. AE409 01 X1

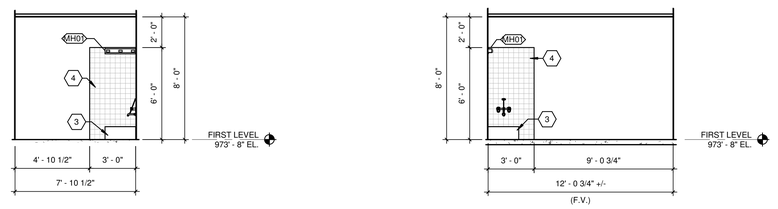
9:3/2025 8:37:56 AM I:\05247-01\CAD\DWG\HDR\Working Drawings\Revit Arch\Central Model\05247-AE2B9001.rvt



1 ENLARGED PLAN - SEWER LINE MAINTENANCE
SCALE: 1/4" = 1'-0"

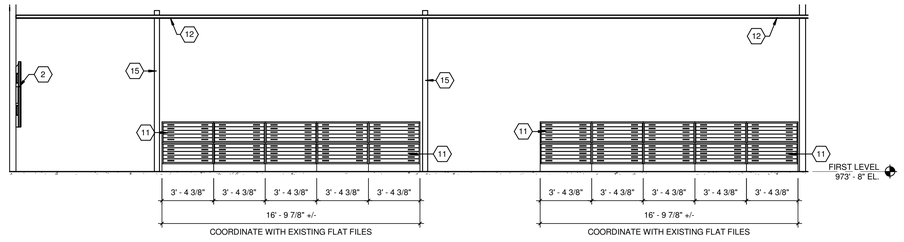


2 NORTH ELEVATION - RECEPTION AREA
SCALE: 1/4" = 1'-0"

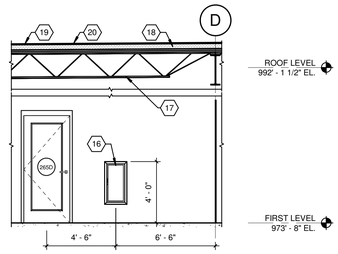


3 NORTH ELEVATION - JANITOR CLOSET
SCALE: 1/4" = 1'-0"

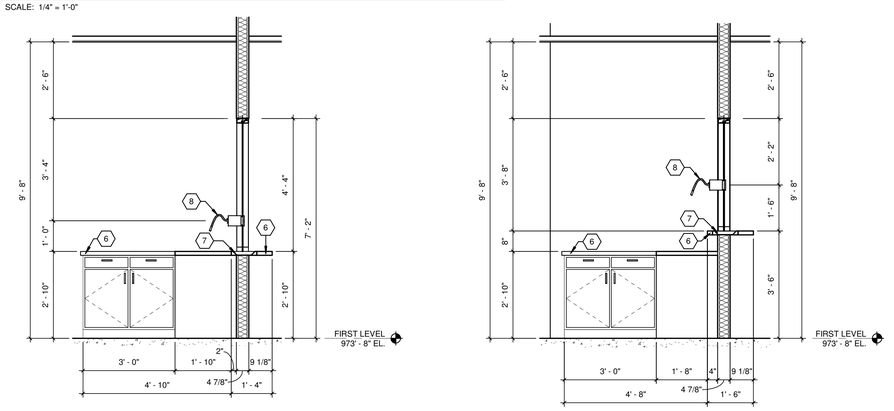
4 EAST ELEVATION - JANITOR CLOSET
SCALE: 1/4" = 1'-0"



7 WEST ELEVATION - OPEN OFFICE AREA
SCALE: 1/4" = 1'-0"



8 EAST ELEVATION - WAREHOUSE CIRCULATION
SCALE: 1/4" = 1'-0"



6 TELLER / CLERK WALL SECTION ADA
SCALE: 1/2" = 1'-0"

5 TELLER / CLERK WALL SECTION
SCALE: 1/2" = 1'-0"

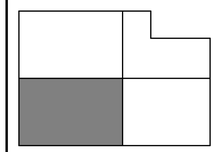
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
6. EXISTING DIMENSIONS ARE FROM RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITION DIMENSIONS. ADVISE ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITION AND CONSTRUCTION DOCUMENTS.

SHEET KEYNOTES:

1	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
2	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
3	24" X 24" MOP SINK.
4	CERAMIC TILE WAINSCOT.
5	ADA COMPLIANT DRINKING FOUNTAIN.
6	SOLID SURFACE COUNTERTOPS.
7	RECESSED DEAL TRAY.
8	AMPLIFIED SPEAK-THRU INTERCOM SYSTEM.
9	INTERIOR FURNISHINGS OFFICE FURNITURE SYSTEMS.
10	EXISTING STRUCTURAL COLUMN TO REMAIN.
11	EXISTING FLAT FILES. (OFOI)
12	NEW ACOUSTICAL PANEL CEILING.
13	ROOM IDENTIFICATION PANEL SIGNAGE. TYPICAL AT EACH DOOR INTO EACH ROOM. PROVIDE ADA RESTROOM SIGNAGE AT EACH RESTROOM / LOCKER ROOM DOOR.
14	THERMAL INSULATION - SOUND BATT INSULATION.
15	PROVIDE POWER AND DATA POLE DROP. SEE ELECTRICAL PLANS.
16	FIRE EXTINGUISHER CABINET. FIRE EXTINGUISHER IS (OFOI). COORDINATE CABINET SIZE WITH OWNER PROVIDED FIRE EXTINGUISHERS.
17	EXISTING BAR JOIST TO REMAIN. PREPARE FOR NEW PAINT FINISH.
18	4" BASE POLYISOCYANURATE RIGID INSULATION.
19	1/2" PROTECTION BOARD.
20	SBS MODIFIED BITUMINOUS MEMBRANE ROOFING - FINISH PLY.

AREA KEY PLAN



CONSTRUCTION DOCUMENTS

GRN PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRV
DRAWN:	DRV
REVIEWED:	DRV
APPROVED:	DRV

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ADDENDA #1	08/13/25	DRV

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: As indicated
SHEET NO.: AE410 01 X1

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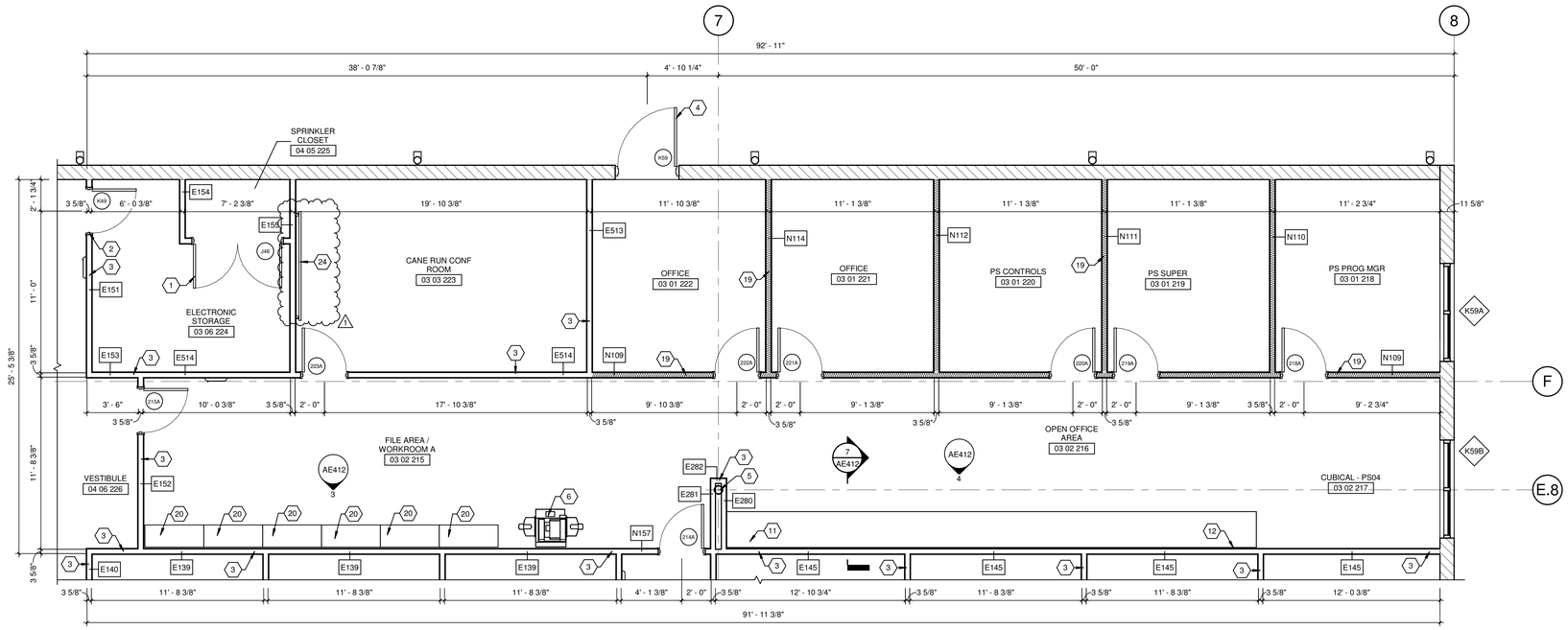
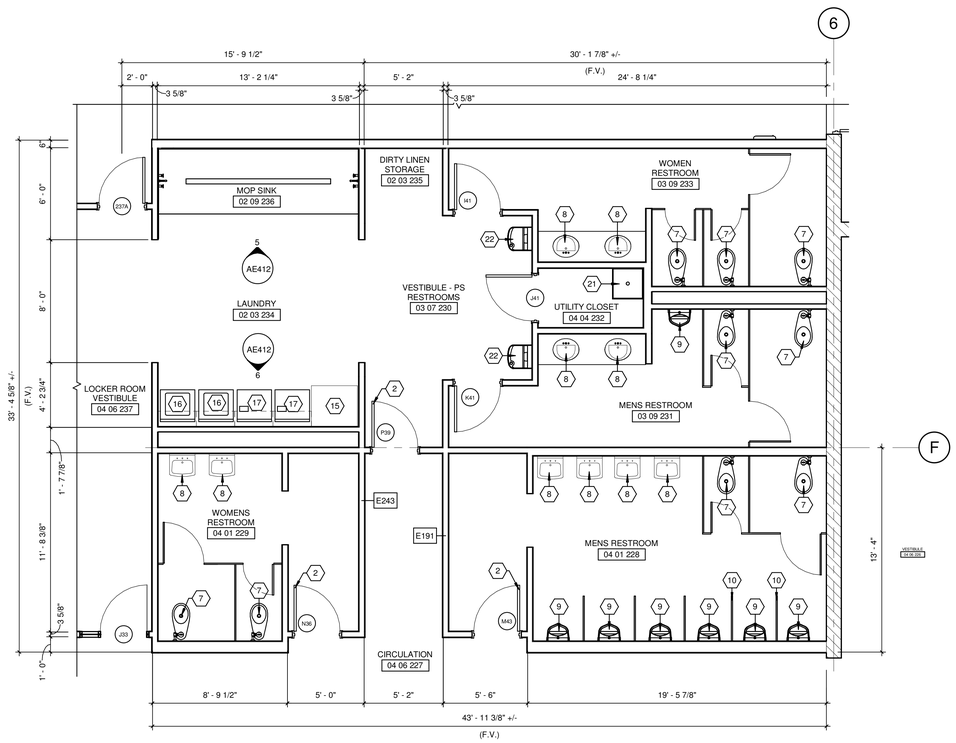


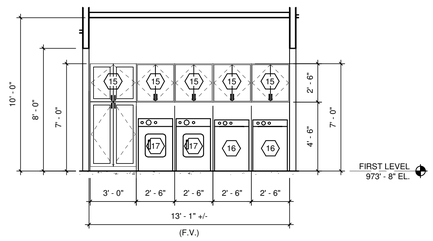
1 ENLARGED PLAN - PUMP STATION MAINTENANCE

SCALE: 1/4" = 1'-0"



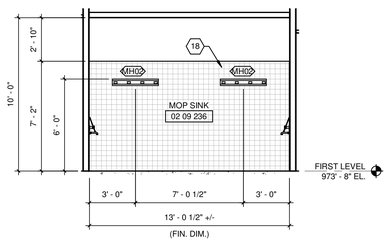
2 ENLARGED PLAN - RESTROOMS / LAUNDRY

SCALE: 1/4" = 1'-0"



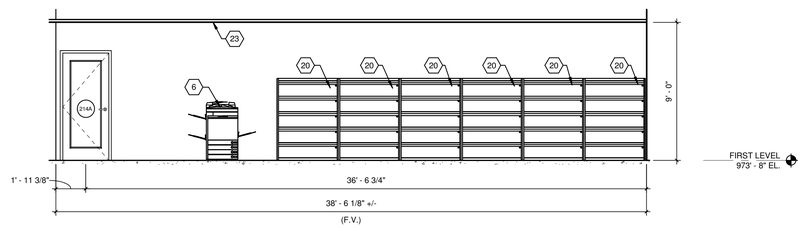
6 SOUTH ELEVATION - LAUNDRY

SCALE: 1/4" = 1'-0"



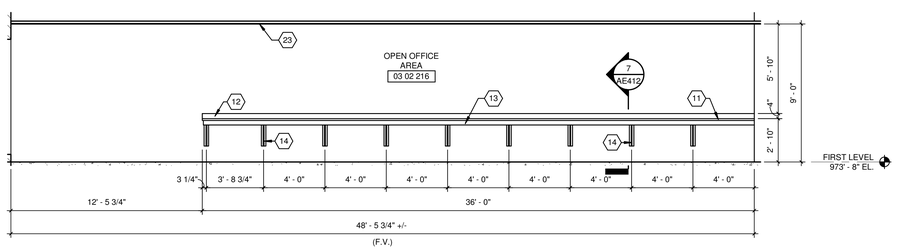
5 NORTH ELEVATION - MOP SINK

SCALE: 1/4" = 1'-0"



3 SOUTH ELEVATION - FILE AREA / WORKROOM A

SCALE: 1/4" = 1'-0"

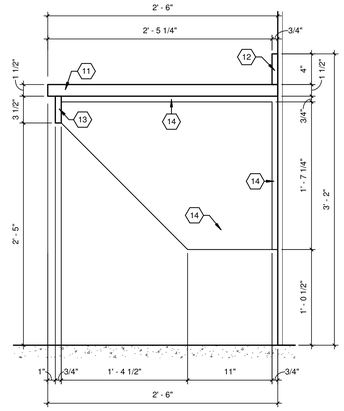


4 SOUTH ELEVATION - OPEN OFFICE AREA

SCALE: 1/4" = 1'-0"

7 COUNTER TOP SECTION

SCALE: 1 1/2" = 1'-0"



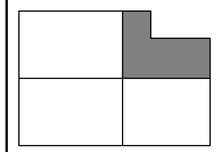
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
6. EXISTING DIMENSIONS ARE FROM RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITION DIMENSIONS. ADVISE ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITION AND CONSTRUCTION DOCUMENTS.

SHEET KEYNOTES:

1	EXISTING HOLLOW METAL DOOR FRAME AND DOUBLE DOORS TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
2	EXISTING HOLLOW METAL DOOR FRAME AND SOLID CORE WOOD DOOR TO REMAIN. PREPARE FOR NEW LOCKSET HARDWARE.
3	EXISTING NON-STRUCTURAL METAL FRAMED AND GYPSUM BOARD WALL TO REMAIN.
4	EXISTING EXTERIOR HOLLOW METAL DOOR FRAME AND DOOR TO REMAIN. PREPARE FOR NEW PAINT FINISH.
5	EXISTING STRUCTURAL COLUMN TO REMAIN.
6	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7	EXISTING WATER CLOSET TO REMAIN. SEE PLUMBING PLANS.
8	EXISTING LAVATORY TO REMAIN. SEE PLUMBING PLANS.
9	EXISTING URINAL TO REMAIN. SEE PLUMBING PLANS.
10	EXISTING TOILET PARTITIONS TO REMAIN.
11	SOLID SURFACE COUNTERTOPS.
12	SOLID SURFACE BACKSPLASH.
13	SOLID SURFACE APRON.
14	PLASTIC LAMINATE CLAD ARCHITECTURAL SUPPORT BRACKET
15	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
16	EQUIPMENT - RESIDENTIAL GRADE WASHER (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
17	EQUIPMENT - RESIDENTIAL GRADE DRYER (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
18	CERAMIC TILE WAINSCOT.
19	THERMAL INSULATION - SOUND BATT INSULATION.
20	FILING CABINETS. (OFOI)
21	24" X 24" MOP SINK.
22	ADA COMPLIANT DRINKING FOUNTAIN.
23	NEW ACOUSTICAL PANEL CEILING.
24	EQUIPMENT - WALL MOUNTED TELEVISION. (OFOI) PROVIDE WOOD BLOCKING FOR TV MOUNTING. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

AREA KEY PLAN



GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	ADDENDA #	DESCRIPTION	DATE	BY
			08/15/25	DRV

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: As indicated
SHEET NO.: AE412 01 X1

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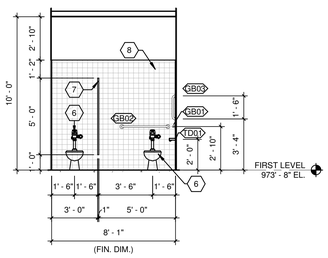
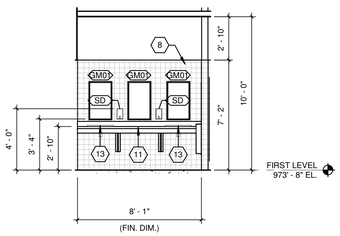
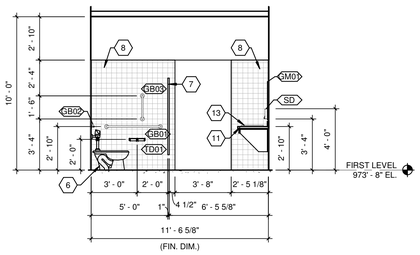


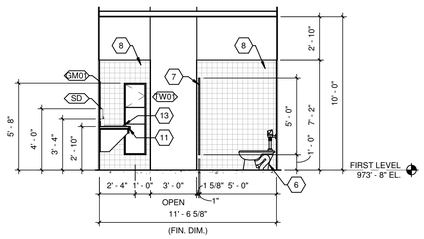
1 NORTH ELEVATION - WOMENS TOILET
SCALE: 1/4" = 1'-0"



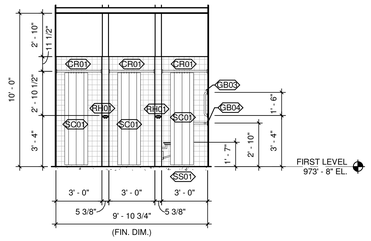
2 SOUTH ELEVATION - WOMENS TOILET
SCALE: 1/4" = 1'-0"



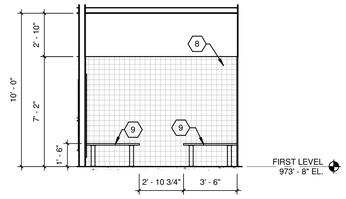
3 EAST ELEVATION - WOMENS TOILET
SCALE: 1/4" = 1'-0"



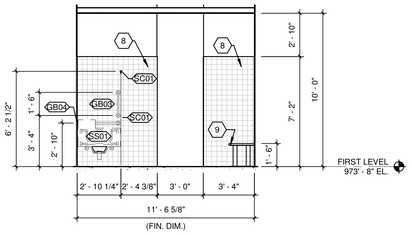
4 WEST ELEVATION - WOMENS TOILET
SCALE: 1/4" = 1'-0"



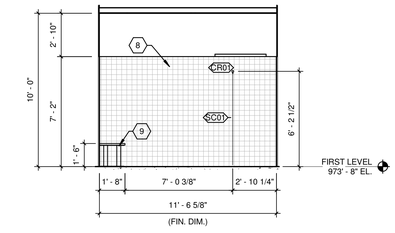
5 NORTH ELEVATION - WOMENS SHOWER
SCALE: 1/4" = 1'-0"



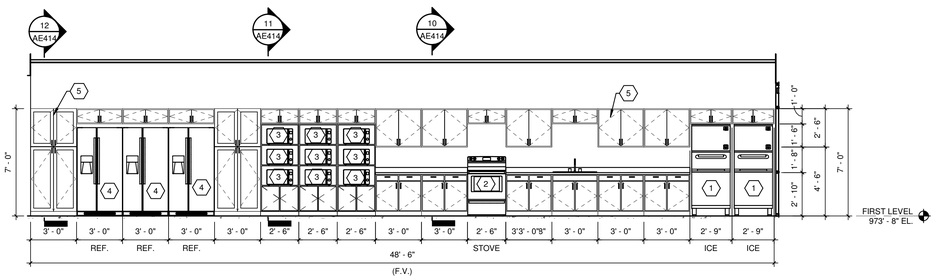
6 SOUTH ELEVATION - WOMENS SHOWER
SCALE: 1/4" = 1'-0"



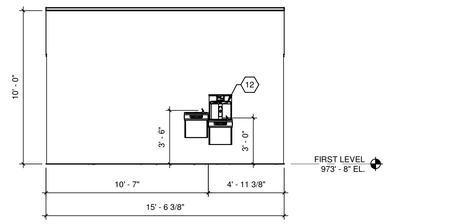
7 EAST ELEVATION - WOMENS SHOWER
SCALE: 1/4" = 1'-0"



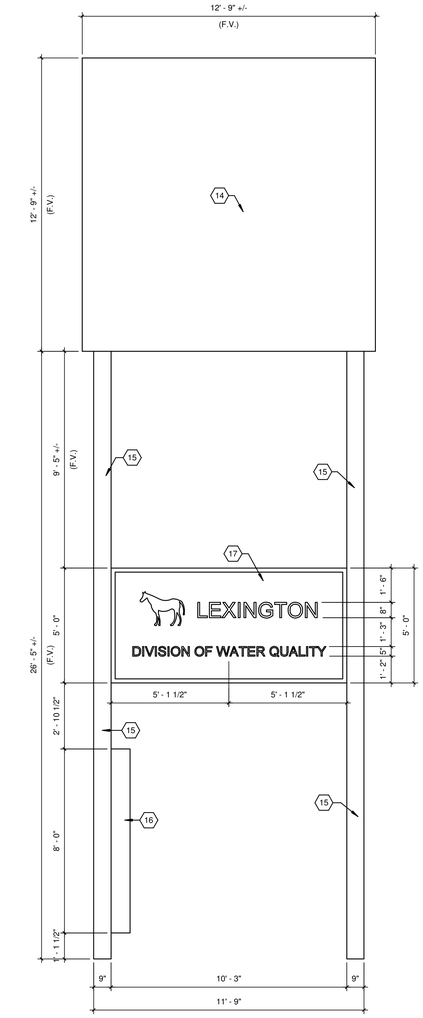
8 WEST ELEVATION - WOMENS SHOWER
SCALE: 1/4" = 1'-0"



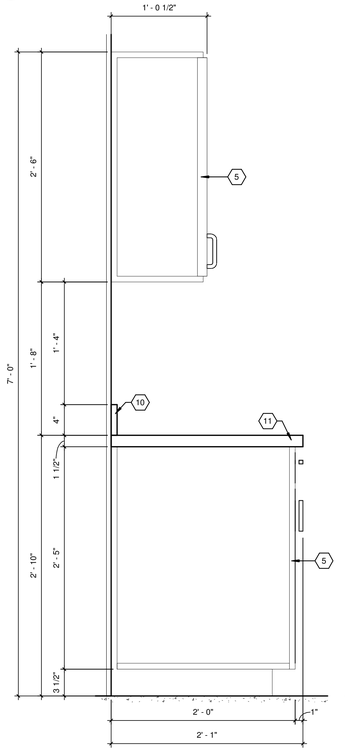
9 NORTH ELEVATION - MULTI-PURPOSE TRAINING / BREAK ROOM
SCALE: 1/4" = 1'-0"



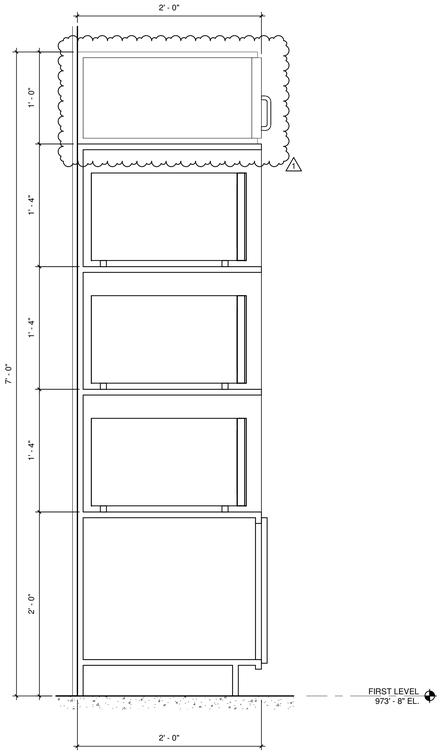
13 NORTH ELEVATION - LOCKER ROOM VESTIBULE
SCALE: 1/4" = 1'-0"



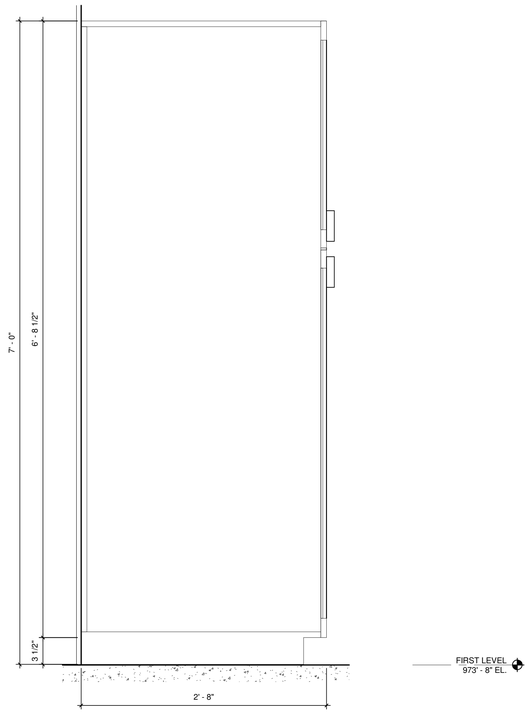
14 EXTERIOR EAST ELEVATION - PYLON SIGN
SCALE: 3/8" = 1'-0"



10 CASEWORK SECTION - TYPICAL
SCALE: 1 1/2" = 1'-0"



11 CASEWORK SECTION - MICROWAVE
SCALE: 1 1/2" = 1'-0"



12 CASEWORK - PANTRY
SCALE: 1 1/2" = 1'-0"

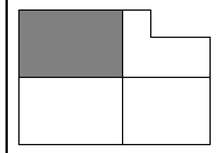
GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5. DIMENSIONS INDICATED ARE FROM FACE OF FRAMING UNLESS NOTED OTHERWISE.
6. EXISTING DIMENSIONS ARE FROM RECORD DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITION DIMENSIONS. ADVISE ARCHITECT OF DISCREPANCIES BETWEEN EXISTING CONDITION AND CONSTRUCTION DOCUMENTS.

SHEET KEYNOTES:

1	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
2	ELECTRIC STOVE - (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
3	MICROWAVE - (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
4	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
5	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
6	PROVIDE NEW ADA COMPLIANT WATER CLOSET.
7	PLASTIC TOILET COMPARTMENTS
8	CERAMIC TILE WAINSCOT.
9	LOCKER BENCHES.
10	SOLID SURFACE BACKSPLASH.
11	SOLID SURFACE COUNTERTOPS.
12	ADA COMPLIANT DRINKING FOUNTAIN.
13	PROVIDE NEW ADA COMPLIANT LAVATORY.
14	EXISTING PYLON SIGN TO REMAIN.
15	EXISTING 9" X 15" PYLON TO REMAIN. PREPARE FOR NEW PAINT FINISH. PROVIDE NEW PAINT FINISH.
16	EXISTING ELECTRICAL ACCESS PANEL AND DOOR TO REMAIN. REWORK FOR SMOOTH OPERATION. PREPARE FOR NEW PAINT FINISH. PROVIDE NEW PAINT FINISH.
17	REMOVE EXISTING MATTRESS OVERSTOCK PYLON SIGN. PREPARE PYLON FOR NEW ILLUMINATED PYLON SIGN AS INDICATED. COLORS SHALL MATCH LFUCG CORPORATE COLORS AS SELECTED BY ARCHITECT. TYPICAL EACH SIDE. SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.

AREA KEY PLAN



CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFB 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
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ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
DRV	DRV	DRV	DRV

REVISIONS

NO.	DATE	BY	REVISION DESCRIPTION
1	09/12/25	DRV	ADDENDUM #1

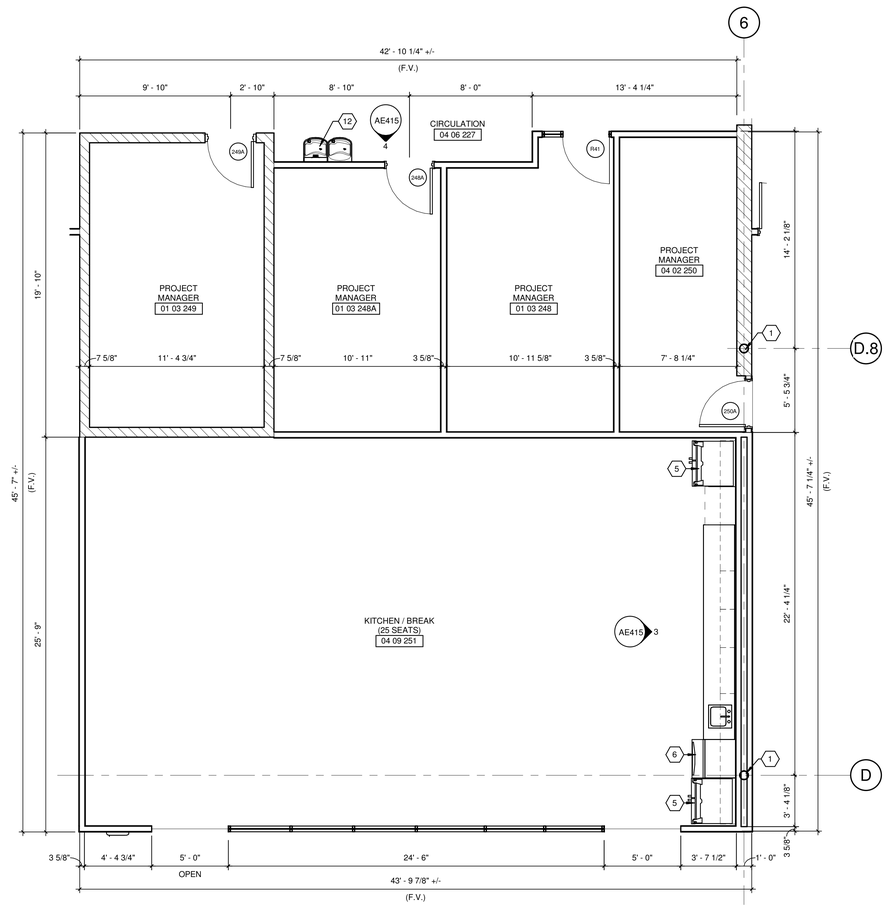
THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025

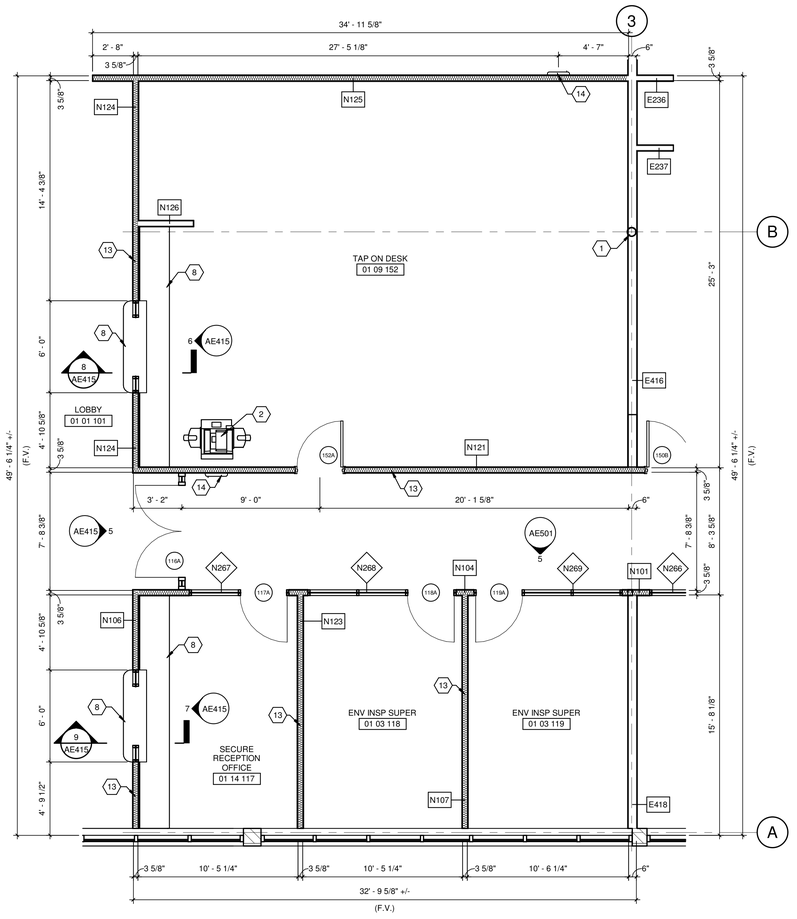
SCALE: As indicated

SHEET NO. AE414 01 X1

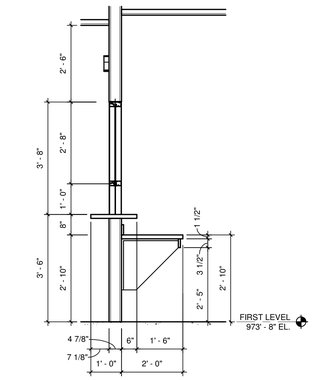
9/11/2025 3:14:07 PM G:\GAT-EFG\CIVIL\WDW\Working Drawings\Revit Arch\Central Models\GAT-MEXR001.rvt



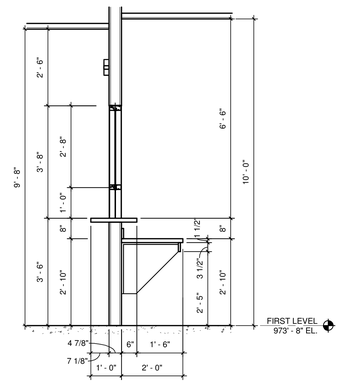
1 ENLARGED PLAN - KITCHEN / BREAK AREA
SCALE: 1/4" = 1'-0"



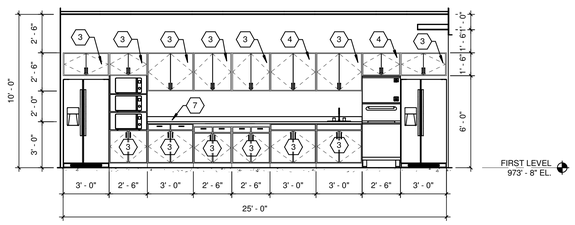
2 ENLARGED PLAN - TAP ON DESK
SCALE: 1/4" = 1'-0"



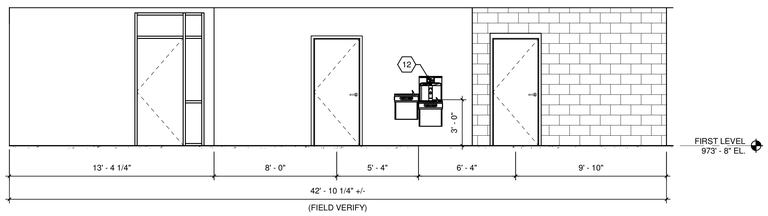
8 TAB DESK SECTION
SCALE: 1/2" = 1'-0"



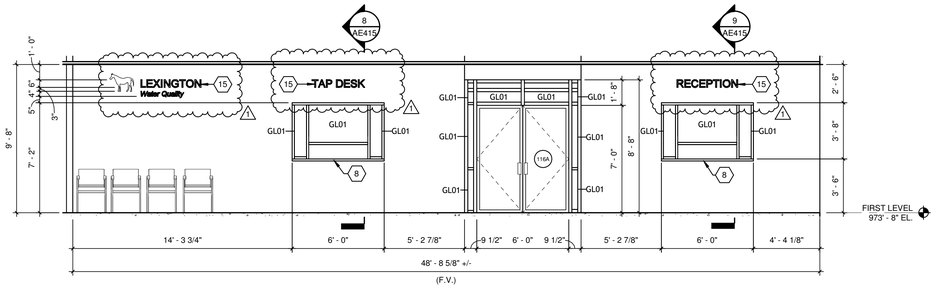
9 SECURE DESK SECTION
SCALE: 1/2" = 1'-0"



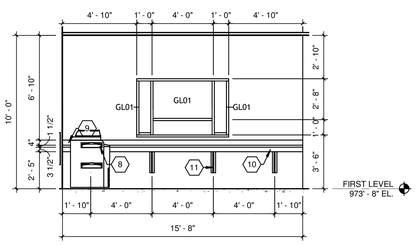
3 EAST ELEVATION - KITCHEN / BREAK
SCALE: 1/4" = 1'-0"



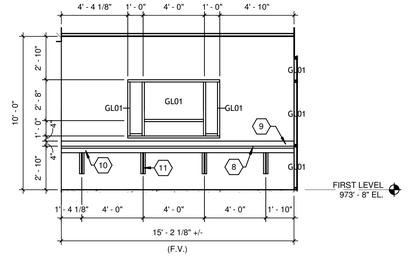
4 SOUTH ELEVATION - CIRCULATION
SCALE: 1/4" = 1'-0"



5 EAST ELEVATION - LOBBY
SCALE: 1/4" = 1'-0"



6 WEST ELEVATION - TAP ON DESK
SCALE: 1/4" = 1'-0"



7 WEST ELEVATION - SECURE RECEPTION OFFICE
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. SEE ROOM FINISH SCHEDULE - NEW CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
2. SEE PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.
3. SEE MECHANICAL PLANS FOR ADDITIONAL REQUIREMENTS.
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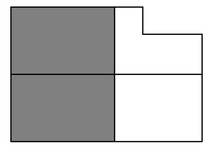
SHEET KEYNOTES:

1	EXISTING STRUCTURAL COLUMN TO REMAIN.
2	EQUIPMENT - COPY MACHINE (OFOI) SEE ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
3	EXISTING PLASTIC LAMINATE CABINET TO REMAIN.
4	PLASTIC LAMINATE CLAD ARCHITECTURAL CABINETS.
5	REFRIGERATOR - (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
6	ICE MACHINE (OFOI) SEE PLUMBING / ELECTRICAL PLANS FOR ADDITIONAL REQUIREMENTS.
7	EXISTING PLASTIC LAMINATE COUNTERTOP AND BACKSPLASH TO REMAIN.
8	SOLID SURFACE COUNTERTOPS.
9	SOLID SURFACE BACKSPLASH.
10	SOLID SURFACE APRON.
11	PLASTIC LAMINATE CLAD ARCHITECTURAL SUPPORT BRACKET.
12	ADA COMPLIANT DRINKING FOUNTAIN.
13	THERMAL INSULATION - SOUND BATT INSULATION.
14	FIRE EXTINGUISHER CABINET. FIRE EXTINGUISHER IS (OFOI). COORDINATE CABINET SIZE WITH OWNER PROVIDED FIRE EXTINGUISHERS.
15	DIMENSIONAL LETTER SIGNAGE - 6" HIGH.

AREA KEY PLAN



GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFB 70-2025

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ENLARGED PLAN AND ELEVATIONS

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: DRV
DRAWN: DRV
REVIEWED: DRV
APPROVED: DRV

REVISIONS

NO.	ADDENDA #	DATE	BY
		08/11/25	DRV

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE: 0=BD=1

DATE: AUGUST 15, 2025
SCALE: As indicated
SHEET NO.: AE415 01 X1

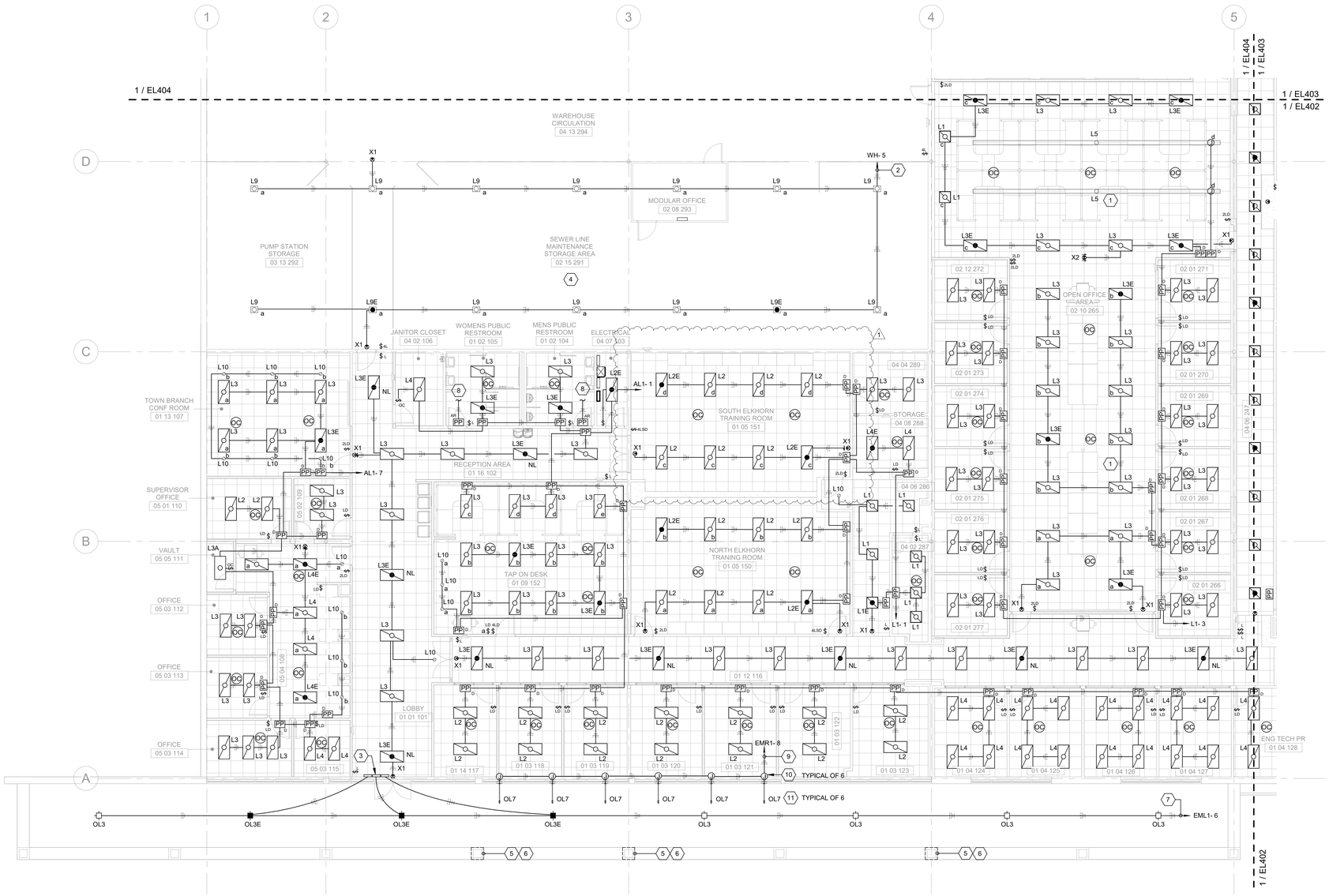
8/13/2025 9:37:15 AM G:\SAS1-(E)\CD\DWG\ARB\Working Drawings\Revit Arch\Central Models\SAS1-AE3BDSH.rvt

ROOM FINISH SCHEDULE - NEW CONSTRUCTION

ROOM IDENTIFICATION				AREA				FLOOR		WALLS								CEILING			
										BUILDING ORIENTATION INDICATES PLAN NORTH											
										NORTH		SOUTH		EAST		WEST					
DEPARTMENT NUMBER	DEPARTMENT TYPE	ROOM NUMBER	ROOM NAME	LEVEL	PROGRAMMED AREA	ACTUAL AREA	DELTA	AREA PERIMETER	FLOOR FINISH	BASE FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT (A.F.F.)	COMMENTS
ADMINISTRATIVE																						
01	01	101	LOBBY	FIRST LEVEL	250.00 SF	531.80 SF	212.72%	110'	PORCELAIN TILE (CT-1)	PORCELAIN COVE (CT-1)	N/A	N/A	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 8"	
01	02	104	MENS PUBLIC RESTROOM	FIRST LEVEL	300.00 SF	134.34 SF	44.78%	51'	CERAMIC TILE (CT-2)	CERAMIC COVE (CT-4)	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
01	02	105	WOMENS PUBLIC RESTROOM	FIRST LEVEL	300.00 SF	146.20 SF	48.73%	52'	CERAMIC TILE (CT-2)	CERAMIC COVE (CT-4)	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
01	03	118	ENV INSP SUPER	FIRST LEVEL	120.00 SF	156.83 SF	130.69%	51'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	119	ENV INSP SUPER	FIRST LEVEL	120.00 SF	158.09 SF	131.75%	51'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	120	ADMIN SPCIST PR	FIRST LEVEL	120.00 SF	178.78 SF	148.98%	54'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	121	ADMIN SPCIST PR	FIRST LEVEL	120.00 SF	179.60 SF	149.66%	54'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	122	ADMIN SPCIST PR	FIRST LEVEL	120.00 SF	178.13 SF	148.45%	54'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	123	PROG MGR SR	FIRST LEVEL	120.00 SF	188.96 SF	157.47%	59'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	130	MUN ENG SR	FIRST LEVEL	120.00 SF	118.54 SF	98.78%	45'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	131	MUN ENG SR	FIRST LEVEL	120.00 SF	141.58 SF	117.98%	49'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	133	MUN ENG SR	FIRST LEVEL	120.00 SF	141.58 SF	117.98%	49'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	134	ADM OFF SR	FIRST LEVEL	144.00 SF	203.09 SF	141.03%	61'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	135	ENG SECT MANAGER	FIRST LEVEL	144.00 SF	190.34 SF	132.18%	56'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	136	ADMIN OFF	FIRST LEVEL	120.00 SF	130.23 SF	108.52%	46'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	137	ENG SECT MANAGER	FIRST LEVEL	144.00 SF	182.57 SF	126.79%	55'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	138	DEPUTY DIRECTOR	FIRST LEVEL	144.00 SF	186.39 SF	129.44%	55'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	139	DIVISION DIRECTOR	FIRST LEVEL	196.00 SF	277.26 SF	141.46%	67'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	140	ENG SECT MGR	FIRST LEVEL	196.00 SF	157.02 SF	80.11%	52'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	141	ASSOC MUN ENG	FIRST LEVEL	120.00 SF	157.02 SF	130.85%	52'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	142	WQ MGR - 01	FIRST LEVEL	120.00 SF	193.11 SF	160.92%	57'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	143	CAP MGR	FIRST LEVEL	120.00 SF	146.27 SF	121.89%	51'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	155	PROJ MGR - 01	FIRST LEVEL	120.00 SF	180.28 SF	150.23%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	156	PROJ MGR - 02	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	157	PROJ MGR - 03	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	161	CONST SUP - 04	FIRST LEVEL	120.00 SF	182.81 SF	152.34%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	162	CONST SUP - 03	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	163	CONST SUP - 02	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	164	CONST SUP - 01	FIRST LEVEL	120.00 SF	194.72 SF	162.27%	56'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	165	CONSTRUCTION MANAGER - 02	FIRST LEVEL	169.00 SF	176.93 SF	104.69%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	166	CONSTRUCTION MANAGER - 01	FIRST LEVEL	169.00 SF	176.93 SF	104.69%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	167	INF PROG MGR	FIRST LEVEL	120.00 SF	176.93 SF	147.44%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	248	PROJECT MANAGER	FIRST LEVEL	400.00 SF	196.76 SF	49.19%	60'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	248A	PROJECT MANAGER	FIRST LEVEL	120.00 SF	186.95 SF	155.79%	56'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
01	03	249	PROJECT MANAGER	FIRST LEVEL	200.00 SF	211.56 SF	105.78%	60'	TILE CARPETING	RUBBER COVE BASE	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	03	257	COMP ANALYST	FIRST LEVEL	120.00 SF	127.02 SF	105.85%	45'	TILE CARPETING	RUBBER COVE BASE	N/A	N/A	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING TO REMAIN	NEW PAINT	9' - 0"	
01	04	124	ENG TECH PR	FIRST LEVEL	100.00 SF	174.91 SF	174.91%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	125	ENG TECH PR	FIRST LEVEL	100.00 SF	174.92 SF	174.92%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	126	ENG TECH PR	FIRST LEVEL	100.00 SF	175.06 SF	175.06%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	127	ENG TECH PR	FIRST LEVEL	100.00 SF	174.92 SF	174.92%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	128	ENG TECH PR	FIRST LEVEL	100.00 SF	184.44 SF	184.44%	54'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	04	144	TECH SPCIST	FIRST LEVEL	144.00 SF	150.38 SF	104.43%	51'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
01	04	154	OPEN OFFICE AREA	FIRST LEVEL	2900.00 SF	2844.38 SF	98.08%	861'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	11' - 2"	
01	04	158	PROJ MGR - 04	FIRST LEVEL	120.00 SF	175.28 SF	146.06%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	160	PROJ MGR - 05	FIRST LEVEL	120.00 SF	173.79 SF	144.82%	53'	TILE CARPETING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
01	04	168	CUBICAL - AD38	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	169	CUBICAL - AD37	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	170	CUBICAL - AD36	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	171	FILE - AD35	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	180	FILES - AD34	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	181	CUBICAL - AD33	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	182	CUBICAL - AD32	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	183	CUBICAL - AD31	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	184	CUBICAL - AD30	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	185	CUBICAL - AD29	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	186	CUBICAL - AD28	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	187	FILES - AD27	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	188	CUBICAL - AD26	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	189	CUBICAL - AD25	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	190	CUBICAL - AD24	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	191	CUBICAL - AD23	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	192	CUBICAL - AD22	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	193	CUBICAL - AD21	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	194	CUBICAL - AD20	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	195	FILES - AD19	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	196	CUBICAL - AD18	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	197	CUBICAL - AD17	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	198	CUBICAL - AD16	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	199	CUBICAL - AD15	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	200	CUBICAL - AD14	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	201	CUBICAL - AD13	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	202	FILES - AD12	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	203	CUBICAL - AD11	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	204	CUBICAL - AD10	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	205	CUBICAL - AD09	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
01	04	206	ADMINISTRATION PRINCIPAL AD08	FIRST LEVEL	80.00 SF	211.35 SF	264.19%	62'	TILE CARPET

ROOM FINISH SCHEDULE - NEW CONSTRUCTION

ROOM IDENTIFICATION					AREA			FLOOR		WALLS								CEILING			
										BUILDING ORIENTATION INDICATES PLAN NORTH											
										NORTH		SOUTH		EAST		WEST					
DEPARTMENT NUMBER	DEPARTMENT TYPE	ROOM NUMBER	ROOM NAME	LEVEL	PROGRAMMED AREA	ACTUAL AREA	DELTA	AREA PERIMETER	FLOOR FINISH	BASE FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CEILING MATERIAL	CEILING FINISH	CEILING HEIGHT (A.F.F.)	COMMENTS
ADMINISTRATIVE: 100					17140.00 SF	23507.36 SF																
SEWER LINE MAINTENANCE																						
02	01	266	SUPER SR	FIRST LEVEL	100.00 SF	121.00 SF	121.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	267	SUPER SR	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	268	SUPER SR	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	269	SUPER SR	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	270	SLM SUPER	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	271	CMOM MGR	FIRST LEVEL	120.00 SF	120.00 SF	100.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	273	SUPER II	FIRST LEVEL	100.00 SF	120.09 SF	120.09%	45'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	274	SUPER II	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	275	SUPER II	FIRST LEVEL	100.00 SF	120.09 SF	120.09%	45'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	276	SUPER II	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	01	277	ODOR CONTROL MANAGER	FIRST LEVEL	120.00 SF	121.00 SF	100.83%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	02	278	CUBICAL - SL08	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	279	CUBICAL - SL07	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	280	CUBICAL - SL06	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	281	CUBICAL - SL05	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	282	CUBICAL - SL04	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	NEW PAINT	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	283	CUBICAL - SL03	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	284	CUBICAL - SL02	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	02	285	CUBICAL - SL01	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	03	234	LAUNDRY	FIRST LEVEL	144.00 SF	166.87 SF	115.88%	51'	SEALED CONCRETE	RUBBER COVE BASE	N/A	N/A	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	03	235	DIRTY LINEN STORAGE	FIRST LEVEL	20.00 SF	22.20 SF	111.01%	19'	SEALED CONCRETE	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	N/A	N/A	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
02	04	238	MENS LOCKER (72-LOCKERS)	FIRST LEVEL	500.00 SF	506.68 SF	101.34%	106'	CERAMIC TILE (CT-2)	CERAMIC COVE (CT-4)	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	239	MENS TOILET	FIRST LEVEL	140.00 SF	141.30 SF	100.93%	52'	CERAMIC TILE (CT-2)	CERAMIC COVE (CT-4)	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	240	MENS SHOWER	FIRST LEVEL	160.00 SF	167.93 SF	104.96%	67'	CERAMIC TILE (CT-2)	CERAMIC COVE (CT-4)	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXIST. GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	241	WOMENS LOCKER (40-LOCKERS)	FIRST LEVEL	300.00 SF	305.81 SF	101.94%	93'	CERAMIC TILE (CT-2)	CERAMIC COVE (CT-4)	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	242	WOMENS TOILET	FIRST LEVEL	90.00 SF	94.89 SF	105.43%	40'	CERAMIC TILE (CT-2)	CERAMIC COVE (CT-4)	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	04	243	WOMENS SHOWER	FIRST LEVEL	100.00 SF	112.31 SF	112.31%	55'	CERAMIC TILE (CT-2)	CERAMIC COVE (CT-4)	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT (CT-4) / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	
02	08	293	MODULAR OFFICE	FIRST LEVEL	145.00 SF	147.25 SF	101.55%	50'	TILE CARPETING	RUBBER COVE BASE	EXISTING PANEL	PRE-FINISHED	EXISTING PANEL	PRE-FINISHED	EXISTING PANEL	PRE-FINISHED	EXISTING PANEL	PRE-FINISHED	EXISTING PANEL	PRE-FINISHED	8' - 0"	
02	09	236	MOP SINK	FIRST LEVEL	0.00 SF	76.28 SF		38'	SEALED CONCRETE	NONE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	N/A	N/A	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	09	298	MOP SINK	FIRST LEVEL	37.00 SF	39.96 SF	107.99%	27'	SEALED CONCRETE	NONE	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	NEW GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	N/A	N/A	EXPOSED STRUCTURE	NEW PAINT	10' - 0"	REPAIR DAMAGED GYP BOARD
02	10	265	OPEN OFFICE AREA	FIRST LEVEL	220.00 SF	2189.03 SF	995.01%	282'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	12	272	SUPER II	FIRST LEVEL	100.00 SF	120.00 SF	120.00%	44'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	8' - 0"	
02	13	290	MULTI-PURPOSE TRAINING / BREAK ROOM	FIRST LEVEL	1500.00 SF	1773.48 SF	118.23%	172'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
02	14	305	SLM PUMP STORAGE	FIRST LEVEL	139.00 SF	139.32 SF	100.23%	54'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
02	14	306	SLM PUMP STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
02	14	307	SLM PUMP STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
02	15	291	SEWER LINE MAINTENANCE STORAGE AREA	FIRST LEVEL	2252.00 SF	2565.42 SF	113.92%	273'	SEALED CONCRETE	NONE	CHAIN LINK FENCING	PRE-FINISHED	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	CHAIN LINK FENCING	PRE-FINISHED	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	REPAIR DAMAGED GYP BOARD
02	16	302	SLM EQUIPMENT / COMPRESSOR STORAGE	FIRST LEVEL	557.00 SF	557.65 SF	100.12%	117'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	CHAIN LINK FENCING	PRE-FINISHED	CHAIN LINK FENCING	PRE-FINISHED	CHAIN LINK FENCING	PRE-FINISHED	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
SEWER LINE MAINTENANCE: 38					8636.00 SF	11538.70 SF																
PUMP STATION MAINTENANCE																						
03	01	218	PS PROG MGR	FIRST LEVEL	120.00 SF	146.35 SF	121.96%	49'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	01	219	PS SUPER	FIRST LEVEL	120.00 SF	144.17 SF	120.14%	48'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	01	220	PS CONTROLS	FIRST LEVEL	120.00 SF	144.17 SF	120.14%	48'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	01	221	OFFICE	FIRST LEVEL	100.00 SF	144.17 SF	144.17%	48'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	01	222	OFFICE	FIRST LEVEL	100.00 SF	153.99 SF	153.99%	50'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	02	172	CUBICAL - PS05	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	173	CUBICAL - PS06	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	174	CUBICAL - PS07	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	175	CUBICAL - PS08	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	176	CUBICAL - PS12	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	177	CUBICAL - PS11	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	178	CUBICAL - PS10	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	179	CUBICAL - PS09	FIRST LEVEL	80.00 SF	84.56 SF	105.70%	37'	TILE CARPETING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	02	215	FILE AREA / WORKROOM A	FIRST LEVEL	400.00 SF	446.48 SF	111.62%	100'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	02	216	OPEN OFFICE AREA	FIRST LEVEL	270.00 SF	479.86 SF	177.73%	122'	RESINOUS FLOORING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	02	217	CUBICAL - PS04	FIRST LEVEL	70.00 SF	89.72 SF	128.17%	39'	RESINOUS FLOORING	NONE	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	FURNITURE SYSTEM	PRE-FINISHED	NEW 2X2 APC	PRE-FINISHED	10' - 0"	
03	03	223	CANE RUN CONF ROOM	FIRST LEVEL	200.00 SF	258.74 SF	129.37%	66'	RESINOUS FLOORING	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	04	299	PUMP STATION STORAGE	FIRST LEVEL	100.00 SF	154.38 SF	154.38%	55'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	05	245	PUMP STATION WORKSHOP	FIRST LEVEL	150.00 SF	349.04 SF	232.69%	75'	SEALED CONCRETE	RUBBER COVE BASE	EXISTING CMU	NEW PAINT	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	06	224	ELECTRONIC STORAGE	FIRST LEVEL	100.00 SF	142.92 SF	142.92%	53'	SEALED CONCRETE	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	NEW 2X2 APC	PRE-FINISHED	9' - 0"	
03	07	214	CORRIDOR - PS	FIRST LEVEL	0.00 SF	94.16 SF		43'	TILE CARPETING	RUBBER COVE BASE	NEW GYPSUM BOARD	NEW PAINT	N/A	N/A	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	
03	07	230	VESTIBULE - PS RESTROOMS	FIRST LEVEL	0.00 SF	138.76 SF		52'	SEALED CONCRETE	RUBBER COVE BASE	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	9' - 0"	
03	08	246	WAREHOUSE	FIRST LEVEL	1116.00 SF	1099.66 SF	98.54%	158'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	N/A	N/A	N/A	N/A	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	REPAIR DAMAGED GYP BOARD
03	09	231	MENS RESTROOM	FIRST LEVEL	0.00 SF	179.86 SF		71'	EXISTING TILE TO REMAIN	EX. CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	GYPSUM BOARD	NEW PAINT	10' - 0"	EXISTING TILE TO REMAIN, CLEAN.
03	09	233	WOMEN RESTROOM	FIRST LEVEL	0.00 SF	178.87 SF		74'	EXISTING TILE TO REMAIN	EX. CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXIST. 2X2 APC	PRE-FINISHED	10' - 0"	EXISTING TILE TO REMAIN, CLEAN.
03	10	244	PUMP STATION WORK AREA	FIRST LEVEL	0.00 SF	1729.29 SF		167'	SEALED CONCRETE	NONE	EXISTING CMU	NEW PAINT	EXISTING GYPSUM BOARD	NEW PAINT	EXISTING CMU	NEW PAINT	N/A	N/A	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	REPAIR DAMAGED GYP BOARD
03	11	308	PS GENERATOR STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	309	PS GENERATOR STORAGE	FIRST LEVEL	203.00 SF	203.54 SF	100.27%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	310	PS GENERATOR STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	311	PS GENERATOR STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	312	PS GENERATOR STORAGE	FIRST LEVEL	203.00 SF	203.54 SF	100.27%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	313	PS GENERATOR STORAGE	FIRST LEVEL	206.00 SF	206.83 SF	100.40%	60'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	314	PS GENERATOR STORAGE	FIRST LEVEL	196.00 SF	207.03 SF	105.63%	61'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	11	315	PS GENERATOR STORAGE	FIRST LEVEL	196.00 SF	196.98 SF	100.50%	59'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	12	316	PS PUMPS STORAGE	FIRST LEVEL	210.00 SF	210.11 SF	100.05%	61'	SEALED CONCRETE	NONE	N/A	N/A	N/A	N/A	N/A	N/A	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	
03	13	292	PUMP STATION STORAGE	FIRST LEVEL	735.00 SF	734.20 SF	99.89%	115'	SEALED CONCRETE	NONE	CHAIN LINK FENCING	PRE-FINISHED	EXISTING GYPSUM BOARD	NEW PAINT	CHAIN LINK FENCING	PRE-FINISHED	EXISTING CMU	NEW PAINT	EXPOSED STRUCTURE	NEW PAINT	18' - 5 1/2"	REPAIR DAMAGED GYP BOARD
PUMP STATION MAINTENANCE: 36					6173.00 SF	9333.80 SF																
UTILITY AND EQUIPMENT																						
04	01	228	MENS RESTROOM	FIRST LEVEL	0.00 SF	291.30 SF		90'	EXISTING TILE TO REMAIN	EX. CERAMIC COVE	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXISTING GYPSUM BOARD	CERAMIC WAINSCOT / NEW PAINT	EXIS



GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
3	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
4	0-10VDC DIMMING CONDUCTORS (CLASS 2) HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BY SHEET KEYNOTES AND/OR THE CONTROL DETAILS FOR EACH ROOM / AREA. DIMMING CONDUCTORS SHALL BE ROUTED IN SEPARATE CONDUIT FROM POWER CONDUCTORS.
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.
6	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.
7	LUMINAIRES DESIGNATED AS "NL" SHALL BE CONSTANT ON LUMINAIRES, ALL OTHER EGRESS LUMINAIRES SHALL BE SWITCHED WITH THE NORMAL LIGHTING WITHIN THE SAME SPACE.

SHEET KEYNOTES

1	EXISTING LUMINAIRE SHALL BE REINSTALLED IN NEW CEILING. IN ADDITION, LUMINAIRE SHALL BE RETROFITTED WITH LED LIGHTBAR KITS (QUANTITY AS REQUIRED BASED ON LUMINAIRE LENGTH). REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
2	ROUTE CIRCUIT THROUGH A DEDICATED LIGHTING RELAY PACK MOUNTED ADJACENT TO PANELBOARD WH (REFER TO LOCATION ON SHEET EL404).
3	REMOTE MOUNTED BATTERY INVERTER FOR OL3E LUMINAIRE. TYPICAL OF 3.
4	PROVIDE AIRCRAFT CABLE AS REQUIRED FOR SUSPENDING LUMINAIRES L9/L9E AT 17' 0" AFF.
5	REFER TO SITE PLANS (SHEETS ES102 AND ES401) FOR CONDUITS ASSOCIATED WITH SITE LIGHTING, ACCESS CONTROL, INTERCOM, VIDEO SURVEILANCE, AND GATE BRANCH POWER ENTERING THE BUILDING VIA THE INDICATED COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED (COORDINATE WITH GENERAL CONTRACTOR).
6	EXTEND CONDUIT OVERHEAD TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS AND ACCESS CONTROL PANELS) AS NOTED.
7	ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR (ELECTRICAL ROOM 129). PROVIDE UNSWITCHED CONDUCTOR FOR BATTERY INVERTERS.
8	AS PART OF THE LIGHITNG CONTROLS, PROVIDE AN AUXILARY RELAY WITH "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261). COORDINATE REQUIREMENTS WITH THE TEMPERATURE CONTROLS CONTRACTOR.
9	ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR (ELECTRICAL ROOM 129).
10	JUNCTION BOXES FOR OL7 LUMINAIRES SHALL BE LOCATED BEHIND PARAPET WALL ON ROOF.
11	MOUNT OL7 LUMINAIRES 2' ABOVE TOP OF BUILDING SIGNAGE. COORDINATE WITH ARCHITECTURAL DRAWINGS.

1 FIRST LEVEL - LIGHTING PLAN - AREA A
SCALE: 1/8" = 1'-0"

AREA KEY PLAN

PLAN NORTH

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
STATE OF KENTUCKY
8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ENGINEERING - ARCHITECTURE - GEOSPATIAL
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FIRST LEVEL - LIGHTING PLAN - AREA A
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	ADDENDUM #/?	DESCRIPTION	DATE	BY
			8/12/25	PJB

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EL401 01 X1

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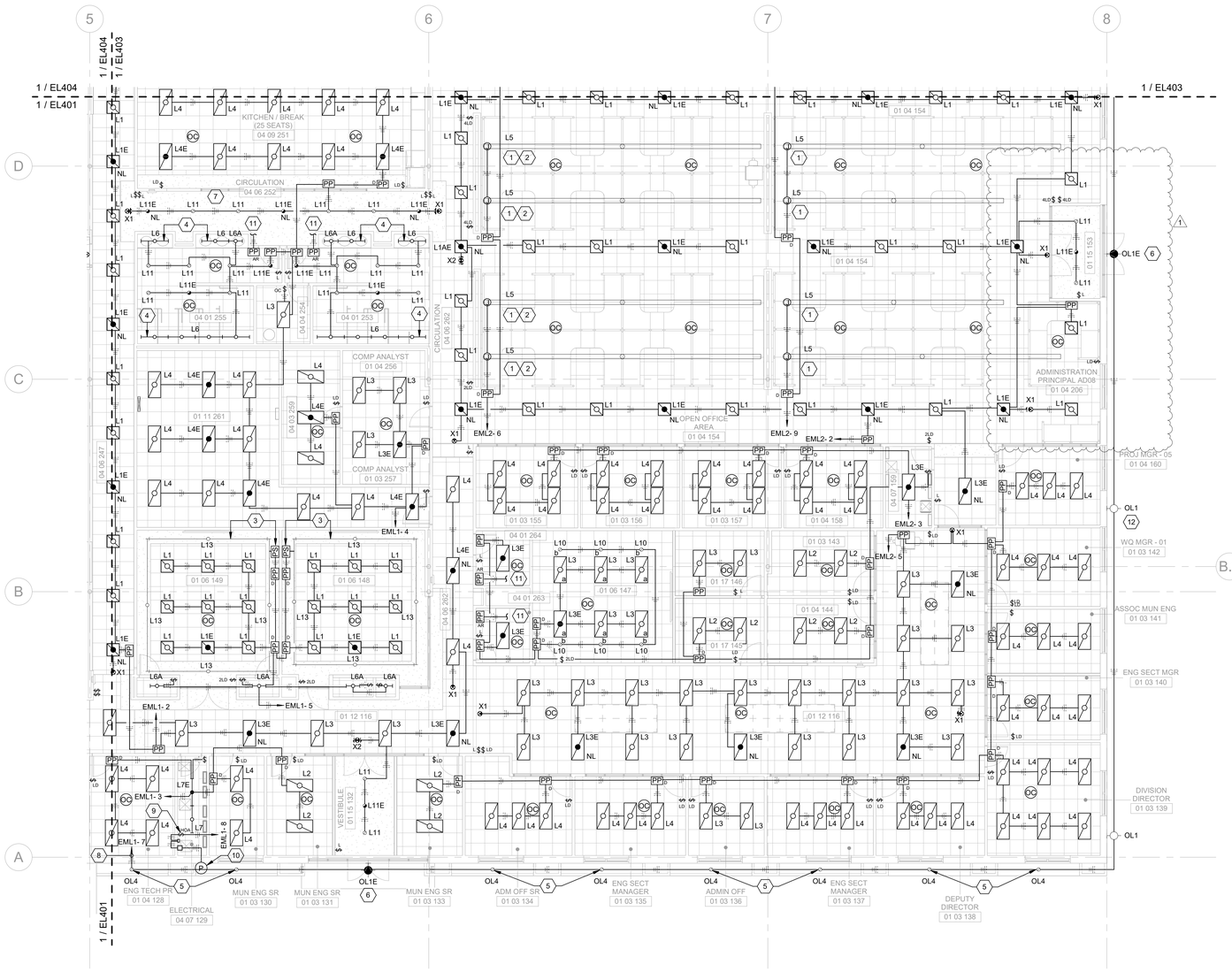
GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
3	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
4	0-10VDC DIMMING CONDUCTORS (CLASS 2) HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BY SHEET KEYNOTES AND/OR THE CONTROL DETAILS FOR EACH ROOM / AREA. DIMMING CONDUCTORS SHALL BE ROUTED IN SEPARATE CONDUIT FROM POWER CONDUCTORS.
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.
6	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.
7	LUMINAIRES DESIGNATED AS "NL" SHALL BE CONSTANT ON LUMINAIRES, ALL OTHER EGRESS LUMINAIRES SHALL BE SWITCHED WITH THE NORMAL LIGHTING WITHIN THE SAME SPACE.

SHEET KEYNOTES

1	EXISTING LUMINAIRE SHALL BE RETROFITTED WITH LED LIGHTBAR KITS (QUANTITY AS REQUIRED BASED ON LUMINAIRE LENGTH). REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
2	EXISTING LUMINAIRE SHALL BE RELOCATED FROM EXISTING SALES & MARKETING ROOM 11FF29 (REFER TO SHEET ED401).
3	TAPE LIGHT W/ MOUNTING CHANNEL (MOUNT ABOVE SOFFIT). PROVIDE POWER SUPPLY AND CONNECTORS AS REQUIRED.
4	MOUNT L6/L6A LUMINAIRES ABOVE THE EXISTING PARABOLIC LOUVERS.
5	PROVIDE LED DOWNLIGHT RETROFIT KIT FOR EXISTING DOWNLIGHT HOUSING.
6	MOUNT OL1E LUMINAIRE AT 12' 6" AFF (TO CENTERLINE).
7	REPAIR, PATCH AND PAINT CEILING AFTER INSTALLATION OF NEW DOWNLIGHTS.
8	ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR (ELECTRICAL ROOM 129). PROVIDE UNSWITCHED CONDUCTOR FOR BATTERY INVERTERS.
9	EXTERIOR LIGHTING CONTROLS (3-POSITION SWITCH, 8-POLE LIGHTING CONTACTOR, AND ASTRONOMICAL TIME CLOCK). REFER TO LIGHTING CONTROL CIRCUIT DETAIL ON SHEET EL503.
10	PHOTOCELL FOR EXTERIOR LIGHTING CONTROLS. MOUNT IN EXISTING SOFFIT (AIM ACCORDINGLY DUE TO LOCATION).
11	AS PART OF THE LIGHITNG CONTROLS, PROVIDE AN AUXILIARY RELAY WITH "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261). COORDINATE REQUIREMENTS WITH THE TEMPERATURE CONTROLS CONTRACTOR.
12	MOUNT OL1/OL1E LUMINAIRE AT 16' 6" AFF.



1 FIRST LEVEL - LIGHTING PLAN - AREA B

SCALE: 1/8" = 1'-0"

AREA KEY PLAN

PLAN NORTH

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - LIGHTING PLAN - AREA B
LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	ADDENDUM #	REVISION DESCRIPTION	DATE	BY
1			8/12/25	PJB

SCALE CHECK: 1" THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: EL402 01 X1

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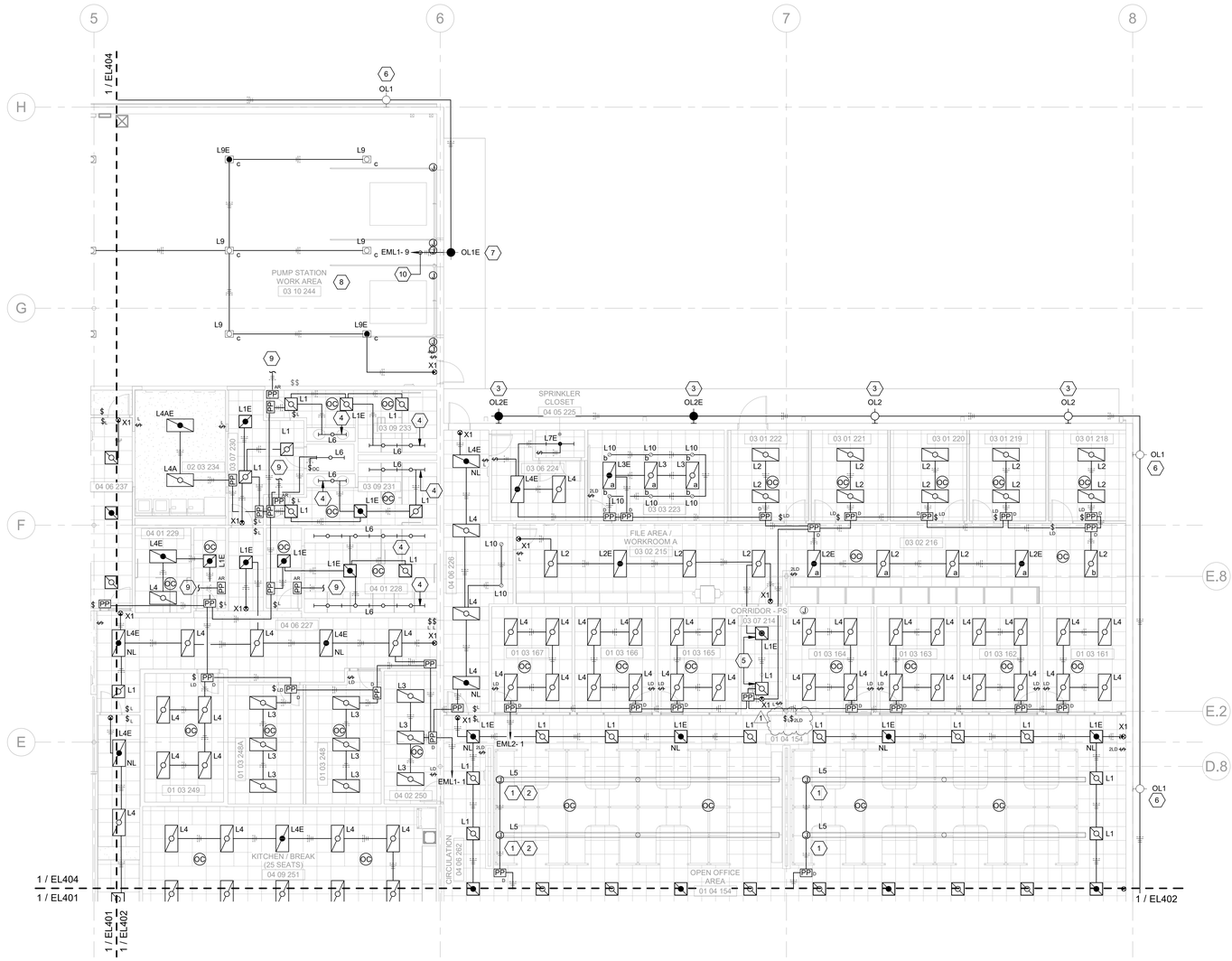


1 FIRST LEVEL - LIGHTING PLAN - AREA C
SCALE: 1/8" = 1'-0"

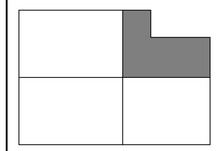
GENERAL NOTES:

1	REFER TO POWER PLANS FOR PANELBOARD LOCATIONS.
2	REFER TO LIGHTING CONTROL DETAILS ON SHEET EL501 THROUGH EL503.
3	PROVIDE AN UNSWITCHED LIGHTING CONDUCTOR TO EACH LUMINAIRE CONTAINING AN EMERGENCY BATTERY DRIVER.
4	0-10VDC DIMMING CONDUCTORS (CLASS 2) HAVE NOT BEEN SHOWN; HOWEVER, SHALL BE PROVIDED AS REQUIRED BY SHEET KEYNOTES AND/OR THE CONTROL DETAILS FOR EACH ROOM / AREA. DIMMING CONDUCTORS SHALL BE ROUTED IN SEPARATE CONDUIT FROM POWER CONDUCTORS.
5	OCCUPANCY SENSORS SHALL BE MOUNTED ON A VIBRATION FREE SURFACE AND SHALL BE LOCATED AT LEAST 6'-0" FROM DIFFUSERS.
6	REFER TO SPECIFICATION SECTION 265100 FOR MOUNTING / SUPPORT REQUIREMENTS FOR LUMINAIRES.
7	LUMINAIRES DESIGNATED AS "NL" SHALL BE CONSTANT ON LUMINAIRES, ALL OTHER EGRESS LUMINAIRES SHALL BE SWITCHED WITH THE NORMAL LIGHTING WITHIN THE SAME SPACE.

SHEET KEYNOTES

1	EXISTING LUMINAIRE SHALL BE RETROFITTED WITH LED LIGHTBAR KITS (QUANTITY AS REQUIRED BASED ON LUMINAIRE LENGTH). REFER TO LUMINAIRE SCHEDULE FOR ADDITIONAL INFORMATION.
2	EXISTING LUMINAIRE SHALL BE RELOCATED FROM EXISTING SALES & MARKETING ROOM 11FF29 (REFER TO SHEET ED401).
3	MOUNT OL2/OL2E LUMINAIRES AS HIGH AS POSSIBLE BELOW EXISTING CANOPY.
4	MOUNT L6/L6A LUMINAIRES ABOVE THE EXISTING PARABOLIC LOUVERS.
5	SWITCH L1/L1E LUMINAIRES WITH LUMINAIRES IN FILE AREA/WORKROOM 215.
6	MOUNT OL1/OL1E LUMINAIRE AT 16' 6" AFF.
7	MOUNT OL1E LUMINAIRES AS HIGH AS POSSIBLE BELOW EXISTING CANOPY.
8	PROVIDE AIRCRAFT CABLE AS REQUIRED FOR SUSPENDING LUMINAIRES L9/L9E AT 17' 0" AFF.
9	AS PART OF THE LIGHITNG CONTROLS, PROVIDE AN AUXILARY RELAY WITH "RESTROOM OCCUPIED" STATUS OUTPUT TO THE BAS CONTROL PANEL (COMPUTER/SERVER 261). COORDINATE REQUIREMENTS WITH THE TEMPERATURE CONTROLS CONTRACTOR.
10	ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR (ELECTRICAL ROOM 129). PROVIDE UNSWITCHED CONDUCTOR FOR BATTERY INVERTERS.

AREA KEY PLAN



PLAN NORTH

STATE OF KENTUCKY
PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - LIGHTING PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	ADDENDUM #	DATE	BY
1	ADDENDUM #1	8/11/25	PJB

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EL403 01 X1

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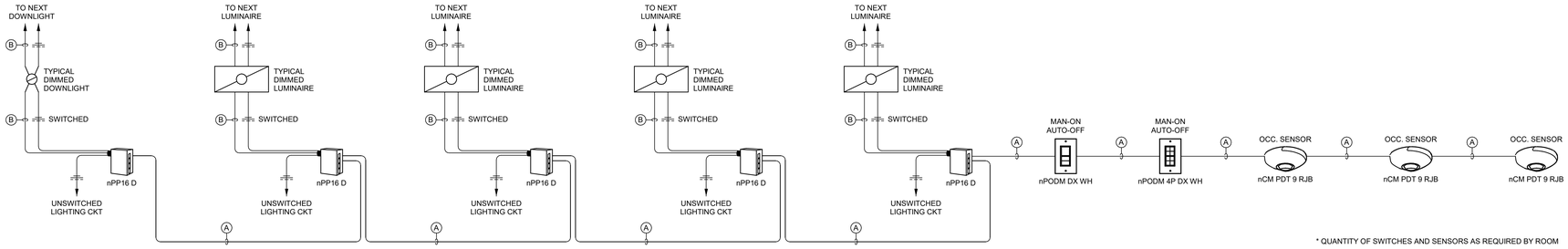
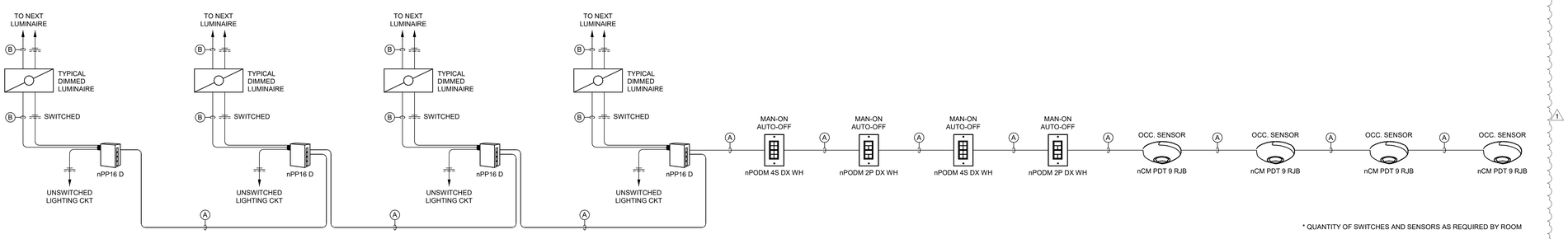


* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-10 TAP ON DESK - OCCUPANCY AND DIMMING

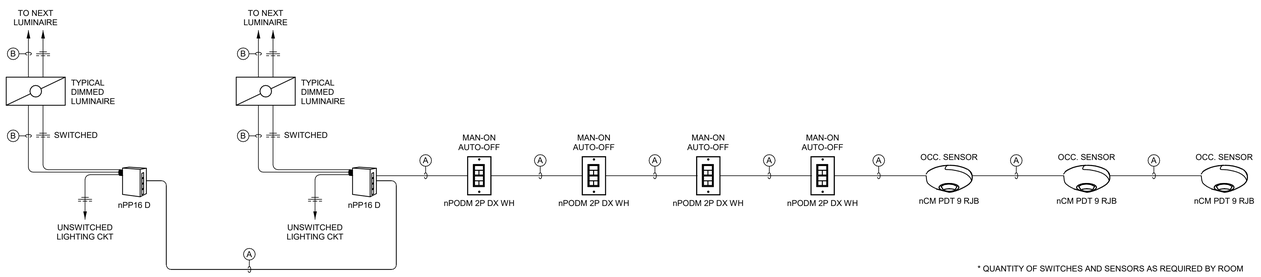
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-11 TRAINING ROOM - OCCUPANCY AND DIMMING

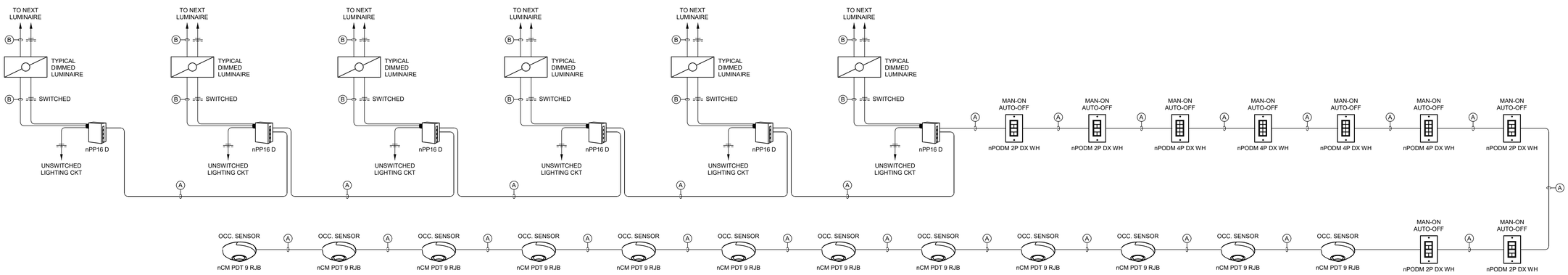
NOT TO SCALE



* QUANTITY OF SWITCHES AND SENSORS AS REQUIRED BY ROOM

LC-12 MULTI-ENTRY / TWO-ZONE OPEN OFFICE - OCCUPANCY AND DIMMING

NOT TO SCALE



LC-13 MULTI-ENTRY / MULTI-ZONE OPEN OFFICE - OCCUPANCY AND DIMMING

NOT TO SCALE

PROGRAMMING/GENERAL NOTES:

1. ALL AREAS SHALL BE PROGRAMMED FOR AUTOMATIC-OFF AFTER 30 MINUTES OF INACTIVITY.
2. WALL MOUNTED LIGHTING CONTROL DEVICES SHALL BE WHITE WITH WHITE NYLON THERMOPLASTIC PLATE. TYPICAL.
3. LIGHTING CONTROLS SHALL BE AS DEFINED BY SPECIFICATION SECTION 260943.

WIRING LEGEND:

- (A) #24 AWG, 4 PAIR, CATEGORY 6, UNSHIELDED TWISTED PAIR (UTP) WITH OVERALL WHITE JACKET. TERMINATE ALL ENDS WITH A NON-BOOTED RJ45 MODULAR PLUG USING THE TIA/EIA 568B COLOR CODING STANDARD.
- (B) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 0-10 VDC DRIVER DIMMING CONTROL.
- (C) #18 AWG, 2 CONDUCTOR, SHIELDED, TWISTED PAIR FOR CLASS II PHOTOCELL CONNECTION.
- (D) TWO (2) #18 AWG INSIDE JUNCTION BOX.
- (E) #18 AWG, 4 CONDUCTOR, SHIELDED, TWISTED PAIR FOR 24V DC OCCUPANCY CONTROL.

CONSTRUCTION DOCUMENTS

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 8/11/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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LIGHTING CONTROL DETAILS II

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	ADDED/DELETED	BY	DATE
1	ADDED/DELETED	PJB	8/11/25

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: NOT TO SCALE

SHEET NO. EL502 01 X1

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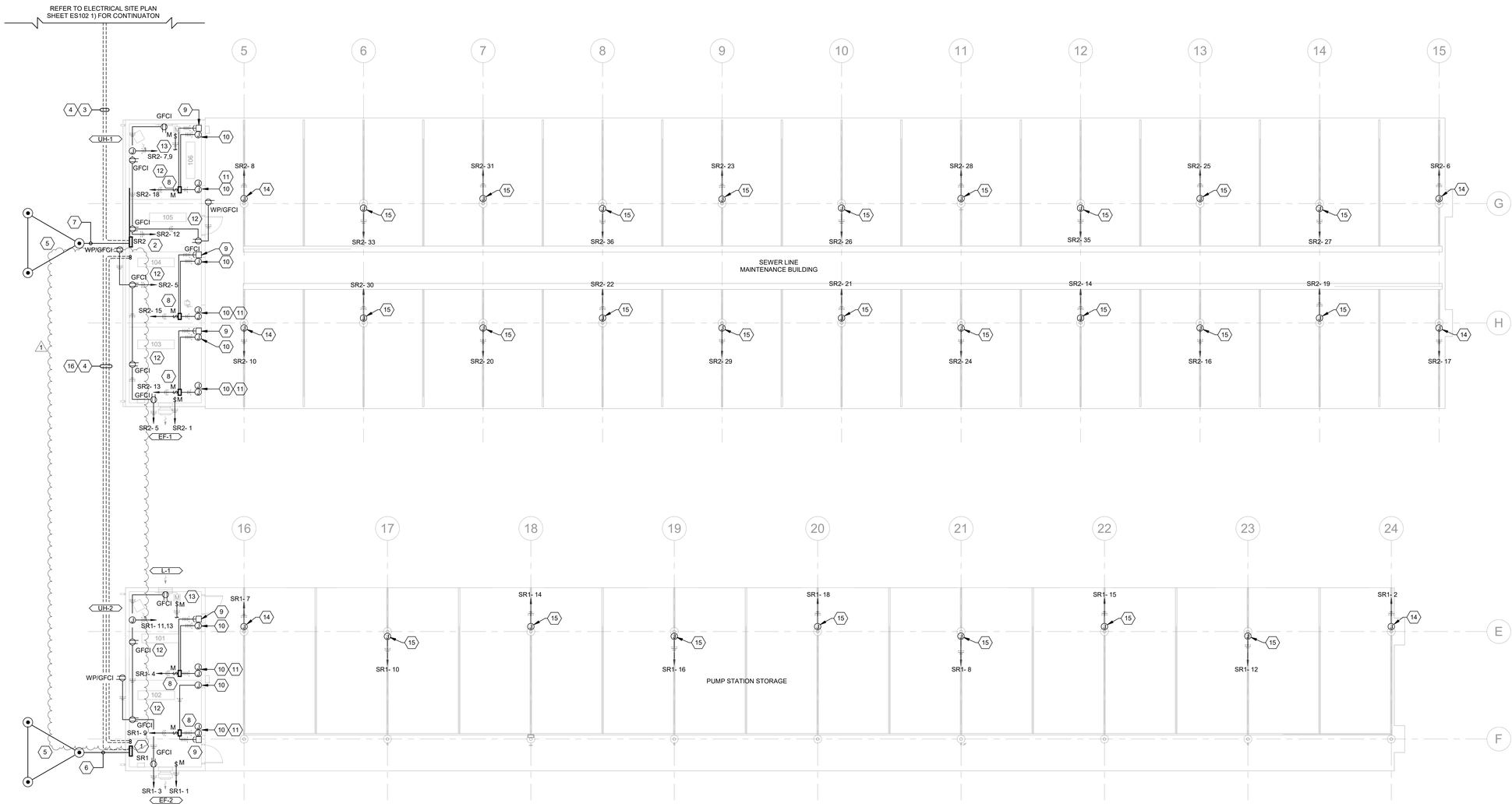

1 FIRST LEVEL - POWER PLAN
SCALE: 1/8" = 1'-0"

PLAN NORTH

AREA KEY PLAN

GENERAL NOTES:

1	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
2	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
3	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

SHEET KEYNOTES

1	NEW BRANCH PANELBOARD SR1 (100A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
2	NEW BRANCH PANELBOARD SR2 (200A MCB, 208Y/120V. 3-PHASE, 4-WIRE).
3	NEW BRANCH PANELBOARD SR1 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
4	NEW BRANCH PANELBOARD SR2 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
5	PROVIDE 3/4" X 10' COPPER GROUND RODS IN TRIAD CONFIGURATION, MINIMUM 10' APART.
6	BARE #6 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD SR1 TO GROUNDING TRIAD.
7	BARE #4 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD SR2 TO GROUNDING TRIAD.
8	PROVIDE MANUAL MOTOR STARTER FOR THE NEW OVERHEAD DOOR OPERATOR. PROVIDE CONNECTION TO OVERHEAD DOOR CONTROLLER, AS REQUIRED. COORDINATE WITH OVERHEAD DOOR INSTALLER. REFER TO FIELD CONNECTION DETAIL 5 ON SHEET E-501 FOR ADDITIONAL INFORMATION.
9	UP/DOWN/STOP PUSHBUTTON FOR OVERHEAD DOOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
10	PROVIDE CONNECTION TO OVERHEAD DOOR SAFETY BEAM PHOTO SENSOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
11	PROVIDE CONNECTION TO OVERHEAD DOOR SENSING EDGE. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
12	MOUNT RECEPTACLES WITHIN THIS SPACE AT 46"AFF.
13	ROUTE THE 120V CIRCUIT SERVING THE EXHAUST FAN THROUGH A N.O. CONTACT ON THE FACTORY MOUNTED DAMPER CONTROL TRANFORMER INTEGRAL TO THE ASSOCIATED EXHAUST FAN AND PROVIDE CONNECTION TO THE MOTORIZED DAMPER.
14	PROVIDE JUNCTION BOX MOUNTED ON COLUMN ABOVE CONCRETE BASE. PROVIDE ONE BLOCK HEATER RECEPTACLE DROP. REFER TO DETAIL 6, SHEET E-501.
15	PROVIDE JUNCTION BOX MOUNTED ON COLUMN ABOVE CONCRETE BASE. PROVIDE TWO BLOCK HEATER RECEPTACLE DROPS. REFER TO DETAIL 6, SHEET E-501.
16	PROVIDE TWO (2) 4" SPARE CONDUITS WITH PULLSTRING BETWEEN LFUCG EXTERIOR STRUCTURES. STUB INTO SPACE AS SHOWN.

PATRICK J. BAISDEN
STATE OF KENTUCKY
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

FIRST LEVEL - POWER PLAN

LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ADDENDUM #1	8/21/25	PJB

SCALE CHECK: THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EP101 02 X1

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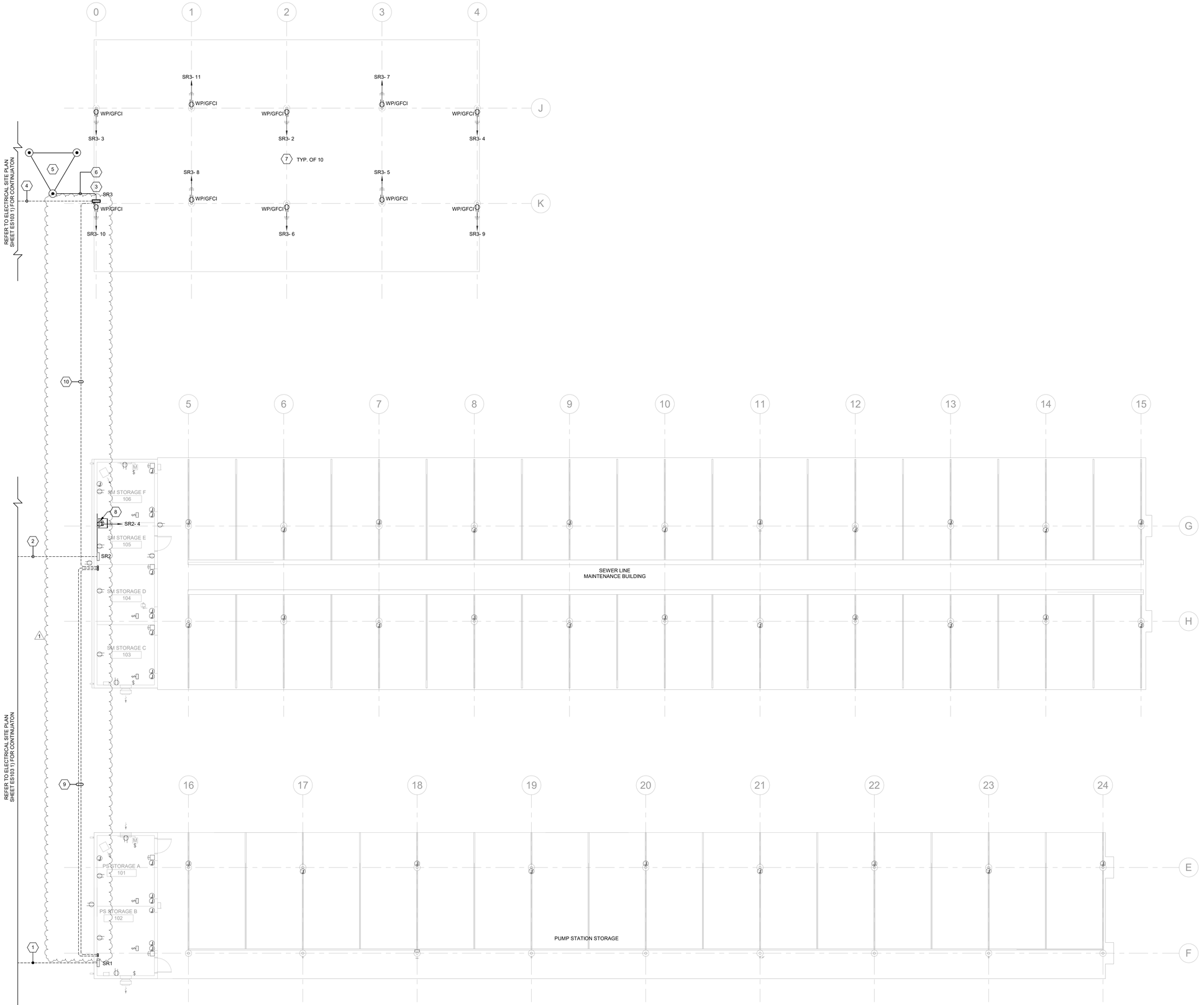

1 ADD ALTERNATE #1 -FIRST LEVEL - POWER PLAN

SCALE: 1/8" = 1'-0"

ADD ALTERNATE #1:

1	ADD ALTERNATE #1 WILL REQUIRE THE WORK SHOWN ON THE BASE BID DRAWING (SHEET EP101) AND THE ADDITIONAL WORK SHOWN ON THIS SHEET FOR THE THIRD CANOPY. THIS SHEET INCLUDES ALTERNATE ROUTING FOR PANELBOARD FEEDERS SR1 AND SR2.

GENERAL NOTES:

1	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
2	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
3	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.

SHEET KEYNOTES

1	NEW BRANCH PANELBOARD SR1 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
2	NEW BRANCH PANELBOARD SR2 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
3	NEW BRANCH PANELBOARD SR3 (60A MCB, 208Y/120V, 3-PHASE, 4-WIRE).
4	NEW BRANCH PANELBOARD SR3 ELECTRICAL FEEDER. REFER TO CONDUIT/CONDUCTOR INFORMATION ON SHEET E-601.
5	PROVIDE 3/4" X 10' COPPER GROUND RODS IN TRIAD CONFIGURATION, MINIMUM 10' APART.
6	BARE #8 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD SR3 TO GROUNDING TRIAD.
7	MOUNT CANOPY RECEPTACLES ON COLUMN ABOVE CONCRETE BASE.
8	MOUNT RECEPTACLE IN TELECOMMUNICATIONS CABINET.
9	PROVIDE TWO (2) 4" SPARE CONDUITS WITH PULLSTRING BETWEEN LFUCG EXTERIOR STRUCTURES. STUB INTO SPACE AS SHOWN.
10	PROVIDE ONE (1) 4" SPARE CONDUIT WITH PULLSTRING TO THE LFUCG CANOPY STRUCTURE. STUB INTO SPACE AND AT COLUMN AS SHOWN.

AREA KEY PLAN

PLAN NORTH

CONSTRUCTION DOCUMENTS

STATE OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ADD ALTERNATE #1 - FIRST LEVEL - POWER PLAN
LFUCG EXTERIOR STRUCTURES
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	ADDENDUM #1	8/12/25	PJB

1 THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1/8" = 1'-0"
SHEET NO.: EP102 02 X1

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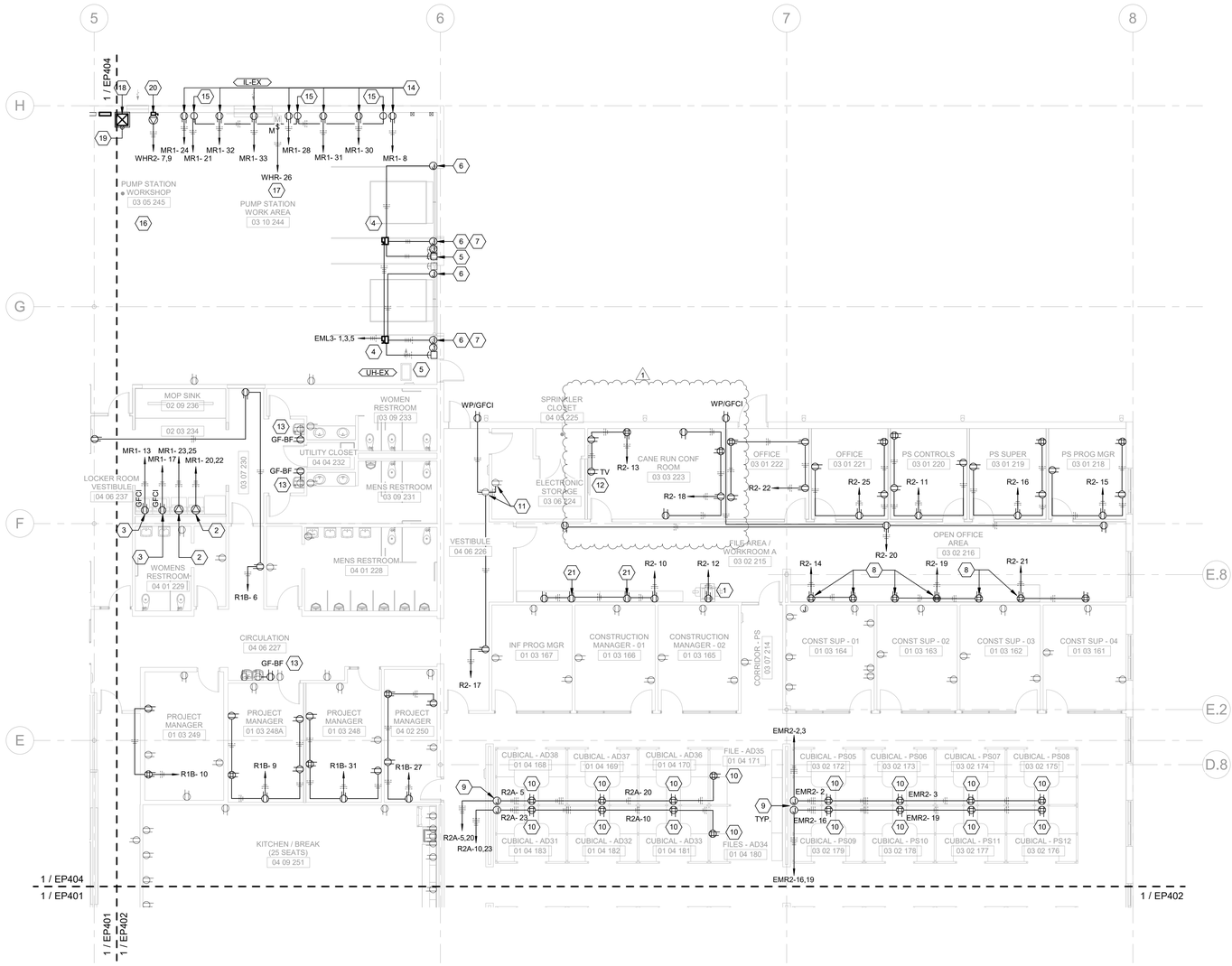


1 FIRST LEVEL - POWER PLAN - AREA C

SCALE: 1/8" = 1'-0"

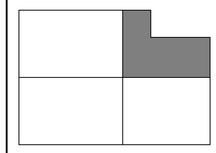
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	REFER TO ONE-LINE DIAGRAMS (AND/OR PANELBOARD SCHEDULES) FOR CONDUIT/CONDUCTOR SIZES FOR BRANCH PANELBOARD FEEDERS AND INDICATED BRANCH CIRCUITS.
3	INDIVIDUAL HOMERUNS HAVE BEEN SHOWN FOR EACH CIRCUIT FOR CLARITY. CONTRACTOR MAY CHOOSE TO COMBINE UP TO THREE (3) 20A/120V BRANCH CIRCUITS IN A COMMON CONDUIT WITHOUT UPSIZING CONDUCTORS. EACH CIRCUIT SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR WITH UNIQUE COLOR-CODED IDENTIFIER MATCHING THE RESPECTIVE PHASE CONDUCTOR IN EACH CONDUIT.
4	COORDINATE EXACT LOCATION OF PANELBOARDS AND OTHER ELECTRICAL EQUIPMENT WITH HVAC AND PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
5	COORDINATE EXACT LOCATION OF RECEPTACLES, EQUIPMENT CONNECTIONS, DEVICES, ETC. WITH ARCHITECT APPROVED CASEWORK / EQUIPMENT SHOP DAWINGS PRIOR TO ROUGH-IN.
6	PROVIDE FIRE STOP FOR PENETRATIONS OF FIRE RATED WALLS AND FLOORS. REFER TO LOCATIONS ON ARCITECTURAL DRAWINGS.

SHEET KEYNOTES

1	DEDICATED RECEPTACLE FOR COPIER MACHINE.
2	DRYER RECEPTACLE - PROVIDE 30AMP, 125/250V, 3-POLE, 4-WIRE RECEPTACLE (NEMA 14-30R). CONTRACTOR SHALL PROVIDE MATCHING DRYER POWER SUPPLY CORD COMPLETE WITH PLUG (NEMA 14-30P).
3	DEDICATED WASHER RECEPTACLE.
4	30A/600V/3-PHASE NON-FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE). PROVIDE CONNECTION TO OVERHEAD DOOR CONTROLLER, AS REQUIRED. COORDINATE REQUIREMENTS WITH OVERHEAD DOOR INSTALLER. REFER TO FIELD CONNECTION DETAIL 1 ON SHEET E-504 FOR ADDITIONAL INFORMATION.
5	UP/DOWN/STOP PUSHBUTTON FOR OVERHEAD DOOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
6	PROVIDE CONNECTION TO OVERHEAD DOOR SAFETY BEAM PHOTO SENSOR. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
7	PROVIDE CONNECTION TO OVERHEAD DOOR SENSING EDGE. PROVIDE CONDUIT/WIRING BACK TO OVERHEAD DOOR CONTROLLER, AS REQUIRED.
8	MOUNT RECEPTACLE 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
9	CONTRACTOR SHALL PROVIDE RECESSED JUNCTION BOX WITH BLANK COVERPLATE. PROVIDE COVERPLATE WITH KQ FOR FLEXIBLE CONNECTION TO WORKSTATION RECEPTACLES (UTILIZE CIRCUITS SHOWN).
10	PROVIDE AND INSTALL RECEPTACLE WITHIN WORKSTATION/DESK. COORDINATE WITH APPROVED WORKSTATION SHOP DRAWINGS.
11	BACKFEED EXISTING RECEPTACLES FROM A NEW 120V CIRCUIT.
12	DEDICATED RECEPTACLE FOR WALL-MOUNTED TV. MOUNT RECEPTACLE AT 72" AFF.
13	THE EXISTING EWC DOES NOT APPEAR TO BE GFCI PROTECTED. PROVIDE A BLANK FACE GFCI RECEPTACLE. INTERCEPT THE EXISTING CIRCUIT AND REFED THE EXISTING RECEPTACLE(S) FROM THIS NEW GFCI RECEPTACLE.
14	DEDICATED RECEPTACLE FOR WORKBENCH. MOUNT RECEPTACLE AT 48" AFF.
15	DEDICATED SIMPLEX RECEPTACLE (NEMA L5-30R) FOR WORKBENCH. MOUNT RECEPTACLE AT 48" AFF.
16	WELDING / HOT WORK AREA - COORDINATE RECEPTACLES AND DISCONNECT SWITCHES FOR AIR COMPRESSOR, WELDERS, AND WORKBENCH TOOLS WITH LFUCG PRIOR TO ROUGH-IN.
17	ROUTE THE 120V CIRCUIT THROUGH A CONTROL MODULE PROVIDED AS PART OF THE BAS SYSTEM.
18	NEW PANELBOARD WHR2 TRANSFORMER (45KVA, 480V X 240Y/120V, 3-PHASE, 4-WIRE).
19	4" CONCRETE HOUSEKEEPING PAD.
20	MIG WELDER - 60A/240V/3-PHASE FUSED DISCONNECT SWITCH (NEMA 1 ENCLOSURE). FUSED AT 40 AMPS. ALSO, PROVIDE 50A, 250V, 2-POLE, 3-WIRE RECEPTACLE (NEMA 6-50R).
21	MOUNT INDICATED RECEPTACLE AT 72" AFF.

AREA KEY PLAN



PLAN NORTH

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 8/19/25

GRW PROJECT NO. 05247-01

CLIENT PROJECT NO. RFP 70-2025

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CONSTRUCTION DOCUMENTS

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FIRST LEVEL - POWER PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY

134 WEST NEW CIRCLE ROAD

DESIGNED: PJB | DRAWN: PJB | REVIEWED: PJB | APPROVED: PJB

REVISIONS

NO.	ADDENDUM #1	RESPONSES TO RFP QUESTIONS	DATE: 8/12/25	BY: PJB

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED — SCALE CHECK

DATE: AUGUST 15, 2025

SCALE: 1/8" = 1'-0"

SHEET NO.: EP403 01 X1

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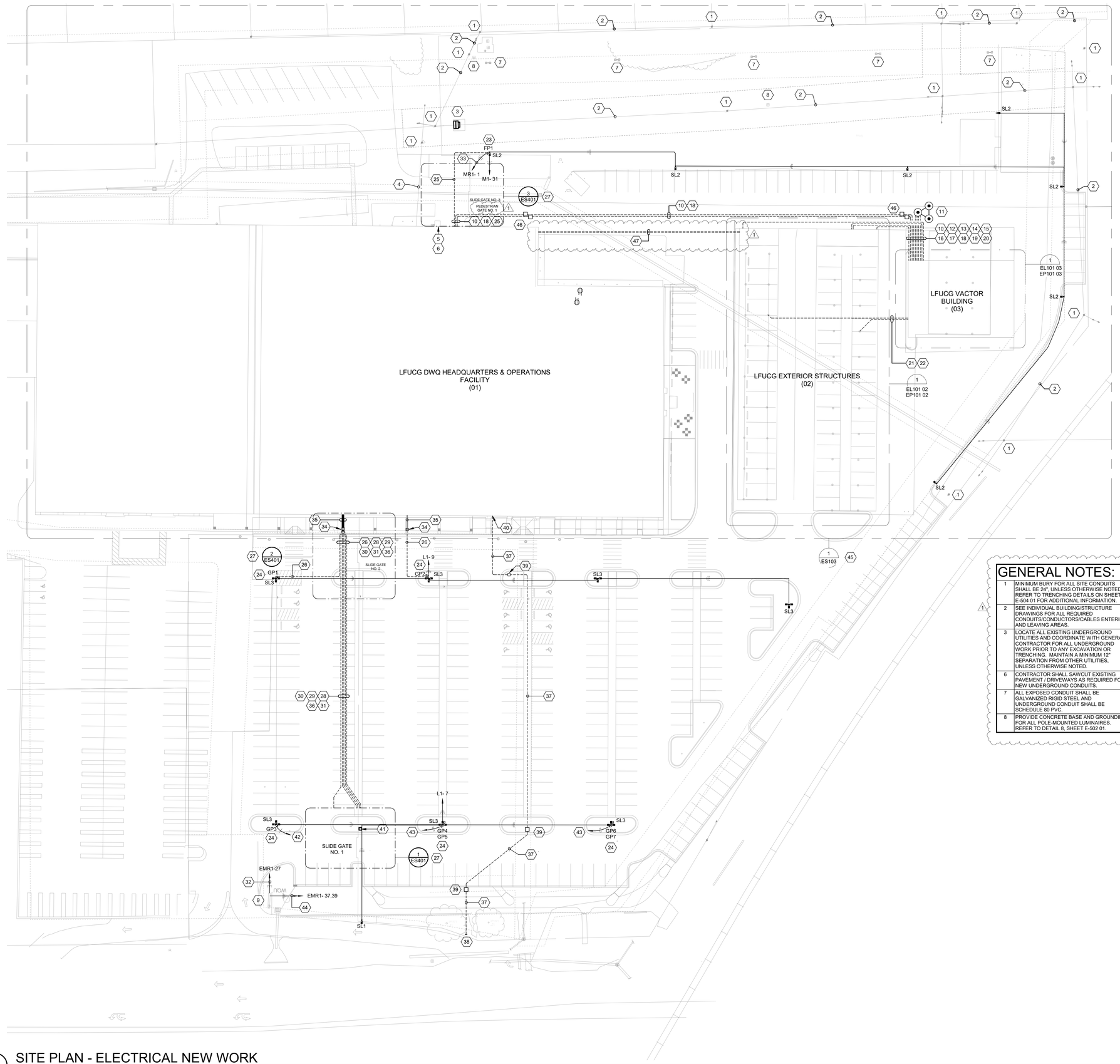

SHEET KEYNOTES

1	EXISTING UTILITY POLE AND ASSOCIATED GUY WIRE(S) SHALL REMAIN.
2	EXISTING OVERHEAD UTILITIES SHALL REMAIN.
3	EXISTING PAD-MOUNTED TRANSFORMER SHALL REMAIN.
4	EXISTING OVERHEAD ELECTRICAL SECONDARY SERVING THE FACILITY SHALL REMAIN.
5	EXISTING 1200A ENCLOSED CIRCUIT BREAKER (SERVICE ENTRANCE RATED) SHALL REMAIN.
6	EXISTING ELECTRICAL METER SHALL REMAIN.
7	EXISTING POLE-MOUNTED LUMINAIRE SHALL REMAIN.
8	EXISTING TELEPHONE CABINET(S) SHALL REMAIN.
9	EXISTING FACILITY SIGN SHALL REMAIN.
10	PANELBOARD VL1 ELECTRICAL FEEDER - ROUTED FROM DISTRIBUTION PANELBOARD DP ("LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY", SHEET EP404 01) TO PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM III - NEW WORK, SHEET E-606 01).
11	PROVIDE 3/4" X 10' COPPER GROUND RODS IN TRIAD CONFIGURATION, MINIMUM 10' APART.
12	BARE #2 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03).
13	PANELBOARD SR1 ELECTRICAL FEEDER - ROUTED FROM PANELOBARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR1 ("LFUCG EXTERIOR STRUCTURES", EP101 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
14	PANELBOARD SR2 ELECTRICAL FEEDER - ROUTED FROM PANELOBARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR2 ("LFUCG EXTERIOR STRUCTURES", EP101 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
15	BARE #2 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR1 TRANSFORMER ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO GROUNDING ELECTRODE CONDUCTOR.
16	BARE #6 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR2 TRANSFORMER ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO GROUNDING ELECTRODE CONDUCTOR.
17	BARE #6 GROUND FROM TMGB ("LFCUG VACTOR BUILDING", SHEET ET101 03) TO GROUNDING ELECTRODE CONDUCTOR.
18	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01) TO TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET ET101 03).
19	PROVIDE CAT 6, 1"C FROM TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET ET101 03) TO ACCESS CONTROL PANEL (STORAGE 105 - "LFUCG EXTERIOR STRUCTURES", SHEET EY101 02).
20	PROVIDE 1-1/2" CONDUIT WITH PULL STRING FROM THE VACTOR STORAGE 101 ("LFUCG VACTOR BUILDING", SHEET EY101 03) TO SM STORAGE F 106 ("LFUCG EXTERIOR STRUCTURES", SHEET EY101 02). CONTROLS CONTRACTOR SHALL UTILIZE FOR BAS NETWORK CABLING.
21	PROVIDE FIVE (5) CAT 6 CABLES (CAMERAS) IN 1-1/2"C FROM TELECOMMUNICATIONS EQUIPMENT RACK (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET EY101 03) TO CAMERAS AT THE EXTERIOR STRUCTURES (COLUMN G8 - "LFUCG EXTERIOR STRUCTURES", SHEET EY 101 02).
22	PROVIDE SIX (6) CAT 6 CABLES (CAMERAS) IN 1-1/2"C FROM TELECOMMUNICATIONS EQUIPMENT RACK (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET EY101 03) TO CAMERAS AT THE EXTERIOR STRUCTURES (COLUMN E18 - "LFUCG EXTERIOR STRUCTURES", SHEET EY 101 02).
23	POLE-MOUNTED SECURITY CAMERA(S) AND NEMA 4X SURVEILLANCE CABINET (CAMERA AND CAMERA MOUNT PROVIDED BY OWNER AS PART OF A SEPARATE CONTRACT). CONTRACTOR SHALL PROVIDE NEMA 4X SURVEILLANCE CABINET INCLUDING MEDIA CONVERTER SWITCH, POE INJECTOR AND 12VDC POWER SUPPLY. REFER TO DETAIL 1, SHEET EY502 01 FOR ADDITIONAL INFORMATION.
24	POLE-MOUNTED SECURITY CAMERA(S) - CAMERA AND CAMERA MOUNT PROVIDED BY OWNER AS PART OF A SEPARATE CONTRACT. REFER TO DETAIL 2, SHEET EY502 01 FOR ADDITIONAL INFORMATION.
25	PROVIDE ONE (1) 4-STRAND SINGLEMODE (OS2) OPTICAL FIBER IN 1"C FROM POLE-MOUNTED SECURITY CAMERAS TO TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01).
26	PROVIDE CAT 6, 1" C FROM POLE-MOUNTED SECURITY CAMERAS TO TELECOMMUNICATIONS EQUIPMENT RACK (IDF 287 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET401 01).
27	REFER TO ENLARGED DETAIL FOR ADDITIONAL WORK WITHIN THIS AREA.
28	SLIDE GATE NO. 1 CARD READERS (ACCESS CONTROL) - TWO (2) 6C#18 SHIELDED CABLE, 1-1/4"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET EY401 01).
29	SLIDE GATE NO. 1 OPERATOR BRANCH CIRCUIT (480V) FROM PANELBOARD L1 (ELECTRICAL ROOM 129 -"LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET EP402 01). UTILIZE 3#12, 1#12 GND, 1"C.
30	SLIDE GATE NO. 1 OPERATOR CONTROL (REMOTE / ACCESS CONTROL) - 2#12, 1#12 GND, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET EY401 01).
31	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET (SITE) TO THE TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER / SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING" - SHEET ET402 01).
32	AS A RESULT OF THE DEMOLITION PHASE, IT IS ANTICIPATED THAT THE EXISTING CIRCUIT SERVING THE FACILITY SIGN WILL BE DEMOLISHED. CONTRACTOR SHALL PROVIDE NEW CONDUIT/WIRING (MATCH EXISTING) TO BACKFEED FROM CIRCUIT INDICATED. ROUTE NEW WIRING THROUGH A NEW LIGHTING CONTACTOR INSTALLED IN ELECTRICAL ROOM 129 (SHEET EL402 01). REFER TO EXTERIOR LIGHTING CONTROLS - DETAIL LC-17, SHEET EL503 01.
33	POE INJECTOR CIRCUIT (120V) FROM INDICATED PANELBOARD. UTILIZE FOR POLE-MOUNTED CAMERA.
34	ROUTE CONDUIT WITHIN EFIS SYSTEM AT COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED. COORDINATE WITH GENERAL CONTRACTOR.
35	EXTEND CONDUIT ABOVE EXISTING SOFFIT TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS, AND ACCESS CONTROL PANELS) AS NOTED.
36	120V CIRCUIT FOR TELECOMMUNICATIONS EQUIPMENT CABINET (SITE). CONNECT TO 20A/1P BREAKER IN PANELBOARD RP1B - UTILIZE 2#8, 1#8 GND, 1"C.
37	PROVIDE 4" CONDUIT WITH PULL STRING FROM PROPERTY LINE TO ELECTRICAL ROOM 129 ("LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01) FOR OPTICAL FIBER SERVICE. CONTRACTOR SHALL CONCRETE ENCASE UNDER DRIVE; HOWEVER CONCRETE ENCASEMENT IS NOT REQUIRED BELOW THE SIDEWALK. REFER TO TRENCHING DETAILS ON SHEET E-504. LFUCG WILL PROVIDE AND INSTALL OPTICAL FIBER CABLE.
38	CAP 4" CONDUIT AT PROPERTY LINE.
39	PROVIDE A 36" X 36" CONCRETE HANDHOLE FOR OPTICAL FIBER CONDUIT. REFER TO DETAIL 7, SHEET E-501 01 FOR ADDITIONAL INFORMATION.
40	CONTRACTOR SHALL CORE DRILL BUILDING FOUNDATION AS REQUIRED TO ENTER BUILDING.
41	RACK-MOUNTED TELECOMMUNICATIONS EQUIPMENT CABINET (SITE). REFER TO SHEET ET604 01 AND DIVISION 27 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
42	PROVIDE CAT 6, 1"C FROM CAMERA TO TELECOMMUNICATIONS EQUIPMENT CABINET (SITE).
43	PROVIDE TWO (2) CAT 6 CABLES FROM CAMERAS TO TELECOMMUNICATIONS EQUIPMENT CABINET (SITE).
44	PROVIDE TWO (2) 120V CONNECTIONS TO THE NEW POST/PANEL SIGNAGE PROVIDED AS PART OF THIS PROJECT. ROUTE CIRCUITS THROUGH A NEW LIGHTING CONTACTOR INSTALLED IN ELECTRICAL ROOM 129 (SHEET EL402 01). REFER TO EXTERIOR LIGHITNG CONTROLS - DETAIL LC-17, SHEET EL503 01.
45	REFER TO SHEET ES103 01 FOR MODIFICATIONS REQUIRED AS PART OF ADD ALTERNATE #1 FOR THIS AREA.
46	PROVIDE TWO (2) 36" X 36" CONCRETE HANDHOLES FOR POWER AND OPTICAL FIBER CONDUIT. LOCATE OUTSIDE VEHICULAR TRAFFIC. REFER TO DETAIL 7, SHEET E-501 01 FOR ADDITIONAL INFORMATION.
47	PROVIDE TWO (2) 4" SPARE CONDUITS WITH PULLSTRING FROM LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY TO THE LFUCG EXTERIOR STRUCTURES. AT THE DWQ HEADQUARTERS & OPERATIONS FACILITY, EXTEND CONDUIT INTO BUILDING AND ROUTE OVERHEAD INTO MECHANICAL / ELECTRICAL ROOM 301 (SHEET EP404 01). AT THE EXTERIOR STRUCTURES, EXTEND CONDUIT INTO BUILDING AND ROUTE OVERHEAD INTO PS STORAGE B 102 (SHEET EP101 02).

GENERAL NOTES:

1	MINIMUM BURY FOR ALL SITE CONDUITS SHALL BE 24", UNLESS OTHERWISE NOTED. REFER TO TRENCHING DETAILS ON SHEET E-504 01 FOR ADDITIONAL INFORMATION.
2	SEE INDIVIDUAL BUILDING/STRUCTURE DRAWINGS FOR ALL REQUIRED CONDUITS/CONDUCTORS/CABLES ENTERING AND LEAVING AREAS.
3	LOCATE ALL EXISTING UNDERGROUND UTILITIES AND COORDINATE WITH GENERAL CONTRACTOR FOR ALL UNDERGROUND WORK PRIOR TO ANY EXCAVATION OR TRENCHING. MAINTAIN A MINIMUM 12" SEPARATION FROM OTHER UTILITIES, UNLESS OTHERWISE NOTED.
6	CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT / DRIVEWAYS AS REQUIRED FOR NEW UNDERGROUND CONDUITS.
7	ALL EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL AND UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC.
8	PROVIDE CONCRETE BASE AND GROUNDING FOR ALL POLE-MOUNTED LUMINAIRES. REFER TO DETAIL 8, SHEET E-502 01.

PLAN NORTH

1 SITE PLAN - ELECTRICAL NEW WORK
SCALE: 1" = 30'-0"

PATRICK J. BAISDEN — LICENSED PROFESSIONAL ENGINEER — STATE OF KENTUCKY — 24012 — 8/19/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 052AT-01
CLIENT PROJECT NO. RFP 70-2025

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SITE PLAN - ELECTRICAL NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

NO.	REVISIONS DESCRIPTION	BY	DATE
1	ADDENDUM #1	PJB	8/12/25

SCALE CHECK — THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED

DATE: AUGUST 15, 2025
SCALE: 1" = 30'-0"
SHEET NO.: ES102 01 X1

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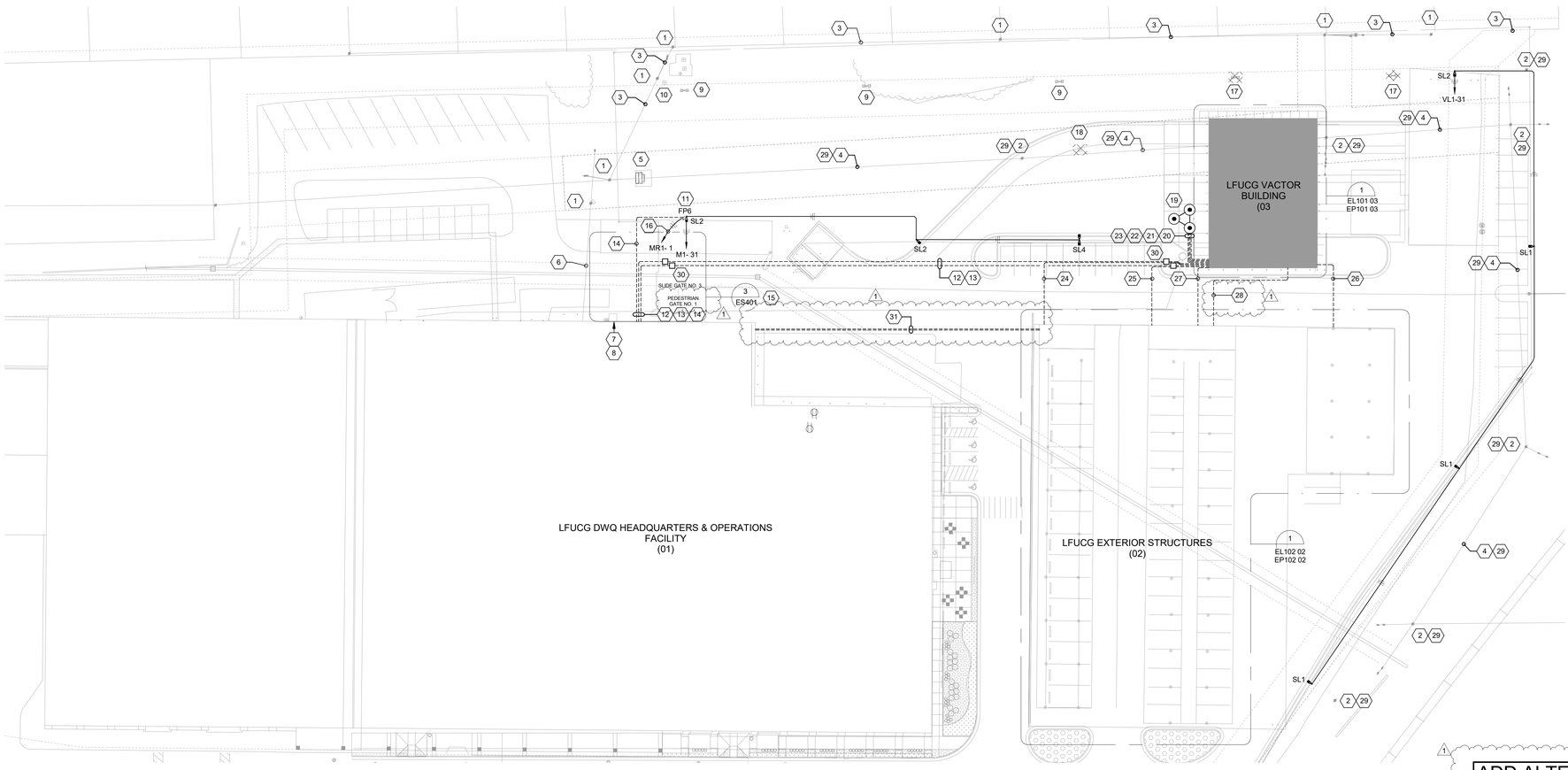

SHEET KEYNOTES

1	EXISTING UTILITY POLE AND ASSOCIATED GUY WIRE(S) SHALL REMAIN.
2	KENTUCKY UTILITIES (KU) WILL REMOVE THE EXISTING UTILITY POLE AND ASSOCIATED GUY WIRE(S).
3	EXISTING OVERHEAD UTILITIES SHALL REMAIN.
4	KENTUCKY UTILITIES (KU) WILL RELOCATE THE EXISTING OVERHEAD ELECTRICAL PRIMARY.
5	EXISTING PAD-MOUNTED TRANSFORMER SHALL REMAIN.
6	EXISTING OVERHEAD ELECTRICAL SECONDARY SERVING THE FACILITY SHALL REMAIN.
7	EXISTING 1200A ENCLOSED CIRCUIT BREAKER (SERVICE ENTRANCE RATED) SHALL REMAIN.
8	EXISTING ELECTRICAL METER SHALL REMAIN.
9	EXISTING POLE-MOUNTED LUMINAIRE SHALL REMAIN.
10	EXISTING TELEPHONE CABINET(S) SHALL REMAIN.
11	POLE-MOUNTED SECURITY CAMERA(S) AND NEMA 4X SURVEILLANCE CABINET (CAMERA AND CAMERA MOUNT PROVIDED BY OWNER AS PART OF A SEPARATE CONTRACT). CONTRACTOR SHALL PROVIDE NEMA 4X SURVEILLANCE CABINET INCLUDING MEDIA CONVERTER SWITCH, POE INJECTOR AND 12VDC POWER SUPPLY. REFER TO DETAIL 1, SHEET EY502 01 FOR ADDITIONAL INFORMATION.
12	PANELBOARD VL1 ELECTRICAL FEEDER - ROUTED FROM DISTRIBUTION PANELBOARD DP ("LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY", SHEET EP404 01) TO PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM III - NEW WORK, SHEET E-606 01).
13	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01) TO TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET ET101 03).
14	PROVIDE ONE (1) 4-STRAND SINGLEMODE (OS2) OPTICAL FIBER IN 1"C FROM POLE-MOUNTED SECURITY CAMERAS TO TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER/SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING", SHEET ET402 01).
15	REFER TO ENLARGED DETAIL FOR ADDITIONAL WORK WITHIN THIS AREA.
16	POE INJECTOR CIRCUIT (120V) FROM INDICATED PANELBOARD. UTILIZE FOR POLE-MOUNTED CAMERA.
17	REMOVE AND PROPERLY DISPOSE OF EXISTING POLE-MOUNTED LUMINAIRE AND ASSOCIATED POLE BASE.
18	REMOVE AND PROPERLY DISPOSE OF THE EXISTING TELEPHONE CABINET.
19	PROVIDE 3/4" X 10' COPPER GROUND RODS IN TRIAD CONFIGURATION, MINIMUM 10' APART.
20	BARE #2 COPPER GROUNDING ELECTRODE CONDUCTOR - EXTEND FROM PANELBOARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03).
21	BARE #2 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR1 TRANSFORMER ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO GROUNDING ELECTRODE CONDUCTOR.
22	BARE #6 COPPER GROUNDING CONDUCTOR - EXTEND FROM PANELBOARD VR2 TRANSFORMER ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO GROUNDING ELECTRODE CONDUCTOR.
23	BARE #6 GROUND FROM TMGB ("LFCUG VACTOR BUILDING", SHEET ET101 03) TO GROUNDING ELECTRODE CONDUCTOR.
24	PANELBOARD SR1 ELECTRICAL FEEDER - ROUTED FROM PANELOBARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR1 ("LFUCG EXTERIOR STRUCTURES", EP102 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
25	PANELBOARD SR2 ELECTRICAL FEEDER - ROUTED FROM PANELOBARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR2 ("LFUCG EXTERIOR STRUCTURES", EP102 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
26	PANELBOARD SR3 ELECTRICAL FEEDER - ROUTED FROM PANELOBARD VL1 ("LFUCG VACTOR BUILDING", SHEET EP101 03) TO PANELBOARD SR3 ("LFUCG EXTERIOR STRUCTURES", EP102 02). REFER TO CONDUIT/CONDUCTOR INFORMATION ON ELECTRICAL ONE-LINE DIAGRAM - VACTOR BUILDING, SHEET E-601 03).
27	PROVIDE 1-1/2" CONDUIT WITH PULL STRING FROM THE VACTOR STORAGE 101 ("LFUCG VACTOR BUILDING", SHEET EY101 03) TO STORAGE C 103 ("LFUCG EXTERIOR STRUCTURES", SHEET EY102 02). CONTROLS CONTRACTOR SHALL UTILIZE FOR BAS NETWORK CABLING.
28	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET (PRE-MANUFACTURED STORAGE UNIT 102 - "LFUCG VACTOR BUILDING", SHEET ET101 03) TO TELECOMMUNICATIONS EQUIPMENT CABINET (SM STORAGE E 105 - "LFUCG EXTERIOR STRUCTURES", SHEET EY102 02).
29	LFUCG WILL PAY KU DIRECTLY FOR THEIR WORK. CONTRACTOR DOES NOT NEED TO INCLUDE THIS COST.
30	PROVIDE TWO (2) 36" X 36" CONCRETE HANDHOLES FOR POWER AND OPTICAL FIBER CONDUIT. LOCATE OUTSIDE VEHICULAR TRAFFIC. REFER TO DETAIL 7, SHEET E-501 01 FOR ADDITIONAL INFORMATION.
31	PROVIDE TWO (2) 4" SPARE CONDUITS WITH PULLSTRING FROM LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY TO THE LFUCG EXTERIOR STRUCTURES. AT THE DWQ HEADQUARTERS & OPERATIONS FACILITY, EXTEND CONDUIT INTO BUILDING AND ROUTE OVERHEAD INTO MECHANICAL / ELECTRICAL ROOM 301 (SHEET EP404 01). AT THE EXTERIOR STRUCTURES, EXTEND CONDUIT INTO BUILDING AND ROUTE OVERHEAD INTO PS STORAGE B 102 (SHEET EP101 02).

ADD ALTERNATE #1

1	ADD ALTERNATE #1 WILL REQUIRE THE WORK SHOWN ON THE BASE BID DRAWINGS (SHEET ES102 01 AND ES401 01); HOWEVER, WORK SHALL BE MODIFIED AS SHOWN ON THIS DRAWING FOR THE ALTERNATE LOCATION OF THE "LFUCG VACTOR BUILDING".

GENERAL NOTES:

1	MINIMUM BURY FOR ALL SITE CONDUITS SHALL BE 24", UNLESS OTHERWISE NOTED. REFER TO TRENCHING DETAILS ON SHEET E-504 01 FOR ADDITIONAL INFORMATION.
2	SEE INDIVIDUAL BUILDING/STRUCTURE DRAWINGS FOR ALL REQUIRED CONDUITS/CONDUCTORS/CABLES ENTERING AND LEAVING AREAS.
3	LOCATE ALL EXISTING UNDERGROUND UTILITIES AND COORDINATE WITH GENERAL CONTRACTOR FOR ALL UNDERGROUND WORK PRIOR TO ANY EXCAVATION OR TRENCHING. MAINTAIN A MINIMUM 12" SEPARATION FROM OTHER UTILITIES, UNLESS OTHERWISE NOTED.
6	CONTRACTOR SHALL SAW/CUT EXISTING PAVEMENT / DRIVEWAYS AS REQUIRED FOR NEW UNDERGROUND CONDUITS.
7	ALL EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL AND UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC.
8	PROVIDE CONCRETE BASE AND GROUNDING FOR ALL POLE-MOUNTED LUMINAIRES. REFER TO DETAIL 8, SHEET E-502 01.

PLAN NORTH

1 ADD ALTERNATE #1 SITE PLAN - ELECTRICAL NEW WORK
SCALE: 1" = 30'-0"

PATRICK J. BAISDEN
STATE OF KENTUCKY
LICENSED PROFESSIONAL ENGINEER
21012
8/14/25

CONSTRUCTION DOCUMENTS

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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ADD ALTERNATE #1 - SITE PLAN - ELECTRICAL NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	DRAWN:	REVIEWED:	APPROVED:
PJB	PJB	PJB	PJB

REVISIONS

NO.	REVISION/DESCRIPTION	DATE	BY
1	ADDENDUM #1	8/13/25	PJB

THIS MARK SHOULD MEASURE EXACTLY 1" WHEN PLOTTED
SCALE CHECK

DATE: AUGUST 15, 2025
SCALE: 1" = 30'-0"
SHEET NO. ES103 01 X1

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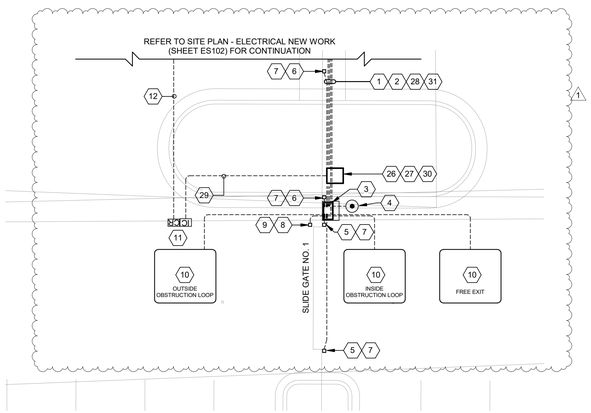
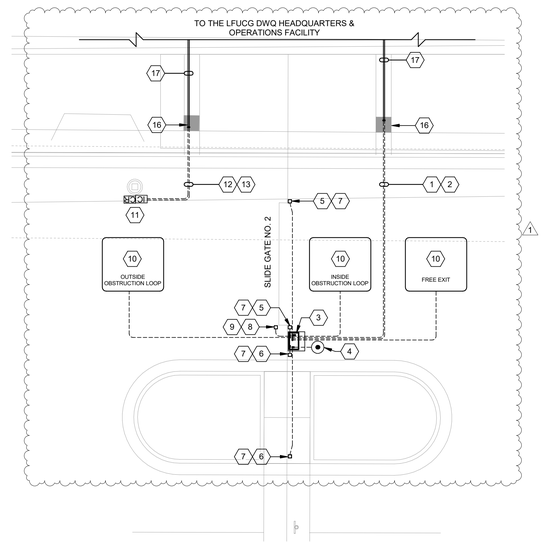


1 ENLARGED SITE PLAN - SLIDE GATE NO. 1

SCALE: 1/8" = 1'-0"



2 ENLARGED SITE PLAN - SLIDE GATE NO. 2

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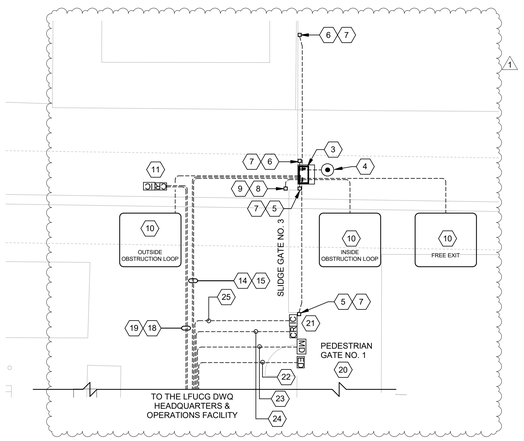

3 ENLARGED SITE PLAN - SLIDE GATE NO. 3

SCALE: 1/8" = 1'-0"

PLAN NORTH

GENERAL NOTES:

1	MINIMUM BURY FOR ALL SITE CONDUITS SHALL BE 24", UNLESS OTHERWISE NOTED. REFER TO TRENCHING DETAILS ON SHEET E-504 01 FOR ADDITIONAL INFORMATION.
2	SEE INDIVIDUAL BUILDING/STRUCTURE DRAWINGS FOR ALL REQUIRED CONDUITS/CONDUCTORS/CABLES ENTERING AND LEAVING AREAS.
3	LOCATE ALL EXISTING UNDERGROUND UTILITIES AND COORDINATE WITH GENERAL CONTRACTOR FOR ALL UNDERGROUND WORK PRIOR TO ANY EXCAVATION OR TRENCHING. MAINTAIN A MINIMUM 12" SEPARATION FROM OTHER UTILITIES, UNLESS OTHERWISE NOTED.
6	CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT / DRIVEWAYS AS REQUIRED FOR NEW UNDERGROUND CONDUITS.
7	ALL EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL AND UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC.
8	PROVIDE CONCRETE BASE AND GROUNDING FOR ALL POLE-MOUNTED LUMINAIRES. REFER TO DETAIL 8, SHEET E-502 01.

SHEET KEYNOTES

1	SLIDE GATE OPERATOR BRANCH CIRCUIT (480V) FROM PANELBOARD L1 (SHEET EP402) - UTILIZE 3#12, 1#12 GND, 1"C.
2	SLIDE GATE OPERATOR CONTROL (REMOTE / ACCESS CONTROL) - 6#12, 1#12 GND, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 - SHEET EY401).
3	SLIDE GATE OPERATOR (2HP, 460V/3-PHASE). PROVIDE 20'W X 30'L X 15"D CONCRETE PAD (COORDINATE REQUIREMENTS WITH MANUFACTURER AND PROVIDE COMPLETE).
4	3/4" X 10' GROUND ROD WITH #6 AWG COPPER GROUND CONDUCTOR. PROVIDE 1" PVC SLEEVE. TERMINATE ON GROUND LUG WITHIN OPERATOR.
5	PHOTO EYE SENSOR (TRANSMITTER OR RECEIVER) FOR LEADING END PROTECTION. COORDINATE LOCATION WITH GATE OPERATOR INSTALLER. MOUNT SIMILAR TO DETAIL 8, SHEET E-501.
6	PHOTO EYE SENSOR (TRANSMITTER OR RECEIVER) FOR TRAILING END PROTECTION. COORDINATE LOCATION WITH GATE OPERATOR INSTALLER. MOUNT SIMILAR TO DETAIL 8, SHEET E-501.
7	PROVIDE 3#12, 1#12 GND, 1"C FROM PHOTO EYE SENSOR TO THE GATE OPERATOR.
8	WIRED EDGE ENTRAPMENT SENSOR ON POST.
9	PROVIDE 3#12, 1#12 GND, 1"C FROM WIRED EDGE SENSOR TO THE GATE OPERATOR.
10	OBSTRUCTION LOOP (OR RESET LOOP). CONTRACTOR TO PROVIDE 1"C FROM GATE OPERATOR TO LOOP.
11	DUAL HEIGHT CARD READER/INTERCOM PEDESTAL WITH PROTECTION BOLLARD. COORDINATE SETBACK (18'-6") FROM GATE WITH LFUCG PRIOR TO ROUGH-IN. REFER TO DETAIL 1, SHEET EY503 FOR ADDITIONAL INFORMATION.
12	CARD READERS (ACCESS CONTROL) - TWO (2) 6C#18 SHIELDED CABLE, 1-1/4"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (IDF 287 - SHEET EY401).
13	INTERCOM DOOR STATIONS - PROVIDE TWO (2) CAT 6 IN 1"C FROM CARD READER/INTERCOM PEDESTAL TO IDF 287 (SHEET ET401).
14	SLIDE GATE OPERATOR BRANCH CIRCUIT (480V) FROM PANELBOARD M1 (SHEET EP404) - UTILIZE 3#12, 1#12 GND, 1"C.
15	SLIDE GATE OPERATOR CONTROL (REMOTE / ACCESS CONTROL) - 2#12, 1#12 GND, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
16	ROUTE CONDUIT WITHIN EFIS SYSTEM AT COLUMN. PATCH, REPAIR, AND PAINT AS REQUIRED, COORDINATE WITH GENERAL CONTRACTOR.
17	EXTEND CONDUIT ABOVE EXISTING SOFFIT TO DESIGNATED EQUIPMENT (PANELBOARDS, EQUIPMENT RACKS, AND ACCESS CONTROL PANELS) AS NOTED.
18	CARD READERS (ACCESS CONTROL) - TWO (2) 6C#18 SHIELDED CABLE, 1-1/4"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
19	INTERCOM DOOR STATIONS - PROVIDE TWO (2) CAT 6 IN 1"C FROM CARD READER/INTERCOM PEDESTAL TO COMPUTER/SERVER 261 (SHEET ET402).
20	PEDESTRIAN GATE WITH ELECTRIFIED LATCH RETRACTION, POSITION SWITCH, AND CARD READER. PROVIDE CONDUIT/WIRING BACK TO POWER SUPPLY AND ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402). REFER TO DETAIL 2, SHEET EY503.
21	CARD READER/INTERCOM PEDESTAL. REFER TO DETAIL 3, SHEET EY503 FOR ADDITIONAL INFORMATION.
22	PEDESTRIAN GATE CONTROL (REMOTE / ACCESS CONTROL) - 4#14, 2#18, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
23	BALANCED MAGNETIC SWITCH (MONITORING) - 2#18, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
24	CARD READER (ACCESS CONTROL) - 6C#18 SHIELDED CABLE, 1"C. CONNECT TO ASSOCIATED ACCESS CONTROL PANEL (COMPUTER/SERVER 261 - SHEET EY402).
25	INTERCOM DOOR STATION - PROVIDE CAT 6 IN 1"C FROM CARD READER/INTERCOM PEDESTAL TO COMPUTER/SERVER 261 (SHEET ET402).
26	RACK-MOUNTED TELECOMMUNICATIONS EQUIPMENT CABINET (SITE). REFER TO SHEET ET604 01 AND DIVISION 27 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
27	PROVIDE EQUIPMENT RACK SIMILAR TO DETAIL 9, SHEET E-501 FOR MOUNTING OF TELECOMMUNICATIONS EQUIPMENT CABINET.
28	PROVIDE 2" CONDUIT WITH 12-STRAND SINGLEMODE (OS2) OPTICAL FIBER FROM TELECOMMUNICATIONS EQUIPMENT CABINET (SITE) TO THE TELECOMMUNICATIONS EQUIPMENT RACK (COMPUTER / SERVER 261 - "LFUCG DWQ HEADQUARTERS & OPERATIONS BUILDING" - SHEET ET402 01).
29	INTERCOM DOOR STATIONS - PROVIDE TWO (2) CAT 6 IN 1"C FROM CARD READER/INTERCOM PEDESTAL TO TELECOMMUNICATIONS EQUIPMENT CABINET (SITE).
30	MOUNT 120V RECEPTACLE IN TELECOMMUNICATIONS EQUIPMENT CABINET.
31	120V CIRCUIT FOR TELECOMMUNICATIONS EQUIPMENT CABINET (SITE). CONNECT TO 20A/1P BREAKER IN PANELBOARD RP1B - UTILIZE 2#8, 1#8 GND, 1"C.

STATE OF KENTUCKY
PATRICK J. BAISDEN
22012
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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SITE PLAN - ENLARGED ELECTRICAL NEW WORK

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED:	PJB
DRAWN:	PJB
REVIEWED:	PJB
APPROVED:	PJB

REVISIONS

NO.	ACCDOCS# #1	REVISION DESCRIPTION	DATE	BY/CD
1			8/19/25	PJB

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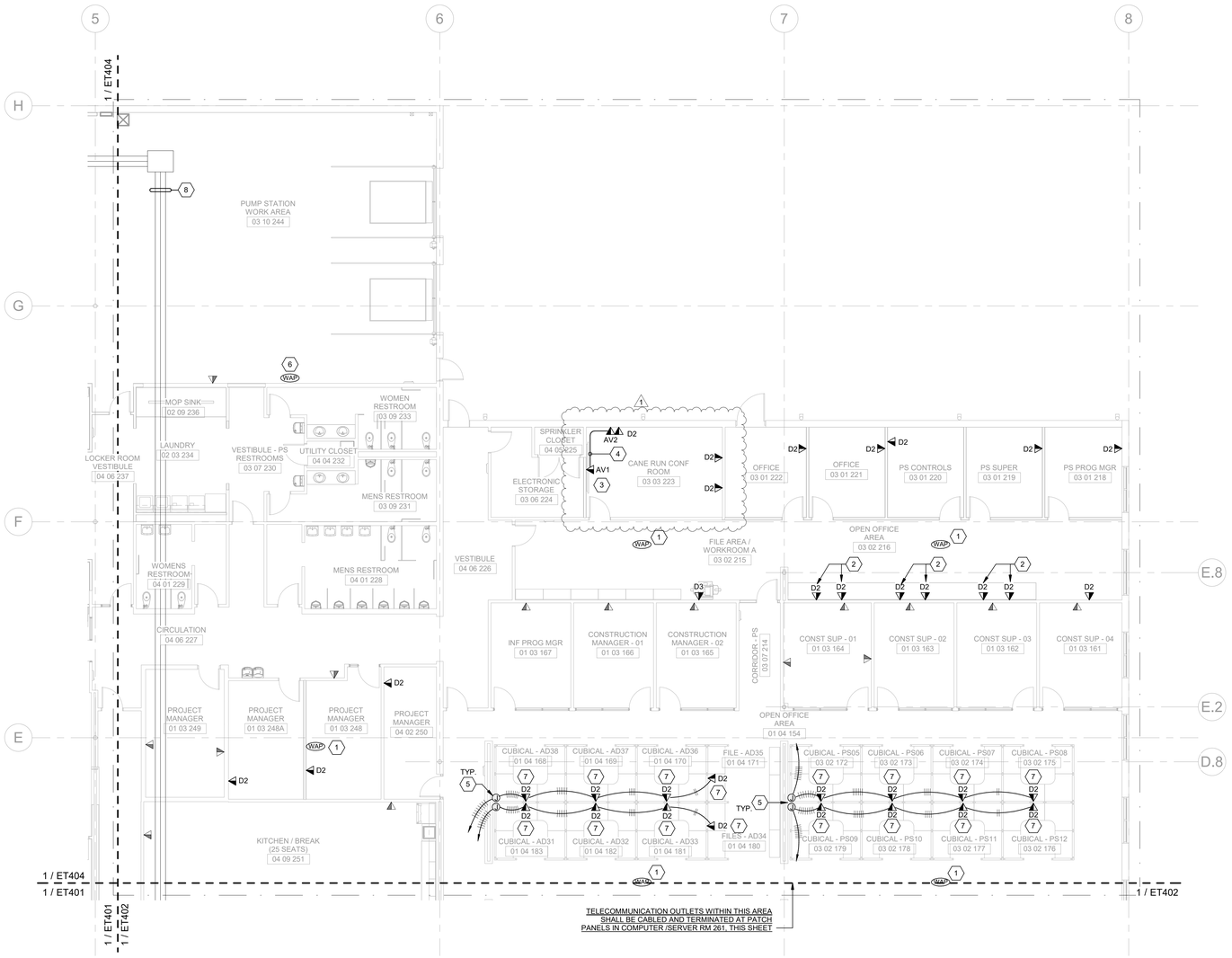


1 FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA C
SCALE: 1/8" = 1'-0"

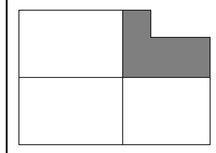
GENERAL NOTES:

1	WORK SHOWN IN LIGHT PEN (SHADED) IS EXISTING TO REMAIN EQUIPMENT / DEVICES. WORK SHOWN IN HEAVY PEN (BOLD) IS NEW WORK; HOWEVER, MAY BE NEW EQUIPMENT OR REINSTALLATION OF EXISTING DEVICES (AS NOTED).
2	TELECOMMUNICATION DEVICE TAGS INDICATE THE ASSOCIATED CONFIGURATION TYPE. REFER TO SHEET ET501 FOR ADDITIONAL INFORMATION.
3	CONDUIT SHALL BE UTILIZED FOR HORIZONTAL CABLING TO ABOVE LAY-IN CEILINGS. CONTRACTOR SHALL TRANSITION FROM CONDUIT TO J-HOOKS / BRIDAL RINGS FOR ROUTING TO CABLE TRAY OR EQUIPMENT ROOM. CABLE TRAY AND J-HOOK / BRIDAL RING PATH SHALL BE COORDINATED WITH OTHER TRADES.
4	THE ENTIRE TELECOMMUNICATIONS SYSTEM INCLUDING OUTLETS, PATCH PANELS, ETC. SHALL BE LABELED IN ACCORANCE WITH TIA/EIA-606-A. LABELS SHALL BE MACHINE GENERATED.
5	CONDUIT ONLY SHALL BE UTILIZED ABOVE INACCESSIBLE CEILINGS AND EXPOSED STRUCTURES.
6	INSTALL NYLON BUSHINGS ON ALL CONDUITS TERMINATIONS FOR CABLE PROTECTION.
7	REFER TO DIVISION 27 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SHEET KEYNOTES

1	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX ABOVE CEILING.
2	MOUNT TELECOMMUNICATIONS OUTLET 4" ABOVE COUNTERTOP / BACKSPLASH. COORDINATE WITH ARCHITECTURAL DRAWINGS AND APPROVED CASEWORK SHOP DRAWINGS PRIOR TO ROUGH-IN.
3	TELECOMMUNICATIONS OUTLET FOR WALL-MOUNTED TV. MOUNT OUTLET AT 72" AFF.
4	PROVIDE 1-1/2"C WITH HDMI AND CAT 6 CABLES BETWEEN THE TELECOMMUNICATIONS OUTLETS (AV1/AV2).
5	CONTRACTOR SHALL PROVIDE RECESSED JUNCTION BOX WITH BLANK COVERPLATE. PROVIDE COVERPLATE WITH KO FOR FLEXIBLE CONNECTION TO WORKSTATION TELECOMMUNICATIONS OUTLETS.
6	LOCATION OF OWNER PROVIDED / CONTRACTOR INSTALLED WIRELESS ACCESS POINT. PROVIDE 1-PORT KEYSTONE SURFACE MOUNTED BOX - MOUNT TO BOTTOM OF STRUCTURE.
7	PROVIDE AND INSTALL TELECOMMUNICATIONS OUTLET WITHIN WORKSTATION/DESK. COORDINATE WITH APPROVED WORKSTATION SHOP DRAWINGS.
8	APPROXIMATE ROUTING OF THREE (3) EXISTING TELECOMMUNICATIONS CONDUITS (4"). CONTRACTOR MAY UTILIZE FOR THE 12-STRAND SINGLE-MODE OPTICAL FIBER (OS2) ROUTED TO THE "LFUCG VACTOR BUILDING". REFER TO SITE PLAN - ELECTRICAL NEW WORK, SHEET ES102 AND "LFUCG VACTOR BUILDING" - FIRST LEVEL - TELECOMMUNICATIONS PLAN, SHEET ET101 03 FOR CONTINUATION.

AREA KEY PLAN



PLAN NORTH

PATRICK J. BAISDEN
LICENSED PROFESSIONAL ENGINEER
8/19/25

GRW PROJECT NO. 05247-01
CLIENT PROJECT NO. RFP 70-2025

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FIRST LEVEL - TELECOMMUNICATIONS PLAN - AREA C

LFUCG DWQ HEADQUARTERS & OPERATIONS FACILITY
134 WEST NEW CIRCLE ROAD

DESIGNED: PJB
DRAWN: PJB
REVIEWED: PJB
APPROVED: PJB

REVISIONS

NO.	ADDENDUM #?	DESCRIPTION	DATE	BY
1			8/2025	PJB

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LE Gregg ASSOCIATES

Geotechnical Engineers and Geologists

Geotechnical Engineering Exploration

Project:
Lexington Fayette Urban County Government
Division of Water Quality
Headquarters and Operations Building
Lexington, Kentucky

Prepared for:
Lexington Fayette Urban County Government

Richard Dugas

August 20, 2025

August 20, 2025

Richard Dugas
Lexington Fayette Urban County Government
Environmental Quality and Public Works
200 East Main Street
Lexington, KY 40507

RE: Report of Geotechnical Exploration
LFUCG DWQ Headquarters and Operations Building
Lexington, Kentucky
L.E. Gregg Project Number: 2025032

Mr. Dugas,

L.E. Gregg Associates is pleased to present our report for the geotechnical exploration performed at the above referenced site. The attached report presents a review of the project information provided to us, a description of the site and subsurface conditions encountered, as well as any foundation and earthwork recommendations for the proposed project.

Unless prior arrangements are made, any remaining soil samples will be discarded shortly after the issue date of this report. Rock cores will be retained for a period of 12 months and then discarded.

We appreciate the opportunity to assist you on this project. If we can be of further service on this or other projects, please contact us.

Respectfully,

L.E. GREGG ASSOCIATES

Steven Mortimer, P.E.
Senior Engineer

Jason Ainslie, P.E.
President

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Appendix B – Logs of Borings
Appendix C – Site Location Map and Drawings
Appendix D – Seismic Site Class/Design Information

1.0 INTRODUCTION

1.1 PURPOSE OF EXPLORATION

The purpose of this exploration was to determine the general subsurface conditions existing at the project site through a program of controlled drilling, sampling, and testing; and to evaluate these findings with respect to the project concept, design, and currently accepted engineering practices. The purpose and scope of work is based upon information provided by Richard Dugas with Lexington Fayette Urban County Government (LFUGC) and outlined in L.E. Gregg proposal P25-055, dated July 31, 2025. More specifically, the objectives are:

1. Determine depths to and elevations of the underlying bedrock surface beneath the proposed structures and the general geologic conditions existing at the site.

2. Determine existing surface and subsurface water conditions at the site and their relation to design, construction, and service of the proposed project.

3. Make general recommendations concerning design and construction based on the encountered conditions.

2.0 PROJECT INFORMATION

2.1 BACKGROUND INFORMATION

Project information was provided in a request for proposal to L.E. Gregg Associates from LFUCG. The proposed project is for the construction of a new structure for the LFUCG Division of Water Quality at the rear of 130 West New Circle Road.

2.2 SITE SURFACE CONDITIONS

In reviewing historical aerial images of the site, it appears that the shopping center was constructed sometime between 1960 and 1965. Since this time, the rear of the property in the area of the proposed construction has been relatively undisturbed. The majority of the ground surface was grass covered at the time of the field exploration. The site is bordered to the northeast and southeast by asphalt parking areas and the shopping center. It is bordered to the northwest by North Broadway and to the southwest by residential properties along Broadview Drive.

2.3 SITE GEOLOGY

Geologic information was referenced from the *Geologic map of the Lexington East quadrangle, Fayette and Bourbon Counties, Kentucky, 1968*. Materials underlying the site are of Lower to Middle Ordovician age and classified as belonging to the Tanglewood Limestone Member. The Tanglewood Limestone Member consists of limestone and shale. The limestone (80 percent), is generally light gray, medium to coarse grained, thin to thick bedded, phosphatic, bioclastic, and

very fossiliferous to sparingly fossiliferous. The shale is generally limy, medium gray, and mostly interlaminated with fine grained shaly limestone.

The karst potential in the vicinity of the site is characterized as intense. There are no mapped sinkholes located within the project area or in the immediate vicinity. It should be noted that sinkholes are common in this region and that caverns can extend laterally and may be unobserved from the ground surface.

There are no faults crossing the project area; however, there are several that lie along the east and southeast side of Lexington. Faults are common geologic structures across the Commonwealth of Kentucky and have been mapped in many counties. These faults represent seismic activity that has occurred several million years ago at the latest and there has been no activity along these faults in recorded history. Seismic risk associated with these faults is considered to be very low.

3.0 EXPLORATION FINDINGS

3.1 SUBSURFACE CONDITIONS

General

Field testing procedures were performed in general accordance with ASTM practices, procedures, and standards. The borings were advanced using 4 in. solid flight augers. Samples were recovered in the undisturbed material below the tip of the auger using the standard drive sample technique in accordance with ASTM D 1586 and the thin-walled tube sampling technique in accordance with ASTM D1587. A 2 in. O.D. (outside diameter) by 1 ⅜ in. I.D. (inside diameter) split-spoon sampler was driven a total of 18 in. with the number of blows of a 140 lb. hammer falling 30 in. recorded for each 6 in. of penetration. The sum of the blows for the final 12 in. of penetration is referred to as the Standard Penetration Test (SPT) result, also known as the N-value, or blow count, which is recorded in blows per foot (bpf). Split spoon samples were generally recovered at 0.0, 1.5, 4.0, 6.5, 9.0 ft., and at 5.0 ft. intervals thereafter. These intervals may be adjusted in the field if gravel, boulders, shot rock, asphalt, or concrete surfaces are encountered. The boreholes were backfilled immediately with auger cuttings and/or granular material for safety considerations.

Soil Conditions

The geotechnical exploration consisted of six (6) soil test borings, labeled B-1 thru B-6, and seven (7) rock line soundings, labeled S-1 thru S-7. Boring and sounding locations were located and staked in the field by L.E. Gregg Associates based on the provided layout. The approximate boring locations are shown on the boring layout in Appendix C.

The following subsurface descriptions are of a generalized nature in order to highlight the subsurface stratification features and material characteristics at the boring locations. The boring logs included in Appendix B of this report should be reviewed for specific information at each boring location. Information on actual subsurface conditions exists only at the specific boring locations and is relevant only to the time period that this exploration was performed. Variations may occur and should be expected at the site.

The subsurface conditions are separated between the two proposed structures are described as follows:

Asphalt paving sections were encountered at borings B-1 and B-2 from the surface to approximately 6 in.

Topsoil was encountered at the remaining locations from the surface to approximately 4 in.

Natural Soil materials consisting of lean clay materials were encountered in all of the borings from below the topsoil or asphalt paving materials to refusal depths. The materials consisted of clay materials with varying amounts of gravel and/or weathered rock. The soils were silty and/or sandy, firm to very stiff, and dry to slightly moist. The materials had Standard Penetration Test "N" blows ranging from 15 to 33 bpf and natural moisture contents ranging from 11.1 to 24.8 percent.

The results for the field exploration are summarized in Table 1.

Table 1 – Summary of Drilling Information

Location	*Elevation (ft.)	Refusal Depth (ft.)	Refusal Elevation (ft.)
B-1	975	2.3	972.7
B-2	975	3.7	971.3
B-3	978	2.8	975.2
B-4	979	3.5	975.5
B-5	979	3.3	975.7
B-6	979	3.9	975.1
S-1	979	2.8	976.2
S-2	980	3.5	976.5
S-3	981	2.5	978.5
S-4	980	3.0	977.0
S-5	981	2.0	979.0
S-6	976	4.6	971.4
S-7	980	1.5	978.5

Elevations are taken from the provided grading plan and are approximate.

Rock Conditions

All borings and soundings completed during this exploration were advanced to refusal with refusal depths ranging from 1.5 to 4.6 ft. Refusal generally indicates materials that cannot be penetrated with typical soil drilling methods. Therefore, refusal can indicate one or more of the

following: coarse gravel, boulders, shot rock fill, buried concrete, weathered rock, thin rock seams, or the upper surface of sound, continuous bedrock. Core drilling is then required to determine the characteristics and soundness of the refusal materials. Coring was performed at boring B-1 from 2.3 to 12.3 ft. The refusal materials were cored according to ASTM D 2113, which utilizes a diamond studded bit fastened to the end of a hollow double tube core barrel. The assembly is lowered to refusal depth and the boring is flooded with water to control overheating and to bring the cuttings to the surface. As the drill is rotated at high speeds, the core bit advances into the refusal material and core samples are retained within the inner core barrel. These samples are removed after core runs of up to ten feet and placed in boxes for storage. The core samples were taken back to the laboratory where they were classified as to type of rock, percent recovery, and rock quality designation by an L.E. Gregg geologist or engineer. The percent core recovery (REC) is a ratio of the recovered sample length versus the total length attempted and is expressed as a percentage. The REC is used to assess the continuity of the refusal material. The rock quality designation (RQD) is obtained by summing up the length of core recovered, including only the portions that are greater than or equal to 4 inches, and dividing by the total length attempted. This is also expressed as a percentage and is used to assess the quality of the refusal material.

The core obtained from B-1 consisted of limestone with thin interbeds of shale. The core was gray with thin interbeds of dark gray shale. The material was fractured and fossiliferous. The core had a recovery of 93% and an RQD of 37%. This indicates that the bedrock is continuous and of poor quality.

Water Conditions

Water was not encountered in any of the borings during the field exploration. Groundwater levels are expected to stay near or below bedrock elevations. Groundwater refers to any water that percolates through the soil and can refer to isolated or perched water pockets or water that occurs below the "water table", which is a zone that remains saturated and water-bearing. The groundwater levels encountered during drilling may fluctuate significantly over time due to weather influences and should not be considered a true static groundwater level.

3.2 SEISMIC SITE CLASSIFICATION

The Kentucky Building Code (current edition), Chapter 20 of ASCE 7-16, and the ASCE 7 Hazard Tool were reviewed to determine the Seismic Site Classification for the site based on the following coordinates, 38.066086°N, 84.474259°W. Based on review of geologic data, previous experience with similar projects, and the subsurface conditions encountered, a **Seismic Site Class "B"** is recommended for rock bearing foundations. We have assumed a Seismic Risk Category of II for the site.

Using a Site Classification of **B**, we recommend the use of spectral response acceleration coefficients as follows:

0.2 second period: $\mathbf{S_S}$ = 0.172 and Soil Factor = 0.9

1.0 second period: $\mathbf{S_I}$ = 0.082 and Soil Factor = 0.8

The design spectral response acceleration factors are as follows:

$\mathbf{S_{DS}}$ = 0.103

$\mathbf{S_{DI}}$ = 0.044

4.0 GEOTECHNICAL RECOMMENDATIONS

4.1 GEOTECHNICAL CONSIDERATIONS

General

Based on the provided information, the subsurface conditions encountered and past experience with similar projects, the site is suitable for the proposed development provided the following considerations are addressed. These considerations are briefly summarized below.

Shallow Bedrock

Auger refusal was encountered across the site at depths ranging from 1.5 to 4.6 ft. Weathered bedrock was generally encountered before refusal. The underlying bedrock consists of limestone with thin interbeds of shale. The weathered material may be rippable to an extent; however, pneumatic ramming will be required for mass bedrock removal.

Silty and/or Sandy Materials

Natural materials consisting of silty and/or sandy clays were encountered in at the site. These materials can be sensitive to changing moisture conditions and can degrade under repetitive loading and unloading. Heavy equipment traffic during construction can cause these materials to break down. Care will need to be taken to limit heavy construction traffic across the building pad and the contractor will need to consider changing moisture conditions during construction. The owner and contractor should consider seasonal weather patterns for construction scheduling.

Karst Potential

Karst potential in the location of the site is classified as karst intense. Sinkholes are common in this region and caverns can extend laterally and may be unobserved from the ground surface. It should also be noted that the rock formations underlying the site are known for horizontal and vertical solution cavities that may go unnoticed for long periods of time. There is a potential for karst features such as solution channels, rock pinnacles, or sinkholes to be encountered during construction.

Excavation Sloping and/or Benching

All excavation work must be performed in accordance with OSHA and local building code requirements. The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations.

Ground Water or Free Water

Water was not encountered during the field exploration. Groundwater levels may fluctuate significantly over time due to weather influences. The available geological information and past experience with similar projects indicates that it is possible that during construction ground water could be encountered. Ground water and/or free water encroaching upon construction excavations should be removed by placing a sump near the source of seepage and then pumping from the sump. Should heavy seepage or ponding of water occur, L.E. Gregg should be contacted.

Site Drainage

Positive site drainage and adequate subgrade drainage are critical for performance of the proposed foundations. During construction, large quantities of water should not be allowed to accumulate on the site.

4.2 FOUNDATIONS

General

Lean clay materials and shallow bedrock materials were encountered during the exploration. We have assumed that minimal cut and fill operations will be required to achieve the required subgrades. Due to the shallow refusal depths encountered, we would recommend that the proposed foundations bear within the underlying bedrock.

Rock Bearing Foundations

Typical spread foundations bearing within unweathered competent bedrock materials should be designed for a maximum allowable bearing capacity of 10,000 pounds per square foot (psf). The bearing materials used should be uniform and rock removal should be expected to remove weathered material.

Excavate foundations down to competent bedrock. L.E. Gregg should observe the bearing surface once foundation excavations have been completed. Please note that foundation excavations may need to be deepened if the weathered bedrock is observed to be unsuitable as a bearing surface.

In order to check the continuity of the bedrock, a 2 to 3 in. diameter air hole should be drilled in the footprint of each column location and at 50 ft. intervals along continuous wall foundations to a depth of 5 ft. The hole should then be "probed" by a qualified geotechnical technician to check for any soft compressible seams, coal or other discontinuities. If this check indicates a discontinuous or compressible seam in the rock, the rock material will need to be excavated deeper. Significant deviations from the specified or anticipated conditions should be reported to the owner's representative and to the foundation designer.

As an alternative to bearing directly on competent bedrock, the foundation excavations may be trenched down to bedrock and backfilled with lean concrete to the bearing elevation. If the trenching method is preferred, widen footing excavations by a minimum of six (6) inches on each side and backfill the foundation excavation from bedrock to the bearing elevation with lean concrete.

Construction Considerations

All vegetation, topsoil, unsuitable fill soil (if required), loose rock fragments greater than 6 inches, construction debris, water, and other debris should be removed from the proposed construction areas before concrete placement. Any trench excavations should have adequate shoring and/or benching per OSHA requirements. The foundation support and/or foundation side walls should be protected from freezing weather, severe drying, and water ponding. Positive drainage should be provided to direct surface runoff away from excavations.

4.3 SLAB ON GRADE

Slab on grade areas should be thoroughly proofrolled and any areas showing deflections or pumping should be removed and replaced. Slabs should be designed using a modulus of subgrade reaction, k, of 150 psi/in. We typically recommend that the floor slab should be fully ground supported and not structurally connected to any walls or foundations in order to reduce the possibility of cracking and displacement of the floor slab due to any differential settlement between it and the foundation. If the design requires a turn down slab or areas where the slab is tied to perimeter walls, differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The potential for differential settlement should be accounted for through use of sufficient control joints, appropriate reinforcing, or other means. We recommend that control joints be placed in the slab around columns and along footing supported walls to reduce cracking due to minor differential settlements. We recommend that ACI 302.1R-96 "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION" be followed for design and placement

of concrete floor slabs. Areas that may encounter higher point loading such as freezers, lab equipment, etc… should be designed with greater reinforcement. We recommend that a vapor barrier and a minimum of 4 inches of crushed stone be placed beneath the slab to act as a moisture block. The crushed stone or gravel should be kept moist, but not wet, immediately prior to slab concrete placement to minimize curling of the slab due to differential curing conditions between the top and bottom of the slab. These measures should help equalize loading and moisture conditions under the slab. Isolation joints should be provided between the slab and any columns or footing supported walls. Interior construction joints using dowels could be used to reduce any sharp vertical displacements.

4.4 SITE PREPARATION AND GRADING

All vegetation, topsoil, unsuitable fill soil (if required), loose rock fragments greater than 6 in., construction debris, and other debris should be removed from the proposed construction areas. After completion of stripping operations, we recommend that the subgrade be proofrolled with a fully-loaded, tandem-axle dump truck or other pneumatic-tired construction equipment of similar weight. The geotechnical engineer or their representative should observe proofrolling. Areas judged to perform unsatisfactorily should be undercut and replaced with structural soil fill or remediated at the geotechnical engineer's recommendation.

4.5 FILL PLACEMENT

Material considered suitable for use as structural fill should be clean soil free of organics, trash, or other deleterious materials, and contain no rock fragments greater than 6 in. in any one dimension. Preferably, structural soil fill material should have a standard Proctor maximum dry density of 90 pounds per cubic foot (pcf) or greater and a plasticity index (PI) of 25 percent or less. Materials with PI's greater than 25 may evaluated on a case-by-case basis for use in other areas of the site or in areas of deep fill. All material to be used as structural fill should be tested by the geotechnical engineer to confirm that it meets the project requirements before being placed.

Structural fill should be placed in loose, horizontal lifts not exceeding 8 in. thick. Each lift should be compacted per Table 2 below and within the range of minus (-) 2 percent to plus (+) 2 percent of the optimum moisture content. Each lift should be tested by geotechnical personnel to confirm that the contractors' method is capable of achieving the project requirements before placing any subsequent lifts. Any areas which have become soft or frozen should be removed before additional structural fill is placed. One in place density test should be performed a minimum of every 5,000 ft^2 for each 8 in. lift. Adequate surface drainage should be provided during all site grading and fill placement operations. **Please note that compaction efforts can be difficult to achieve using conventional construction methods during wet weather.**

Table 2 – Fill Placement (ASTM D 698)

Location	Maximum Dry Density (%)
Footings and Floor Slabs	98.0
Pavement Areas	95.0
Landscape Areas	85.0

4.6 DRAINAGE

To reduce the potential for undercut and construction induced sinkholes, water should not be allowed to collect in the foundation excavations, on floor slab areas, or on prepared subgrades of the construction area either during or after construction. Undercut or excavated areas should be sloped toward one corner to facilitate removal of any collected rainwater, subsurface water, or surface runoff. Engineered fill or concrete should not be placed in excavations containing standing water or over-softened soils. Positive site surface drainage should be provided to reduce infiltration of surface water around the perimeter of structures and beneath floor slabs. The grades should be sloped away from structures and surface drainage should be collected and discharged such that water infiltration is not permitted.

4.7 BELOW GRADE WALLS

The following parameters are recommended for below grade wall design and construction:

Material Backfill

- Plasticity Index of any soil material should be less than 25;
- Provide temporary bracing if the walls cannot accommodate construction phase stresses;
- Provide adequate drainage at the rear of the wall;

Table 3 – Lateral Earth Pressures

Description of Backfill	φ (°)	Moist Unit Weight, γ (pcf)	Active Coefficient, K_a	At-Rest Coefficient, K_o	Passive Coefficient, K_p
Low to Medium Plasticity Clay (CL)	28	120	0.36	0.53	2.80
Well Graded Gravel-Sand Mix (GW/SW)	36	130	0.26	0.41	3.90
Poorly Graded Clean Gravel or sand (GP/SP)	34	120	0.28	0.44	3.55

- The data presented in Table 3 are based on the following assumptions:
  - Soil Backfill material exhibits an angle of shear resistance of 28 degrees or greater;
  - Retaining wall analysis assumes a level backfill slope;
  - Retaining wall analysis assumes that the wall will be designed as a vertical wall with respect to the retained material;

- Retaining wall analysis assumes the wall will be designed as a smooth wall with no friction.

4.8 LATERAL EARTH PRESSURES

The Kentucky Building Code (KBC), current edition, Table 1806.2, provides guidelines for allowable lateral pressure for use in foundation design. The following table summarizes the allowable lateral pressures.

Table 4 – Presumptive Load-Bearing Values (KBC/IBC Table 1806.2)

Type of Material	Vertical Foundation Pressure (psf)	Lateral Bearing Pressure (psf/ft below natural grade)	Lateral Sliding Resistance	
			Coefficient of friction[a]	Cohesion (psf)[b]
Crystalline bedrock	12,000	1,200	0.70	-
Sedimentary and foliated rock	4,000	400	0.35	-
Sandy gravel and/or gravel (GW and GP)	3,000	200	0.35	-
Sand, silty sand, clayey sand, silty gravel, and clayey gravel (SW, SP, SM, SC, GM, and GC)	2,000	150	0.25	-
Clay, sandy clay, silty clay, clayey silt, silt, and sandy silt (CL, ML, MH, and CH)	1,500	100	-	130

a. Coefficient to be multiplied by the dead load
b. Cohesion value to be multiplied by the contact area, as limited by Section 1806.3.2

The values for lateral bearing pressure located above in Table 4, may be adjusted when considering load combinations, including wind or earthquake loads as permitted by Section 1605.3.2 of the KYBC.

4.9 SLOPE RECOMMENDATIONS

Cut Slopes

Permanent cut slopes are typically recommended to be no steeper than 2H:1V. If steeper slopes are required, they will depend on existing conditions and will need to be reviewed on a case-by-case basis. The upper two (2) ft. of all cut slopes should be graded to 2:1 in order to reduce the potential for sloughing and erosion. Temporary cut slopes may be constructed for retaining walls, below grade walls, etc. and should follow OSHA excavation standards.

Fill Slopes

Permanent fill slopes should be no steeper that 2H:1V. Steeper slopes may be feasible if reinforcement is used in the design/construction. The fill material should be placed and

compacted in horizontal lifts according to the project specifications and plans. The slope should be constructed by overbuilding the slope face and then cutting it back to the design grade. New fill material should be properly benched into the existing slopes as shown in the diagram below. Fill slopes should not be constructed or extended horizontally by placing fill on an existing slope face and/or compacted by track walking.

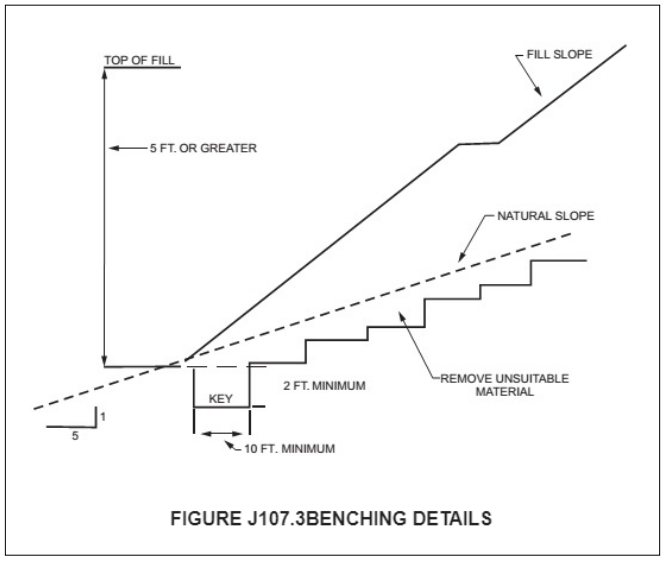

Figure 1: Benching Details (2015 IBC)

4.10 KARST REGION CONSTRUCTION RECOMMENDATIONS

The underlying rock units are classified as karst prone to karst intense. Close attention should be given during the construction process to identify any possible karst features or surface movement. Adequate drainage to minimize water infiltration into the subsurface during and after construction should be provided to lessen the risk of damage due to karst activity during construction. Any significant solution features or dropouts encountered during construction will require remediation and will need to be evaluated on a case-by-case basis. Sinkholes could be repaired by using the inverted cone method which involves excavating the material to find the throat or opening in the bedrock; then lining the excavation with a filter fabric, and backfilling with crushed aggregate, however, L.E. Gregg should be contacted to provide specific recommendations for remediation of any encountered karst features.

4.11 PAVEMENT RECOMMENDATIONS

A California Bearing Ratio (CBR) value of 3.0 when compacted to 95% of the Standard Proctor value was assumed for the pavement design listed below. The American Concrete Pavement Association's WinPas 12 software was utilized to evaluate the pavement recommendations and is based on the AASHTO Guide for Design of Pavement Structures (1993).

Table 5 – Pavement Design Assumptions

Design Life	**20 years**
Reliability	95%
Subgrade Resilient Modulus	3,500
Drainage Coefficient	1.0
Growth Potential	2 %
Initial Serviceability (Asphalt, Concrete)	4.5, 4.0
Terminal Serviceability	2.0
Asphalt Wearing Surface, layer coefficient	0.44
Asphalt Base Surface, layer coefficient	0.40
Dense Graded Aggregate Base, layer coefficient	0.14

The amount and type of traffic is unknown at this time. We have provided the following light and heavy-duty flexible designs listed below. The light-duty deign will provide approximately 40,000 ESAL's and the heavy-duty design will provide approximately 100,000 ESAL's. L.E. Gregg should be contacted if the amount of ESAL's provided will not satisfy the final traffic loading.

Table 6 –Flexible Pavement Design

Component	**Light Duty Thickness (in.)**	**Heavy Duty Thickness (in.)**
Surface Course	1.5	1.5
Asphalt Base Course	2.5	3.5
Base Material (DGA)	8.0	8.0

Pavement Maintenance

It should be expected that cracks will appear in flexible pavement areas within 1 to 3 years due to thermal expansion and contraction and the loss of volatiles from the bituminous mixture. These cracks cannot be avoided. In order to maintain pavement areas, these cracks should be cleaned annually and patched with a hot bituminous sealant. Within 3 to 5 years, cracks and depressions may appear in heavily traveled areas. These areas should be cut out and repaired promptly to extend the life of the pavement.

Rigid Pavement

If heavy duty rigid pavements are required, we would recommend a 6 in. concrete section with a 6 in. DGA base. Prior to placing the crushed stone base for the rigid pavement, the area should be proof rolled and observed by L.E. Gregg. It is recommended that the concrete pads be large enough to accommodate the entire length of a truck while loading or unloading. In addition, it is recommended that a thickened curb be constructed around the perimeter of the pads to reduce the potential for damage typically associated with overstressing of the pad edges.

Reinforcement for the rigid pavements should consist of a wire mesh or fiber-reinforced concrete. If wire mesh is utilized, the mesh should be located in the middle third of the rigid pavement. It is recommended that control joints be placed at 15 ft. intervals each way in the apron and pad areas. These control joints should be filled with a fuel resistant seal to prevent intrusion of liquids into the subgrade.

5.0 BASIS FOR RECOMMENDATIONS

VARIATIONS

Since any general foundation or subsurface exploration can examine and report only that information which is obtained from the borings and samples taken there from, and since uniformity of subsurface conditions does not always exist, the following is recommended. If, during construction, any latent soil, bedrock, or water conditions are encountered that were not observed in the borings, contact L.E. Gregg so that the site may be inspected to identify any necessary modifications in the design or construction of the foundation.

OTHER INTERPRETATIONS

The conclusions and recommendations submitted in this report apply to the proposed project only. They are not applicable to on-site, subsequent construction, adjacent or nearby projects. In the event that conclusions or recommendations based on this report and relating to any other projects are made by others, such conclusions and recommendations are not the responsibility of L. E. Gregg Associates. The recommendations provided are based in part on project information provided to L.E. Gregg and only apply to the specific project and site discussed in this report. If the project information section in this report contains incorrect information or if additional information is available, the correct or additional information should be conveyed to L.E. Gregg for review.

It is recommended that this complete report be provided to the various design team members, the contractors, and the project owner. Potential contractors should be informed of this report in the "instructions to bidders" section of the bid documents. The report should not be included or referenced in the actual contract documents.

STANDARD OF CARE

The services provided by L. E. Gregg Associates for this exploration have been performed in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

Important Information about Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely, on Your ASFE-Member Geotechncial Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with your ASFE-member geotechnical engineer for more information.

ASFE
THE BEST PEOPLE ON EARTH

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IIGER06085.0MRP

KEY TO SYMBOLS AND DESCRIPTIONS

	GW	**Well graded gravels, little or no fines**
	GP	**Poorly graded gravels, little or no fines**
	GM	**Silty gravels, sand and silt mixtures**
	GC	**Clayey gravels, sand and clay mixtures**
	SW	**Well graded sand, little or no fines**
	SP	**Poorly graded sand, little or no fines**
	SM	**Silty sands, sand and silt mixtures**
	SC	**Clayey sands, sand and clay mixtures**
	ML	**Inorganic silts and very fine sands, rock flour, silty or clayey fine sands silts and with slight plasticity**
	CL	**Inorganic clays with low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays**
	OL	**Organic silts and organic silty clay of low plasticity**
	MH	**Inorganic silts, micaceous or diatomaceous fine sandy or silt soils, elastic silts**
	CH	**Inorganic clays of high plasticity, fat clays**
	OH	**Organic clays of medium to high plasticity, organic silts**
	Topsoil	**Usually top few inches of soil deposits and contains considerable amounts of organic matter**
	Asphalt	**Usually a black solid or semisolid mixture of bitumens mostly used in paving**
	Fill	**Soils that have been transported by man to their present location**
	Limestone	**Sedimentary rock consisting of predominantly of calcium carbonate**
	Sandstone	**Sedimentary rock consisting of sand with some cementitious material**
	Siltstone	**Fine grained rock of consolidated silt**
	Shale	**Fine grained sedimentary rock consisting of compacted clay, silt, or mud**
	Coal	**Natural black graphite like material formed from fossilized plants**
	Limestone interbedded with Shale	**Predominantly limestone interbedded with shale layers**
	Weathered	**Weathered rock**

CONSISTANCY AND RELATIVE DENSITY CORRELATED WITH STANDARD PENETRATION TEST (SPT)

SILT AND CLAY		SAND AND GRAVEL	
Relative Density	**Blows Per Foot (BPF)**	**Relative Density**	**Blows Per Foot (BPF)**
Very Soft	0 to 1	Very Loose	0 to 4
Soft	2 to 4	Loose	5 to 10
Firm	5 to 8	Firm	11 to 20
Stiff	9 to 15	Very Firm	21 to 30
Very Stiff	16 to 30	Dense	31 to 50

ROCK PROPERTIES

RELATIVE HARDNESS OF ROCK

Very Soft	Can be scratched by fingernail
Soft	May be broken by fingers
Medium	Corner and edges may be broken by fingers
Moderately Hard	Moderate blow of hammer required to break sample
Hard	Hard blow of hammer required to break sample
Very Hard	Several hard blows of hammer required to break sample

Rock Continuity (REC)		Rock Quality Designation (RQD)	
Core Recovery (%)	Description	RQD (%)	Classification
0 – 40	Incompetent	<25	Very Poor
40 – 70	Competent	25 – 50	Poor
70 – 90	Fairly Continuous	50 – 75	Fair
90 – 100	Continuous	75 – 90	Good
		90 – 100	Very Good

Estimated Moisture Condition Relative to Optimum	
Dry	Under 5% of Optimum
Slightly Moist	Minus 2% of Optimum
Moist	± 2% of Optimum
Very Moist	Plus 2% of Optimum
Wet	Over 5% of Optimum

Misc. and Soil Sampler Symbols

N	Blows Per Foot (BPF)		Undisturbed Sample
% W	Percent Water		Standard Penetration Test (SPT)
RQD	Rock Quality Designation		Boring Location
REC	Rock Core Recovery		Water Table while Drilling
CLA	Classification of Combined Samples		Water Table after Drilling
	Rock Core (RC)		Bulk Sample (BK)

LE Gregg ASSOCIATES

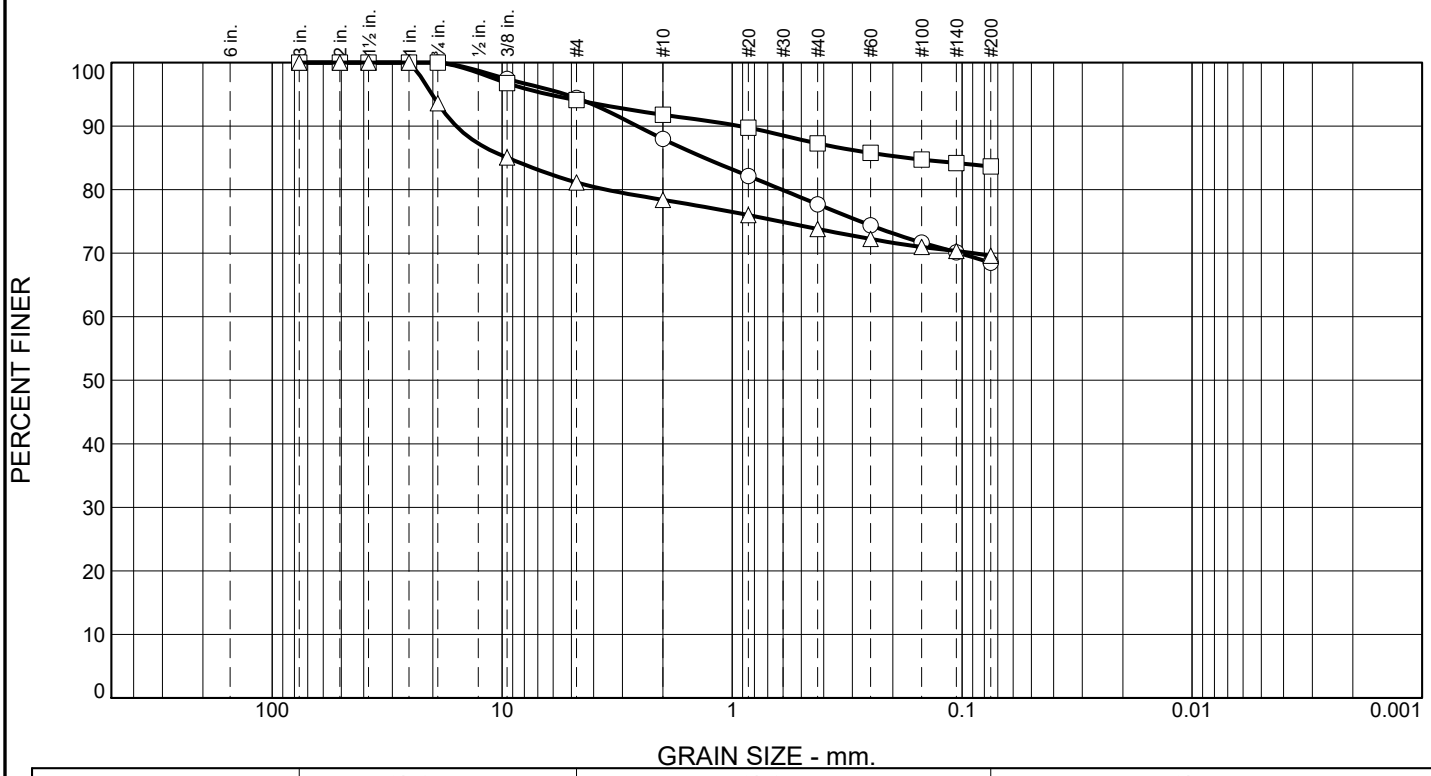
Geotechnical, Environmental & Materials Engineering

Since 1957

APPENDIX A

Laboratory Results

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.6	6.4	10.3	9.2	68.5	
□	0.0	0.0	5.9	2.3	4.5	3.6	83.7	
△	0.0	6.4	12.5	2.7	4.6	4.2	69.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_C	C_u
○	40	18	1.3170							
□	48	23	0.1736							
△	45	21	9.4358							

Material Description	USCS	AASHTO
○ Sandy Lean Clay (CL)	CL	A-6(13)
□ Lean Clay with Sand (CL)	CL	A-7-6(22)
△ Gravelly Lean Clay (CL)	CL	A-7-6(16)

Project No. 2025032 **Client:** Lexington Fayette Urban County Government

Project: LFUCG DWQ HQ & Operations

○ **Location:** B-2 **Depth:** 1.5-3.0 **Sample Number:** 24986

□ **Location:** B-3 **Depth:** 0.0-1.5 **Sample Number:** 24987

△ **Location:** B-5 **Depth:** 0.0-1.5 **Sample Number:** 24988

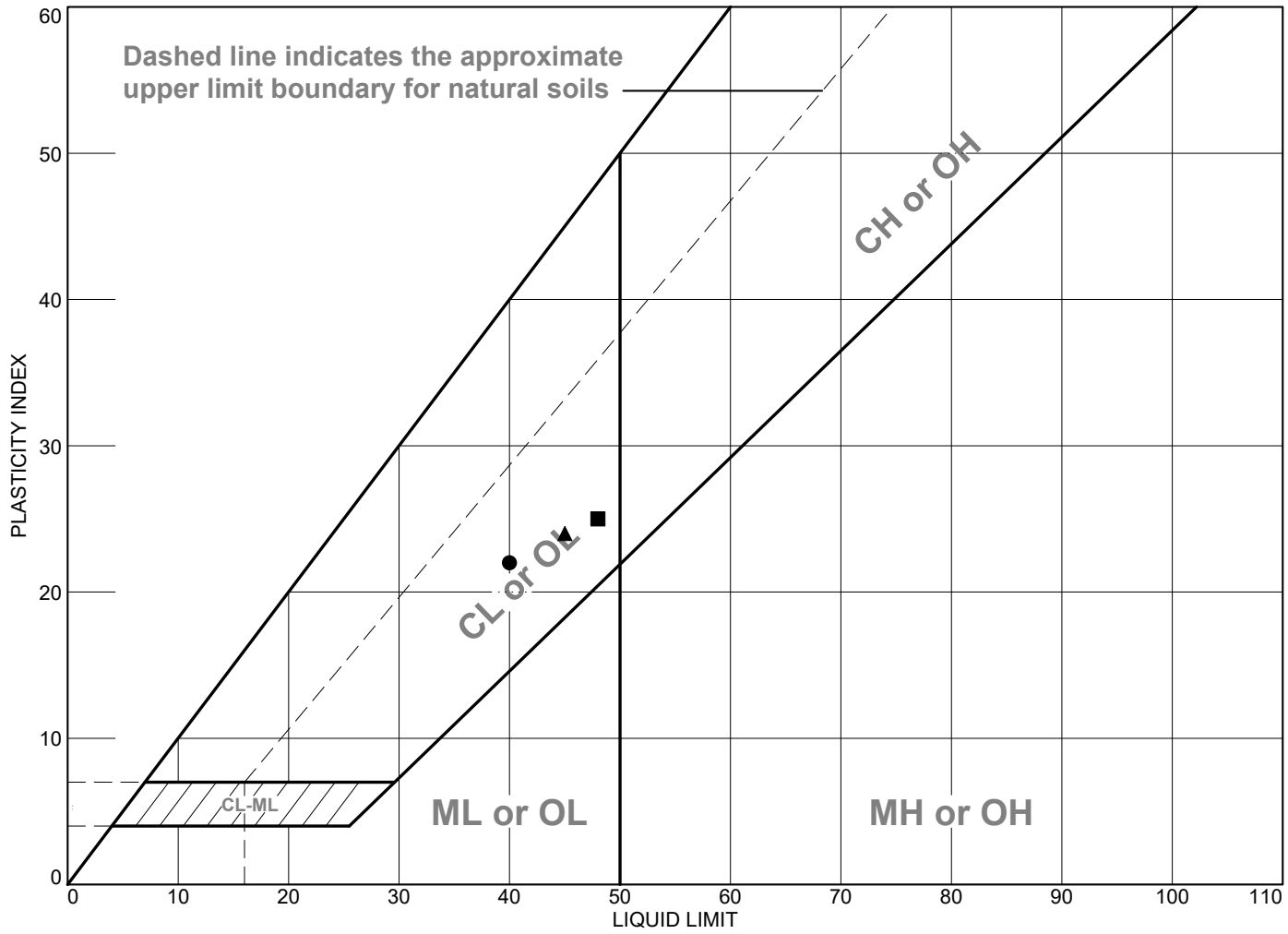
Remarks:

L.E. Gregg Associates, Inc.
2456 Fortune Dr, Ste 155, Lexington, KY 40509
Phone: 859-252-7558

Figure

Tested By: TN **Checked By:** KH

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Sandy Lean Clay (CL)	40	18	22	77.7	68.5	CL
■	Lean Clay with Sand (CL)	48	23	25	87.3	83.7	CL
▲	Gravelly Lean Clay (CL)	45	21	24	73.8	69.6	CL

Project No. 2025032 **Client:** Lexington Fayette Urban County Government

Project: LFUCG DWQ HQ & Operations

● **Location:** B-2 **Depth:** 1.5-3.0 **Sample Number:** 24986

■ **Location:** B-3 **Depth:** 0.0-1.5 **Sample Number:** 24987

▲ **Location:** B-5 **Depth:** 0.0-1.5 **Sample Number:** 24988

Remarks:

L.E. Gregg Associates, Inc.
2456 Fortune Dr, Ste 155, Lexington, KY 40509
Phone: 859-252-7558

Figure

Tested By: TN **Checked By:** KH

APPENDIX B

Logs of Borings

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032
CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25
LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 975
DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey
DRILLING METHOD: 4" SFA
DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

BORING No. B-1

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
975	0	Asphalt - 0.0-0.3 Gravel - 0.3-0.6 Lean clay with gravel and weathered rock, silty, sandy, brown, firm, slightly moist Weathered rock Auger refusal at 2.3 ft. Begin core recovery. Limestone, gray with thin dark gray interbeds of shale, fractured, fossiliferous	6 50/1 REC= 93% RQD= 37%	1	▨	20.9			50+	
970	5									
965	10									
		Core recovery terminated at 12.3 ft.								
960	15									
955	20									
950	25									
945	30									
940	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032

CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25

LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 975

DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey

DRILLING METHOD: 4" SFA

DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

BORING No. B-2

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
975	0	Asphalt - 0.0-0.3 Gravel - 0.3-0.5 Lean clay with gravel and weathered rock, silty, sandy, brown and orange, firm, dry	2 3 30	1		17.5			33	
		Auger refusal at 3.7 ft.								
970	5									
965	10									
960	15									
955	20									
950	25									
945	30									
940	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032
CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25
LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 978
DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey
DRILLING METHOD: 4" SFA
DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

BORING No. B-3

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
978	0	Topsoil - 0.0-0.3 Lean clay, silty, sandy, brown and orange, stiff, dry	3 5 10	1		17.6			15	
		Weathered rock Auger refusal at 2.8 ft.	9 50/2	2		18.4			50+	
973	5									
968	10									
963	15									
958	20									
953	25									
948	30									
943	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032

CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25

LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 979

DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey

DRILLING METHOD: 4" SFA

DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

BORING No. B-4

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit / Liquid Limit / Water Content / Penetration (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
979	0	Topsoil - 0.0-0.3 Lean clay with gravel and weathered rock, silty, sandy, brown to dark brown, very stiff, dry to slightly moist	3 4 12 8 10 8	1		24.8			16	
				2		11.1			18	
		Auger refusal at 3.5 ft.								
974	5									
969	10									
964	15									
959	20									
954	25									
949	30									
944	35									

Offset approximately 20 ft. northeast

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032

CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25

LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 979

DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey

DRILLING METHOD: 4" SFA

DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

BORING No. B-5

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
979	0	Topsoil - 0.0-0.3 Lean clay with gravel and weathered rock, silty, sandy, brown and orange, very stiff, dry	4 7 13 9 15 9	1 2		16.6 19.1			20 24	
		Auger refusal at 3.3 ft.								
974	5									
969	10									
964	15									
959	20									
954	25									
949	30									
944	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032

CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25

LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 979

DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey

DRILLING METHOD: 4" SFA

DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

BORING No. B-6

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
979	0	Topsoil - 0.0-0.3	3 9 6	1		20.1			15	
		Lean clay with gravel and weathered rock, silty, sandy, dark brown, stiff, dry								
		Weathered limestone, dry	3 6 12	2		3.8			18	
		Auger refusal at 3.9 ft.								
974	5									
969	10									
964	15									
959	20									
954	25									
949	30									
944	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032
CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25
LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 979
DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey
DRILLING METHOD: 4" SFA
DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

BORING No. S-1

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
979	0	Overburden - Sounding only, no SPT samples taken								
		Auger refusal at 2.8 ft.								
974	5									
969	10									
964	15									
959	20									
954	25									
949	30									
944	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032

CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25

LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 980

DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey

DRILLING METHOD: 4" SFA

DEPTH TO WATER> INITIAL: ▽ Dry **AFTER 24 HOURS:** ▽ _____ **CAVING>** C _____

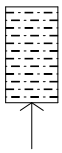
BORING No. S-2

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
980	0	Overburden - Sounding only, no SPT samples taken								
		Auger refusal at 3.5 ft.								
975	5									
970	10									
965	15									
960	20									
955	25									
950	30									
945	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032
CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25
LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 981
DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey
DRILLING METHOD: 4" SFA
DEPTH TO WATER> INITIAL: ▽ Dry **AFTER 24 HOURS:** ▽ _____ **CAVING>** C _____

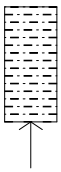
BORING No. S-3

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
981	0	Overburden - Sounding only, no SPT samples taken								
		Auger refusal at 2.5 ft.								
976	5									
971	10									
966	15									
961	20									
956	25									
951	30									
946	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032
CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25
LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 980
DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey
DRILLING METHOD: 4" SFA
DEPTH TO WATER> INITIAL: ▽ Dry **AFTER 24 HOURS:** ▽ _____ **CAVING>** C _____

BORING No. S-4

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
980	0	Overburden - Sounding only, no SPT samples taken								
		Auger refusal at 3.0 ft.								
975	5									
970	10									
965	15									
960	20									
955	25									
950	30									
945	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032

CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25

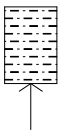
LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 981

DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey

DRILLING METHOD: 4" SFA

DEPTH TO WATER> INITIAL: ▽ Dry **AFTER 24 HOURS:** ▽ _____ **CAVING>** C _____

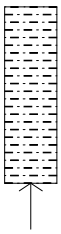
BORING No. S-5

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
981	0	Overburden - Sounding only, no SPT samples taken								
		Auger refusal at 2.0 ft.								
976	5									
971	10									
966	15									
961	20									
956	25									
951	30									
946	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032
CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25
LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 976
DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey
DRILLING METHOD: 4" SFA
DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

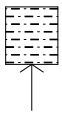
BORING No. S-6

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
976	0	Overburden - Sounding only, no SPT samples taken								
971	5	Auger refusal at 4.6 ft.								
966	10									
961	15									
956	20									
951	25									
946	30									
941	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

PROJECT: LFUCG DWQ HQ & Operations **PROJECT NO.:** 2025032
CLIENT: Lexington Fayette Urban County Government **DATE:** 8/8/25
LOCATION: 130 West New Circle Road, Lexington, KY **ELEVATION:** 980
DRILLER: Strata Group, LLC **LOGGED BY:** F Shirkey
DRILLING METHOD: 4" SFA
DEPTH TO WATER> INITIAL: Dry **AFTER 24 HOURS:** _____ **CAVING>** C _____

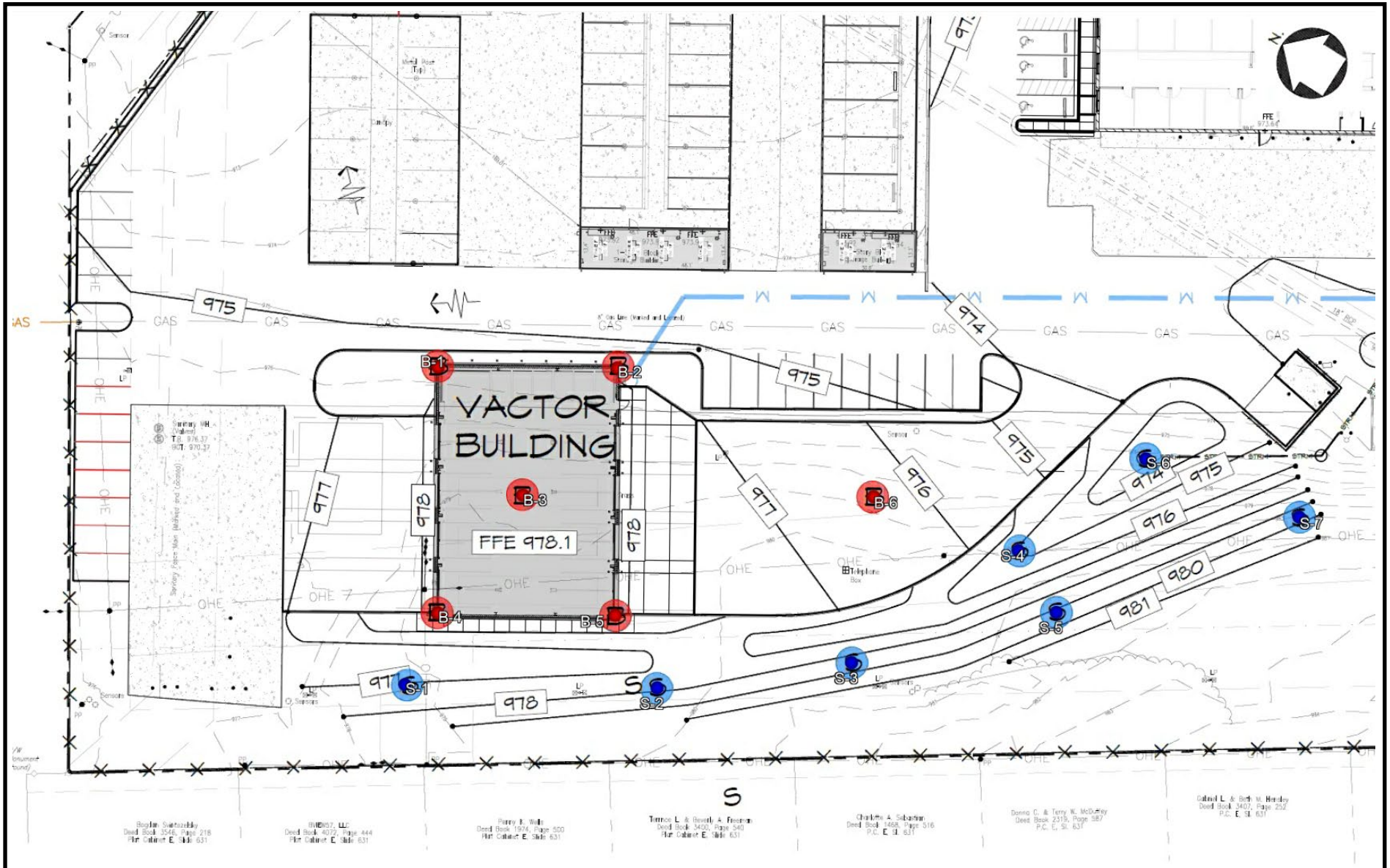
BORING No. S-7

ELEVATION (feet)	DEPTH (feet)	Description	Soil and Sampler Symbols, Blows	Sample No.	TEST RESULTS: Plastic Limit ⊢ Liquid Limit; Water Content - ●; Penetration - ▨ (10 20 30 40 50)	NM	PL	LL	N	Undrained Shear Strength (tsf)
980	0	Overburden - Sounding only, no SPT samples taken								
		Auger refusal at 1.5 ft.								
975	5									
970	10									
965	15									
960	20									
955	25									
950	30									
945	35									

This information pertains only to this boring and should not be interpreted as being indicitive of the site.

APPENDIX C

Site Location Map
Drawings



L.E. Gregg Associates, Inc.
2456 Fortune Drive, Suite 155
Lexington, Kentucky 40509

LFUCG DWQ Headquarters and Operations
Lexington, Kentucky

Project #2025032

Boring Layout

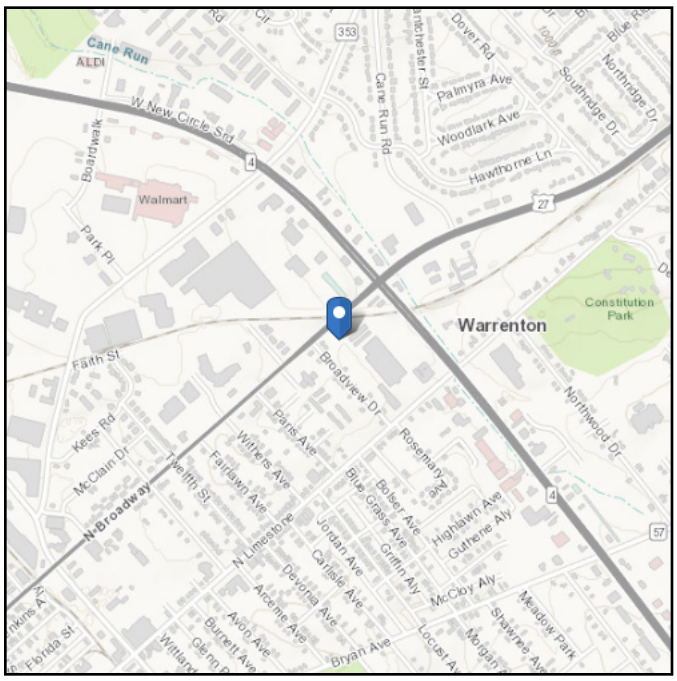
APPENDIX D

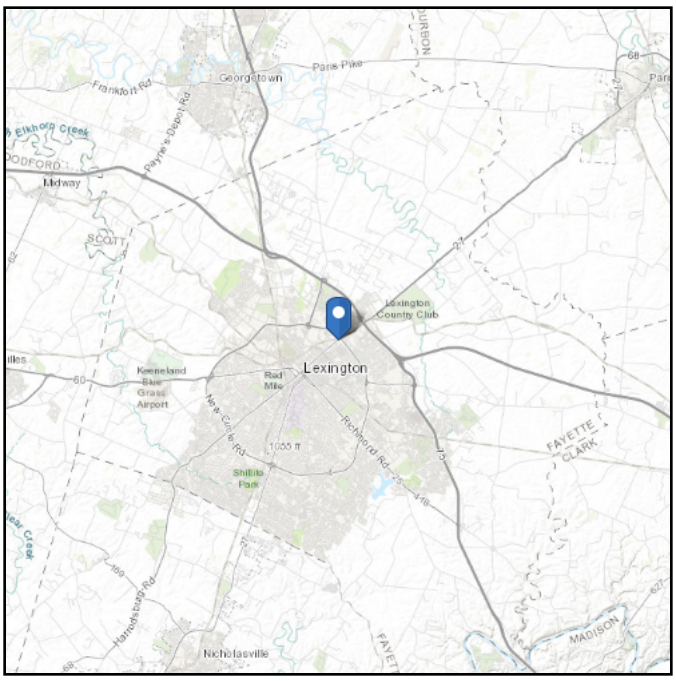
Seismic Design Information

ASCE Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-16	**Latitude:**	38.066086
Risk Category:	II	**Longitude:**	-84.474259
Soil Class:	B - Rock	**Elevation:**	978.8685708874416 ft (NAVD 88)





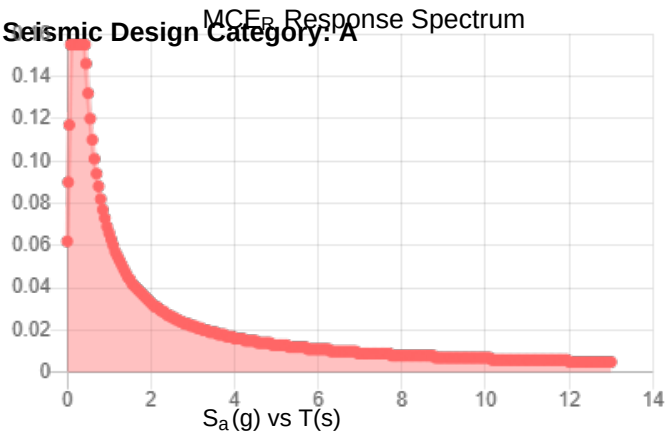
Seismic

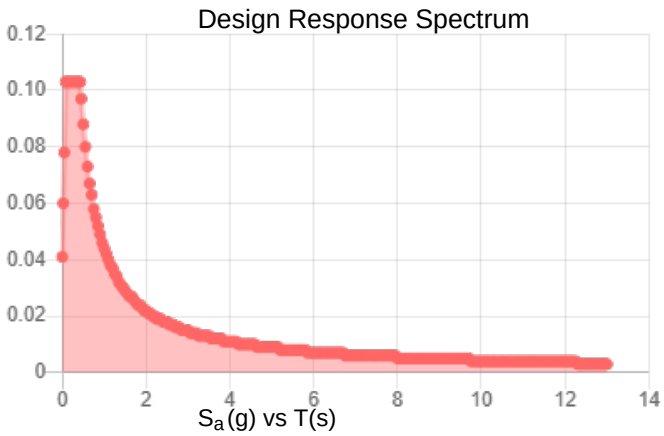
Site Soil Class: B - Rock

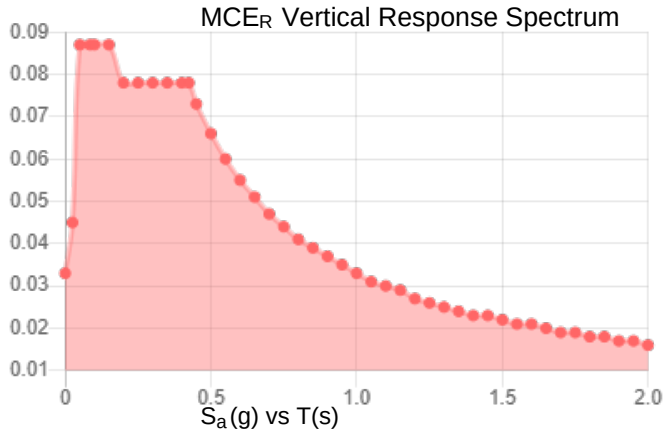
Results:

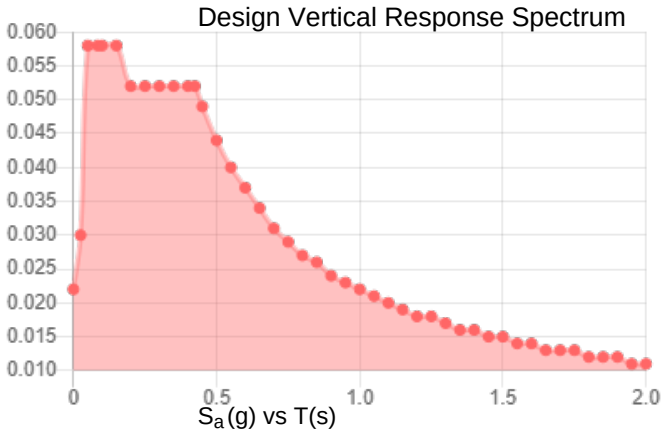
S_S :	0.172	S_{D1} :	0.044
S_1 :	0.082	T_L :	12
F_a :	0.9	PGA :	0.086
F_v :	0.8	PGA_M :	0.078
S_{MS} :	0.155	F_{PGA} :	0.9
S_{M1} :	0.066	I_e :	1
S_{DS} :	0.103	C_v :	0.7

Seismic Design Category: A









Data Accessed: **Wed Aug 20 2025**

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE Hazard Tool.

Project Invoice

Name of Account: LFUCG- Water Quality Bldg. Customer Number: Invoice Date: 10/30/24

Client PO # 130 New Circle Rd., Lex., KY Job Number: PA 24-053

Date	Services	U/M	Quantity	Unit Price	Extended Price
N/A	Asbestos Inspection (Travel and On site)	hours			
10/17/2024	Asbestos Bulk Samples (3 Hour TAT)	each	70	16.00	1,120.00
N/A	Lead Wipe Sample	each			
10/21/2024	Sample Prep (Asbestos Inspector)	hours	2	85.00	170.00
10/30/2024	Asbestos Report (Asbestos Mngt. Planner)	hours	3	70.00	210.00
	Please Remit To:				
	Applegate Environmental Inspections & Cons. Inc.				
	2716 Ashbrooke Drive				
	Lexington, KY 40513				
				Totals	$1,500.00

Material placed in permanent file as required - Project manager to initial or mark N/A.

Report X Analytical X

Manifest

Person for whom work was completed: Scott Kelsey -

10/30/2024

APPLEGATE ENVIRONMENTAL INSPECTIONS
& CONSULTING INC
2716 ASHBROOKE DRIVE
LEXINGTON, KENTUCKY 40513
859-338-9173
phillipapplegate@yahoo.com

October 30, 2024

Scott Kelsey
Facilities Manager
LFUCG
1555 Old Frankfort Pike
Lexington, Kentucky 40504

Subject: Asbestos Bulk Sampling Report for Bulk Samples collected from the Lexington - Fayette New Water Quality Office, 130 New Circle Road, Lexington, Kentucky

Dear Mr. Kelsey:

Applegate Environmental Inspections & Consulting, Inc. (AEIC, Inc.) received bulk samples of suspect asbestos containing materials (ACMs) sampled on October 17, 2024 from the Lexington-Fayette New Water Quality Building, 130 New Circle Road Lexington, Kentucky. The sampling of the materials was performed by Scott Kelsey, Facilities Manager, LFUCG to determine if the floor tile/mastic/ floor leveler, recessed ceiling tile, decorative ceiling tile, drywall, drywall mud and roofing material collected from selected locations contained asbestos.

The bulk samples were delivered to AEIC, Inc. on October 19, 2024. The bulk samples were assigned numbers based upon the areas where the samples were collected. The samples were submitted to San Air Technologies Laboratory for PLM analysis. The following table details the data for the asbestos bulk samples.

ASBESTOS BULK SAMPLING TABLE

Material Description	Location	HA #	Sample ID #	SF/LF of Material	Sample Result ACM -Yes or No
1) Floor Tile/Mastic – Floor Tile	Room 116 – S. Area	N/A	50833-01(T)	N/A	No
2) Floor Tile/Mastic – Mastic	Room 116 – S. Area	N/A	50833-01(M)	N/A	No
3) Floor Tile/Mastic – Floor Tile	Room 116 – S. Area	N/A	50833-02(T)	N/A	No
4) Floor Tile/Mastic – Mastic	Room 116 – S. Area	N/A	50833-02(M)	N/A	No
5) Floor Tile/Mastic – Floor Tile	Room 116 – S. Area	N/A	50833-03(T)	N/A	No
6) Floor Tile/Mastic – Mastic	Room 116 – S. Area	N/A	50833-03(M)	N/A	No
7) Floor Tile/Mastic – Leveler	Room 116 – S. Area	N/A	50833-03(L)	N/A	No
8) Floor Tile/Mastic – Floor Tile	Room 116 – N. Area	N/A	50833-04(T)	N/A	No
9) Floor Tile/Mastic – Mastic	Room 116 – N. Area	N/A	50833-04(M)	N/A	No
10) Floor Tile/Mastic – Leveler	Room 116 – N. Area	N/A	50833-04(L)	N/A	No
11)Floor Tile/Mastic – Floor Tile	Room 116 – N. Area	N/A	50833-05(T)	N/A	No
12)Floor Tile/Mastic – Mastic	Room 116 – N. Area	N/A	50833-05(M)	N/A	No
13)Floor Tile/Mastic – Leveler	Room 116 – N. Area	N/A	50833-05(L)	N/A	No
14)Floor Tile/Mastic – Floor Tile	Room 116 – N. Area	N/A	50833-06(T)	N/A	No
15)Floor Tile/Mastic – Mastic	Room 116 – N. Area	N/A	50833-06(M)	N/A	No
16)Floor Tile/Mastic- Leveler	Room 116 – N. Area	N/A	50833-06(L)	N/A	No
17)Floor Tile/Mastic –	Room 109 – E. Side	N/A	50833-07(T)	N/A	No

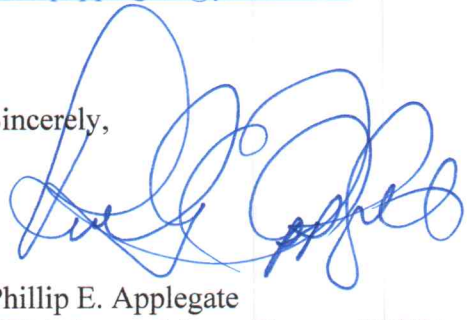
Floor Tile					
18)Floor Tile/Mastic – Mastic	Room 109 – E. Side	N/A	50833-07(M)	N/A	No
19Floor Tile/Mastic – Leveler	Room 109 – E. Side	N/A	50833-07(L)	N/A	No
20)Floor Tile/Mastic – Floor Tile	Room 109 – E. Side	N/A	50833-08(T)	N/A	No
21)Floor Tile/Mastic – Mastic	Room 109 – E. Side	N/A	50833-08(M)	N/A	No
22)Floor Tile/Mastic – Leveler	Room 109 – E. Side	N/A	50833-08(L)	N/A	No
23)Floor Tile/Mastic – Floor Tile	Room 109 – E. Side	N/A	50833-09(T)	N/A	No
24)Floor Tile/Mastic – Mastic	Room 109 – E. Side	N/A	50833-09(M)	N/A	No
25)Floor Tile/Mastic – Leveler	Room 109 – E. Side	N/A	50833-09(L)	N/A	No
26)Recessed Ceiling Tile	Room 115 – S. Area	N/A	50833-10	N/A	No
27)Recessed Ceiling Tile	Room 115 – S. Area	N/	50833-11	N/A	No
28) Recessed Ceiling Tile	Room 115 – S. Area	N/A	50833-12	N/A	No
29) Recessed Ceiling Tile	Room 115 – Ctr. Area	N/A	50833-13	N/A	No
30) Recessed Ceiling Tile	Room 115 – Ctr. Area	N/A	50833-14	N/A	No
31) Recessed Ceiling Tile	Room 115 – Ctr. Area	N/A	50833-15	N/A	No
32) Recessed Ceiling Tile	Room 114 – East Side	N/A	50833-16	N/A	No
33) Recessed Ceiling Tile	Room 114 – East Side	N/A	50833-17	N/A	No
34) Recessed Ceiling Tile	Room 114 – East Side	N/A	50833-18	N/A	No
35)Decorative Ceiling	Room 115 - N. Area	N/A	50833-19	N/A	No

Tile					
36) Decorative Ceiling Tile	Room 115 - N. Area	N/A	50833-20	N/A	No
37) Decorative Ceiling Tile	Room 115, - N. Area	N/A	50833-21	N/A	No
38) Decorative Ceiling Tile	Room 103 – W. Area	N/A	50833-22	N/A	No
39) Decorative Ceiling Tile	Room 103 – W. Area	N/A	50833-23	N/A	No
40) Decorative Ceiling Tile	Room 103 – W. Area	N/A	50833-24	N/A	No
41) Decorative Ceiling Tile	Room 103 – E. Area	N/A	50833-25	N/A	No
42) Decorative Ceiling Tile	Room 103 – E. Area	N/A	50833-26	N/A	No
43) Decorative Ceiling Tile	Room 103 – E. Area	N/A	50833-27	N/A	No
44)Drywall	Room 115 – SW. Area	N/A	50833-28	N/A	No
45)Drywall	Room 115 – SW. Area	N/A	50833-29	N/A	No
46)Drywall	Room 115 – SW. Area	N/A	50833-30	N/A	No
47)Drywall	Room 115 – W. Side	N/A	50833-31	N/A	No
48)Drywall	Room 115 – W. Side	N/A	50833-32	N/A	No
49)Drywall	Room 115 – W. Side	N/A	50833-33	N/A	No
50)Drywall	Room 115 – W. Side	N/A	50833-34	N/A	No
51)Drywall	Room 115 – W. Side	N/A	50833-35	N/A	No
52)Drywall	Room 115 – W. Side	N/A	50833-36	N/A	No
53)Drywall Mud	Room 115 – Ctr. Area	N/A	50833-37	N/A	No
54)Drywall Mud	Room 115 – Ctr. Area	N/A	50833-38	N/A	No
55)Drywall Mud	Room 115 – Ctr. Area	N/A	50833-39	N/A	No
56)Drywall Mud	Room 115 – W. Ctr. Area	N/A	50833-40	N/A	No
57)Drywall Mud	Room 115 – W. Ctr. Area	N/A	50833-41	N/A	No
58)Drywall Mud	Room 115 – W. Ctr. Area	N/A	50833-42	N/A	No
59)Drywall Mud	Room 115 – N. Area	N/A	50833-43	N/A	No

60)Drywall Mud	Room 115 – N. Area	N/A	50833-44	N/A	No
61)Drywall Mud	Room 115 – N. Area	N/A	50833-45	N/A	No
62)Roofing Material	S. Side of Roof	N/A	50833-46	N/A	No
63)Roofing Material	S. Side of Roof	N/A	50833-47	N/A	No
64)Roofing Material	S. Side of Roof	N/A	50833-48	N/A	No
65)Roofing Material	S. Ctr. Area of Roof	N/A	50833-49	N/A	No
66)Roofing Material	S. Ctr. Area of Roof	N/A	50833-50	N/A	No
67)Roofing Material	S. Ctr. Area of Roof	N/A	50833-51	N/A	No
68)Roofing Material	Roofing Material – Ctr. Area of Roof	N/A	50833-52	N/A	No
69)Roofing Material	Roofing Material – Ctr. Area of Roof	N/A	50833-53	N/A	No
70)Roofing Material	Roofing Material – Ctr. Area of Roof	N/A	50833-54	N/A	No

The sample results of the ceiling tile bulk samples collected on October 17, 2024 did not identify asbestos to be present. A copy of the asbestos bulk samples results is attached. If you have any further questions regarding this report, please don't hesitate to contact me at (859) 338-9173 or by email at phillipapplegate@yahoo.com.

Sincerely,



Phillip E. Applegate
KY Asbestos Mgmt. Planner #84231

Attachments: Asbestos Bulk Results

Sample Location Sketches

LIMITATIONS

The information contained in this report has been obtained through conversations, sampling, and survey. The information, conclusions, and recommendations of this report are based upon the conditions at the facility during the period that the survey was conducted. Although utmost care has been taken by Applegate Environmental Inspections & Consulting, Inc. in verifying information contained in this report to determine that it is accurate, Applegate Environmental Inspections & Consulting, Inc. disclaims any and all liability for any errors, omissions or inaccuracies in such information and data, whether attributable to inadvertence or otherwise, and for any consequence arising there from. The data provided in this report neither purports to be nor constitutes legal or medical advice. It is further understood that Applegate Environmental Inspections & Consulting, Inc. does not warranty any of the information contained within this report. Applegate Environmental Inspections & Consulting, Inc. is not liable for any damages resulting from customers' use of the data. Liability on the part of Applegate Environmental Inspections & Consulting, Inc. shall be limited to the monetary value paid for this report. This report is valid only for the specific types of testing as noted on the cover page of this report and any changes from this description will require a new or updated report. This report does not represent a legal opinion.

Report written by: _____ Date: 10/30/24

SanAir Technologies Laboratory

SanAir ID Number
24060781
FINAL REPORT
10/23/2024 3:18:33 PM

Name: AEIC
Address: 2716 Ashbrooke Dr.
Lexington, KY 40513
Phone: 859-338-9173

Project Number: PA24-53
P.O. Number:
Project Name: LFUCG Water Quality
Collected Date: 10/17/2024
Received Date: 10/23/2024 10:15:00 AM

Analyst: Farnsworth-Pinkerton, Shoshauna

Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non-fibrous	Asbestos Fibers
50833-01 / 24060781-001 Floor Tile/ Mastic Room 116 S Area, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected
50833-01 / 24060781-001 Floor Tile/ Mastic Room 116 S Area, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
50833-02 / 24060781-002 Floor Tile/ Mastic Room 116 S Area, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected
50833-02 / 24060781-002 Floor Tile/ Mastic Room 116 S Area, Mastic				Not Submitted
50833-03 / 24060781-003 Floor Tile/ Mastic Room 116 S Area, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected
50833-03 / 24060781-003 Floor Tile/ Mastic Room 116 S Area, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
50833-03 / 24060781-003 Floor Tile/ Mastic Room 116 S Area, Leveler	Grey Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
50833-04 / 24060781-004 Floor Tile/ Mastic Room 116 N Area, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected
50833-04 / 24060781-004 Floor Tile/ Mastic Room 116 N Area, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
50833-04 / 24060781-004 Floor Tile/ Mastic Room 116 N Area, Leveler	Grey Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected

Analyst: _____ Approved Signatory: Sidney Kirkerton

Analysis Date: 10/23/2024 Date: 10/23/2024

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Asbestos Bulk PLM EPA 600/R-93/116

	Stereoscopic	Components		
SanAir ID / Description	Appearance	% Fibrous	% Non-fibrous	Asbestos Fibers
50833-05 / 24060781-005 Floor Tile/ Mastic Room 116 N Area, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected
50833-05 / 24060781-005 Floor Tile/ Mastic Room 116 N Area, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
50833-05 / 24060781-005 Floor Tile/ Mastic Room 116 N Area, Leveler	Grey Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
50833-06 / 24060781-006 Floor Tile/ Mastic Room 116 N Area, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected
50833-06 / 24060781-006 Floor Tile/ Mastic Room 116 N Area, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
50833-06 / 24060781-006 Floor Tile/ Mastic Room 116 N Area, Leveler	Grey Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
50833-07 / 24060781-007 Floor Tile/ Mastic Room 109 E Side, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected
50833-07 / 24060781-007 Floor Tile/ Mastic Room 109 E Side, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
50833-07 / 24060781-007 Floor Tile/ Mastic Room 109 E Side, Leveler	Grey Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
50833-08 / 24060781-008 Floor Tile/ Mastic Room 109 E Side, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: Approved Signatory: Sidney Kirkerton

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SanAir
Technologies Laboratory

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
50833-08 / 24060781-008 Floor Tile/ Mastic Room 109 E Side, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
50833-08 / 24060781-008 Floor Tile/ Mastic Room 109 E Side, Leveler	Grey Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
50833-09 / 24060781-009 Floor Tile/ Mastic Room 109 E Side, Floor Tile	Grey Non-Fibrous Homogeneous		100% Other	None Detected
50833-09 / 24060781-009 Floor Tile/ Mastic Room 109 E Side, Mastic	Tan Non-Fibrous Homogeneous		100% Other	None Detected
50833-09 / 24060781-009 Floor Tile/ Mastic Room 109 E Side, Leveler	Grey Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
50833-10 / 24060781-010 Recessed Ceiling Tile, Room 115, S Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-11 / 24060781-011 Recessed Ceiling Tile, Room 115, S Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-12 / 24060781-012 Recessed Ceiling Tile, Room 115, S Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Oth.	None Detected
50833-13 / 24060781-013 Recessed Ceiling Tile/ Center Area Room 115	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-14 / 24060781-014 Recessed Ceiling Tile/ Center Area Room 115	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected

Analyst: _____ Approved Signatory: Sidney Kirkerton

Analysis Date: 10/23/2024 Date: 10/23/2024

SanAir Technologies Laboratory

SanAir ID Number
24060781
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10/23/2024 3:18:33 PM

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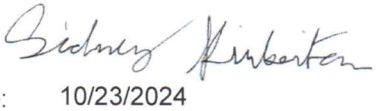
Analyst: Farnsworth-Pinkerton, Shoshauna

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
50833-15 / 24060781-015 Recessed Ceiling Tile/ Center Area Room 115	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-16 / 24060781-016 Recessed Ceiling Tile/ Room 114 East Side	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-17 / 24060781-017 Recessed Ceiling Tile/ Room 114 East Side	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-18 / 24060781-018 Recessed Ceiling Tile/ Room 114 East Side	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-19 / 24060781-019 Decorative Ceiling Tile, Room 115, N Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-20 / 24060781-020 Decorative Ceiling Tile, Room 115, N Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-21 / 24060781-021 Decorative Ceiling Tile, Room 115, N Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-22 / 24060781-022 Decorative Ceiling Tile, Room 103, W Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-23 / 24060781-023 Decorative Ceiling Tile, Room 103, W Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-24 / 24060781-024 Decorative Ceiling Tile, Room 103, W Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected

Analyst:

Approved Signatory: 

Analysis Date: 10/23/2024

Date: 10/23/2024

SanAir Technologies Laboratory

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24060781
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10/23/2024 3:18:33 PM

Name: AEIC
Address: 2716 Ashbrooke Dr.
Lexington, KY 40513
Phone: 859-338-9173

Project Number: PA24-53
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Collected Date: 10/17/2024
Received Date: 10/23/2024 10:15:00 AM

Analyst: Farnsworth-Pinkerton, Shoshauna

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
50833-25 / 24060781-025 Decorative Ceiling Tile, Room 103, E Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-26 / 24060781-026 Decorative Ceiling Tile, Room 103, E Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-27 / 24060781-027 Decorative Ceiling Tile, Room 103, E Area	Grey Fibrous Homogeneous	40% Cellulose 10% Glass 5% Min. Wool	45% Other	None Detected
50833-28 / 24060781-028 Drywall, Room 115, SW Area	White Non-Fibrous Homogeneous	2% Cellulose	98% Gypsum	None Detected
50833-29 / 24060781-029 Drywall, Room 115, SW Area	White Non-Fibrous Homogeneous	2% Cellulose	98% Gypsum	None Detected
50833-30 / 24060781-030 Drywall, Room 115, SW Area	White Non-Fibrous Homogeneous	2% Cellulose	98% Gypsum	None Detected
50833-31 / 24060781-031 Drywall, Room 115, West Side	White Non-Fibrous Homogeneous	2% Cellulose	98% Gypsum	None Detected
50833-32 / 24060781-032 Drywall, Room 115, West Side	White Non-Fibrous Homogeneous	2% Cellulose	98% Gypsum	None Detected
50833-33 / 24060781-033 Drywall, Room 115, West Side	White Non-Fibrous Homogeneous	2% Cellulose	9 [illegible]um	None Detected
50833-34 / 24060781-034 Drywall, Room 115, West Side	White Non-Fibrous Homogeneous	2% Cellulose	98% Gypsum	None Detected

Analyst: [signature]
Analysis Date: 10/23/2024

Approved Signatory: Sidney Kirkerton
Date: 10/23/2024

SanAir Technologies Laboratory

SanAir ID Number
24060781
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Collected Date: 10/17/2024
Received Date: 10/23/2024 10:15:00 AM

Analyst: Farnsworth-Pinkerton, Shoshauna

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
50833-35 / 24060781-035 Drywall, Room 115, West Side	White Non-Fibrous Homogeneous	2% Cellulose	98% Gypsum	None Detected
50833-36 / 24060781-036 Drywall, Room 115, West Side	White Non-Fibrous Homogeneous	2% Cellulose	98% Gypsum	None Detected
50833-37 / 24060781-037 Drywall Mud, Room 115 Ctr Area	White Non-Fibrous Homogeneous		100% Other	None Detected
50833-38 / 24060781-038 Drywall Mud, Room 115 Ctr Area	White Non-Fibrous Homogeneous		100% Other	None Detected
50833-39 / 24060781-039 Drywall Mud, Room 115 Ctr Area	White Non-Fibrous Homogeneous		100% Other	None Detected
50833-40 / 24060781-040 Drywall Mud, Room 115 W Ctr Area	White Non-Fibrous Homogeneous		100% Other	None Detected
50833-41 / 24060781-041 Drywall Mud, Room 115 W Ctr Area	White Non-Fibrous Homogeneous		100% Other	None Detected
50833-42 / 24060781-042 Drywall Mud, Room 115 W Ctr Area	White Non-Fibrous Homogeneous		100% Other	None Detected
50833-43 / 24060781-043 Drywall Mud, Room 115 N Area	White Non-Fibrous Homogeneous		100% Other	None Detected
50833-44 / 24060781-044 Drywall Mud, Room 115 N Area	White Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: _____ Approved Signatory: Sidney Kirkerton

Analysis Date: 10/23/2024 Date: 10/23/2024

SanAir Technologies Laboratory

SanAir ID Number
24060781
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10/23/2024 3:18:33 PM

Name: AEIC
Address: 2716 Ashbrooke Dr.
Lexington, KY 40513
Phone: 859-338-9173

Project Number: PA24-53
P.O. Number:
Project Name: LFUCG Water Quality
Collected Date: 10/17/2024
Received Date: 10/23/2024 10:15:00 AM

Analyst: Farnsworth-Pinkerton, Shoshauna

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-fibrous	Asbestos Fibers
50833-45 / 24060781-045 Drywall Mud, Room 115 N Area	White Non-Fibrous Homogeneous		100% Other	None Detected
50833-46 / 24060781-046 Roofing Material, S Side of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected
50833-47 / 24060781-047 Roofing Material, S Side of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected
50833-48 / 24060781-048 Roofing Material, S Side of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected
50833-49 / 24060781-049 Roofing Material, S Ctr Area of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected
50833-50 / 24060781-050 Roofing Material, S Ctr Area of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected
50833-51 / 24060781-051 Roofing Material, S Ctr Area of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected
50833-52 / 24060781-052 Roofing Material, Ctr Area of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected
50833-53 / 24060781-053 Roofing Material, Ctr Area of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected
50833-54 / 24060781-054 Roofing Material, Ctr Area of Roof	Black Non-Fibrous Homogeneous		100% Other	None Detected

Analyst: _____ Approved Signatory: Sidney Kirkerton

Analysis Date: 10/23/2024 Date: 10/23/2024

Disclaimer and Additional Information

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Fibers smaller than 5-microns cannot be seen with this method due to scope limitations. Polarized- light microscopy is not consistently reliable in detecting asbestos in floor covering and similar non-friable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing. Samples are held for a period of 60 days.

Asbestos Accreditations, Certifications, and Licenses
National Voluntary Laboratory Accreditation Program (NVLAP) Lab Code 600227-0
State of Connecticut Department of Public Health Registration Number: PH-0817
State of Rhode Island Department of Health, Certification Number: PLM00144, TEM00144
State of West Virginia Bureau for Public Health, Analytical Laboratory Number: LT000637
Texas Department of State Health Services License Number: 300510

24060781

APPLEGATE ENVIRONMENTAL INSPECTINS & CONSULTING INC.

BULK SAMPLE LOG

Job Number 50833

Page 1 of 5

Project WATER QUALITY 130 New Circle Rd.

Sample No.	FS No.	HA No.	Location	Description
50833-01			New Water Quality Building	Floor Tile and Mastic
50833-02				
50833-03				
50833-04				
50833-05				
50833-06				
50833-07				
50833-08				
50833-09				
50833-10				Ceiling tile Recessed
50833-11				
50833-12				
50833-13				
50833-14				

Received By [signature] [signature] 10/21/24

RMB OCT 23 2024 10:15am

PA 24-53 24060781

APPLEGATE ENVIRONMENTAL INSPECTINS & CONSULTING INC.

BULK SAMPLE LOG

Job Number 50833

Project WATER QUALITY 130 New Circle Rd.

Sample No.	FS No.	HA No.	Location	Description
50833-15			New Water Quality Building	Ceiling Tile Recessed
50833-16				
50833-17				
50833-18				
50833-19				Ceiling Tile Decrostive
50833-20				
50833-21				
50833-22				
50833-23				
50833-24				
50833-25				
50833-26				
50833-27				
50833-28				Dry wall

Received by [signature] 10/23/24

RMB OCT 23 2024 10:15am

2406078|

APPLEGATE ENVIRONMENTAL INSPECTIONS & CONSULTING INC.
2716 Ashbrooke Drive
Lexington, Kentucky 40513

PA 24-53

BULK SAMPLE LOG

Job Number: 50833

Project: WATER QUALITY 130 New Circle Road

Sample No.	FS No.	HA No.	Location	Description
50833-29			NEW WATER QUALITY BUILDING	Drywall
50833-30				
50833-31				
50833-32				
50833-33				
50833-34				
50833-35				
50833-36				
50833-37				Dry wall MUD
50833-38				
50833-39				

Relinquished by: A Kelsey **Date:** 10/20/24 **Time:**

Received by: **Date:** 10/21/24 **Time:**

RMB OCT 23 2024 10:15 am

24060781

APPLEGATE ENVIRONMENTAL INSPECTIONS & CONSULTING INC.
2716 Ashbrooke Drive
Lexington, Kentucky 40513

PA24-53

BULK SAMPLE LOG

Job Number: 50833

Project: WATER Quality 130 New Circle Road

Sample No.	FS No.	HA No.	Location	Description
50833-40			NEW WATER quality Building	Dry wall MUD
50833-41				
50833-42				
50833-43				
50833-44				
50833-45				
50833-46				ROOF MATERIAL
50833-47				
50833-48				
50833-49				
50833-50				

Relinquished by: A Kelsey Date: 10/22/24 Time:

Received by: Date: 10/22/24 Time:

RMB OCT 23 2024 Page 15 of 18

24060781

APPLEGATE ENVIRONMENTAL INSPECTIONS
& CONSULTING INC.
2716 Ashbrooke Drive
Lexington, Kentucky 3

RA 24-53

BULK SAMPLE LOG

Job Number: 50833

Page 5 of 5

Project: WATER QUALITY 130 NEW CIRCLE ROAD

Sample No.	FS No.	HA No.	Location	Description
50833-51			NEW WATER QUALITY BUILDING	ROOF MATERIAL
50833-52			↓	↓
50833-53				
50833-54				

Relinquished by: [signature] Date: 10/20/24 Time:

Received by: [signature] Date: 10/21/24 Time:

RMB OCT 23 2024 10:15am

SanAir Technologies Laboratory

Powhatan, VA 23139
804.897.1177 / 888.895.1177
Fax 804.897.0070
sanair.com

Asbestos
Chain of Custody
Form 140, Rev 3, 8/28/19

SanAir ID Number: 24060781

Company: AEIC
Project #: PA24-53
Collected by: Phillip Applegate
Address: 2716 Ashbrooke Dr
Project Name: LFUCG Water Quality
Phone #: (859) 338 9173
City, St., Zip: Lexington KY 40513
Date Collected: 10/17/24
Fax #: NA
State of Collection: KY
Account#: 3837
P.O. Number: NA
Email: phillipapplegate@yahoo.com

Bulk

ABB	PLM EPA 600/R-93/116	☑
	Positive Stop	☐
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB**	☐
ABBCH	TEM Chatfield**	☐
ABBTM	TEM EPA NOB**	☐
ABQ	PLM Qualitative	☐

** Available on 24-hr. to 5-day TAT

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐
Other:		☐

New York ELAP

ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐

Vermiculite & Soil

ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Matrix: Other ☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	1 Day ☑
	☐ 2 Days	☐ 3 Days	☐ 4 Days	☐ 5 Days

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
50833-01	Floor Tile/Mastic Room 116 S. Area	–	10/17/24			
50833-02	Fl. Tile/Mastic Room 116 S Area	–	10/17/24			
50833-03	Fl. Tile/Mastic Room 116 S Area	–	10/17/24			
50833-04	Fl. Tile/Mastic Room 116 N Area	–	10/17/24			
50833-05	Fl. Tile/Mastic Room 116 N. Area	–	10/17/24			
50833-06	Fl. Tile/Mastic Room 116 N. Area	–	10/17/24			
50833-07	Fl. Tile/Mastic Room 109 E Side	–	10/17/24			
50833-08	Fl. Tile/Mastic Room 109 E. Side	–	10/17/24			
50833-09	Fl. Tile/Mastic Room 109 E. Side	–	10/17/24			
50833-10	Recessed Ceiling Tile, Room 115, S Area	–	10/17/24			
50833-11	Recessed Ceiling Tile, Room 115, S Area	–	10/17/24			
50833-12	Recessed Ceiling Tile, Room 115, S Area	–	10/17/24			

Relinquished by	Date	Time	Received by	Date	Time
[signature]	10/22/23		RMB	OCT 23 2024	10:15 am

If no technician is provided, then the primary contact for your account will be selected. Unless sche[illegible] turnaround time for all samples received after 3 pm EST will be logged in the next business day. Weekend or holiday work must be scheduled ahead of time and is ch[illegible]ed at 150% of the 3hr TAT or a minimum charge of 150. A courier charge will be applied for same day and one-day turnaround times for offsite work. SanAir covers Standard Overnight FedEx shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges.

Pg 1 of 3

24060781 Form 140, Revision 1, 1/20/2017

Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
50833-13	Recessed Ceiling Tile/ Center Area Room 115		10/17 / 24			
50833-14	Recessed Ceiling Tile/ Center Area Room 115		10/17/ 24			
50833-15	Recessed Ceiling Tile/ Center Area Room 115		10/17/24			
50833-16	Recessed Ceiling Tile/ Room 114 East Side		10/17/24			
50833-17	Recessed Ceiling Tile/ Room 114 East Side		10/17/24			
50833-18	Recessed Ceiling Tile/ Room 114 East Side		10/17/24			
50833-19	Decorative Ceiling Tile, Room 115, N. Area		10/17/24			
50833-20	Decorative Ceiling Tile, Room 115, N. Area		10/17/24			
50833-21	Decorative Ceiling Tile, Room 115, N. Area		10/17/24			
50833-22	Decorative Ceiling Tile, Room 103, W Area		10/17/24			
50833-23	Decorative Ceiling Tile, Room 103, W Area		10/17/24			
50833-24	Decorative Ceiling Tile, Room 103 W Area		10/17/24			
50833-25	Decorative Ceiling Tile, Room 103, E Area		10/17/24			
50833-26	Decorative Ceiling Tile Room 103, E. Area		10/17/24			
50833-27	Decorative Ceiling Tile, Room 103, E Area		10/17/24			
50833-28	Drywall, Room 115, SW Area		10/17/24			
50833-29	Drywall, Room 115, SW. Area		10/17/24			
50833-30	Drywall, Room 115, SW Area		10/17/24			
50833-31	Drywall, Room 115, West Side		10/17/24			
50833-32	Drywall Room 115, West Side		10/17/24			
50833-33	Drywall, Room 115, West Side		10/17/24			
50833-34	Drywall, Room 115 West Side		10/17/24			
50833-35	Drywall, Room 115 West Side		10/17/24			
50833-36	Drywall, Room 115 West Side		10/17/24			
50833-37	Drywall Mud, Room 115 Ctr Area		10/17/24			
50833-38	Drywall Mud, Room 115 Ctr Area		10/17/24			
50833-39	Drywall Mud, Room 115, Ctr Area		10/17/24			
50833-40	Drywall Mud, Room 115, W Ctr Area		10/17/24			
50833-41	Drywall Mud, Room 115, W Ctr. Area		10/17/24			
50833-42	Drywall Mud, Room 115 W. Ctr Area		10/17/24			
50833-43	Drywall Mud, Room 115 N. Area		10/17/24			

43

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
	10/22/24		RUB	OCT 23 2024	10:15 am

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST will be logged in the next business day. Weekend or holiday work must be scheduled ahead of time and is charged at 150% of the 3hr TAT or a minimum charge of $150. A courier charge will be applied for same day and one-day turnaround times for offsite work. SanAir covers Ground and Next Day Air shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges. Page 2 of 3

24060781 Form 140, Revision 1, 1/20/2017

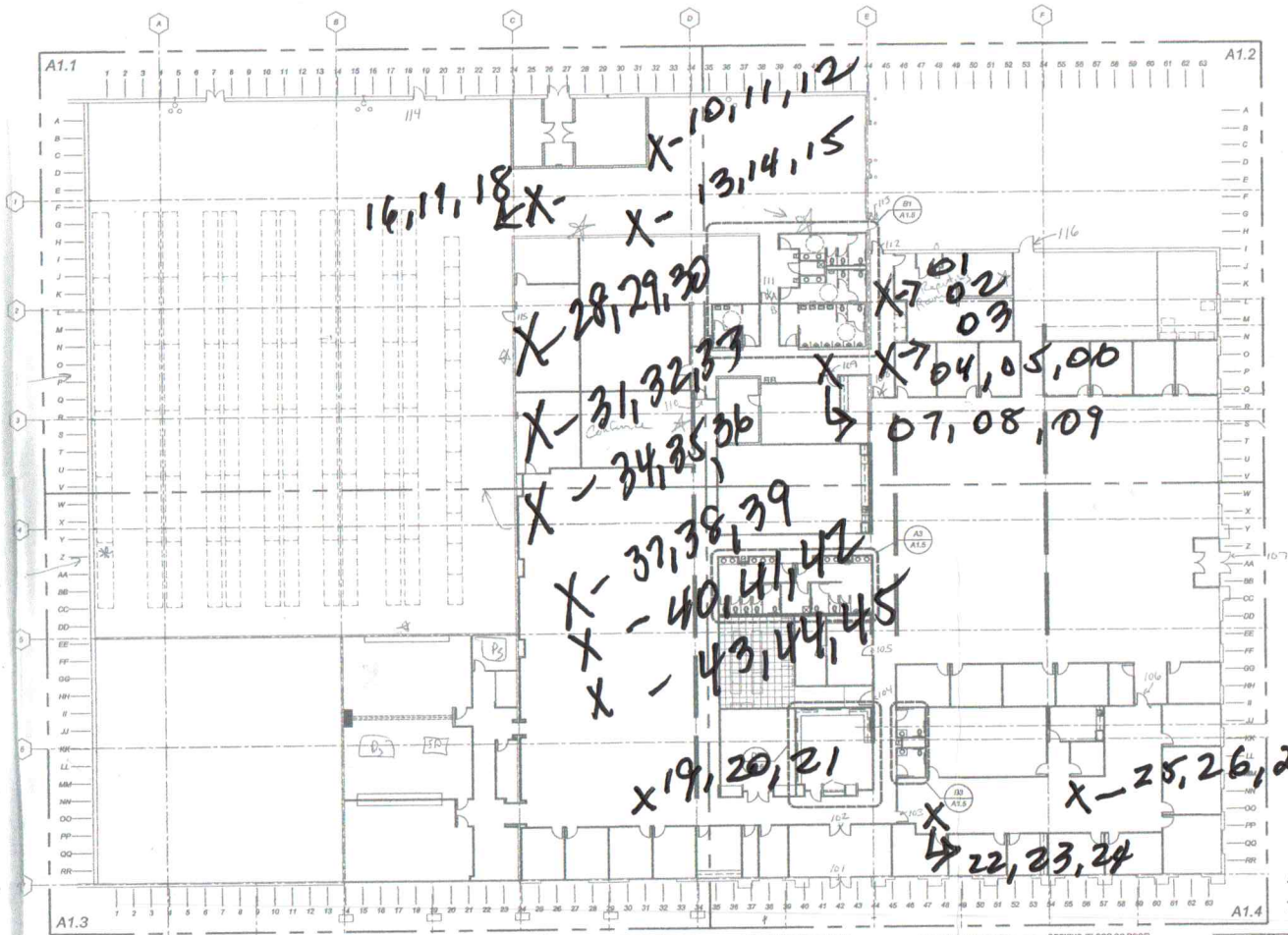
Sample #	Sample Identification/Location	Volume or Area	Sample Date	Flow Rate*	Start – Stop Time*	
50833 -44	Drywall Mud, Room 115 N. Area		10/17/24			
50833-45	Drywall Mud, Room 115 N. Area		10/17/24			
50833-46	Roofing Material, S Sctr of Roof		10/17/24			
50833-47	Roofing Material, S Sctr of Roof		10/17/24			
50833-48	Roofing Material, S Sctr of Roof		10/17/24			
50833-49	Roofing Material, S Ctr Area of Roof		10/17/24			
50833-50	Roofing Material, S Ctr Area of Roof		10/17/24			
50833-51	Roofing Material, S Ctr Area of Roof		10/17/24			
50833-52	Roofing Material, Ctr Area of Roof		10/17/24			
50833-53	Roofing Material Ctr Area of Roof		10/17/24			
50833-54	Roofing Material Ctr of Area of Roof		10/17/24			

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
	10/22/24		RMB	OCT 23 2024	10:15 am

If no technician is provided, then the primary contact for your account will be selected. Unless scheduled, the turnaround time for all samples received after 3 pm EST will be logged in the next business day. Weekend or holiday work must be scheduled ahead of time and is charged at 150% of the 3hr TAT or a minimum charge of $150. A courier charge will be applied for same day and one-day turnaround times for offsite work. SanAir covers Ground and Next Day Air shipping. Shipments billed to SanAir with a faster shipping rate will result in additional charges. Page 3 of 3

10/17/24 WATER QUALITY 130 NEW Circle Road #24-53
WO#50833



FLOOR PLAN LEGEND

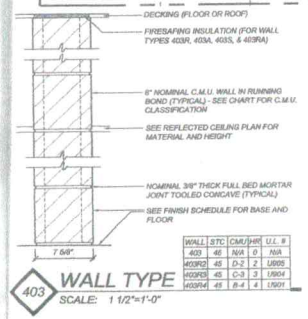
3 5/8" METAL STUD WALL

CONCRETE BLOCK

INTERIOR

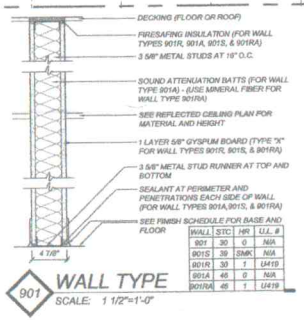
ASBESTOS SAMPLING

NEW CONSTRUCTION
COMPOSITE FLOOR PLAN
SCALE: 1/16" = 1'-0"



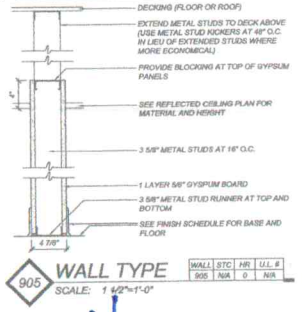
WALL	STC	CM/HR	U.L. #
403	46	N/A	0	N/A
403R2	46	0-2	2	U805
403R3	45	0-3	3	U904
403R4	45	8-4	4	U901

403 WALL TYPE
SCALE: 1 1/2"=1'-0"



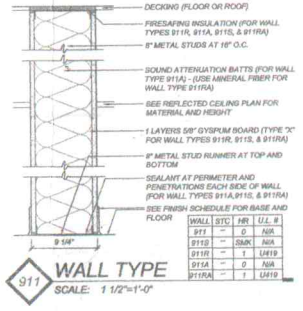
WALL	STC	HR	U.L. #
901	30	0	N/A
901S	39	SMK	N/A
901R	30	1	U419
901A	46	0	N/A
901RA	46	1	U419

901 WALL TYPE
SCALE: 1 1/2"=1'-0"



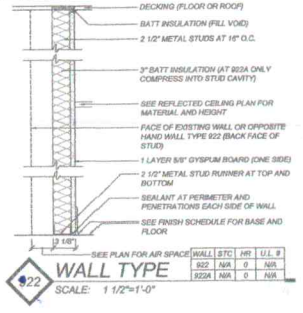
905 WALL TYPE
SCALE: 1 1/2"=1'-0"

WALL	STC	HR	U.L. #
905	N/A	0	N/A



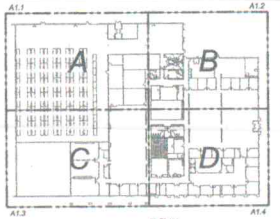
WALL	STC	HR	U.L. #
911	--	0	N/A
911S	--	SMK	N/A
911R	--	1	U419
915A	--	0	N/A
911RA	--	1	U419

911 WALL TYPE
SCALE: 1 1/2"=1'-0"



WALL	STC	HR	U.L. #
SEE PLAN FOR AIR SPACE			
922	N/A	0	N/A
922A	N/A	0	N/A

922 WALL TYPE
SCALE: 1 1/2"=1'-0"



KEY PLAN
SCALE: NONE

EKHOFF, OCHENKOSKI & POLK
EOP ARCHITECTS
201 West Short Street, Suite 700, Lexington, Kentucky 40507
Tel: 859-231-7538 Fax: 859-255-4380

PAUL J. OCHENKOSKI REGISTERED No. 2375 COMMONWEALTH OF KENTUCKY ARCHITECT

ALLTEL
New Circle Road
Lexington, Ky

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Any discrepancies found in this drawing shall be reported immediately to the Architect before proceeding with the work affected.

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Contractor shall verify and be responsible for all dimensions and conditions on the job. Notify EOP Architects immediately of any variations from the dimensions and conditions shown by these drawings.

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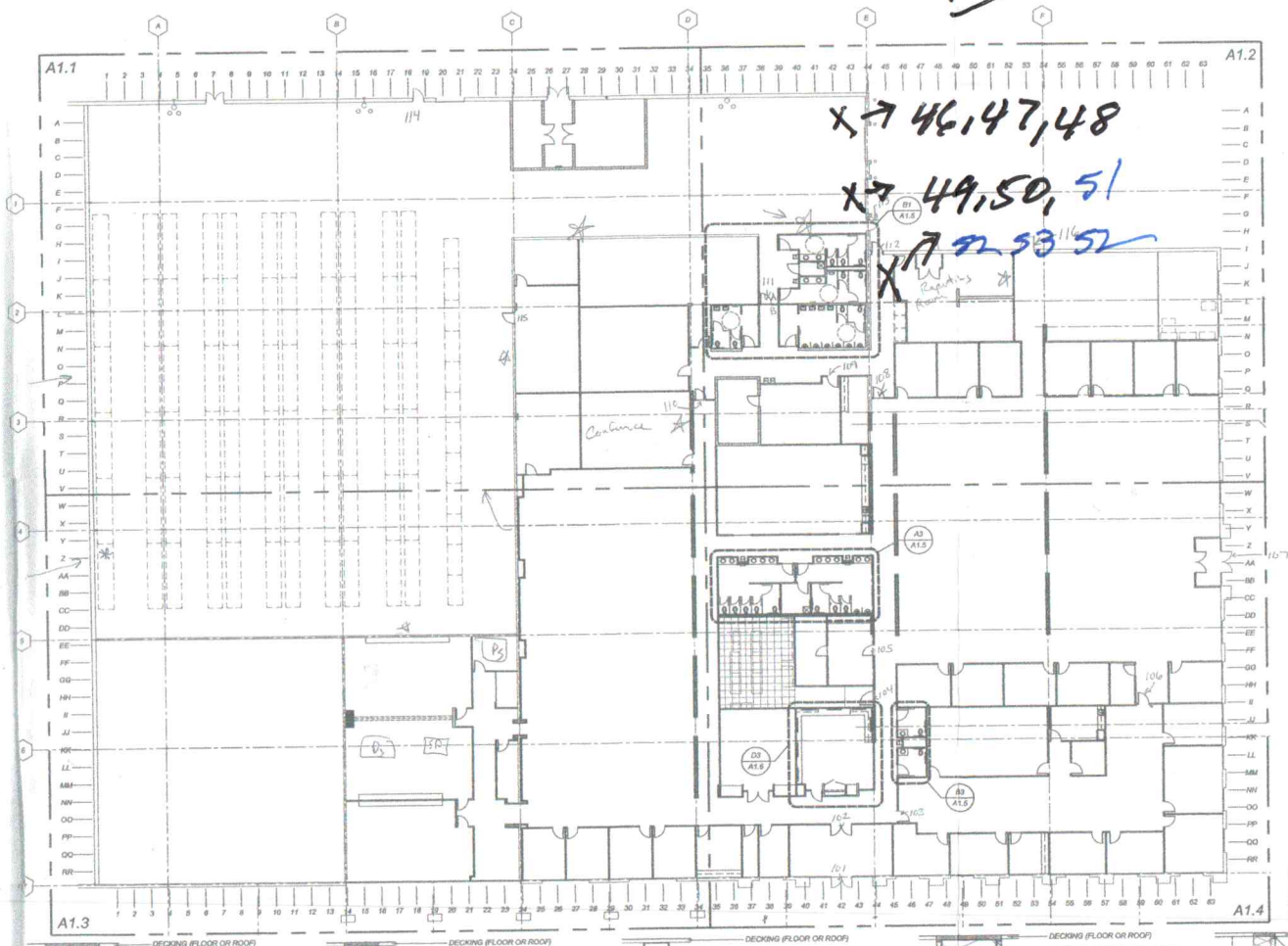
No.	Date	Description	Initials

Proj. No. 0408 Date 01/05/2005 Drawn by ASL Checked by CE

COMPOSITE FLOOR PLAN
A1.0

10/17/24 WATER QUALITY 130 New Circle Road DR 24-53

Roof LOD # 50853

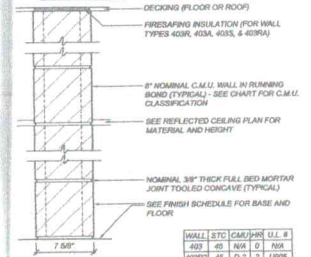


FLOOR PLAN LEGEND

3 5/8" METAL STUD WALL

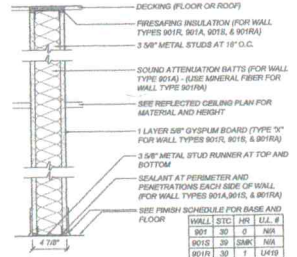
CONCRETE BLOCK

NEW CONSTRUCTION
COMPOSITE FLOOR PLAN
SCALE: 1/16" = 1'-0"



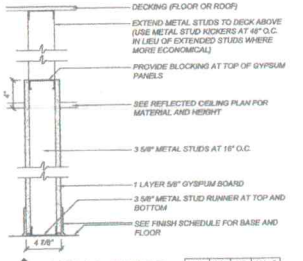
WALL	STC	CMU	HR	U.L. #
403	45	N/A	0	N/A
403RD	45	D-2	2	U805
403RS	45	C-3	3	U904
403RA	45	8-4	4	U901

403 WALL TYPE
SCALE: 1 1/2"=1'-0"



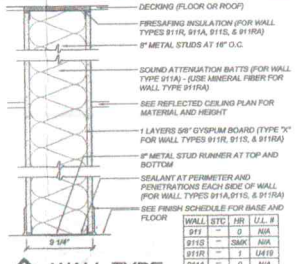
WALL	STC	HR	U.L. #
901	30	0	N/A
901S	39	SMK	N/A
901R	30	1	U419
901A	46	0	N/A
901RA	46	1	U419

901 WALL TYPE
SCALE: 1 1/2"=1'-0"



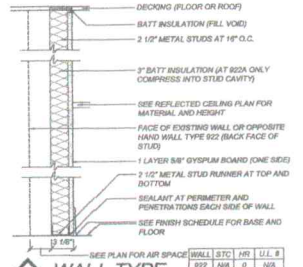
WALL	STC	HR	U.L. #
905	N/A	0	N/A

905 WALL TYPE
SCALE: 1 1/2"=1'-0"



WALL	STC	HR	U.L. #
911	–	0	N/A
911S	–	SMK	N/A
911R	–	1	U419
911A	–	0	N/A
911RA	–	1	U419

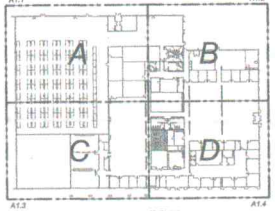
911 WALL TYPE
SCALE: 1 1/2"=1'-0"



SEE PLAN FOR AIR SPACE

WALL	STC	HR	U.L. #
922	N/A	0	N/A
922A	N/A	0	N/A

922 WALL TYPE
SCALE: 1 1/2"=1'-0"



KEY PLAN
SCALE: NONE

EKHOFF, OCHENKOSKI & POLK
EOP ARCHITECTS
201 West Short Street, Suite 700, Lexington, Kentucky 40507
Tel: 859-231-7538 Fax: 859-255-4360

PAUL J. OCHENKOSKI REGISTERED No. 2375 COMMONWEALTH OF KENTUCKY ARCHITECT

ALLTEL
New Circle Road
Lexington, Ky

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COMPOSITE FLOOR PLAN
A1.0

Phase I
Environmental Site Assessment

130 & 134 W. New Circle Road
Lexington, Kentucky 40505

Prepared for:

Lexington-Fayette Urban County Government
Division of Water Quality
125 Lisle Industrial Avenue
Lexington, Kentucky 40511

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Shield Project # 123-3060

November 27, 2023

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1.0 EXECUTIVE SUMMARY

On behalf of Lexington-Fayette Urban County Government (LFUCG), Shield Environmental Associates, Inc. (Shield) performed a Phase I Environmental Site Assessment (ESA) of properties located at 130 and 134 W. New Circle Road in Lexington, Fayette County, Kentucky. The property located at 130 W. New Circle Road is a multi-tenant building; therefore, this Phase I ESA only includes Suite 170 of the building and exterior portions associated with this suite. The 130 W. New Circle Road is contiguous to the 134 W. New Circle Road; therefore, for the purpose of this Phase I ESA the properties will be referred to as one (1) unless otherwise differentiated. This Phase I ESA was performed in conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E1527-21. This ESA includes reconnaissance of the subject site, a search for readily available government and local records, interviews with persons familiar with the site, and a review of historical information. The site reconnaissance was conducted by Ms. Elizabeth Greathouse of Shield on October 31, 2023. The purpose of this site assessment was to determine the potential for the presence of recognized environmental conditions (RECs) associated with the site.

According to the Fayette County Property Valuation Administrator (PVA) both properties are owned by the William Ziering Trust and consist of a total of 8.43 acres. Suite 170 consists of approximately 67,500-square feet and was constructed in 1968. The building is currently being used by the Lexington Fire Department for their annual Toy Drive. Prior to Lexington Fire Department's occupancy, the building was utilized as office space for Windstream. The exterior of the property consists of paved parking space and a fenced area containing covered parking and several small ancillary structures. This fenced area was utilized for fleet storage by Windstream and is not currently being used by the Lexington Fire Department.

The interior of Suite 170 consists of office space, storage areas, restrooms, and open warehouse space. The warehouse portion of the building may have historically been used for automotive service when K-Mart occupied the property. Some concrete patched areas and one (1) floor drain were observed in this area.

A concrete curbed area is located on the western exterior of the building. The purpose of this area is not known; however, it may have been the former location of an aboveground storage tank (AST).

A fenced area is located on the northern portion of the property. Within the fenced area is covered parking, formerly used by Windstream for fleet parking, two (2) small storage buildings and a third building located near the northwestern corner that was not accessible during site reconnaissance.

The remaining property exterior is primarily used for parking. Grass-covered areas are located along the northern, eastern and western perimeters.

Based on available historic documentation the property appears to have been undeveloped/agricultural land prior to development for commercial purposes in the mid-1960s. The entire property was originally occupied by a K-Mart retail store. Additional occupants have included Alltel and Windstream. The property is currently being utilized by the Lexington Fire Department as their annual toy drive headquarters. Mr. William Ziering, current property owner, indicated Windstream took occupancy of the property in 2004 and vacated the premises in December 2023. The property was vacant until the Lexington Fire Department's occupancy.

Mr. Ziering provided a copy of a Phase I ESA completed prior to his purchase in 2017. The 2017 Phase I ESA indicates the former UST was located on the property to the south, currently owned by Goodwill Industries; however, the fill port to the UST was located inside the former service area on the subject property. No RECS were identified in the 2017 Phase I ESA.

Files were provided for the property by the Kentucky Division of Waste Management (KDWM), Underground Storage Tank Branch (USTB). According to information in the files a 1,000-gallon waste oil UST was installed on the property in 1964 and was utilized to contain waste liquids generated during automobile servicing by K-Mart. Based on information located in the files it appears the UST was formerly located on the western side of the building, near the fenced area which is located near the center of the building. It appears the fill port to the UST was located inside the service area within the building. The UST was removed in 1991. Following removal soil impacts (oil and grease and total lead) were identified. In August/September 1993 a total of 222 cubic yards of soil was removed for proper disposal. A letter of no further action was issued for the removal in January 1996.

Shield has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-21 of the properties located at 130 and 134 W. New Circle Road in

Lexington, Fayette County, Kentucky. Any exceptions to or deletions from this practice are described in Section 8.2 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the property.

2.0 INTRODUCTION

Shield has completed a Phase I ESA on behalf of LFUCG. The subject site is a commercial property located at 130 and 134 W. New Circle Road in Lexington, Fayette County, Kentucky.

2.1 Location and Legal Description

The subject site is situated in a shopping center along New Circle Road, northeast of downtown Lexington, Kentucky. William Ziering Trust is the current owner of the property. The trust, according to the Fayette County PVA, is dated June 18, 2015. The property consists of two (2) contiguous tracts of land totaling 8.43 acres. The following information was provided via the Fayette County PVA for each parcel.

- 130 W. New Circle Road, Suite 170: Parcel Number 13872150; 7.59 acres, building 67,500 square feet and built in 1968
- 134 W. New Circle Road: Parcel Number 38158940, 0.84 acres, no structures

The location of the property is illustrated on Figure 1, the Site Location Map, which is a portion of the United States Geological Survey (USGS) Lexington East, Kentucky, 7.5-minute Topographic Quadrangle Map (2019). The property is located at the following approximate geographic coordinates: latitude 38°03'58" North; and, longitude 84°28'23" West. The general property layout is illustrated on Figure 2, the Site Plan Map.

2.2 Purpose

The purpose of this assessment was to evaluate the presence of recognized environmental conditions (RECs) associated with the subject property. Recognized environmental conditions are defined by ASTM as "(1) the *presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on or at the subject property due to a release or likely release to the environment; (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of future release to the environment".* This assessment considered not only current and prior activities on the site, but also to the extent possible, operations on the adjacent properties that could have impacted the site.

Historical RECs (HRECs) are defined by ASTM as *"a previous release of hazardous substances or petroleum products affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities and meeting unrestricted use criteria established by the applicable regulatory authority or authorities, without subjecting the subject property to any controls (for example, activity and use limitations, or other property use limitations)".*

Controlled RECs (CRECs) are defined by ASTM as *"recognized environmental condition affecting the subject property that has been addressed to the satisfaction of the applicable regulatory authority or authorities, with hazardous substances or petroleum products allowed to remain in place subject to implementation of required controls".*

2.3 Scope of Services

This report was prepared in accordance with Shield's proposal number 23-207 provided to Mr. Gregory Lubeck, P.E. of LFUCG Division of Water Quality and dated October 17, 2023. Mr. Lubeck issued a Purchase Order (PO) (PO LF00202699) authorizing the work on October 25, 2023. The proposal, scope of services, and authorization are provided in Appendix A. Signatures and resumes of the personnel performing this assessment are provided in Appendix B.

This assessment was conducted in conformance with *ASTM E 1527-21*, a consensus document and guide for conducting Environmental Site Assessments under 40 CFR Part 312 related to *All Appropriate Inquiry* (AAI). Shield assessed the potential for contamination by performing the following general scope of services:

- Site Reconnaissance performed on October 31, 2023;
- Interviews conducted on-site on October 31, 2023 and via telephone on November 21, 2023;
- Regulatory Records Review;
- Historical Source Review; and,
- Report Preparation.

2.4 Significant Assumptions

The following assumptions were made when preparing this report:

- Information provided in the interview process and during site reconnaissance is true and accurate to the best of the individual's knowledge;

- As requested in the user questionnaire and Shield's proposal, any information available related to the following items has been provided: title records; environmental liens or activity and use limitations (AULs); specialized knowledge of site environmental problems; records and reports regarding environmental investigations or assessments; and/or reduction of property value due to environmental impairment; and,

- Shield understands that this ESA is being conducted prior to a potential property lease.

2.5 Limitations and Exceptions

The findings are relevant to the date of the site visit and should not be relied upon to represent conditions at later dates. As outlined in 40 CFR 312.20 (c) (3), portions of this report must be updated within a 180-day period. The interviews, regulatory review, search for environmental liens, visual inspection of the property, and declaration by the environmental professional must be updated within 180 days from the date those activities were completed. While the information contained in this report can be used as a reference source at any time in the future, the report cannot be relied upon after one year. The scope executed for this project is not an audit for regulatory compliance or a detailed condition survey for the presence of hazardous and/or toxic materials such as, asbestos, lead paint, polychlorinated biphenyls (PCBs), mold or radon and other naturally occurring materials.

Our conclusions regarding the site are based upon observations of existing site conditions, interpretations of available site history, and site usage information. The results of this evaluation are limited by the fact that Shield has not conducted asbestos or other hazardous materials testing, or soil, groundwater, or air sampling. Conclusions regarding the site's condition do not represent a warranty that all areas within the site are of the same quality as may be inferred from observable site conditions and readily available site history.

While this report represents appropriate inquiry into readily available sources for information, this report is not exhaustive and does not eliminate uncertainty regarding the potential for RECs in connection with the property.

In performing this site assessment, Shield has strived to conform to generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. Shield has attempted to observe a degree of care and skill generally exercised by the technical community under similar circumstances and conditions. Our findings and conclusions must be considered probabilities based upon professional judgment on the significance of the limited data gathered during the course of the ESA.

This assessment was conducted based upon the scope of work and level of effort desired by the client and with resources adequate only for that scope of work. Our findings have been developed according to generally accepted standards of engineering, geology, and hydrogeology practices in the Commonwealth of Kentucky, available information, and our professional judgment. No other warranty is expressed or implied.

2.6 Special Terms and Conditions

Aside from the terms and conditions outlined in Shield's proposal and above in Section 2.4, no additional terms and conditions are applicable.

2.7 User Reliance

This report has been prepared and is intended for the exclusive use of LFUCG. The report's contents should not be relied upon by any other party without the express written consent of Shield.

3.0 USER PROVIDED INFORMATION

As outlined in 40 CFR 312.22, ASTM E1527-21 (Section 6) and requested in the user questionnaire, the following information is to be provided by the user (i.e., client and/or client's representative):

- Title records;
- Information regarding environmental liens or AULs;
- Specialized knowledge of environmental impairment or known RECs;
- Environmental records not available through the public record such as environmental investigation or assessment reports;
- Reduction in property value due to environmental impairment or RECs; and,
- Any additional specialized knowledge regarding the potential presence of contamination on the property.

A completed user questionnaire is provided in Appendix A. A current title and/or chain of title were not provided. No information regarding specialized knowledge of environmental impairments, or a reduction in property value was provided. In addition, no environmental records or copies of liens or AULs were provided.

4.0 PHYSICAL SETTING

Numerous sources were contacted for environmental and regulatory information pertaining to the site and surrounding areas. These sources included state regulatory agencies, the relevant local city offices, and specific site setting sources. The following summarizes the information obtained from the sources of the records reviewed and copies of documents obtained in this section are provided in Appendix F.

4.1 Topographic Map

The subject site was viewed on the USGS Topographic Quadrangle Map, Lexington East, Kentucky (2019). According to the topographic map, the elevation of the subject site is approximately 970 feet above the National Geodetic Vertical Datum (NGVD29, a national datum approximately equal to Mean Sea Level). Surface topography at the site has a downward gradient to the east-northeast.

4.2 Soil Survey

Shield reviewed the United States Department of Agriculture (USDA) Natural Resource Conservation Service's Web Soil Survey website (http://websoilsurvey.nrcs.usda.gov) to gather information regarding the subsurface soil at the property. According to Web Soil Survey, subsurface soils are predominantly comprised of Bluegrass and Maury series soils. The Bluegrass and Maury series soils consist of very deep, well-drained, moderately permeable soils that formed in silty material over residuum weathered from phosphatic limestone. These soils are typically found on uplands. A copy of the digital map is provided in Appendix F.

4.3 Flood Potential, Wells, Springs, and Wetlands

Information concerning flood zones is obtained by reviewing the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps website (https://msc.fema.gov/portal/home). According to the FEMA map reviewed (map number 2100670128E effective March 3, 2014), the property is located in an area of minimal flood hazard. A copy of the FEMA map is provided in Appendix F.

Shield conducted a search for wells and springs located within a 1/10-mile radius of the property center via the Kentucky Groundwater Data Repository provided by the Kentucky Geological Survey (KGS) (https://www.uky.edu/KGS/). No water wells are depicted on the property. A perennial stream is depicted near the northwestern corner of the property. The Kentucky Spring Inventory form located in the file indicates the spring is coming out of a rock wall next to North Broadway and the water drains into a concrete tank located in the ditch next to the road. Several abandoned monitoring wells are located in the vicinity of the subject property; however, their proximity to the subject property is not of concern. A copy of the wells and springs map and the Kentucky Spring Inventory form are provided in Appendix F.

Based upon a review of the National Wetlands Inventory Map obtained via the United States Fish and Wildlife Service National Wetlands Inventory website (http://www.fws.gov/wetlands/Data/Mapper.html), no wetlands are located on the property. Cane Run is illustrated east of the property. A copy of the wetland map is provided in Appendix F.

4.4 Site History

Historical information was obtained for the site through the review of various standard historical sources. If available and considered to be useful sources of historical information for the subject site, resources such as historical topographic maps, aerial photographs, Sanborn® Maps, and city directories are commonly reviewed. For this ESA, Shield obtained historical information primarily from databases provided by Environmental Data Resources, Inc. (EDR®), a third-party company utilized to search state and federal databases for the site and/or surrounding properties of concern, as well as provide historical information (i.e., Sanborn® maps, aerial photographs and topographic maps).

Based on available historic documentation the property appears to have been undeveloped/agricultural land prior to development for commercial purposes in the mid-1960s. The entire property was originally occupied by a K-Mart retail store. Additional occupants have included Alltel and Windstream. The property is currently being utilized by the Lexington Fire Department as their annual toy drive headquarters. Copies of historical source information are provided in Appendix F. Specific information gathered from the sources reviewed is summarized below.

4.4.1 Aerial Photographs

Shield reviewed aerial photographs obtained from EDR® dated 1949, 1958, 1965, 1971, 1984, 1993, 1997, 2008, 2012, 2016, and 2020. The property was undeveloped land on the 1949 and 1958 aerial photographs. The K-Mart building and associated parking lot were present on the 1965 aerial photograph. No changes were noted to the property on the 1971 through 1997 aerial photographs. The covered parking areas and associated buildings located on the northern side of the property were first visible on the 2008 aerial photograph. No additional changes were noted to the property on any of the remaining aerial photographs (2012 through 2020). No areas of concern were seen on any of the aerial photographs reviewed.

4.4.2 Sanborn® Maps

Sanborn® fire insurance maps depict historical features and potential facility uses related to urban properties. These maps are routinely requested for review of urban sites for relevant historical information, including details of former and existing structures. Sanborn® maps dated 1934, 1950, 1958, 1963, and 1970 were provided for review. Coverage of the property was not provided on the 1934 through 1963 Sanborn® maps. K-Mart is present on the property on the 1970 Sanborn® map.

4.4.3 City Directories

City directories were not expected to provide any additional, useful historical information and therefore were not reviewed.

5.0 RECORDS REVIEW

5.1 Database Search

EDR® was contacted to perform a search of State and Federal databases related to environmental permitting, chemical or waste handling, sites with the potential for environmental impacts, and sites with known impacts. The following databases were searched with the resulting number of sites within the radii specified in the table below:

1– MILE RADIUS		¼-MILE RADIUS	
National Priorities List (NPL), Delisted NPL and Proposed NPL	0	RCRA Generators/ RCRA NonGen	1/6
		EDR Historical Auto Station	2
Corrective Action Report (CORRACTS)	2	UST Sites	11
		Fuels Program	0
State list of hazardous waste sites (SHWS)	15	AST Sites	1
		EDR Historical Cleaners	3
		DRCLEANERS	1
Superfund Consent Decrees (CONSENT)	0	PFAS ECHO	0
		TARGET PROPERTY (Y or N)	
Manufactured Gas Plants	0	ASBESTOS	N
Department of Defense (DOD) sites	0	Facility Index System (FINDS)	Y
Record of Decision (ROD)	0	Hazardous Materials Information Reporting System (HMIRS)	N
Indian Reservations	0	Material Licensing Tracking System (MLTS)	N
Formerly Used Defense Sites (FUDS)	0	RCRA Administrative Action Tracking System (RAATS)	N
½- MILE RADIUS		Toxic Chemical Release Inventory System (TRIS)	N
Superfund Enterprise Management System (SEMS)/ SEMS Archive	0	Toxic Substances Control Act (TSCA)	N
US Brownfields, KY Brownfields	0	National Pollutant Discharge Elimination System (NPDES)	N
Resource Conservation and Recovery ACT (RCRA) - transportation, storage and disposal (TSD) facilities	0	Section 7 Tracking Systems (SSTS)	N
		Financial Assurance	N
State landfill list (SWF/LF) / Historical Landfills / SWRCY	0/0/1	Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA)/TSCA Tracking System (FTTS) Hist FTTS	N
Voluntary Cleanup Program (VCP) sites	0	Emergency Response Notification System (ERNS)	N
Uranium Mine Tailings Sites (UMTRA)	0	PCB Activity Database System (PADS)	N
Open Dump Inventory	0	Integrated Compliance Information System (ICIS)	N
SB193/PSTEAF	4/2	Aerometric Information Retrieval System (AIRS)	N
Engineering Controls and Institutional Control	0/2	Enforcement & Compliance History Information (ECHO)	N

Shield provided the subject site address and location to EDR®. A copy of the EDR® database search report is provided in Appendix D. Shield reviewed the EDR® database for information regarding the subject site (a.k.a. Target Property), properties located adjacent or in close proximity to the subject site, and those properties that have the potential to impact the subject site.

5.1.1 Surrounding Properties

SITE NAME	ADDRESS	DATABASES	DISTANCE FROM TARGET PROPERTY (miles)
LEX EXPRESS	176 W NEW CIRCLE RD	UST	0.027
FORMER SUNOCO SERVICE STATION	108 NEW CIRCLE RD NE	RCRA NONGEN / NLR, FINDS, ECHO	0.049
DUFF S SERVICE STATION INC/ SHORTS GENERAL MOTOR SERVICE INC.	177 W NEW CIRCLE RD	EDR HIST AUTO, SHWS, UST, INST CONTROL	0.06
EARLEY BIRD CLEANERS	1542 N LIMESTONE	RCRA NONGEN / NLR, FINDS, ECHO, EDR HIST CLEANER, SHWS, INST CONTROL, AIRS, DRYCLEANERS	0.088
K J ENERGY CO INC	108 NEW CIRCLE RD	UST, FINANCIAL ASSURANCE	0.103
MC WHORTER VIRGIL H	1452 N LIMESTONE	EDR HIST CLEANER	0.104
CONCORD CUSTOM CLEANERS #6026	1221 NORTHLAND S/C	RCRA NONGEN / NLR, FINDS, ECHO	0.109
NORTHLAND EXXON SERVICE	1601 N BROADWAY	EDR HIST AUTO	0.109
MINI MARKET	108 NE NEW CIRCLE ROAD	SHWS	0.119
BLUEGRASS CHRYSLER PLYMOUTH	1651 NORTH BROADWAY	UST, RCRA NONGEN / NLR, FINDS, ECHO	0.121

SITE NAME	ADDRESS	DATABASES	DISTANCE FROM TARGET PROPERTY (miles)
THE KROGER CO - STORE 722	1620 OLD PARIS PIKE	RCRA NONGEN / NLR	0.131
CVS PHARMACY #6941	118 EAST NEW CIRCLE RD.	RCRA-VSQG	0.135
BRYANT DISTRIBUTING CO	272 NEW CIRCLE RD NW	UST	0.156
LEXINGTON RV	1675 N BROADWAY	UST	0.157
CHARLES W BUFORD PLUMBING	1404 N LIMESTONE	UST, FINANCIAL ASSURANCE	0.162
SHOP N GO O6	1687 N BROADWAY	UST, FINANCIAL ASSURANCE	0.18
SWIFTY STATION #243/ 6K & UNDER AUTO SALES	1701 N. BROADWAY STREET	RCRA NONGEN / NLR, UST	0.201
FIRESTONE STORE 0596-005851	1405 N BROADWAY	UST	0.216
ADVANCE AUTO PARTS	145 E NEW CIRCLE RD	SWRCY	0.221
EMRO BONDED #1102	1300 N BROADWAY	PSTEAF, UST, RCRA NONGEN / NLR, FINDS, ECHO, FINANCIAL ASSURANCE, SB193	0.298
CLARKS PUMP N SHOP #44	313 W NEW CIRCLE RD	SB193, UST	0.315
GARON PROPERTY-SAFELITE AUTO GLASS	212 NEW CIRCLE RD	SHWS, UST, FINANCIAL ASSURANCE	0.34
LITTERAL GROCERY	610 HWY 205 NORTH	SB193, RCRA NONGEN / NLR	0.343

SITE NAME	ADDRESS	DATABASES	DISTANCE FROM TARGET PROPERTY (miles)
NORTHLAND SHOPPING CENTER	1245-1345 N BROADWAY	SHWS	0.349
TRIUMPH AUTO GLASS	1200 N BROADWAY	SB193, RCRA NONGEN / NLR, FINDS, ECHO	0.363
MINIT MART RUSSELL CAVE	435 NEW CIRCLE RD	PSTEAF, UST, FINANCIAL ASSURANCE	0.391
THORNTON OIL #38	802 N BROADWAY	SHWS, SB193, NPDES	0.663
LEXTRAN	109 W LOUDON AVE	SHWS	0.677
B&B TIRE & TOWING LLC	130 E. LOUDON AVE	SHWS	0.719
KENTUCKY GLASS PLANT, GE LIGHTING LLC/ LEXTRAN HEADQUARTERS COMPLEX	200 WEST LOUDON AVE	CORRACTS, RCRA-TSDF, RCRA NONGEN / NLR, US FIN ASSUR, RAATS, FINANCIAL ASSURANCE, MANIFEST, NPDES, SHWS, AIRS, NPDES	0.747
BELL AIR BATTERY	760 N LIMESTONE	SHWS	0.772
WALKER SERVICE CENTER	717 NORTH BROADWAY	SHWS, FINANCIAL ASSURANCE	0.807
MINIT MART PARIS PIKE	1949 N BROADWAY	SHWS, PSTEAF, UST, FINANCIAL ASSURANCE	0.878
IBM CORP	740 NEW CIRCLE RD NW	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-SQG, US FIN ASSUR, 2020 COR ACTION, MANIFEST	0.878
M & E STORAGE FACILITY	720 LANCASTER AVENUE	SHWS, INST CONTROL	0.907

SITE NAME	ADDRESS	DATABASES	DISTANCE FROM TARGET PROPERTY (miles)
CLEM PROPERTY	713 LANCASTER AVE. APARTMENT B	SHWS, CDL	0.922
HI-ACRES SHOPPING CENTER	BRYAN STATION RD	SHWS	0.989

Shield requested files for the Lex Express and Early Bird Cleaners sites. The Lex Express property is located northeast of the Target Property, across the railroad tracks. Information in the files indicates the facility is an active fueling station with no documented releases. Given the inferred groundwater direction flow and lack of documented releases, no impacts from the Lex Express property are expected.

The Early Bird Cleaners site formerly operated as a one-hour drycleaning business. The property is currently under Managed Closure with annual groundwater monitoring due to impacts related to the former drycleaner operations found on the property. The Corrective Action Plan (CAP) completed in 2009 for the property recommended an engineered barrier, institutional controls and post-construction monitoring. Groundwater flow on the property is to the northwest and northeast. While the Early Bird Cleaners site is located in close proximity to the Target Property, impacts are not expected given the site is under Managed Closure with monitoring wells being sampled located only on the site itself (no off-site wells).

Given either the distance, the direction, inferred groundwater direction flow, and/or the type of facility listing relative to the Target Property, none of the remaining surrounding properties identified are considered to be of concern.

5.1.2 Target Property

The Target Property was listed on the AST, FINDS, UST databases as Alltel, K-Mart, and Goodwill Industries of Kentucky Inc., respectively. The following provides detailed information regarding the Target Property's listing on these databases.

AST: The AST database is a listing of aboveground storage tank site locations. The Target Property is listed on this database as Alltel. According to information provided in the

EDR® radius report an AST was installed on the property in 2005 by Randy Walker Electrical and Communications company on behalf of Alltel. This AST was not observed during site reconnaissance. However, a concrete curbed area was observed on the western side of the building and is likely the former location of this AST.

UST: The UST database is a listing of regulated underground storage tanks (USTs) in the state of Kentucky. The Target Property is listed on this database as Goodwill Industries of Kentucky Inc. According to information provided in the EDR® radius report a UST was installed on the property in 1964 and removed in 1991. Additional information pertaining to the former UST is provided in Section 5.2.

FINDS: The FINDS database contains both facility information and "pointers" to other sources that contain more details on the Target Property. The Target Property is listed on this database as K-Mart. The Target Property's listing on this database is likely due to the former UST located on the property. As previously mentioned, additional information regarding the former UST is provided in Section 5.2.

5.2 Regulatory Agency Information

The following regulatory agencies were contacted regarding the subject site. Correspondence relative to regulatory agencies, as well as any information provided by the regulatory agencies, is provided in Appendix E.

Kentucky Division of Water: Records Coordinator; (502) 564-3410. A file search was conducted for Kentucky Pollutant Discharge Elimination System (KPDES) Permits and No Discharge Permits for the site. No files were found for the property.

KDWM: Records Coordinator; (502) 564-5981. A request to conduct a file search for any waste management records for the site was submitted. Based on the information provided, files pertaining to hazardous waste generation by Goodwill Industries; occupants of the southern side of the building (not the subject property) were provided. Goodwill Industries is currently registered as a small quantity generator of hazardous waste. The most recent technical compliance inspection located in the file was conducted in July 2022. No violations were observed during the inspection.

KDWM UST Branch: Records Coordinator; (502) 564-6716. A file search was conducted for any USTs, spills, leaks, or environmental complaints for the site. Files were provided for

the former UST located on the property. A 1,000-gallon waste oil UST was installed on the property in 1964 and was utilized to contained waste liquids generated during automobile servicing by K-Mart. Based on information located in the files it appears the UST was formerly located on the western side of the building, near the fenced area which is located near the center of the building. It appears the fill port to the UST was located inside the service area within the building. The UST was removed in 1991. Following removal soil impacts (oil and grease and total lead) were identified. In August/September 1993 a total of 222 cubic yards of soil was removed for proper disposal. A letter of no further action was issued for the removal in January 1996.

Lexington-Fayette Urban County Government (LFUCG), Department for Environmental Quality (DEQ): Records Coordinator; (859) 425-2255. LFUCG DEQ was contacted with regards to any hazardous materials spills and/or environmental emergency responses to the site, as well as any environmental records relative to the property. A letter of no further action for the UST closure dated May 6, 2005 was the only file provided.

5.3 Vapor Encroachment Screening

Shield utilized the findings from the EDR® report and EDR®'s E2600-10 Tier I Vapor Encroachment Screening App™ to determine the potential for vapor encroachment relative to surrounding properties of concern. Based on EDR®'s inferred groundwater flow direction to the north, it has been determined that the potential for vapor migration from surrounding properties of concern is low and thus a vapor encroachment condition (VEC) is not expected to be present at this time. A VEC is defined as the presence or likely presence of COC vapors in the subsurface of the target property caused by the release of vapors from contaminated soil or groundwater either on or near the Target Property. A copy of the Vapor Encroachment Screen Report is included in Appendix D.

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

On October 31, 2023, Elizabeth Greathouse of Shield conducted a reconnaissance of the subject site. Mr. Chris McFarland of the Lexington Fire Department, current occupant of the property, provided access and answered questions regarding site use. The site reconnaissance involved a walk-through of the existing building as well as observations of the exterior portions of the subject site. Limiting conditions encountered during site reconnaissance include the fact that the lights in the main portion of the former service area did not work and Shield was not able to access the interior of the small building in the northwestern corner of the property.

The site boundaries were observed from public streets, and the property lines and adjacent properties were viewed via public streets within an approximate radius of ¼-mile. A compilation of photographs taken of the site and adjacent properties is provided in Appendix C.

6.2 Site and Vicinity General Characteristics

The property consists of Suite 170 of the on-site building, a fenced area containing covered parking areas and three (3) storage-like buildings, as well as a large paved parking lot and associated grass-covered areas. Properties within the vicinity of the subject site are utilized for commercial and residential purposes.

6.3 Current Use of the Property

The property is currently being used by the Lexington Fire Department as their annual toy drive headquarters.

6.4 Site Improvements

Access to the site is provided via West New Circle Road. The property is improved with the buildings, covered parking areas and a large paved parking lot. A chain-link fence

surrounds the covered parking areas and three (3) storage buildings. The following utilities are available to the property:

- Electricity
- Potable water service
- Natural Gas
- Sanitary sewer service

6.5 Current Use of Adjoining Properties

Generalized Direction	Site Use
North	Railroad tracks
South	Goodwill portion of the building with associated parking lot
East	W. New Circle Road
West	Residential property

Additional information regarding neighboring facilities is provided in Section 5.1.

6.6 Site Reconnaissance Overview

The property consists only of suite 170 of the building, which is approximately 67,500-square feet in size, as well a vacant, undeveloped lot (parking lot), which totals 8.43 acres of land. The interior of the building consists of office space, storage areas, restrooms, and open warehouse space. The warehouse portion of the building may have historically been used for automotive service when K-Mart occupied the property. Some concrete patched areas and one (1) floor drain were observed in this area.

A concrete curbed area is located on the western exterior of the building. The purpose of this area is not known.

A fenced area is located on the northern portion of the property. Within the fenced area is covered parking, formerly used by Windstream for fleet parking, two (2) small storage buildings and a third building located near the northwestern corner that was not accessible during site reconnaissance.

The remaining property exterior is primarily used for parking. Grass-covered areas are located along the northern, eastern and western perimeters.

6.7 Environmentally Significant Site Features Summary

The following table summarizes the key features of the property observed during the site reconnaissance completed on October 31, 2023. This summary provides an overview of those areas which were accessible on the day of the site walk. The features observed during site reconnaissance are designated with an (X) in the table below with further discussion detailed below the table.

Category	Item or Feature	Item or Feature Observed
Site Operations, Processes, and Equipment	Emergency generators	
	Elevators	
	Air compressors	
	Hydraulic lifts (stationary or mobile)	
	Dry-cleaning	
	Photo-processing	
	Laboratory hoods and/or Incinerators	
	Waste treatment systems and/or water treatment systems	
	Heating and/or cooling systems	
	Paint Booths	
	Sub-grade pits	
	Automotive repair/maintenance	**X**
	Pesticide/herbicide storage	
	Salvage operations	
	Metal finishing (i.e., electroplating, chrome plating, galvanizing, etc.)	
	Other processes or equipment	
Above ground Chemical or Waste Storage	Evidence of aboveground storage tanks	
	Drums, barrels and/or containers ≥ 5 gallons	
	Cleaning and/or similar supplies	
	MSDS	

Category	Item or Feature	Item or Feature Observed
Underground Chemical or Waste Storage, Drainage or Collection Systems	Evidence of underground storage tanks or ancillary UST equipment	
	Sumps, cisterns, catch basins and/or dry wells	
	Grease traps	
	Septic tanks and/or leach fields	
	Oil/water separators	
	Pipeline markers	
	Interior floor drains	**X**
	Suspect patched concrete or asphalt	**X**
Electrical Transformers/ PCBs	Pad-or pole-mounted transformer and/or capacitor	**X**
	Generators	
Evidence of Releases or Potential Releases	Stressed vegetation	
	Stained soil	
	Significant stained pavement or similar surface	
	Trash, debris and/or other waste materials	**X**
	Dumping or disposal areas	
	Construction/demolition debris and/or dumped fill dirt	
	Surface water discoloration, odor, sheen, and/or free-floating product	
	Strong, pungent or noxious odors	
	Exterior pipe discharges and/or other effluent discharges	
	Compressor blowdown	
Other Notable Site Features	Surface water bodies	
	Quarries or pits	
	Wells	
	Wastewater lagoons	
	Suspect asbestos containing materials (ACMs)	

6.7.1 Automotive Repair/Maintenance

Automotive service and repair were historically conducted on the property.

6.7.2 Interior Floor Drains

An interior drain was observed in the warehouse/former maintenance area of the building. No additional interior drains were noted.

6.7.3 Suspect Patched Concrete or Asphalt

Concrete patching was noted in the warehouse/former service area of the building. The purpose of these patches is not known.

6.7.4 Pole- or Pad-Mounted Transformer and/or Capacitators

A pad-mounted transformer is located on western side of the property. A label indicating the presence/absence of PCB-containing oils was not observed on the transformer; however, the transformer appeared to be in good condition.

6.7.5 Trash, Debris and/or Other Waste Materials

A dumpster enclosure is located on the western side of the property. The Lexington Fire Department is not currently utilizing this area. Rather a dumpster is located inside the former service area.

7.0 INTERVIEWS

When conducting interviews, Shield attempts to contact owners, occupants, owner's representatives, and other individuals with pertinent information regarding the subject site or surrounding areas. For this ESA, Shield interviewed the following people to obtain information:

- Mr. William Ziering, current property owner

Mr. Ziering provided information regarding current and historic site operations. Mr. Ziering purchased the property in 2017. He was unaware of any environmental issues associated with the property nor was he aware of any USTs located on the property. Further, Mr. Ziering believed the property was initially occupied by K-Mart and was vacant for some time prior to occupancy by Goodwill Industries (southern portion of building, not part of this property transaction) and Windstream. Windstream occupied the property from 2004 through 2022. Any additional information gathered during the interview process is contained throughout this Phase I ESA.

Additionally, Mr. Ziering provided a copy of a Phase I ESA completed prior to his purchase in 2017. The 2017 Phase I ESA indicates the former UST was located on the property to the south, currently owned by Goodwill Industries; however, the fill port to the UST was located inside the former service area on the subject property. No RECS were identified in the 2017 Phase I ESA.

8.0 EVALUATION

On behalf of LFUCG, Shield performed a Phase I ESA of the property located at 130 & 134 W. New Circle Road in Lexington, Fayette County, Kentucky, in conformance with the scope and limitations of ASTM Practice E1527-21. Any exceptions to, or deletions from this practice are described in Section 8.2 of this report. This ESA included reconnaissance of the subject site, a search and review of readily available government records, interviews with persons knowledgeable of the site, a review of historical information, and correspondence with appropriate local regulatory agencies.

8.1 Significant Findings

- The property is owned by William Ziering Trust and consist of a total of 8.43 acres. Suite 170 consists of approximately 67,500-square feet and was constructed in 1968. The building is currently being used by the Lexington Fire Department for their annual Toy Drive. Prior to Lexington Fire Department's occupancy, the building was utilized as office space for Windstream. The exterior of the property consists of paved parking space and a fenced area containing covered parking and several small ancillary structures. This fenced area was utilized for fleet storage by Windstream and is not currently being used by the Lexington Fire Department.

- The interior of Suite 170 consists of office space, storage areas, restrooms, and open warehouse space. The warehouse portion of the building may have historically been used for automotive service when K-Mart occupied the property. Some concrete patched areas and one (1) floor drain were observed in this area.

- A concrete curbed area is located on the western exterior of the building. The purpose of this area is not known; however, it may have been the former location of an aboveground storage tank (AST).

- A fenced area is located on the northern portion of the property. Within the fenced area is covered parking, formerly used by Windstream for fleet parking, two (2) small storage buildings and a third building located near the northwestern corner that was not accessible during site reconnaissance.

- Based on available historic documentation the property appears to have been undeveloped/agricultural land prior to development for commercial purposes in the

mid-1960s. The entire property was originally occupied by a K-Mart retail store. Additional occupants have included Alltel and Windstream. The property is currently being utilized by the Lexington Fire Department as their annual toy drive headquarters. Mr. William Ziering, current property owner, indicated Windstream took occupancy of the property in 2004 and vacated the premises in December 2023. The property was vacant until the Lexington Fire Department's occupancy.

- Mr. Ziering provided a copy of a Phase I ESA completed prior to his purchase in 2017. The 2017 Phase I ESA indicates the former UST was located on the property to the south, currently owned by Goodwill Industries; however, the fill port to the UST was located inside the former service area on the subject property. No RECS were identified in the 2017 Phase I ESA.

- According to information in the KDWM, USTB files a 1,000-gallon waste oil UST was installed on the property in 1964 and was utilized to contain waste liquids generated during automobile servicing by K-Mart. Based on information located in the files it appears the UST was formerly located on the western side of the building, near the fenced area which is located near the center of the building. It appears the fill port to the UST was located inside the service area within the building. The UST was removed in 1991. Following removal soil impacts (oil and grease and total lead) were identified. In August/September 1993 a total of 222 cubic yards of soil was removed for proper disposal. A letter of no further action was issued for the removal in January 1996.

8.2 Deviations

Historical information was not available in five (5)-year intervals. A person with intimate knowledge of the property and historic operations was not available to interview. Additionally, a chain-of-title was not provided. It is Shield's opinion that these deviations do not represent a significant data gap nor prevent Shield from making conclusions regarding RECs associated with the property.

8.3 Conclusions

Shield has performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-21 of the property located at 130 & 134 W. New Circle Road in Lexington, Fayette County, Kentucky. Any exceptions to or deletions from this practice are

described in Section 8.2 of this report. This assessment has revealed no evidence of recognized environmental conditions (RECs) in connection with the property.

8.4 Opinions and Recommendations

No further investigative work is recommended at this time.

9.0 NON-SCOPE SERVICES

No non-scope services were requested.

10.0 REFERENCES

Environmental Data Resources, Inc. November 1, 2023. *Certified Sanborn® Map Report.* 130 & 134 W. New Circle Road, Lexington, KY 40505. Inquiry Number: 7485365.3.

Environmental Data Resources, Inc. October 31, 2023. *The EDR®-Radius Map with Geocheck.* 130 & 134 W. New Circle Road, Lexington, KY 40505. Inquiry Number: 7485365.2s.

Environmental Data Resources, Inc. October 31, 2023. *The EDR® Aerial Photo Decade Package.* 130 & 134 W. New Circle Road, Lexington, KY 40505. Inquiry Number: 7485365.5.

Environmental Data Resources, Inc. November 20, 2023. *EDR® Vapor Encroachment Screen*. 130 & 134 W. New Circle Road, Lexington, KY 40505. Inquiry Number: 7485365.2s.

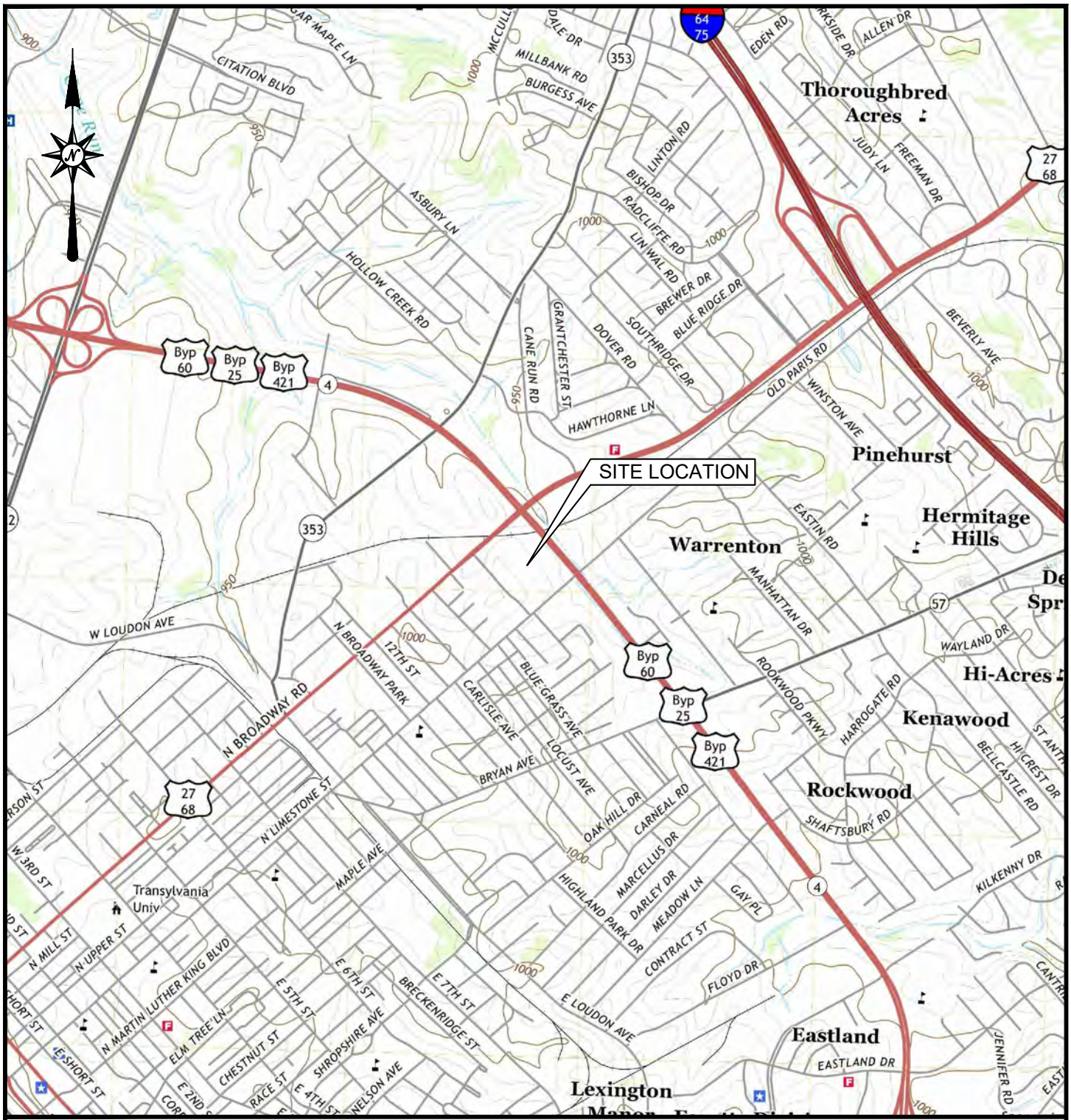
Federal Emergency Management Agency. March 3, 2014. *Flood Insurance Rate Map.* Map No. 2100670128E.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA-NRCS), Web Soil Survey http://websoilsurvey.nrcs.usda.gov. Accessed November 13, 2023.

U.S. Fish and Wildlife Service. National Wetlands Inventory. http://www.fws.gov. Accessed November 13, 2023.

U.S. Geological Survey. 2019. *7.5-minute Topographic Map, Lexington East, Kentucky Quadrangle.*

FIGURES



SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE MAP
QUADRANGLE EAST, KY QUADRANGLE (2019)

0' 1000' 2000' 3000'

LATITUDE: 38° 03' 56"
LONGITUDE: -84° 28' 21"

NOVEMBER 2023

PROJECT NO: 123-3060
DRAWN BY: SW
APPROVED BY: EG

FIGURE 1

USGS TOPOGRAPHIC QUADRANGLE MAP

130 & 134 WEST NEW CIRCLE ROAD
LEXINGTON, FAYETTE COUNTY, KENTUCKY

SHIELD
ENVIRONMENTAL ASSOCIATES, INC.
948 Floyd Drive
Lexington, KY 40505
(859) 294-5155

SHIELD
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FIGURE 2

SITE PLAN

130 & 134 WEST NEW CIRCLE ROAD
LEXINGTON, FAYETTE COUNTY, KENTUCKY

NOVEMBER 2023

PROJECT NO: 123-3060
DRAWN BY: SW
APPROVED BY: EG

APPENDIX A

SHIELD
ENVIRONMENTAL ASSOCIATES, INC.

October 17, 2023

Mr. Gregory Lubeck, P.E.
LFUCG Division of Water Quality
125 Lisle Industrial Avenue
Lexington, Kentucky 40511

Re: Proposal for Phase I Environmental Site Assessment
130 (Suite 170) & 134 W. New Circle Road, Lexington, Kentucky 40505
Shield Proposal No. 23-207

Dear Mr. Lubeck,

Shield Environmental Associates, Inc. (Shield) is pleased submit this proposal to perform a Phase I Environmental Site Assessment (ESA) on the property identified above. We understand the property consists of a portion of 130 W. New Circle Road and all of 134 W. New Circle Road which collectively measure approximately 8.43-acres. Further, we understand that the purpose of performing this study is to identify any potential environmental liabilities as part of a proposed property acquisition. The following narrative outlines our qualifications to perform this work and provides a proposed scope of work and cost estimate for professional environmental services.

QUALIFICATIONS OF SHIELD

Shield is a firm of professional engineers, geologists, and environmental scientists practicing in the fields of environmental compliance, hydrogeology and groundwater management, emergency response management, geotechnical engineering, facility engineering/design, construction management, and risk, solid, and hazardous waste management including air quality services. Members of the firm collectively hold professional registrations throughout the United States.

The following presents a brief summary of Shield's qualifications to perform such a study:

- Shield has provided Phase I ESA services for a variety of commercial, industrial, manufacturing, and agricultural sites throughout the United States and abroad.
- We are familiar with ASTM and AAI guidelines for preparation of such a study.
- Shield has previously prepared and provided Phase I ESA reports for commercial clients, real estate developers, law firms, municipalities, and commercial lenders throughout Kentucky. Shield has also performed environmental due diligence at facilities in numerous foreign countries on behalf of multi-national clients.

Lexington
948 Floyd Drive
Lexington, KY 40505
Telephone 859.294.5155
Fax 859.294.5255
www.shieldenv.com

Louisville, KY

PROPOSED PROJECT APPROACH

Shield will perform a Phase I Environmental Site Assessment for the project site and will exercise the standard of care normally exercised by national, and local consulting, architectural, engineering and construction organizations on similar projects. This work will include, but is not limited to, relevant provisions of *ASTM E 1527-21*, a consensus document that outlines key elements for the conduct of Phase I ESAs under 40 CFR Part 312 related to *All Appropriate Inquiries* (AAI). Specifically, Shield will perform the following scope of work for this assessment:

1. **Data Collection and Review**. This task will consist of a record search to establish the past history of the site, whether or not past activities may have environmentally impacted the site and the status of environmentally related permits and/or regulatory actions. The following items will be specifically addressed:

   (a) Review publicly available documents for information regarding historical site use and previous ownership, where appropriate. Types of records that are typically reviewed may include aerial photographs, Sanborn maps, historical topographic maps, city directories and information at various local offices (e.g., PVA, Planning & Zoning, and Public Works). We have not included a certified title search in the proposed scope.

   (b) Contact State regulatory agencies to determine the nature and status of any environmental issues or concerns including applicable environmental permits, reported hazardous materials and/or petroleum releases, environmental covenants or restrictions, and/or existing and historic investigations, if any, on the subject property and significant adjoining properties.

   (c) Contact local emergency agency to establish whether they are aware of any environmentally significant hazardous materials or petroleum spills that may have occurred on the property or adjacent properties.

   (d) Review resources including, but not limited to, topographic maps, geologic maps, soil surveys and local floodplain maps to establish the site setting.

   (e) Examine readily available aerial photographs of the site.

   (f) Examine National Wetlands Inventory maps to establish if the site is located within a wetland area.

   (g) Conduct interviews with available individuals familiar with the site and historical property use including owners, occupants, tenants and other persons familiar with site use.

2. **Site Visit/Visual Assessment**: Shield will perform a site-reconnaissance to include the following:

   (a) Observation of the site for possible underground tanks, sumps, clarifiers, and other subsurface structures or features.

(b) Identification of current and past uses, including key industrial operations or activities, at the site, adjoining properties, and surrounding areas to the extent they can be visually or physically observed from the subject site.

(c) Visual inspection of the site for obvious signs of chemical or hazardous substances releases including dumping, past chemical spillage, distressed vegetation, or other signs which may indicate possible environmental impacts to the subject site.

(d) Visual inspection of the site for potential asbestos containing building materials, if applicable. This proposal does not include collection or analysis of asbestos samples.

(e) Observe and identify ownership of electrical transformers that may be on-site or immediately adjacent to the site.

(f) Photographic documentation of significant site conditions will be performed and these features will be addressed in the final report.

The above activities will help to identify relevant site features and observe the topography of the area and current site conditions. Notations would be made as to possible impacted areas based on visual observations.

3. **Information to be Provided by Client/User**: In accordance with the ASTM standard and related guidance document, Shield requests that the client provide information relative to the following items where applicable and appropriate:

   (a) Title records;

   (b) Any environmental liens or activity and use limitations of the subject site;

   (c) Specialized knowledge of environmental impairment related to the site obtained through disclosure from the property owner/operator;

   (d) Commonly known information that may not be readily available in the public record, such as existing environmental investigation or assessment reports;

   (e) Any reduction of the property valuation as a result of environmental impairment; and

   (f) Other information relevant to the intent of this assessment appropriate for environmental due diligence documentation.

4. **Report Preparation**. Shield will prepare a Phase I ESA report summarizing the findings of our assessment based upon the scope of work completed. The report will summarize our review of historical and readily available public records relevant to the sites. The ESA report will provide an evaluation of current site conditions based on the review of available information and interviews with the site contact and others. As discussed, recommendations for additional site assessment activities, if appropriate and/or warranted will be provided upon conclusion of the Phase I ESA study.

SCHEDULE AND COST ESTIMATE

Shield can initiate activities on this study within one (1) week of receiving your authorization to proceed and can complete this study within three (3) weeks of completing the site walk. Authorization to proceed can be initiated by signing the authorization below and returning via fax or mail, or by transmittal of a letter or email authorizing us to proceed. Delays in authorization to proceed and/or access to records or facilities could extend the amount of time necessary to complete the ESA.

[redacted].

The study will address only the specific services described above and is not intended to address actual subsurface conditions or the sampling of actual or suspect asbestos-containing building materials, PCB-containing materials, lead-based paints or coatings or radon. Additionally, the proposed study does not include any soil, groundwater, or air analysis.

We look forward to working with you on this project, and we appreciate the opportunity to perform this work on your behalf. This proposal is valid for a period of 30 days, except that the deadline for completion will change if authorization is delayed. Please contact either of the undersigned at (859) 294-5155 if you have any questions or concerns.

Sincerely,
SHIELD ENVIRONMENTAL ASSOCIATES, INC.

C. Dow Porter
President

Elizabeth Greathouse
Environmental Scientist

Attachment

PROPOSAL ACCEPTED BY:

Signature _____ Date _____

Name _____ Title _____

SHIELD ENVIRONMENTAL ASSOCIATES, INC.

SHIELD ENVIRONMENTAL ASSOCIATES, INC.
STANDARD TERMS AND CONDITIONS

The terms and conditions below shall govern agreements made between Shield Environmental Associates, Inc., a corporation registered in Kentucky with its principal place of business located at 948 Floyd Drive, Lexington, Kentucky 40505, hereinafter referred to as "SHIELD.", and any party seeking to retain its services, hereinafter referred to as "CLIENT," unless otherwise established in a separate contract document signed by both parties.

I. SCOPE OF SERVICES

The Scope of Services shall be as described in the Proposal attached hereto and incorporated herein by reference.

II. FEES

The charges for the services, labor and materials provided by SHIELD hereunder shall be based on the fee schedule set forth in the Proposal. CLIENT agrees to pay all of such charges. SHIELD agrees to provide CLIENT with a detailed description of services performed for CLIENT and the fees and charges associated with such services on a form approved by CLIENT.

III. BILLING AND PAYMENT

CLIENT recognizes that time is of the essence with respect to payment of SHIELD's invoices, and that timely payment is a material part of the consideration of this AGREEMENT. CLIENT shall pay SHIELD for services performed in U.S. funds drawn upon U.S. Banks and in accordance with the rates and charges set forth in the proposal. Invoices will be submitted by SHIELD on a monthly basis, and shall be due and payable within thirty (30) calendar days of invoice date. If CLIENT objects to all or any portion of an invoice, CLIENT shall so notify SHIELD within fourteen (14) calendar days of the invoice date, identify the cause of disagreement, and pay when due that portion of the invoice, if any, not in dispute.

CLIENT shall pay an additional charge of one-and-one-half (1.5) percent (or the maximum percentage allowed by law, whichever is lower) of the invoiced amount per month for any payment received by SHIELD more than thirty (30) calendar days from the date of the invoice, excepting any portion of the invoiced amount in dispute and resolved in favor of CLIENT. Payment thereafter shall first be applied to accrued interest and then to the principal unpaid amount. Payment of invoices is in no case subject to unilateral discounting or set-offs by CLIENT.

Application of the percentage rate indicated above as a consequence of CLIENT's late payments does not constitute any willingness on SHIELD's part to finance CLIENT's operation, and no such willingness should be inferred. If CLIENT fails to pay undisputed invoiced amounts within thirty (30) days of the date of invoice, SHIELD may at any time, without waving any other claim against CLIENT and without thereby incurring any liability to CLIENT, suspend or terminate this AGREEMENT.

IV. SOLE AND EXCLUSIVE STANDARD BY WHICH SHIELD'S PERFORMANCE IS MEASURED

Shield will perform the work under this agreement as an independent contractor/consultant utilizing reasonable care and skill in accordance and consistent with customary industry standards and exercised under similar conditions by contractors/consultants performing these services at the same time and in the same or similar locality. This standard of care is the sole and exclusive standard of care that will be applied to measure shield's performance of the work. There are no other representations or warranties made by shield except those included specifically herein. In particular, but not by way of limitation, no implied warranty or merchantability of fitness for a particular purpose shall apply.

All recommendations, findings, and conclusions made by SHIELD will be made to the best of SHIELD's knowledge, opinion, and belief, based upon information CLIENT made available to SHIELD at the time of review, and upon a variety of factors which may include, but are not limited to the following: federal, state, and local laws, rules, codes, regulations and ordinances; market conditions; energy cost wage rates; and political climate. A change of any of the factors upon which the review is based may adversely affect the recommendations, findings, and conclusions, if any, expressed by SHIELD.

V. RESPONSIBILITY OF CLIENT TO PROVIDE ACCURATE AND SUFFICIENT INFORMATION

It is CLIENT's responsibility to disclose to SHIELD prior environmental reports and analytical results relating to the work that is the subject of this agreement and to advise of known hazardous wastes or hazardous substances, petroleum products, underground storage tanks and other matters relevant to the work that is the subject of this Agreement. In addition, unless they are obvious and clearly identifiable in the field, it is CLIENT's responsibility to disclose to SHIELD its knowledge of the presence of an accurate location of man-made objects relative to any field test or boring locations, although SHIELD will take customary and reasonable precautions to avoid damage to underground utilities and other underground objects. Unless otherwise noted, CLIENT warrants the accuracy and sufficiency of the information, plans, specifications and other material that it provides to SHIELD for use in connection with SHIELD performing its work under this Agreement, irrespective of whether such information and materials are provided directly by CLIENT to SHIELD or indirectly from one of CLIENT's other contractors, dealers or agents.

VI. SHIELD'S WORK IS EXCLUSIVELY FOR CLIENT, AND EXCLUSIVELY FOR THE PURPOSES CONTEMPLATED BY THE PARTIES WITH RESPECT TO THIS AGREEMENT, AND CLIENT HAS LEGAL AUTHORITY TO EXECUTE AGREEMENT ON BEHALF OF OWNER(s).

The work to be performed by SHIELD under this Agreement is solely for the benefit of CLIENT. This Agreement shall not be construed as creating any contractual relationship of any kind between SHIELD and any third party. It is the intent of SHIELD and CLIENT that there are no third party beneficiaries of this Agreement. The fact that CLIENT may enter into other agreements with third parties that provide SHIELD the authority to inspect or reject work being performed by the third party shall not give rise to any duty or responsibility on the part of SHIELD in favor of such third party.

Further, CLIENT covenants and agrees that CLIENT has full legal authority, as agent, to contract for all of the owner(s) and agrees that representations, warranties, and indemnification provided herein extend to SHIELD and its agents on behalf of these parties, but the work performed will not give rise to any responsibility on the part of SHIELD and its agents to these third parties.

The information and materials provided by SHIELD to CLIENT in connection with the work shall be utilized by CLIENT only for the purposes contemplated by this agreement, and shall not be provided by CLIENT to third parties for their use without the prior written consent of SHIELD, except that SHIELD agrees that information and materials provided by SHIELD to CLIENT may be provided to and used by local, state or federal agencies, CLIENT's attorneys, and pursuant to any valid court order. Additionally, an exception would be granted for a Phase I Environmental Site Assessment (ESA) which would be provided to a lending institution.

SHIELD agrees that all reports and other documents prepared for CLIENT pursuant to this agreement are the property of CLIENT. SHIELD also agrees that it will not disclose to any third party any documents, reports, laboratory data or other information generated, created or produced for CLIENT pursuant to this agreement unless required by law, pursuant to a valid court order or upon written instruction of CLIENT.

VII. TERMS AND CONDITIONS OF FIELD WORK

SHIELD is to have free access to the applicable properties at the times and on the dates field activities are scheduled. Delays to SHIELD beyond an aggregate total of 60 minutes during inspection are subject to waiting time charges to the extent such delays are caused by CLIENT or its employees, contractors or agents.

SHIELD shall take reasonable and customary precautions to locate all underground utilities, tanks, lines and cables or other underground utilities before performing field work that might damage underground utilities tanks, lines, cables or other underground structures. Delays due to locating or arising from damage to underground structures and cables are subject to waiting time charges.

VIII. INDEMNIFICATION

Each party hereto shall fully indemnify the other for loss and expense (including reasonable attorney's fees, settlements and judgments) and liability resulting from injury to or death of any person (including any employee of either party) or loss of or damage to any property (including the property of either party) or the environment and resulting solely from the act or omission, negligent or otherwise, of the indemnifying party or its agents, employees, subcontractors or assigns.

Further, each party hereto agrees to indemnify the other in proportion to the former's fault against all loss or expense (including reasonable attorney's fees, settlements and judgments) and liability resulting from injury to or death of any person (including any employee of either party) or loss or damage to property (including the property of either party) or the environmental and resulting jointly from the acts or omissions, negligent or otherwise, of the indemnifying party, its agents, employees, subcontractors or assigns and the acts or omissions, negligent or otherwise, of the party and/or any third party.

IX. ARBITRATION

All claims, disputes and other matters in question between the CLIENT and SHIELD arising out of, or relating to, this Agreement or the breach thereof shall be decided by arbitration in accordance with the Rules of the American Arbitration Association then existing and the Federal Rules of Civil Procedure regarding this discovery, unless the parties mutually agree otherwise. The foregoing agreement to arbitrate and any other agreement to arbitrate with an additional person or persons duly consented to by the CLIENT and SHIELD shall be specifically enforceable under the prevailing arbitration law. The award rendered by the arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

Notice of the demand for arbitration shall be filed in writing with the other party and with the American Arbitration Association. The demand to arbitration shall be made within a reasonable time after the claim, dispute or other matter in question has arisen, and in no event shall it be made after the date when institution or legal or equitable proceeding based on such claim, dispute or other matters in question would be barred by the applicable statute of limitations.

Unless otherwise agreed in writing, SHIELD shall carry on the work and maintain its progress during any arbitration proceedings, and the CLIENT shall continue to make payments to SHIELD in accordance with this Agreement.

X. DISCLAIMER

The procedures performed do not assure that contamination will be detected or that contamination detected is indicative of the full scope of possible contamination at the site. Further, the lab analysis and organic vapor analyzer readings must be viewed as an indication only of conditions in the borings drilled. Further testing in any boreholes or in groundwater sampling can produce different test results. However, nothing in this section limits or modifies the standard by which SHIELD's performance will be measured as provided in Section IV of this Agreement.

XI. COMPLETE AGREEMENT

These Terms and Conditions, along with its attachments, including the SHIELD proposal, rate schedule or other documents constituting this AGREEMENT, incorporates all of the previous and contemporaneous discussions, representations, understandings, and agreements between the parties with respect to the subject matter of this Agreement. The terms and conditions expressed in this agreement shall not be altered except in writing, signed by both parties.

XII. TERMINATION

CLIENT or SHIELD may terminate this AGREEMENT for reasons identified elsewhere in this AGREEMENT, or for other reasons which may arise. In the event such termination becomes necessary, the party effecting termination shall so notify the other party, and termination will become effective fourteen (14) calendar days after receipt of the termination notice. Irrespective of which part shall effect termination or the cause thereof, CLIENT shall within thirty (30) days of termination remunerate SHIELD for services rendered and costs incurred, in accordance with SHIELD's prevailing fee schedule and expense reimbursement policy. Services shall include those rendered up to the time of termination, as well as those associated with termination itself, such as demobilizing, modifying schedules, reassigning personnel, and so on. Costs shall include those incurred up to the time of termination and post-termination activities, such as demobilization, decontamination, disposal and replacement of contaminated consumables and so on. When a “lump sum” agreement has been entered into SHIELD's termination charges shall include an allowance for profit as a result of termination.

XIII. APPLICABLE LAW

This Agreement is governed by, and will be construed in accordance with the laws of the State of Kentucky.

XIV. MISCELLANEOUS

It is understood and agreed that contractor/consultant is not and has no responsibility as a handler, operator, treater or storer, transporter, or arranger for transport or disposal of hazardous or toxic substances found or identified at a site, and that contractor/consultant shall not be responsible to undertake or arrange for the handling, removal, treatment, storage, transportation and disposal of hazardous substances or constituents found or identified at a site. In addition, if environmental conditions are such that disclosure should be made to an environmental agency, the CLIENT will be responsible for that notification. SHIELD will not sign hazardous waste manifests on behalf of CLIENT without separate authorization to act as CLIENT's agent.

Purchase Order

Dispatch via E-Mail

Purchase Order	Date	Revision	Page
LF00202699	10/25/2023		1
Payment Terms	**Freight Terms**		**Ship Via**
Net 30	Destination, Freight Prepaid		Best way
Buyer	**Phone/Email**		**Currency**
Marcum,Brian W			USD

Lexington-Fayette Urban County
200 E Main Street
Lexington KY 40507
United States

Supplier: 0000014170
SHIELD ENVIRONMENTAL ASSOCIATES, INC.
948 FLOYD DRIVE
LEXINGTON KY 40505

Ship To: 0742
125 Lisle Industrial Rd
Ste 180
Lexington KY 40504
United States

Attention: Grant,Dane B

Bill To: 200 E Main Street
Lexington KY 40507
United States

Tax Exempt? Y **Tax Exempt ID:** CT-34-100 **Replenishment Option:** Standard

Line-Sch	Item/Description	Mfg ID	Quantity	UOM	PO Price	Extended Amt	Due Date
1- 1	**Phase I Environmental Site Assessment at 130/134 West New Circle Rd. Sheild Environmental ** Requester: Grant,Dane B Phone: Email: dgrant@lexingtonky.gov ****				[redacted]		23

By authority of the Division of Central Purchasing of the Lexington-Fayette Urban County Government, you are hereby requested to furnish the items/services as set forth in this document. Ship and invoice in accordance with the instruction, terms, and conditions herein. The signed official authorizes the entry of the order and certifies that funds are available.

1. Address shipment exactly as shown in 'SHIP TO' address above. Shipments must be sent FOB Destination Prepaid & Added.
2. When all items have been shipped submit your invoice directly to the Division of Accounting, 200 East Main Street, Lexington, KY 40507 (859) 258-3310
3. Payments cannot be authorized for partial shipments, except for blanket purchase orders.
4. Do not include Kentucky Sales Tax; Exemption Certificate No. CT-34-100 applies.
5. All merchandise supplied to the government must fully comply with OSHA standards.
6. Vendor shall provide two copies of Material Safety Data Sheet - MSDS - on material covered by OSHA Standard 1910-1200 and confirm it is asbestos free as a condition of purchase.
7. LFUCG may assess administrative fees for invoices not issued in a timely manner.
8. LFUCG will make all reasonable efforts to pay outstanding invoices within thirty (30) days of receipt. Vendor may impose late payment charges not to exceed one per cent per month to outstanding balances which are not paid within thirty days. However, vendor agrees that in circumstances beyond the direct control of the Urban County Government (such as required review of payments by external agencies), in cases where an invoice is disputed, or in cases of improper invoicing by the vendor no such penalty shall be imposed. Vendor also agrees that, in the case of partial shipments and/or backordered items, no penalty shall be assessed until thirty (30) days after receipt of invoice for the completed order.
9. The signed official hereby certifies on behalf of the vendor that the vendor fully complies with 2 CFR 200.322, to the extent that 2 CFR 200.322 applies to this PO.

Authorized Signature

1. **Site Name:** 130 West New Circle Rd.

2. **Site Street Address:** 130 West New Circle Rd.

3. **City, County, State:** Lexington, KY 40505

4. **Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?**

   ☐ **YES** ■ **NO**

   If YES, please describe the nature of the liens:

5. **Are you aware of an activity and land use limitations, such as engineering controls, land use restrictions, or institutional controls that are in place at the site and/or have been flied or recorded in a registry under federal, tribal, state or local law?**

   ☐ **YES** ■ **NO**

   If YES, please describe the nature of the limitation:

6. **As the user of this ESA, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you the current property owner? Or are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?**

   No

7. **Does the purchase price being paid for this property reasonably reflect the fair market value of the property?**

☐ **YES** ■ **NO** ☐ **Not Applicable (for property refinance)**

If NO, and have concluded that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

No offer to purchase the property has been made as of 11/13/23. Appraisal being conducted.

8. **Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,**

Do you know the past use of the property?

■ **YES** ☐ **NO**

If YES, please describe past uses (e.g. agricultural, gas station, undeveloped):

Retail and telecommunication offices/service

Do you know of specific chemicals that are present or once were present at the property?

☐ **YES** ■ **NO**

If YES, please list chemicals:

Do you know of spills or other chemical releases that have taken place at the property?

☐ **YES** ■ **NO**

If YES, please describe:

_____

_____

Do you know of any environmental cleanups that have taken place at the property?

☐ **YES** ■ **NO**

If YES, please describe:

_____

_____

9. As the user of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of releases at the property?

☐ **YES** ■ **NO**

If YES, please describe:

_____

_____

Name of person completing this form: Gregory S. Lubeck **Signature:** _____

APPENDIX B

As required by 40 CFR 312 21(d), the following statement is made by the Environmental Professional on the project:

I declare that to the best of my professional knowledge and belief, I meet the definition of Environmental professional as defined in 312 10 of 40 CFR 312; and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

C. Dow Porter
Principal

Report review and assistance on the projects was provided by the following individuals:

Elizabeth Greathouse
Environmental Technician

C. Dow Porter

Managing Principal

Mr. Porter has accrued over 30 years of professional experience in the environmental field with 22 years as an environmental consultant. He currently serves as the President of Shield and in addition manages the Assessment and Remediation Group. Over the course of his career, he has assisted many industrial facilities and municipalities with industrial compliance issues including the proper characterization and handling of solid, special, and hazardous waste.

Mr. Porter has served in the capacity of Principal in Charge for numerous Brownfield projects and site investigations including Phase I/II/III projects and Hazardous Material Assessments. Additionally, he has experience preparing and implementing site investigation work plans and remedial action plans.

Home Office Address:

948 Floyd Drive, Lexington, KY 40505

Education:

B.B.A. Industrial Management, University of KY, 1986
DOT Hazardous Materials Transportation Course
Hazardous Waste Generator Training Course
OSHA 40 Hr Hazardous Waste Site Worker Certification
OSHA 8 Hr Hazardous Waste Site Worker Refresher
CPR & First Aid Training, American Red Cross
Introduction to RCRA Training Course
Special Waste Approvals Training Course
Effective Site Remediation using Chemical Oxidation & Enhanced Bioremediation, 2008
Certified KY EXCEL Performance Assessor

Affiliations:

Kentuckiana Chapter - Hazardous Material Managers
Kentucky Association of Economic Development
The Society for Marketing Professional Services
Greater Louisville Inc – Environmental Affairs
Kentucky Petroleum Marketers Association
Kentucky Association of Manufacturers
Kentucky Chamber of Commerce
Commerce Lexington, Inc.
Chemical Industry Council

Project-Related Experience

- **Southern Wood Treatment (KDWM)** – Principal in Charge of a State-lead emergency remediation of soils impacted with high arsenic levels. Project involved rapid site investigation, corrective action planning, resident relocations, soil characterization/excavation/disposal (34,750 tons), and complete site restoration.
- **Castle & Key, Inc.** – Principal in Charge of due diligence Phase I/II ESA and Asbestos/Lead-Based Paint Assessments on the Old Taylor Distillery. Project consisted of pursuing liability protection through Kentucky's Brownfield Redevelopment Program and a State income tax credit for conducting a qualified Voluntary Corrective Action.
- **University of Kentucky PS5** – Principal in Charge of Site Characterization at the former Kennedy Book Store location which had previously been a gasoline service station. Additional services included the design of a vapor intrusion system, voluntary corrective action, and gaining acceptance into the Kentucky Brownfield Redevelopment Program.
- **GCH Insurance** – Principal in Charge of environmental due diligence at the former AutoTech Services which had previously been utilized as a transmission repair shop. Services included Phase I ESA, Corrective Action Plan, Property Management Plan, oversight of Voluntary Corrective Action to address petroleum related impacts and acceptance into Kentucky's Brownfield Redevelopment Program.
- **Lexington Transit Authority** – Principal in Charge of environmental due diligence at the former GE Glass Plant. Services included Phase I/II ESAs, Corrective Action Plan, Property Management Plan, oversight of Voluntary Corrective Action, design of a vapor intrusion mitigation system and acceptance into Kentucky's Brownfield Redevelopment Program.

Elizabeth Greathouse

Ms. Greathouse joined Shield Environmental Associates, Inc. as an Environmental Technician in August 2002 and routinely performs Phase I and Phase II Environmental Site Assessments.

Ms. Greathouse has over 12 years of experience collecting soil samples associated with industrial sites and underground storage tank sites. She also has experience collecting water samples associated with groundwater monitoring wells, including low flow sampling events. She has participated in reviewing data analysis, preparing investigative work plans, and prepared final reports on a variety of subject sites.

Home Office Address:

948 Floyd Drive, Lexington, KY 40505

Education:

A.A.S., Environmental Science, Lexington Community College, 2001

Registrations:

40-Hour HAZWOPER Training
Red Cross Adult CPR and First Aid Training
Asbestos Inspector Certification I14-06-1516

Project-Related Experience

Field Experience:

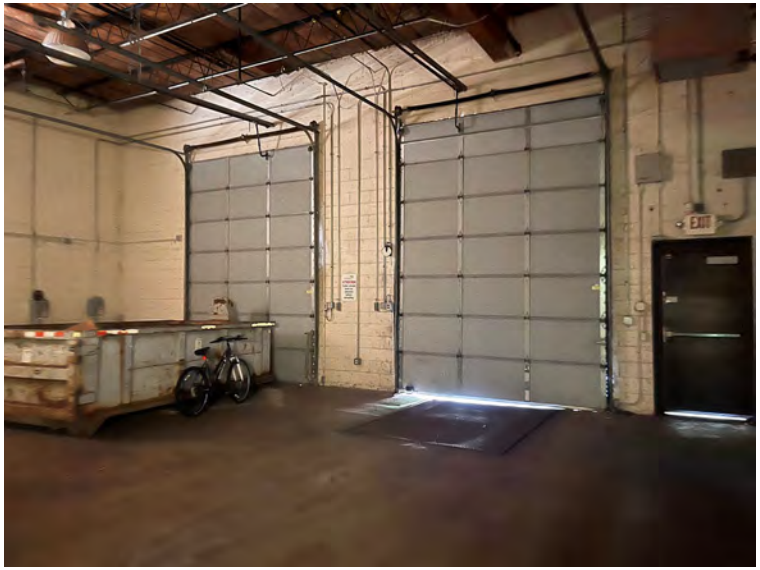
- Concord Custom Cleaners – Field technician during site investigation of a former dry cleaner contaminated with TCE. Oversaw potassium permanganate injection for remedial action, reviewed analytical data, and assisted with final report preparation.
- Link Belt Construction Equipment – Field technician overseeing potassium permanganate injection on contaminated manufacturing facility.
- Harlan County Landfill – assisted with work plan preparation and review of analytical data from site characterization activities.
- J.M. Mills Landfill – Peterson Puritan OU2 Superfund Site – assisted with collection and review of analytical data from field sampling activities.
- Project Manager – Completed numerous Phase I, Phase II Environmental Site Assessments on a variety of commercial and industrial facilities.

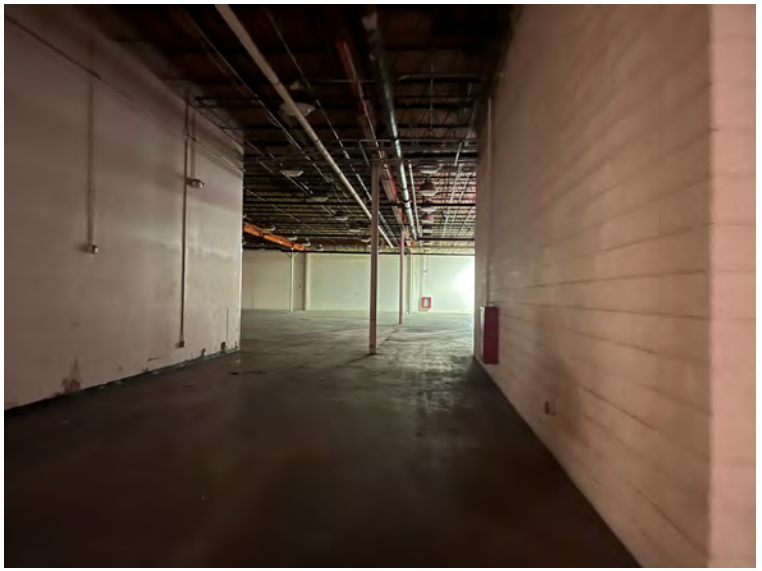
APPENDIX C

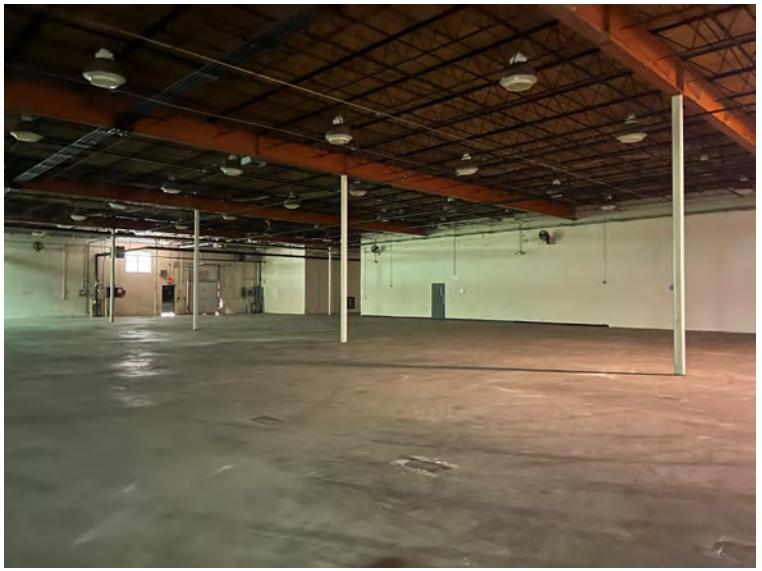
Building exterior (Suite 170)

Suite 170 building interior (office area)

Suite 170 building interior (warehouse/former automotive service area)







Floor drain in the warehouse area

Patched areas in warehouse area

Curbed concrete area on the western side of the property; likely where AST was formerly located.

Approximate location of former UST

Fenced area formerly used by Windstream for fleet vehicle parking

Two (2) former storage building in the fenced area

Interior of one (1) of the storage buildings

Inaccessible building located within the fenced area

Concrete area and platform located in fenced area near the inaccessible building

Parking lot (134 W. New Circle Road parcel)

Additional view of parking lot

Railroad tracks located along the northern property boundary

APPENDIX D

130 & 134 W. New Circle Road
130 & 134 W. New Circle Road
Lexington, KY 40505

Inquiry Number: 7485365.2s
October 31, 2023

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

130 & 134 W. NEW CIRCLE ROAD
LEXINGTON, KY 40505

COORDINATES

Latitude (North):	38.0660720 - 38° 3' 57.85''
Longitude (West):	84.4731510 - 84° 28' 23.34''
Universal Tranverse Mercator:	Zone 16
UTM X (Meters):	721674.3
UTM Y (Meters):	4215955.0
Elevation:	974 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	13046646 LEXINGTON EAST, KY
Version Date:	2019

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20200601, 20200531
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
130 & 134 W. NEW CIRCLE ROAD
LEXINGTON, KY 40505

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	ALLTEL	130 W NEW CIRCLE RD	KY AST		TP
A2	K MART 4077	130 NEW CIRCLE RD NW	FINDS	Higher	1 ft.
B3	GOODWILL INDUSTRIES	130 NEW CIRCLE RD NW	KY UST	Lower	58, 0.011, East
C4	LEX EXPRESS	176 W NEW CIRCLE RD	KY UST	Lower	140, 0.027, North
B5	FORMER SUNOCO SERVIC	108 NEW CIRCLE RD NE	RCRA NonGen / NLR, FINDS, ECHO	Lower	258, 0.049, ESE
C6	DUFF S SERVICE STATI	177 W NEW CIRCLE RD	EDR Hist Auto	Lower	318, 0.060, NNE
C7	SHORTS GENERAL MOTOR	177 W NEW CIRCLE RD	KY SHWS, KY UST, KY INST CONTROL	Lower	318, 0.060, NNE
D8	EARLEY BIRD CLEANERS	1542 N LIMESTONE	RCRA NonGen / NLR, FINDS, ECHO	Lower	466, 0.088, SE
D9	EARLY BIRD ONE HOUR	1542 N LIMESTONE	EDR Hist Cleaner	Lower	466, 0.088, SE
D10	EARLY BIRD CLEANERS	1542 N LIMESTONE ST	EDR Hist Cleaner	Lower	466, 0.088, SE
D11	EARLEY BIRD CLEANERS	1542 N LIMESTONE	KY SHWS, KY INST CONTROL, KY AIRS, KY DRYCLEANERS	Lower	466, 0.088, SE
E12	K J ENERGY CO INC	108 NEW CIRCLE RD	KY UST, KY Financial Assurance	Lower	543, 0.103, ESE
13	MC WHORTER VIRGIL H	1452 N LIMESTONE	EDR Hist Cleaner	Lower	551, 0.104, SSE
14	CONCORD CUSTOM CLEAN	1221 NORTHLAND S/C	RCRA NonGen / NLR, FINDS, ECHO	Higher	575, 0.109, WSW
F15	NORTHLAND EXXON SERV	1601 N BROADWAY	EDR Hist Auto	Lower	578, 0.109, North
D16	MINI MARKET	108 NE NEW CIRCLE RO	KY SHWS	Lower	626, 0.119, SE
F17	BLUEGRASS CHRYSLER P	1651 NORTH BROADWAY	KY UST, RCRA NonGen / NLR, FINDS, ECHO	Lower	639, 0.121, NNE
18	THE KROGER CO - STOR	1620 OLD PARIS PIKE	RCRA NonGen / NLR	Lower	693, 0.131, East
E19	CVS PHARMACY #6941	118 EAST NEW CIRCLE	RCRA-VSQG	Lower	713, 0.135, ESE
20	BRYANT DISTRIBUTING	272 NEW CIRCLE RD NW	KY UST	Lower	822, 0.156, NNW
G21	LEXINGTON RV	1675 N BROADWAY	KY UST	Lower	827, 0.157, NNE
22	CHARLES W BUFORD PLU	1404 N LIMESTONE	KY UST, KY Financial Assurance	Higher	856, 0.162, South
G23	SHOP N GO O6	1687 N BROADWAY	KY UST, KY Financial Assurance	Lower	953, 0.180, NNE
H24	SWIFTY STATION #243	1701 N. BROADWAY STR	RCRA NonGen / NLR	Lower	1060, 0.201, NE
H25	6K & UNDER AUTO SALE	1701 N BROADWAY	KY UST	Lower	1123, 0.213, NE
26	FIRESTONE STORE 0596	1405 N BROADWAY	KY UST	Higher	1140, 0.216, WSW
27	ADVANCE AUTO PARTS	145 E NEW CIRCLE RD	KY SWRCY	Lower	1168, 0.221, ESE
I28	EMRO BONDED#1102	1300 N BROADWAY	KY SB193	Higher	1574, 0.298, WSW
I29	BONDED #1102	1300 N BROADWAY	KY PSTEAF, KY UST, RCRA NonGen / NLR, FINDS, ECHO,...	Higher	1574, 0.298, WSW
30	CLARKS PUMP N SHOP #	313 W NEW CIRCLE RD	KY SB193, KY UST	Lower	1661, 0.315, NNW
31	GARON PROPERTY-SAFEL	212 NEW CIRCLE RD	KY SHWS, KY UST, KY Financial Assurance	Lower	1793, 0.340, SE
32	LITTERAL GROCERY	610 HWY 205 NORTH	KY SB193, RCRA NonGen / NLR	Higher	1813, 0.343, SSW
J33	NORTHLAND SHOPPING C	1245-1345 N BROADWAY	KY SHWS	Higher	1843, 0.349, WSW
J34	TRIUMPH AUTO GLASS	1200 N BROADWAY	KY SB193, RCRA NonGen / NLR, FINDS, ECHO	Higher	1918, 0.363, WSW
35	MINIT MART RUSSELL C	435 NEW CIRCLE RD	KY PSTEAF, KY UST, KY Financial Assurance	Lower	2065, 0.391, NNW
36	THORNTON OIL #38	802 N BROADWAY	KY SHWS, KY SB193, KY NPDES	Lower	3499, 0.663, SW
37	LEXTRAN	109 W LOUDON AVE	KY SHWS	Lower	3576, 0.677, SW
38	B&B TIRE & TOWING LL	130 E. LOUDON AVE	KY SHWS	Higher	3798, 0.719, SW
K39	KENTUCKY GLASS PLANT	200 WEST LOUDON AVE	CORRACTS, RCRA-TSDF, RCRA NonGen / NLR, US FIN...	Lower	3944, 0.747, WSW

MAPPED SITES SUMMARY

Target Property Address:
130 & 134 W. NEW CIRCLE ROAD
LEXINGTON, KY 40505

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
K40	LEXTRAN HEADQUARTERS	200 W LOUDON AVE	KY SHWS, KY AIRS, KY NPDES	Lower	3944, 0.747, WSW
41	BELL AIR BATTERY	760 N LIMESTONE	KY SHWS	Lower	4076, 0.772, SW
42	WALKER SERVICE CENTE	717 NORTH BROADWAY	KY SHWS, KY Financial Assurance	Lower	4263, 0.807, SW
43	MINIT MART PARIS PIK	1949 N BROADWAY	KY SHWS, KY PSTEAF, KY UST, KY Financial Assurance	Higher	4635, 0.878, NE
44	IBM CORP	740 NEW CIRCLE RD NW	SEMS-ARCHIVE, CORRACTS, RCRA-TSDF, RCRA-SQG, US...	Lower	4637, 0.878, WNW
L45	M & E STORAGE FACILI	720 LANCASTER AVENUE	KY SHWS, KY INST CONTROL	Lower	4789, 0.907, SSW
L46	CLEM PROPERTY	713 LANCASTER AVE. A	KY SHWS, KY CDL	Lower	4870, 0.922, SSW
47	HI-ACRES SHOPPING CE	BRYAN STATION RD	KY SHWS	Higher	5221, 0.989, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
ALLTEL 130 W NEW CIRCLE RD LEXINGTON, KY 40505	KY AST	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Lists of Federal Delisted NPL sites

Delisted NPL ---------- National Priority List Deletions

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Lists of Federal RCRA generators

RCRA-LQG ---------- RCRA - Large Quantity Generators

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROLS ---------- Institutional Controls Sites List

Federal ERNS list

ERNS ---------- Emergency Response Notification System

Lists of state and tribal landfills and solid waste disposal facilities

KY SWF/LF ---------- Solid Waste Facilities List

Lists of state and tribal leaking storage tanks

INDIAN LUST---------- Leaking Underground Storage Tanks on Indian Land

Lists of state and tribal registered storage tanks

FEMA UST---------- Underground Storage Tank Listing
INDIAN UST---------- Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

KY ENG CONTROLS---------- Engineering Controls Site Listing

Lists of state and tribal voluntary cleanup sites

KY VCP---------- Voluntary Cleanup Program Sites
INDIAN VCP---------- Voluntary Cleanup Priority Listing

Lists of state and tribal brownfield sites

KY BROWNFIELDS---------- Kentucky Brownfield Inventory

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

KY HIST LF---------- Historical Landfills
INDIAN ODI---------- Report on the Status of Open Dumps on Indian Lands
ODI---------- Open Dump Inventory
DEBRIS REGION 9---------- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL---------- Delisted National Clandestine Laboratory Register
US CDL---------- National Clandestine Laboratory Register

Local Land Records

LIENS 2---------- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS---------- Hazardous Materials Information Reporting System
KY SPILLS---------- State spills

Other Ascertainable Records

FUDS---------- Formerly Used Defense Sites

DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
EPA WATCH LIST	EPA WATCH LIST
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
MINES MRDS	Mineral Resources Data System
DOCKET HWC	Hazardous Waste Compliance Docket Listing
UXO	Unexploded Ordnance Sites
FUELS PROGRAM	EPA Fuels Program Registered Listing
PFAS NPL	Superfund Sites with PFAS Detections Information
PFAS FEDERAL SITES	Federal Sites PFAS Information
PFAS TRIS	List of PFAS Added to the TRI
PFAS TSCA	PFAS Manufacture and Imports Information
PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing
PFAS ATSDR	PFAS Contamination Site Location Listing
PFAS WQP	Ambient Environmental Sampling for PFAS
PFAS NPDES	Clean Water Act Discharge Monitoring Information
PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing
PFAS ECHO FIRE TRAINING	Facilities in Industries that May Be Handling PFAS Listing
PFAS PART 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing
AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing
BIOSOLIDS	ICIS-NPDES Biosolids Facility Data
KY PFAS	PFAS Detections Site Listing
KY ASBESTOS	Asbestos Notification Listing
KY COAL ASH	Coal Ash Disposal Sites
KY LEAD	Environmental Lead Program Report Tracking Database
KY UIC	UIC Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

KY RGA HWS ---------- Recovered Government Archive State Hazardous Waste Facilities List
KY RGA LF ---------- Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 07/24/2023 has revealed that there are 2 CORRACTS sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
KENTUCKY GLASS PLANT EPA ID:: KYD006386395	***200 WEST LOUDON AVE***	***WSW 1/2 - 1 (0.747 mi.)***	***K39***	***171***
IBM CORP EPA ID:: KYD006375737	***740 NEW CIRCLE RD NW***	***WNW 1/2 - 1 (0.878 mi.)***	***44***	***621***

Lists of Federal RCRA generators

RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 07/24/2023 has revealed that there is 1

RCRA-VSQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CVS PHARMACY #6941 EPA ID:: KYR000055509	118 EAST NEW CIRCLE	ESE 1/8 - 1/4 (0.135 mi.)	E19	71

Lists of state- and tribal hazardous waste facilities

KY SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Environmental Protection's Uncontrolled Site Branch List.

A review of the KY SHWS list, as provided by EDR, and dated 06/07/2023 has revealed that there are 15 KY SHWS sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
NORTHLAND SHOPPING C Facility Id: 52035 Facility Status: Closed	1245-1345 N BROADWAY	WSW 1/4 - 1/2 (0.349 mi.)	J33	156
B&B TIRE & TOWING LL Facility Id: 107284 Facility Status: Closed	130 E. LOUDON AVE	SW 1/2 - 1 (0.719 mi.)	38	170
MINIT MART PARIS PIK Facility Id: 51710 Facility Status: Closed	***1949 N BROADWAY***	***NE 1/2 - 1 (0.878 mi.)***	***43***	***613***
HI-ACRES SHOPPING CE Facility Id: 129187 Facility Status: Active	BRYAN STATION RD	E 1/2 - 1 (0.989 mi.)	47	836

Lower Elevation	Address	Direction / Distance	Map ID	Page
SHORTS GENERAL MOTOR Facility Id: 51709 Facility Status: Closed	***177 W NEW CIRCLE RD***	***NNE 0 - 1/8 (0.060 mi.)***	***C7***	***15***
EARLEY BIRD CLEANERS Facility Id: 37955 Facility Status: Managed	***1542 N LIMESTONE***	***SE 0 - 1/8 (0.088 mi.)***	***D11***	***28***
MINI MARKET Facility Id: 62080 Facility Status: Closed	108 NE NEW CIRCLE RO	SE 0 - 1/8 (0.119 mi.)	D16	37
GARON PROPERTY-SAFEL Facility Id: 67482 Facility Status: Closed	***212 NEW CIRCLE RD***	***SE 1/4 - 1/2 (0.340 mi.)***	***31***	***150***
THORNTON OIL #38 Facility Id: 62002 Facility Status: Closed	***802 N BROADWAY***	***SW 1/2 - 1 (0.663 mi.)***	***36***	***169***
LEXTRAN	109 W LOUDON AVE	SW 1/2 - 1 (0.677 mi.)	37	170

Facility Id: 47589 Facility Status: Active				
LEXTRAN HEADQUARTERS Facility Id: 40513 Facility Status: Closed	***200 W LOUDON AVE***	***WSW 1/2 - 1 (0.747 mi.)***	***K40***	***565***
BELL AIR BATTERY Facility Id: 52595 Facility Status: Closed	760 N LIMESTONE	SW 1/2 - 1 (0.772 mi.)	41	612
WALKER SERVICE CENTE Facility Id: 52771 Facility Status: Closed	***717 NORTH BROADWAY***	***SW 1/2 - 1 (0.807 mi.)***	***42***	***613***
M & E STORAGE FACILI Facility Id: 52476 Facility Status: Managed	***720 LANCASTER AVENUE***	***SSW 1/2 - 1 (0.907 mi.)***	***L45***	***834***
CLEM PROPERTY Facility Id: 126264 Facility Status: Closed	***713 LANCASTER AVE. A***	***SSW 1/2 - 1 (0.922 mi.)***	***L46***	***835***

Lists of state and tribal leaking storage tanks

KY PSTEAF: The Underground Storage Tank Branch (USTB) has ranked all PSTEAF reimbursable facilities requiring corrective action, in accordance with 401 KAR 42:290. Directive letters will be issued on the basis of facility ranking and available PSTEAF funding in sequential order as ranked. For example, Rank 2 facilities will be issued directives before Rank 3 facilities.

A review of the KY PSTEAF list, as provided by EDR, and dated 06/01/2023 has revealed that there are 2 KY PSTEAF sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BONDED #1102 Facility Id: 62199	***1300 N BROADWAY***	***WSW 1/4 - 1/2 (0.298 mi.)***	***I29***	***140***

Lower Elevation	Address	Direction / Distance	Map ID	Page
MINIT MART RUSSELL C Facility Id: 62190	***435 NEW CIRCLE RD***	***NNW 1/4 - 1/2 (0.391 mi.)***	***35***	***161***

KY SB193: The inventory indicates facilities that have performed permanent closure activities at a regulated underground storage tank facility and have known soil and/or groundwater contamination.

A review of the KY SB193 list, as provided by EDR, and dated 09/05/2006 has revealed that there are 4 KY SB193 sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
EMRO BONDED#1102 Facility Id: 5991034	1300 N BROADWAY	WSW 1/4 - 1/2 (0.298 mi.)	I28	140
LITTERAL GROCERY	***610 HWY 205 NORTH***	***SSW 1/4 - 1/2 (0.343 mi.)***	***32***	***154***

Facility Id: 1024013

TRIUMPH AUTO GLASS Facility Id: 1038034	***1200 N BROADWAY***	***WSW 1/4 - 1/2 (0.363 mi.)***	***J34***	***156***

Lower Elevation	Address	Direction / Distance	Map ID	Page
CLARKS PUMP N SHOP # Facility Id: 4885034	***313 W NEW CIRCLE RD***	***NNW 1/4 - 1/2 (0.315 mi.)***	***30***	***146***

Lists of state and tribal registered storage tanks

KY UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Protection's Owner/Facility Report of All Tanks Regardless of Status list.

A review of the KY UST list, as provided by EDR, and dated 05/02/2023 has revealed that there are 11 KY UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CHARLES W BUFORD PLU Tank Status: TRM Facility Id: 64413	***1404 N LIMESTONE***	***S 1/8 - 1/4 (0.162 mi.)***	***22***	***123***
FIRESTONE STORE 0596 Tank Status: TEX Tank Status: TRM Facility Id: 66350	1405 N BROADWAY	WSW 1/8 - 1/4 (0.216 mi.)	26	138

Lower Elevation	Address	Direction / Distance	Map ID	Page
GOODWILL INDUSTRIES Tank Status: TRM Facility Id: 64084	130 NEW CIRCLE RD NW	E 0 - 1/8 (0.011 mi.)	B3	8
LEX EXPRESS Tank Status: TAC Facility Id: 62093	176 W NEW CIRCLE RD	N 0 - 1/8 (0.027 mi.)	C4	9
SHORTS GENERAL MOTOR Tank Status: TRM Facility Id: 51709	***177 W NEW CIRCLE RD***	***NNE 0 - 1/8 (0.060 mi.)***	***C7***	***15***
K J ENERGY CO INC Tank Status: TRM Facility Id: 63556	***108 NEW CIRCLE RD***	***ESE 0 - 1/8 (0.103 mi.)***	***E12***	***30***
BLUEGRASS CHRYSLER P Tank Status: TRM Facility Id: 63491	***1651 NORTH BROADWAY***	***NNE 0 - 1/8 (0.121 mi.)***	***F17***	***37***
BRYANT DISTRIBUTING Tank Status: TR8 Facility Id: 65086	272 NEW CIRCLE RD NW	NNW 1/8 - 1/4 (0.156 mi.)	20	119
LEXINGTON RV Tank Status: TRM	1675 N BROADWAY	NNE 1/8 - 1/4 (0.157 mi.)	G21	120

Facility Id: 63594 Closed In Place Date: 09/23/1996				
SHOP N GO O6 Tank Status: TRM Facility Id: 67245	***1687 N BROADWAY***	***NNE 1/8 - 1/4 (0.180 mi.)***	***G23***	***124***
6K & UNDER AUTO SALE Tank Status: TRM Facility Id: 62023 Closed In Place Date: 12/18/2013	1701 N BROADWAY	NE 1/8 - 1/4 (0.213 mi.)	H25	132

State and tribal institutional control / engineering control registries

KY INST CONTROL: A list of closed sites in the State Superfund Database. Institutional controls would be in place at any site that uses Contained or Managed as a Closure Option.

A review of the KY INST CONTROL list, as provided by EDR, and dated 06/06/2023 has revealed that there are 2 KY INST CONTROL sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SHORTS GENERAL MOTOR Incident Id: 51709	***177 W NEW CIRCLE RD***	***NNE 0 - 1/8 (0.060 mi.)***	***C7***	***15***
EARLEY BIRD CLEANERS Incident Id: 37955	***1542 N LIMESTONE***	***SE 0 - 1/8 (0.088 mi.)***	***D11***	***28***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

KY SWRCY: A listing of recycling facilities located in the state of Kentucky.

A review of the KY SWRCY list, as provided by EDR, and dated 09/04/2020 has revealed that there is 1 KY SWRCY site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ADVANCE AUTO PARTS	145 E NEW CIRCLE RD	ESE 1/8 - 1/4 (0.221 mi.)	27	140

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 07/24/2023 has revealed that

there are 6 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CONCORD CUSTOM CLEAN EPA ID:: KYD981022486	***1221 NORTHLAND S/C***	***WSW 0 - 1/8 (0.109 mi.)***	***14***	***34***

Lower Elevation	Address	Direction / Distance	Map ID	Page
FORMER SUNOCO SERVIC EPA ID:: KYD000833210	***108 NEW CIRCLE RD NE***	***ESE 0 - 1/8 (0.049 mi.)***	***B5***	***12***
EARLEY BIRD CLEANERS EPA ID:: KYD981467699	***1542 N LIMESTONE***	***SE 0 - 1/8 (0.088 mi.)***	***D8***	***22***
BLUEGRASS CHRYSLER P EPA ID:: KYD066901976	***1651 NORTH BROADWAY***	***NNE 0 - 1/8 (0.121 mi.)***	***F17***	***37***
THE KROGER CO - STOR EPA ID:: KYR000048843	1620 OLD PARIS PIKE	E 1/8 - 1/4 (0.131 mi.)	18	67
SWIFTY STATION #243 EPA ID:: KYR000046672	1701 N. BROADWAY STR	NE 1/8 - 1/4 (0.201 mi.)	H24	129

FINDS: The Facility Index System contains both facility information and "pointers" to other sources of information that contain more detail. These include: RCRIS; Permit Compliance System (PCS); Aerometric Information Retrieval System (AIRS); FATES (FIFRA [Federal Insecticide Fungicide Rodenticide Act] and TSCA Enforcement System, FTTS [FIFRA/TSCA Tracking System]; CERCLIS; DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes); Federal Underground Injection Control (FURS); Federal Reporting Data System (FRDS); Surface Impoundments (SIA); TSCA Chemicals in Commerce Information System (CICS); PADS; RCRA-J (medical waste transporters/disposers); TRIS; and TSCA. The source of this database is the U.S. EPA/NTIS.

A review of the FINDS list, as provided by EDR, and dated 05/04/2023 has revealed that there is 1 FINDS site within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
K MART 4077 Registry ID:: 110045134948	130 NEW CIRCLE RD NW	0 - 1/8 (0.000 mi.)	A2	8

KY DRYCLEANERS: A listing of drycleaner facility locations.

A review of the KY DRYCLEANERS list, as provided by EDR, and dated 07/05/2023 has revealed that there is 1 KY DRYCLEANERS site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
EARLEY BIRD CLEANERS Facility Id: 2106700136 Agency Interest Id Number: 37955	***1542 N LIMESTONE***	***SE 0 - 1/8 (0.088 mi.)***	***D11***	***28***

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 2 EDR Hist Auto sites within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUFF S SERVICE STATI	177 W NEW CIRCLE RD	NNE 0 - 1/8 (0.060 mi.)	C6	15
NORTHLAND EXXON SERV	1601 N BROADWAY	N 0 - 1/8 (0.109 mi.)	F15	36

EDR Hist Cleaner: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

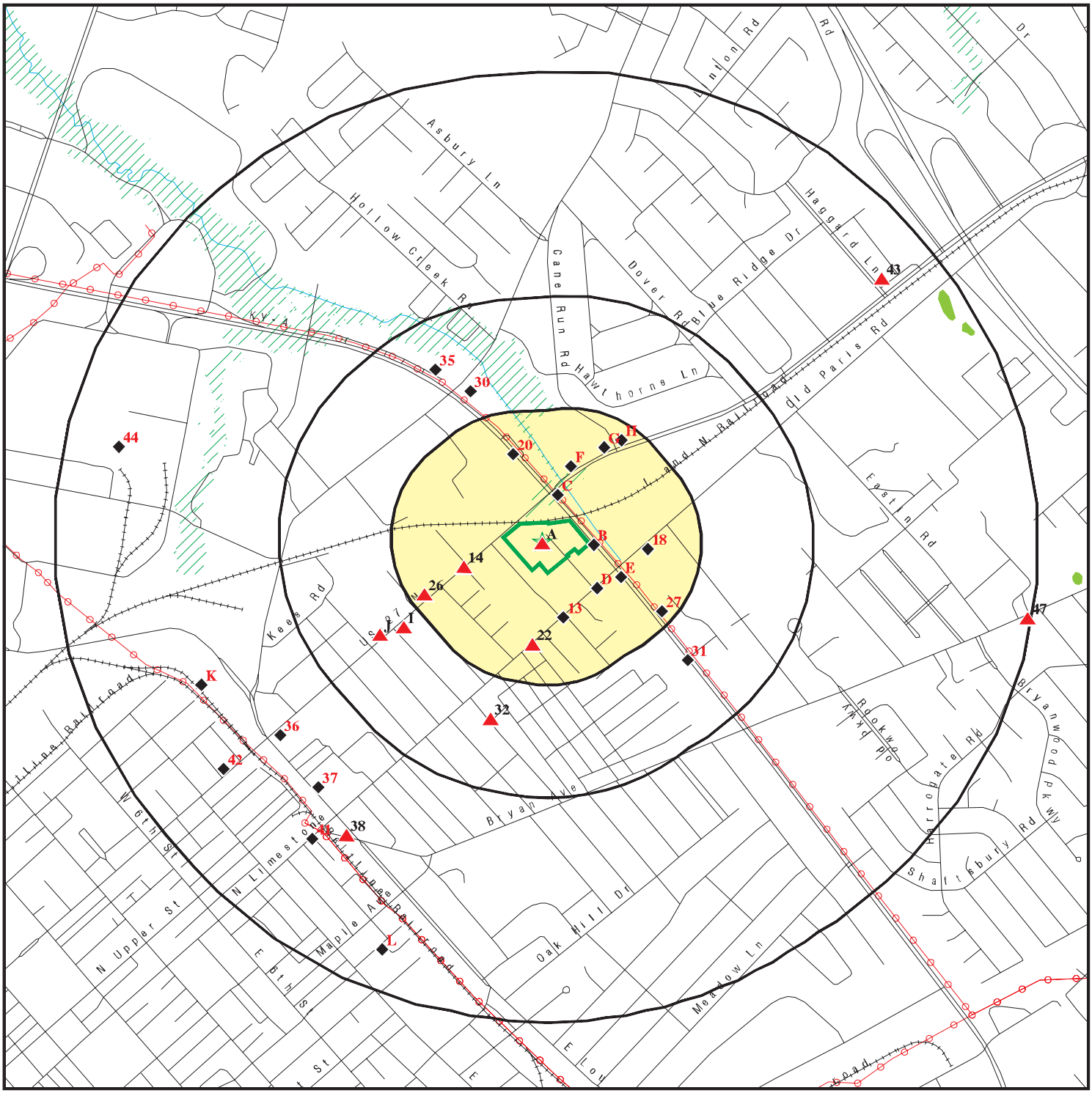
A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there are 3 EDR Hist Cleaner sites within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
EARLY BIRD ONE HOUR	1542 N LIMESTONE	SE 0 - 1/8 (0.088 mi.)	D9	27
EARLY BIRD CLEANERS	1542 N LIMESTONE ST	SE 0 - 1/8 (0.088 mi.)	D10	27
MC WHORTER VIRGIL H	1452 N LIMESTONE	SSE 0 - 1/8 (0.104 mi.)	13	33

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 7485365.2S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	130 & 134 W. New Circle Road	CLIENT:	Shield Environmental
ADDRESS:	130 & 134 W. New Circle Road Lexington KY 40505	CONTACT:	Elizabeth Greathouse
		INQUIRY #:	7485365.2s
LAT/LONG:	38.066072 / 84.473151	DATE:	October 31, 2023 7:44 pm

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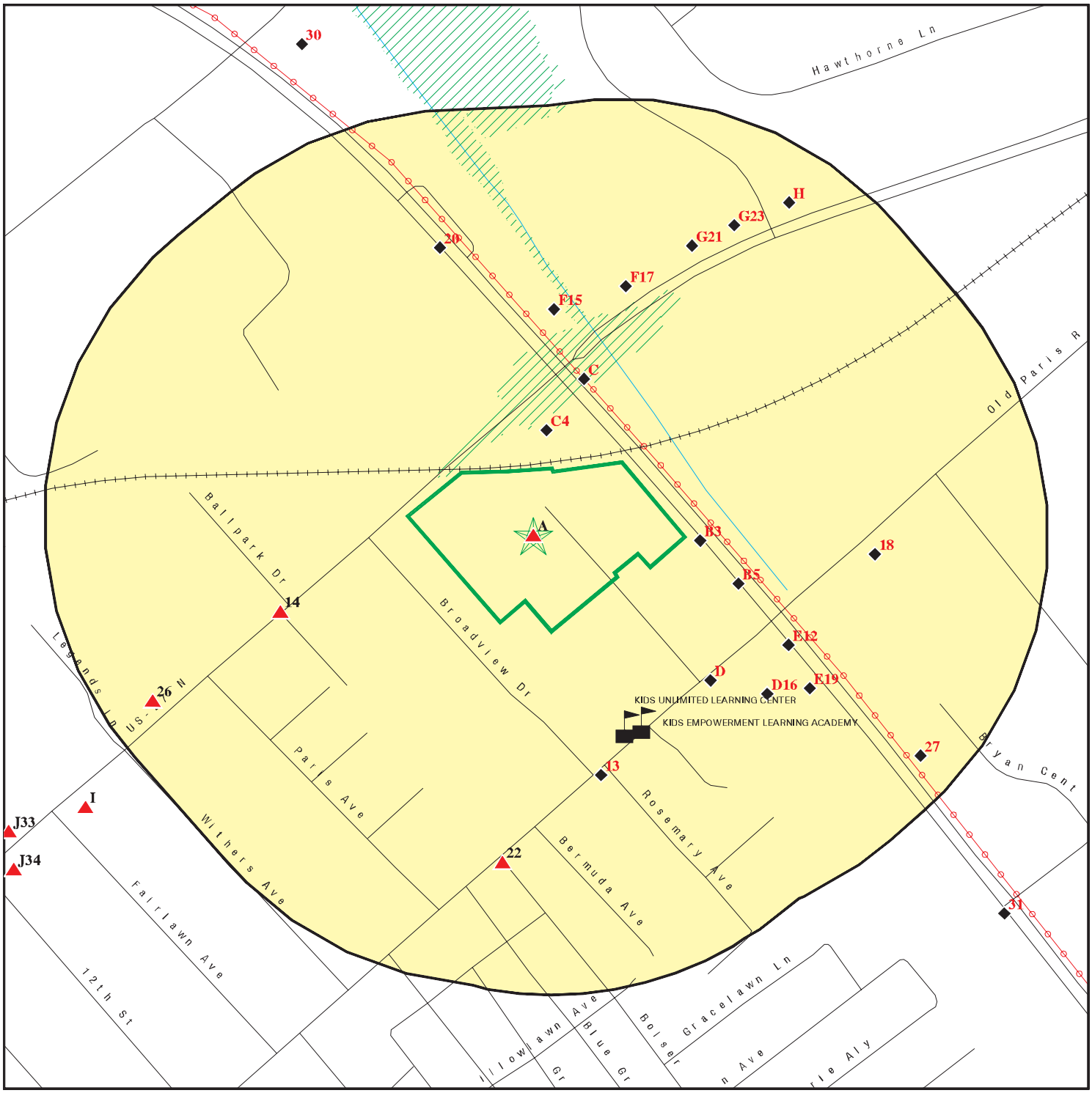
DETAIL MAP - 7485365.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

0 1/16 1/8 1/4 Miles

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	130 & 134 W. New Circle Road	CLIENT:	Shield Environmental
ADDRESS:	130 & 134 W. New Circle Road Lexington KY 40505	CONTACT:	Elizabeth Greathouse
		INQUIRY #:	7485365.2s
LAT/LONG:	38.066072 / 84.473151	DATE:	October 31, 2023 7:45 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000		0	0	0	2	NR	2
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	1	NR	NR	NR	1
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
Lists of state- and tribal hazardous waste facilities								
KY SHWS	1.000		3	0	2	10	NR	15
Lists of state and tribal landfills and solid waste disposal facilities								
KY SWF/LF	0.500		0	0	0	NR	NR	0
Lists of state and tribal leaking storage tanks								
KY PSTEAF	0.500		0	0	2	NR	NR	2

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
KY SB193	0.500		0	0	4	NR	NR	4
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
KY UST	0.250		5	6	NR	NR	NR	11
KY AST	0.250	1	0	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
KY ENG CONTROLS	0.500		0	0	0	NR	NR	0
KY INST CONTROL	0.500		2	0	0	NR	NR	2
Lists of state and tribal voluntary cleanup sites								
KY VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
KY BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
KY HIST LF	0.500		0	0	0	NR	NR	0
KY SWRCY	0.500		0	1	0	NR	NR	1
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
KY CDL	0.001		0	NR	NR	NR	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	0.001		0	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
KY SPILLS	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		4	2	NR	NR	NR	6

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
FINDS	0.001		1	NR	NR	NR	NR	1
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250		0	0	NR	NR	NR	0
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	0	NR	NR	NR	0
PFAS ECHO FIRE TRAINING	0.250		0	0	NR	NR	NR	0
PFAS PART 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	0.001		0	NR	NR	NR	NR	0
KY PFAS	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
KY AIRS	0.001		0	NR	NR	NR	NR	0
KY ASBESTOS	0.001		0	NR	NR	NR	NR	0
KY COAL ASH	0.500		0	0	0	NR	NR	0
KY DRYCLEANERS	0.250		1	0	NR	NR	NR	1
KY Financial Assurance	0.001		0	NR	NR	NR	NR	0
KY LEAD	0.001		0	NR	NR	NR	NR	0
PA MANIFEST	0.250		0	0	NR	NR	NR	0
WI MANIFEST	0.250		0	0	NR	NR	NR	0
NJ MANIFEST	0.250		0	0	NR	NR	NR	0
NY MANIFEST	0.250		0	0	NR	NR	NR	0
KY NPDES	0.001		0	NR	NR	NR	NR	0
KY UIC	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		2	NR	NR	NR	NR	2
EDR Hist Cleaner	0.125		3	NR	NR	NR	NR	3
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
KY RGA HWS	0.001		0	NR	NR	NR	NR	0
KY RGA LF	0.001		0	NR	NR	NR	NR	0
- Totals --		1	21	10	8	12	0	52

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
Target Property
Actual: 974 ft.

ALLTEL
130 W NEW CIRCLE RD STE 170
LEXINGTON, KY 40505

KY AST **A100449196**
N/A

Site 1 of 2 in cluster A

AST:

Permit Number:	PAG0002459
Name:	ALLTEL
Address:	130 W NEW CIRCLE RD STE 170
Telephone:	Not reported
City,State,Zip:	LEXINGTON, KY 40505-1408
Permit Type:	Commercial
Category:	Other
Permit Status:	Completed
Issue Date:	08/30/2005
Last Inspection:	Not reported
Installer:	Randy Walker Electrical and Communications

A2
< 1/8
1 ft.

K MART 4077
130 NEW CIRCLE RD NW
LEXINGTON, KY 40505

FINDS **1015906622**
N/A

Site 2 of 2 in cluster A

Relative: Higher
Actual: 974 ft.

FINDS:
Registry ID: 110045134948

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
KENTUCKY- Tools for Environmental Management and Protection Organizations (KY-TEMPO) is Kentucky's central repository for facility data and includes permits, surveillance, enforcement, and remediation information.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

B3
East
< 1/8
0.011 mi.
58 ft.

GOODWILL INDUSTRIES OF KENTUCKY INC
130 NEW CIRCLE RD NW
LEXINGTON, KY 40505

KY UST **U000206171**
N/A

Site 1 of 2 in cluster B

Relative: Lower
Actual: 958 ft.

UST:

Name:	GOODWILL INDUSTRIES OF KENTUCKY INC
Address:	130 NEW CIRCLE RD NW
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	3542034
Facility ID:	64084
Owner Name:	Kmart
Owner Address:	3100 W Big Beaver
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Troy, MI 48084
Internal Document ID:	0
Latitude:	-84.472228
Longitude:	38.065283

GOODWILL INDUSTRIES OF KENTUCKY INC (Continued) **U000206171**

Inert Material Code:	Not reported
Removed Date:	04/23/1991
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1964
Closed In Place Date:	Not reported
Capacity in Gallons:	1000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

C4 **LEX EXPRESS** **KY UST** **U003415121**
North **176 W NEW CIRCLE RD** **N/A**
< 1/8 **LEXINGTON, KY 40504**
0.027 mi.
140 ft. **Site 1 of 3 in cluster C**

Relative: UST:
Lower

Name:	LEX EXPRESS
Address:	176 W NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40504
Sequence Id:	10000119
Facility ID:	62093
Owner Name:	Lex Express LLC
Owner Address:	176 W New Circle Rd

Actual:
959 ft.

LEX EXPRESS (Continued) **U003415121**

Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Lexington, KY 40505
Internal Document ID:	0
Latitude:	-84.4729
Longitude:	38.0673
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP
Tank Overfill Protection:	FLR
Last Tank Test Date:	12/20/2019
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	LTT
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	ENV
Last Pipe Test Date:	05/10/2022
Last CP Test Date:	Not reported
Added To Flex Date:	02/21/1998
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Fiberglass
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Double Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Line Tightness Test
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-UNL-Reg Unl Gas
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	Environ - Geoflex D
Subject Item ID:	1
Tank Status:	TAC
Installation Date:	02/21/1998
Closed In Place Date:	Not reported
Capacity in Gallons:	12000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP
Tank Overfill Protection:	FLR

LEX EXPRESS (Continued) **U003415121**

Last Tank Test Date:	12/20/2019
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	LTT
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	ENV
Last Pipe Test Date:	05/10/2022
Last CP Test Date:	Not reported
Added To Flex Date:	02/21/1998
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Fiberglass
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Double Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Line Tightness Test
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-PRM-Prem Unl Gas
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	Environ - Geoflex D
Subject Item ID:	2
Tank Status:	TAC
Installation Date:	02/21/1998
Closed In Place Date:	Not reported
Capacity in Gallons:	8000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP
Tank Overfill Protection:	ASD
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	CKV
Pipe Rel Detect Suc Code:	ALT
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	ENV
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	02/21/1998
Added To Piping Date:	Not reported
Decode For Tstatus:	Active

LEX EXPRESS (Continued) **U003415121**

Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Fiberglass
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Suction
Decode For Preldetcod:	Check Valve
Decode For Preldetsuc:	Annual Rlease Testing (historic)
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Diesel
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	Environ - Geoflex D
Subject Item ID:	3
Tank Status:	TAC
Installation Date:	02/21/1998
Closed In Place Date:	Not reported
Capacity in Gallons:	2500
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

B5 **FORMER SUNOCO SERVICE STATION** **RCRA NonGen / NLR** **1000330006**
ESE **108 NEW CIRCLE RD NE** **FINDS** **KYD000833210**
< 1/8 **LEXINGTON, KY 40505** **ECHO**
0.049 mi.
258 ft. **Site 2 of 2 in cluster B**

Relative: **Lower**
Actual: **957 ft.**

RCRA Listings:

Date Form Received by Agency:	19940630
Handler Name:	Former Sunoco Service Station
Handler Address:	NEW CIRCLE RD NE
Handler City,State,Zip:	LEXINGTON, KY 40505
EPA ID:	KYD000833210
Contact Name:	HAROLD BARNETT
Contact Address:	P.O. BOX 13
Contact City,State,Zip:	CAMPBELLSBURG, KY 40011
Contact Telephone:	502-589-6200
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	04
Mailing Address:	P.O. BOX 13
Mailing City,State,Zip:	CAMPBELLSBURG, KY 40011
Owner Name:	Harold Barnett
Owner Type:	Private
Operator Name:	Not reported

FORMER SUNOCO SERVICE STATION (Continued) **1000330006**

Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	NONE
Waste Description:	Not Defined

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: HAROLD BARNETT	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	P.O. BOX 13
Owner/Operator City,State,Zip:	CAMPBELLSBURG, KY 40011
Owner/Operator Telephone:	502-589-6200

FORMER SUNOCO SERVICE STATION (Continued) **1000330006**

Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19940630
Handler Name: FORMER SUNOCO SERVICE STATION
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19010101
Handler Name: FORMER SUNOCO STATION
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 4471
NAICS Description: GASOLINE STATIONS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110003220586

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

FORMER SUNOCO SERVICE STATION (Continued) **1000330006**

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000330006
Registry ID:	110003220586
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003220586
Name:	FORMER SUNOCO SERVICE STATION
Address:	108 NEW CIRCLE RD NE
City,State,Zip:	LEXINGTON, KY 40505

C6 **DUFF S SERVICE STATION INC** **EDR Hist Auto** **1020291223**
NNE **177 W NEW CIRCLE RD** **N/A**
< 1/8 **LEXINGTON, KY 40505**
0.060 mi.
318 ft. **Site 2 of 3 in cluster C**

Relative: EDR Hist Auto
Lower

Actual: **953 ft.**

Year:	Name:	Type:
1998	DUFFS ASHLAND SEVICE STATION	Gasoline Service Stations
1999	DUFFS ASHLAND SEVICE STATION	Gasoline Service Stations
2000	DUFFS ASHLAND SEVICE STATION	Gasoline Service Stations
2001	DUFFS ASHLAND SEVICE STATION	Gasoline Service Stations
2001	DUFFS SERVICE	Gasoline Service Stations
2002	DUFFS SERVICE	Gasoline Service Stations
2002	DUFFS SERVICE STATION INC	Gasoline Service Stations
2003	DUFF S SERVICE STATION INC	Gasoline Service Stations
2004	DUFF S SERVICE STATION INC	Gasoline Service Stations
2005	DUFF S SERVICE STATION INC	Gasoline Service Stations
2006	DUFF S SERVICE STATION INC	Gasoline Service Stations
2007	DUFF S SERVICE STATION INC	Gasoline Service Stations
2008	DUFF S SERVICE STATION INC	Gasoline Service Stations
2009	DUFF S SERVICE STATION INC	Gasoline Service Stations
2010	DUFF S SERVICE STATION INC	Gasoline Service Stations
2011	DUFF S SERVICE STATION INC	Gasoline Service Stations
2012	DUFF S SERVICE STATION INC	Gasoline Service Stations
2013	DUFF S SERVICE STATION INC	Gasoline Service Stations
2014	DUFF S SERVICE STATION INC	Gasoline Service Stations

C7 **SHORTS GENERAL MOTOR SERVICE INC** **KY SHWS** **U000809761**
NNE **177 W NEW CIRCLE RD** **KY UST** **N/A**
< 1/8 **LEXINGTON, KY 40505** **KY INST CONTROL**
0.060 mi.
318 ft. **Site 3 of 3 in cluster C**

Relative: SHWS:
Lower

Actual: **953 ft.**

Name:	SHORTS GENERAL MOTOR SERVICE INC
Address:	177 WEST NEW CIRCLE ROAD
City,State,Zip:	LEXINGTON, KY 40505
Facility Id:	51709
Status:	**Closed**
Description:	DUFF ASHLAND INC (Closed: Contained/Managed)
Closure Date:	12/01/2004
Longitude:	-84.472130
Latitude:	38.067549

SHORTS GENERAL MOTOR SERVICE INC (Continued) **U000809761**

Subject Item County:	Fayette
Sub Item Longitude:	-84.472130
Sub Item Latitude:	38.067549
Subject Item Address:	177 W New Circle Rd
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40505
Regulatory Desc:	Petroleum Cleanup
Closure Option:	Option A No Action Necessary
Side SG:	116322
Acreage:	Not reported

UST:

Name:	SHORTS GENERAL MOTOR SERVICE INC
Address:	177 W NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	6340034
Facility ID:	51709
Owner Name:	NONE
Owner Address:	Not reported
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	NONE, NONE NONE
Internal Document ID:	0
Latitude:	-84.47213
Longitude:	38.067549
Inert Material Code:	Not reported
Removed Date:	10/05/1992
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Daily Inventory Rec Tank Tightness
Decode For Tintprotcd:	Interior Lining
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None

SHORTS GENERAL MOTOR SERVICE INC (Continued) **U000809761**

Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1973
Closed In Place Date:	Not reported
Capacity in Gallons:	4000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	10/05/1992
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Daily Inventory Rec Tank Tightness
Decode For Tintprotcd:	Interior Lining
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2
Tank Status:	TRM
Installation Date:	01/01/1973
Closed In Place Date:	Not reported
Capacity in Gallons:	4000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

SHORTS GENERAL MOTOR SERVICE INC (Continued) **U000809761**

Inert Material Code:	Not reported
Removed Date:	10/05/1992
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Daily Inventory Rec Tank Tightness
Decode For Tintprotcd:	Interior Lining
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	3
Tank Status:	TRM
Installation Date:	01/01/1978
Closed In Place Date:	Not reported
Capacity in Gallons:	4000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

Inert Material Code:	Not reported
Removed Date:	10/05/1992
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported

SHORTS GENERAL MOTOR SERVICE INC (Continued) **U000809761**

Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Daily Inventory Rec Tank Tightness
Decode For Tintprotcd:	Interior Lining
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	4
Tank Status:	TRM
Installation Date:	01/01/1978
Closed In Place Date:	Not reported
Capacity in Gallons:	4000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	06/21/2017
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	PER
Tank Overfill Protection:	ASD
Last Tank Test Date:	10/31/2005
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	CKV
Pipe Rel Detect Suc Code:	CKV
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	FRP
Last Pipe Test Date:	10/31/2005
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Mix
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Statistical Inventory Recon
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device

SHORTS GENERAL MOTOR SERVICE INC (Continued) **U000809761**

Decode For Pmatcode:	Double Wall Fiberglass
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Suction
Decode For Preldetcod:	Check Valve
Decode For Preldetsuc:	Check Valve
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-UNL-Reg Unl Gas
Decode For Tmancd:	Permatank
Decode For Pmancd:	Fiberglass Manufacturer Unknown
Subject Item ID:	5
Tank Status:	TRM
Installation Date:	04/01/1993
Closed In Place Date:	Not reported
Capacity in Gallons:	4000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	06/21/2017
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	PER
Tank Overfill Protection:	ASD
Last Tank Test Date:	10/31/2005
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	CKV
Pipe Rel Detect Suc Code:	CKV
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	FRP
Last Pipe Test Date:	10/31/2005
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Mix
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Statistical Inventory Recon
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Double Wall Fiberglass
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Suction
Decode For Preldetcod:	Check Valve
Decode For Preldetsuc:	Check Valve
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-PRM-Prem Unl Gas
Decode For Tmancd:	Permatank
Decode For Pmancd:	Fiberglass Manufacturer Unknown
Subject Item ID:	5
Tank Status:	TRM
Installation Date:	04/01/1993
Closed In Place Date:	Not reported

SHORTS GENERAL MOTOR SERVICE INC (Continued) **U000809761**

Capacity in Gallons:	2000
Compartment Number:	2
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	10/05/1992
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Daily Inventory Rec Tank Tightness
Decode For Tintprotcd:	Interior Lining
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	6
Tank Status:	TRM
Installation Date:	01/01/1965
Closed In Place Date:	Not reported
Capacity in Gallons:	500
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

KS INSTUTIONAL CONTROL:

Name:	SHORTS GENERAL MOTOR SERVICE INC
Address:	177 WEST NEW CIRCLE ROAD
City,State,Zip:	LEXINGTON, KY 40505
Incident Id:	51709
GARA Number:	GARA0000000001
Facilty Status:	Not reported
Lat/Lon:	38.067549 -84.472130

SHORTS GENERAL MOTOR SERVICE INC (Continued) **U000809761**

Remedy: Not reported
Control Type: Deed Restriction
Program: Superfund
Date Filed: 10/11/2004
Date Removed: 09/19/2011
Control Method: Capping (explain), Groundwater Use Restrictions, Land Use Restrictions
Acreage: Not reported

D8 **EARLEY BIRD CLEANERS** **RCRA NonGen / NLR** **1001481922**
SE **1542 N LIMESTONE** **FINDS** **KYD981467699**
< 1/8 **LEXINGTON, KY 40505** **ECHO**
0.088 mi.
466 ft. **Site 1 of 5 in cluster D**

Relative: **Lower**
Actual: **965 ft.**

RCRA Listings:

Date Form Received by Agency:	20170124
Handler Name:	Earley Bird One Hour Cleaners
Handler Address:	N LIMESTONE
Handler City,State,Zip:	LEXINGTON, KY 40505
EPA ID:	KYD981467699
Contact Name:	ROSIE EARLEY
Contact Address:	1542 NORTH LIMESTONE
Contact City,State,Zip:	LEXINGTON, KY 40505
Contact Telephone:	606-254-6282
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	04
Mailing Address:	NORTH LIMESTONE
Mailing City,State,Zip:	LEXINGTON, KY 40505
Owner Name:	Rosie Earley
Owner Type:	Private
Operator Name:	Rosie Earley
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN

EARLEY BIRD CLEANERS (Continued) **1001481922**

Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20170124
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	F002
Waste Description:	The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: ROSIE EARLEY	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	1542 NORTH LIMESTONE
Owner/Operator City,State,Zip:	LEXINGTON, KY 40505
Owner/Operator Telephone:	606-254-6282
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: ROSIE EARLEY	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported

EARLEY BIRD CLEANERS (Continued) **1001481922**

Owner/Operator Address: 1542 NORTH LIMESTONE
Owner/Operator City,State,Zip: LEXINGTON, KY 40505
Owner/Operator Telephone: 606-254-6282
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: ROSIE EARLEY
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 1542 NORTH LIMESTONE
Owner/Operator City,State,Zip: LEXINGTON, KY 40505
Owner/Operator Telephone: 606-254-6282
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19950705
Handler Name: EARLEY BIRD ONE HOUR CLEANERS
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20170124
Handler Name: EARLEY BIRD ONE HOUR CLEANERS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 81232
NAICS Description: DRYCLEANING AND LAUNDRY SERVICES (EXCEPT COIN-OPERATED)

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported

EARLEY BIRD CLEANERS (Continued) **1001481922**

Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported

EARLEY BIRD CLEANERS (Continued) **1001481922**

Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	20170120
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYGWE
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19990211
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

FINDS:
Registry ID: 110003228882

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Air Facility System (AFS) contains compliance and permit data for stationary sources of air pollution regulated by the EPA, state, and local air pollution agencies.
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

EARLEY BIRD CLEANERS (Continued) **1001481922**

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1001481922
Registry ID:	110003228882
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003228882
Name:	EARLEY BIRD CLEANERS
Address:	1542 N LIMESTONE
City,State,Zip:	LEXINGTON, KY 40505

D9 **EARLY BIRD ONE HOUR CLEANERS** **EDR Hist Cleaner** **1019979089**
SE **1542 N LIMESTONE** **N/A**
< 1/8 **LEXINGTON, KY 40505**
0.088 mi.
466 ft. **Site 2 of 5 in cluster D**

Relative: EDR Hist Cleaner
Lower

Actual: **965 ft.**

Year:	Name:	Type:
1974	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1975	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1976	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1977	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1978	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1979	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1979	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1980	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1982	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1983	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1985	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1997	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
1998	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
1999	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2000	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2001	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2002	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2003	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2004	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2005	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2006	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2007	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC
2008	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC

D10 **EARLY BIRD CLEANERS** **EDR Hist Cleaner** **1018610902**
SE **1542 N LIMESTONE ST** **N/A**
< 1/8 **LEXINGTON, KY 40505**
0.088 mi.
466 ft. **Site 3 of 5 in cluster D**

Relative: EDR Hist Cleaner
Lower

Actual: **965 ft.**

Year:	Name:	Type:
1983	ROMANY ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs
1985	ROMANY ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs
1986	ROMANY ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs

EARLY BIRD CLEANERS (Continued) **1018610902**

1987	ROMANY ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs
1989	EARLY BIRD CLEANERS	Drycleaning Plants, Except Rugs, NEC
1990	EARLY BIRD CLEANERS	Drycleaning Plants, Except Rugs, NEC
1991	EARLY BIRD CLEANERS	Drycleaning Plants, Except Rugs, NEC
1992	EARLY BIRD CLEANERS	Drycleaning Plants, Except Rugs, NEC
1993	EARLY BIRD CLEANERS	Drycleaning Plants, Except Rugs, NEC
1994	EARLY BIRD CLEANERS	Drycleaning Plants, Except Rugs, NEC
1995	EARLY BIRD CLEANERS	Drycleaning Plants, Except Rugs, NEC
1996	EARLY BIRD ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs, NEC

D11 **EARLEY BIRD CLEANERS** **KY SHWS** **S107516607**
SE **1542 N LIMESTONE** **KY INST CONTROL** **N/A**
< 1/8 **LEXINGTON, KY 40505** **KY AIRS**
0.088 mi. **KY DRYCLEANERS**
466 ft. **Site 4 of 5 in cluster D**

Relative:
Lower

Actual:
965 ft.

SHWS:

Name:	EARLEY BIRD CLEANERS
Address:	1542 N LIMESTONE
City,State,Zip:	LEXINGTON, KY 40505
Facility Id:	37955
Status:	**Managed**
Description:	Early Bird Cleaners
Closure Date:	05/05/2009
Longitude:	-84.470478
Latitude:	38.064791
Subject Item County:	Fayette
Sub Item Longitude:	-84.470371
Sub Item Latitude:	38.064678
Subject Item Address:	1542 N Limestone
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40505
Regulatory Desc:	State Superfund
Closure Option:	Option B Contained/Managed
Side SG:	Dry cleaners
Acreage:	2.00

KS INSTUTIONAL CONTROL:

Name:	EARLEY BIRD CLEANERS
Address:	1542 N LIMESTONE
City,State,Zip:	LEXINGTON, KY 40505
Incident Id:	37955
GARA Number:	GARA0000000001
Facilty Status:	Not reported
Lat/Lon:	38.064679 -84.470371
Remedy:	Not reported
Control Type:	Restrictive Covenant
Program:	Superfund
Date Filed:	05/14/2009
Date Removed:	Not reported
Control Method:	Groundwater Use Restrictions, Capping (explain), Land Use Restrictions
Acreage:	2.10

AIRS:

Name:	EARLEY BIRD CLEANERS
Address:	1542 N LIMESTONE
City,State,Zip:	LEXINGTON, KY 40505

EARLEY BIRD CLEANERS (Continued) **S107516607**

Facility:	2106700136
Mailing Address 3:	Not reported
Emps:	5
Plant Class Description:	R; Registered Source
Acreage:	0.50
Alternate Facility Name:	Earley Bird Cleaners
Alternate Facility End Date:	Not reported
Principal Product:	DRYCLEANER
State Plant Class Code:	R000
DAQ AI Type:	SERV-Personal & Laundry Services (812)
DAQ Reg Comment:	Not reported
Mailing Address Line 2:	Not reported
Inspector Assigned AI:	Bhargavi Bhagat
Last Inspection Lead:	Not reported
Last Inspection Date:	Not reported
Air Programs:	0-SIP Source; M-MACT
Air Subparts:	Not Applicable; Not Applicable

DRYCLEANERS:

Name:	EARLEY BIRD CLEANERS
Address:	1542 N LIMESTONE
City,State,Zip:	LEXINGTON, KY 40505
Facility ID:	2106700136
Alt Facility Name:	Earley Bird Cleaners
Alt Facility End Date:	Not reported
Agency Interest Id Number:	37955
EMPS:	5
Acreage:	0.50
Latitude:	38.06479
Longitude:	-84.47048
Primary Product:	DRYCLEANER
SIC Code:	7216
SIC Desc:	Drycleaning Plants, Except Rugs
NAICS Description:	Drycleaning and Laundry Services (except Coin-Operated)
Contact Name:	Mr. Leeroy Earley
Contact Address:	1542 N Limestone
Contact City,St,Zip:	Lexington, KY 40505
Contact Telephone:	859-54 -6282
Contact FAX:	Not reported
Contact Email:	Not reported
Mailing Address Line 2:	Not reported
Mailing Address Line 3:	Not reported
Plant Class Descr:	R; Registered Source
SCC:	Not reported
AI Start Date:	06/18/2003
AI End Date:	Not reported
State Plant Class Code:	R000
Inspector Assigned AI:	Bhargavi Bhagat
Last Inspection Lead:	Not reported
Last Inspection Date:	Not reported
DAQ AI Type:	SERV-Personal & Laundry Services (812)
DAQ Reg Comment:	Not reported
Air Programs:	0-SIP Source; M-MACT
Air Subparts:	Not Applicable; Not Applicable

E12
ESE
< 1/8
0.103 mi.
543 ft.

K J ENERGY CO INC
108 NEW CIRCLE RD
LEXINGTON, KY 40504

Site 1 of 2 in cluster E

KY UST **U001181237**
KY Financial Assurance **N/A**

Relative:
Lower

Actual:
957 ft.

UST:

Name:	K J ENERGY CO INC
Address:	108 NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40504
Sequence Id:	2623034
Facility ID:	63556
Owner Name:	Estate of Harold T Barnett
Owner Address:	PO Box 13
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Campbellsburg, KY 40011
Internal Document ID:	0
Latitude:	-84.469931
Longitude:	38.064977
Inert Material Code:	Not reported
Removed Date:	03/11/1993
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Used Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1901

K J ENERGY CO INC (Continued) **U001181237**

Closed In Place Date:	Not reported
Capacity in Gallons:	550
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	09/01/1989
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	09/01/1989
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported

K J ENERGY CO INC (Continued) **U001181237**

Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	3
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	09/01/1989
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported

K J ENERGY CO INC (Continued) **U001181237**

Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	4
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

KY Financial Assurance 2:

Region:	2
Account:	PST
AI:	63556
cause:	100311
Approval Date:	06/21/1995
NFA Date:	10/14/1997
Coverage Amount:	Up to 1 million dollar limit coverage
Effective Period:	Would be from the time of the release to the end of the clean up

---

13 **MC WHORTER VIRGIL H** **EDR Hist Cleaner** **1020038259**
SSE **1452 N LIMESTONE** **N/A**
< 1/8 **LEXINGTON, KY 40505**
0.104 mi.
551 ft.

Relative: EDR Hist Cleaner
Lower

Actual: **972 ft.**

Year:	Name:	Type:
1971	ROMANY ONE HOUR CLEANERS	Drycleaning Plants, Except Rugs
1972	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs
1973	MC WHORTER VIRGIL H	Drycleaning Plants, Except Rugs

14 WSW < 1/8 0.109 mi. 575 ft. — **CONCORD CUSTOM CLEANERS #6026**, **1221 NORTHLAND S/C**, **LEXINGTON, KY 40505** — **RCRA NonGen / NLR**, **FINDS**, **ECHO** — **1000180282**, **KYD981022486**

Relative: Higher

Actual: 974 ft.

RCRA Listings:

Date Form Received by Agency:	19940228
Handler Name:	Concord Custom Cleaners #6026
Handler Address:	NORTHLAND S/C
Handler City,State,Zip:	LEXINGTON, KY 40505
EPA ID:	KYD981022486
Contact Name:	JOHN M. SCHACHT
Contact Address:	P.O. BOX 1000
Contact City,State,Zip:	RICHMOND, KY 40476
Contact Telephone:	606-623-2500
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	04
Mailing Address:	P.O. BOX 1000
Mailing City,State,Zip:	RICHMOND, KY 40476
Owner Name:	Concord Custom Cleaners
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No

CONCORD CUSTOM CLEANERS #6026 (Continued) **1000180282**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	NONE
Waste Description:	Not Defined

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	CONCORD CUSTOM CLEANERS
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	P.O. BOX 1000
Owner/Operator City,State,Zip:	RICHMOND, KY 40476
Owner/Operator Telephone:	606-623-2500
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19940228
Handler Name:	CONCORD CUSTOM CLEANERS #6026
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	81232
NAICS Description:	DRYCLEANING AND LAUNDRY SERVICES (EXCEPT COIN-OPERATED)

Facility Has Received Notices of Violations:

Violations:	No Violations Found

CONCORD CUSTOM CLEANERS #6026 (Continued) **1000180282**

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110003228365

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000180282
Registry ID:	110003228365
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003228365
Name:	CONCORD CUSTOM CLEANERS #6026
Address:	1221 NORTHLAND S/C
City,State,Zip:	LEXINGTON, KY 40505

F15 **NORTHLAND EXXON SERVICE** **EDR Hist Auto** **1021920455**
North **1601 N BROADWAY** **N/A**
< 1/8 **LEXINGTON, KY 40505**
0.109 mi.
578 ft. **Site 1 of 2 in cluster F**

Relative: EDR Hist Auto
Lower

Actual: **950 ft.**

Year:	Name:	Type:
1970	POLLY SINCLAIR SERVICE	Gasoline Service Stations
1971	POLLY ARCO SERVICE	Gasoline Service Stations
1972	POLLY ARCO SERVICE	Gasoline Service Stations
1973	POLLY ARCO SERVICE	Gasoline Service Stations
1977	NORTHLAND EXXON SERVICE	Gasoline Service Stations
1978	NORTHLAND EXXON SERVICE	Gasoline Service Stations
1979	NORTHLAND EXXON SERVICE	Gasoline Service Stations
1980	NORTHLAND EXXON SERVICE	Gasoline Service Stations
1982	NORTHLAND EXXON SERVICE	Gasoline Service Stations
1983	NORTHLAND EXXON SERVICE	Gasoline Service Stations
1985	NORTHLAND EXXON SERVICE	Gasoline Service Stations

D16
SE
< 1/8
0.119 mi.
626 ft.

MINI MARKET
108 NE NEW CIRCLE ROAD
LEXINGTON, KY 40501

Site 5 of 5 in cluster D

KY SHWS **S106884619**
N/A

Relative:
Lower

Actual:
959 ft.

SHWS:

Name:	MINI MARKET
Address:	108 NE NEW CIRCLE ROAD
City,State,Zip:	LEXINGTON, KY 40501
Facility Id:	62080
Status:	**Closed**
Description:	SUNOCO SERVICE STATION
Closure Date:	04/13/2007
Longitude:	-84.515962
Latitude:	37.987191
Subject Item County:	Fayette
Sub Item Longitude:	-84.470299
Sub Item Latitude:	38.064399
Subject Item Address:	3527 Lansdowne Dr
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40517
Regulatory Desc:	State Superfund
Closure Option:	Option C Restored
Side SG:	15415
Acreage:	Not reported

F17
NNE
< 1/8
0.121 mi.
639 ft.

BLUEGRASS CHRYSLER PLYMOUTH
1651 NORTH BROADWAY
LEXINGTON, KY 40505

Site 2 of 2 in cluster F

KY UST **1000202546**
RCRA NonGen / NLR **KYD066901976**
FINDS
ECHO

Relative:
Lower

Actual:
952 ft.

UST:

Name:	BROADWAY AUTO MALL
Address:	1651 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	5487034
Facility ID:	63491
Owner Name:	NONE
Owner Address:	Not reported
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	NONE, NONE NONE
Internal Document ID:	0
Latitude:	-84.47154
Longitude:	38.068609
Inert Material Code:	Not reported
Removed Date:	10/15/1994
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Unknown
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Used Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1978
Closed In Place Date:	Not reported
Capacity in Gallons:	1000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

RCRA Listings:

Date Form Received by Agency:	19980224
Handler Name:	Bluegrass Chrysler Plymouth
Handler Address:	NORTH BROADWAY
Handler City,State,Zip:	LEXINGTON, KY 40505
EPA ID:	KYD066901976
Contact Name:	ROD HATFIELD
Contact Address:	P.O. BOX 161
Contact City,State,Zip:	LEXINGTON, KY 40505
Contact Telephone:	606-293-1940
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	04
Mailing Address:	P.O. BOX 161
Mailing City,State,Zip:	LEXINGTON, KY 40505
Owner Name:	Bluegrass Chrysler Plymouth Inc.

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	NONE
Waste Description:	Not Defined

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	BLUEGRASS CHRYSLER PLYMOUTH INC.
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	1651 N. BROADWAY

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Owner/Operator City,State,Zip: LEXINGTON, KY 40505
Owner/Operator Telephone: 606-293-1940
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19980224
Handler Name: BLUEGRASS CHRYSLER PLYMOUTH
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Has the Facility Received Notices of Violations:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910208
Actual Return to Compliance Date: 19910208
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910301
Actual Return to Compliance Date: 19910320
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19910301
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYWSC
Enforcement Responsible Sub-Organization: HW
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 3
Final Monetary Amount: 3
Paid Amount: Not reported
Final Count: 1
Final Amount: 3

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19901201
Actual Return to Compliance Date: 19910207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19910820
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 5000
Final Monetary Amount: 5000
Paid Amount: Not reported
Final Count: 1
Final Amount: 5000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19900425
Actual Return to Compliance Date: 19900430
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19910830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19910301
Actual Return to Compliance Date:	19910320
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19910301
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYWSC
Enforcement Responsible Sub-Organization:	HW
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	3
Final Monetary Amount:	3
Paid Amount:	Not reported
Final Count:	1
Final Amount:	3
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19900425
Actual Return to Compliance Date:	19900430
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19941003
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 2000
Final Monetary Amount: 2000
Paid Amount: 2000
Final Count: 1
Final Amount: 2000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19901201
Actual Return to Compliance Date: 19910207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19910820
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount:	5000
Final Monetary Amount:	5000
Paid Amount:	Not reported
Final Count:	1
Final Amount:	5000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19910301
Actual Return to Compliance Date:	19910320
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19910301
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYWSC
Enforcement Responsible Sub-Organization: HW
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910301
Actual Return to Compliance Date: 19910320
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19940307
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19901201
Actual Return to Compliance Date: 19910207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19910830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19900425
Actual Return to Compliance Date: 19900430
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19900425
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910301
Actual Return to Compliance Date: 19910320
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19941003
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 2000
Final Monetary Amount: 2000
Paid Amount: 2000
Final Count: 1
Final Amount: 2000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910208
Actual Return to Compliance Date: 19910208
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19940307
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910301
Actual Return to Compliance Date: 19910320
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910301
Actual Return to Compliance Date: 19910320
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910301
Actual Return to Compliance Date: 19910320
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19940307
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19900425
Actual Return to Compliance Date: 19900430
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19940307
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL 3008(A) COMPLIANCE
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19901201
Actual Return to Compliance Date:	19910207
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19910222
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMGO
Enforcement Responsible Sub-Organization:	HW
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19910208
Actual Return to Compliance Date:	19910208
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19941003
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 2000
Final Monetary Amount: 2000
Paid Amount: 2000
Final Count: 1
Final Amount: 2000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19901201
Actual Return to Compliance Date: 19910207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19941003
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount: 2000
Final Monetary Amount: 2000
Paid Amount: 2000
Final Count: 1
Final Amount: 2000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910301
Actual Return to Compliance Date: 19910320
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19941003
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 2000
Final Monetary Amount: 2000
Paid Amount: 2000
Final Count: 1
Final Amount: 2000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19901201
Actual Return to Compliance Date: 19910207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19941003
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 2000
Final Monetary Amount: 2000
Paid Amount: 2000
Final Count: 1
Final Amount: 2000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19910301
Actual Return to Compliance Date: 19910320
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19910301
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYWSC
Enforcement Responsible Sub-Organization: HW
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19901201
Actual Return to Compliance Date: 19910207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19910830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYJKI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19901201
Actual Return to Compliance Date: 19910207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19910222
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMGO
Enforcement Responsible Sub-Organization: HW
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19900425
Actual Return to Compliance Date: 19900430
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19900425
Actual Return to Compliance Date:	19900430
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19910820
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYJKI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	5000
Final Monetary Amount:	5000
Paid Amount:	Not reported
Final Count:	1
Final Amount:	5000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19910208
Actual Return to Compliance Date:	19910208
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19910411
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 19910208
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: KYMSW
Evaluation Responsible Sub-Organization: FR
Actual Return to Compliance Date: 19910208
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19910130
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: KYWSC
Evaluation Responsible Sub-Organization: HW
Actual Return to Compliance Date: 19910320
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19910207
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier: KYMGO

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900425
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19900430
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910320
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900425
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19900430
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19901201
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900511
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910130
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910320
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19931005
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYDSA
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910207
Evaluation Responsible Agency:	State

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900425
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19900430
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910320
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19910208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910320
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910130
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910130
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900425
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19900430
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19901201
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Evaluation Date:	19910208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19910208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910130
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19901201
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910320
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYWSC

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910320
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19901201
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19910207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900425
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19900430
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900425
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19900430
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

BLUEGRASS CHRYSLER PLYMOUTH (Continued) **1000202546**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19910208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

FINDS:
Registry ID: 110003225162

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000202546
Registry ID:	110003225162
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003225162
Name:	BLUEGRASS CHRYSLER PLYMOUTH
Address:	1651 NORTH BROADWAY
City,State,Zip:	LEXINGTON, KY 40505

18
East
1/8-1/4
0.131 mi.
693 ft.

Relative:
Lower

Actual:
969 ft.

THE KROGER CO - STORE 722 **RCRA NonGen / NLR** **1011862130**
1620 OLD PARIS PIKE **KYR000048843**
LEXINGTON, KY 40505

RCRA Listings:

Date Form Received by Agency:	20110315
Handler Name:	The Kroger Co - Store 722
Handler Address:	OLD PARIS PIKE
Handler City,State,Zip:	LEXINGTON, KY 40505
EPA ID:	KYR000048843
Contact Name:	VANCE BLADE
Contact Address:	ORMSBY STATION COURT
Contact City,State,Zip:	LOUISVILLE, KY 40505
Contact Telephone:	502-423-4946
Contact Fax:	Not reported

THE KROGER CO - STORE 722 (Continued) **1011862130**

Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	04
Mailing Address:	ORMSBY STATION COURT
Mailing City,State,Zip:	LOUISVILLE, KY 40505
Owner Name:	The Kroger Co
Owner Type:	Private
Operator Name:	The Kroger Co
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

THE KROGER CO - STORE 722 (Continued) **1011862130**

Hazardous Waste Summary:
Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: D002
Waste Description: Corrosive Waste

Waste Code: D005
Waste Description: Barium

Waste Code: D007
Waste Description: Chromium

Waste Code: D008
Waste Description: Lead

Waste Code: D009
Waste Description: Mercury

Waste Code: D011
Waste Description: Silver

Waste Code: D018
Waste Description: Benzene

Waste Code: D035
Waste Description: Methyl Ethyl Ketone

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: THE KROGER CO
Legal Status: Private
Date Became Current: 20080912
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: THE KROGER CO
Legal Status: Private
Date Became Current: 20080912
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: THE KROGER CO
Legal Status: Private

THE KROGER CO - STORE 722 (Continued) **1011862130**

Date Became Current:	20080912
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: THE KROGER CO	
Legal Status:	Private
Date Became Current:	20080912
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: THE KROGER CO	
Legal Status:	Private
Date Became Current:	20080912
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: THE KROGER CO	
Legal Status:	Private
Date Became Current:	20080912
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20080912
Handler Name: THE KROGER CO - STORE 722	
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported

THE KROGER CO - STORE 722 (Continued) **1011862130**

Electronic Manifest Broker: Not reported

Receive Date: 20090511
Handler Name: THE KROGER CO - STORE 722
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20110315
Handler Name: THE KROGER CO - STORE 722
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 44511
NAICS Description: SUPERMARKETS AND OTHER GROCERY RETAILERS (EXCEPT CONVENIENCE RETAILERS)

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E19 **CVS PHARMACY #6941** **RCRA-VSQG** **1014923640**
ESE **118 EAST NEW CIRCLE RD.** **KYR000055509**
1/8-1/4 **LEXINGTON, KY 40505**
0.135 mi.
713 ft. **Site 2 of 2 in cluster E**

Relative:
Lower

Actual:
958 ft.

RCRA Listings:
Date Form Received by Agency: 20220930
Handler Name: Cvs Pharmacy #6941
Handler Address: EAST NEW CIRCLE RD.
Handler City,State,Zip: LEXINGTON, KY 40505
EPA ID: KYR000055509
Contact Name: NICOLE WILKINSON
Contact Address: CVS DRIVE
Contact City,State,Zip: WOONSOCKET, RI 02895
Contact Telephone: 401-770-7132

CVS PHARMACY #6941 (Continued) **1014923640**

Contact Fax:	401-256-1901
Contact Email:	NICOLE.WILKINSON@CVSHEALTH.COM
Contact Title:	DIRECTOR, CORPORATE ENVIRONMENTAL
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Ky
State District:	0421
Mailing Address:	CVS DRIVE MC2340
Mailing City,State,Zip:	WOONSOCKET, RI 02895
Owner Name:	Scp 2010-C36-503 Llc
Owner Type:	Private
Operator Name:	Kentucky Cvs Pharmacy, L.L.C.
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20221004
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No

CVS PHARMACY #6941 (Continued) **1014923640**

Sub-Part P Indicator: H

Biennial: List of Years
Year: 2017

Click Here for Biennial Reporting System Data:
Year: 2015

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:
Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: D002
Waste Description: Corrosive Waste

Waste Code: D004
Waste Description: Arsenic

Waste Code: D005
Waste Description: Barium

Waste Code: D006
Waste Description: Cadmium

Waste Code: D007
Waste Description: Chromium

Waste Code: D008
Waste Description: Lead

Waste Code: D009
Waste Description: Mercury

Waste Code: D010
Waste Description: Selenium

Waste Code: D011
Waste Description: Silver

Waste Code: D016
Waste Description: 2,4-D (2,4-Dichlorophenoxyacetic Acid)

Waste Code: D018
Waste Description: Benzene

Waste Code: D024
Waste Description: M-Cresol

Waste Code: D027
Waste Description: 1,4-Dichlorobenzene

Waste Code: D035
Waste Description: Methyl Ethyl Ketone

CVS PHARMACY #6941 (Continued) **1014923640**

Waste Code: D039
Waste Description: Tetrachloroethylene

Waste Code: P001
Waste Description: 2h-1-Benzopyran-2-One, 4-Hydroxy-3-(3-Oxo-1-Phenylbutyl)-, & Salts, When Present At Concentrations Greater Than 0.3% (Or) Warfarin, & Salts, When Present At Concentrations Greater Than 0.3%

Waste Code: P012
Waste Description: Arsenic Oxide As2o3 (Or) Arsenic Trioxide

Waste Code: P075
Waste Description: Nicotine, & Salts (Or) Pyridine, 3-(1-Methyl-2-Pyrrolidinyl)-,(S)-, & Salts

Waste Code: P081
Waste Description: 1,2,3-Propanetriol, Trinitrate (R) (Or) Nitroglycerine (R)

Waste Code: P108
Waste Description: Strychnidin-10-One, & Salts (Or) Strychnine, & Salts

Waste Code: P188
Waste Description: Benzoic Acid, 2-Hydroxy-, Compd. With (3as-Cis)-1,2,3,3a,8,8a-Hexahydro-1,3a,8-Trimethylpyrrolo[2,3-B]Indol-5-Yl Methylcarbamate Ester (1:1) (Or) Physostigmine Salicylate

Waste Code: P204
Waste Description: Physostigmine (Or) Pyrrolo[2,3-B]Indol-5-Ol, 1,2,3,3a,8,8a-Hexahydro-1,3a,8-Trimethyl-Methylcarbamate (Ester), (3as-Cis)-

Waste Code: U002
Waste Description: 2-Propanone (I) (Or) Acetone (I)

Waste Code: U010
Waste Description: Azirino [2',3':3,4]Pyrrolo[1,2-A]Indole-4,7-Dione, 6-Amino-8-[[(Aminocarbonyl)Oxy]Methyl]-1,1a,2,8,8a,8b-Hexahydro-8a-Methoxy-5-Methyl-, [1as-(1aalpha, 8beta, 8aalpha, 8balpha)]- (Or) Mitomycin C

Waste Code: U031
Waste Description: 1-Butanol (I) (Or) N-Butyl Alcohol (I)

Waste Code: U034
Waste Description: Acetaldehyde, Trichloro- (Or) Chloral

Waste Code: U035
Waste Description: Benzenebutanoic Acid, 4-[Bis(2-Chloroethyl)Amino]- (Or) Chlorambucil

Waste Code: U044
Waste Description: Chloroform (Or) Methane, Trichloro-

Waste Code: U058
Waste Description: 2h-1,3,2-Oxazaphosphorin-2-Amine, N,N-Bis(2-Chloroethyl)Tetrahydro-, 2-Oxide (Or) Cyclophosphamide

Waste Code: U059

CVS PHARMACY #6941 (Continued) **1014923640**

Waste Description: 5,12-Naphthacenedione, 8-Acetyl-10-[(3-Amino-2,3,6-Trideoxy)-Alpha-L-Lyxo-Hexopyranosyl)Oxy]-7,8,9,10-Tetrahydro-6,8,11-Trihydroxy-1-Methoxy-, (8s-Cis)- (Or) Daunomycin

Waste Code: U070
Waste Description: Benzene, 1,2-Dichloro- (Or) O-Dichlorobenzene

Waste Code: U072
Waste Description: Benzene, 1,4-Dichloro- (Or) P-Dichlorobenzene

Waste Code: U089
Waste Description: Diethylstilbesterol (Or) Phenol, 4,4'-(1,2-Diethyl-1,2-Ethenediyl)Bis, (E)-

Waste Code: U122
Waste Description: Formaldehyde

Waste Code: U129
Waste Description: Cyclohexane, 1,2,3,4,5,6-Hexachloro-, (1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta)- (Or) Lindane

Waste Code: U132
Waste Description: Hexachlorophene (Or) Phenol, 2,2'-Methylenebis[3,4,6-Trichloro-

Waste Code: U134
Waste Description: Hydrofluoric Acid (C,T) (Or) Hydrogen Fluoride (C,T)

Waste Code: U150
Waste Description: L-Phenylalanine, 4-[Bis(2-Chloroethyl)Amino]- (Or) Melphalan

Waste Code: U151
Waste Description: Mercury

Waste Code: U154
Waste Description: Methanol (I) (Or) Methyl Alcohol (I)

Waste Code: U165
Waste Description: Naphthalene

Waste Code: U188
Waste Description: Phenol

Waste Code: U200
Waste Description: Reserpine (Or) Yohimban-16-Carboxylic Acid, 11,17-Dimethoxy-18-[(3,4,5-Trimethoxybenzoyl)Oxy]-, Methyl Ester, (3beta, 16beta, 17alpha, 18beta, 20alpha)-

Waste Code: U201
Waste Description: 1,3-Benzenediol (Or) Resorcinol

Waste Code: U204
Waste Description: Selenious Acid (Or) Selenium Dioxide

Waste Code: U205
Waste Description: Selenium Sulfide (Or) Selenium Sulfide Ses2 (R,T)

CVS PHARMACY #6941 (Continued) **1014923640**

Waste Code: U206
Waste Description: D-Glucose, 2-Deoxy-2-[[(Methylnitrosoamino)-Carbonyl]Amino]- (Or) Glucopyranose, 2-Deoxy-2-(3-Methyl-3-Nitrosoureido)-,D- (Or) Streptozotocin

Waste Code: U210
Waste Description: Ethene, Tetrachloro- (Or) Tetrachloroethylene

Waste Code: U279
Waste Description: U279

Waste Code: U411
Waste Description: U411

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: 1 CVS DRIVE
Owner/Operator City,State,Zip: WOONSOCKET, RI 02895
Owner/Operator Telephone: 401-765-1500
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: 401-256-1901
Owner/Operator Email: NICOLE.WILKINSON@CVSHEALTH.COM

Owner/Operator Indicator: Owner
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME

CVS PHARMACY #6941 (Continued) **1014923640**

Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: 1 CVS DRIVE
Owner/Operator City,State,Zip: WOONSOCKET, RI 02895
Owner/Operator Telephone: 401-765-1500
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: 401-256-1901
Owner/Operator Email: NICOLE.WILKINSON@CVSHEALTH.COM

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: 1 CVS DRIVE
Owner/Operator City,State,Zip: WOONSOCKET, RI 02895
Owner/Operator Telephone: 401-765-1500
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: 401-256-1901
Owner/Operator Email: NICOLE.WILKINSON@CVSHEALTH.COM

Owner/Operator Indicator: Owner
Owner/Operator Name: SCP 2010-C36-503 LLC
Legal Status: Private

CVS PHARMACY #6941 (Continued) **1014923640**

Date Became Current:	20101217
Date Ended Current:	Not reported
Owner/Operator Address:	490 S HIGHLAND AVE
Owner/Operator City,State,Zip:	PITTSBURGH, PA 15206
Owner/Operator Telephone:	412-661-5233
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: SCP 2010-C36-503 LLC	
Legal Status:	Private
Date Became Current:	20101217
Date Ended Current:	Not reported
Owner/Operator Address:	490 S HIGHLAND AVE
Owner/Operator City,State,Zip:	PITTSBURGH, PA 15206
Owner/Operator Telephone:	412-661-5233
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	SAME
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	SAME
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	1 CVS DRIVE
Owner/Operator City,State,Zip:	WOONSOCKET, RI 02895
Owner/Operator Telephone:	401-765-1500
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	401-256-1901
Owner/Operator Email:	NICOLE.WILKINSON@CVSHEALTH.COM

CVS PHARMACY #6941 (Continued) **1014923640**

Owner/Operator Indicator:	Owner
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	SAME
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: SCP 2010-C36-503 LLC	
Legal Status:	Private
Date Became Current:	20101217
Date Ended Current:	Not reported
Owner/Operator Address:	490 S HIGHLAND AVE
Owner/Operator City,State,Zip:	PITTSBURGH, PA 15206
Owner/Operator Telephone:	412-661-5233
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: SCP 2010-C36-503 LLC	
Legal Status:	Private
Date Became Current:	20101217
Date Ended Current:	Not reported
Owner/Operator Address:	490 S HIGHLAND AVE
Owner/Operator City,State,Zip:	PITTSBURGH, PA 15206
Owner/Operator Telephone:	412-661-5233
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	SAME
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: SCP 2010-C36-503 LLC
Legal Status: Private
Date Became Current: 20101217
Date Ended Current: Not reported
Owner/Operator Address: 490 S HIGHLAND AVE
Owner/Operator City,State,Zip: PITTSBURGH, PA 15206
Owner/Operator Telephone: 412-661-5233
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: SAME

CVS PHARMACY #6941 (Continued) **1014923640**

Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: SCP 2010-C36-503 LLC
Legal Status: Private
Date Became Current: 20101217
Date Ended Current: Not reported
Owner/Operator Address: 490 S HIGHLAND AVE
Owner/Operator City,State,Zip: PITTSBURGH, PA 15206
Owner/Operator Telephone: 412-661-5233
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: 1 CVS DRIVE
Owner/Operator City,State,Zip: WOONSOCKET, RI 02895
Owner/Operator Telephone: 401-765-1500
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: 401-256-1901
Owner/Operator Email: NICOLE.WILKINSON@CVSHEALTH.COM

Owner/Operator Indicator: Owner
Owner/Operator Name: SCP 2010-C36-503 LLC
Legal Status: Private
Date Became Current: 20101217
Date Ended Current: Not reported
Owner/Operator Address: 490 S HIGHLAND AVE
Owner/Operator City,State,Zip: PITTSBURGH, PA 15206
Owner/Operator Telephone: 412-661-5233
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.
Legal Status: Private

CVS PHARMACY #6941 (Continued) **1014923640**

Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	1 CVS DRIVE
Owner/Operator City,State,Zip:	WOONSOCKET, RI 02895
Owner/Operator Telephone:	401-765-1500
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	401-256-1901
Owner/Operator Email:	NICOLE.WILKINSON@CVSHEALTH.COM

Owner/Operator Indicator:	Operator
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	1 CVS DRIVE
Owner/Operator City,State,Zip:	WOONSOCKET, RI 02895
Owner/Operator Telephone:	401-765-1500
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	401-256-1901
Owner/Operator Email:	NICOLE.WILKINSON@CVSHEALTH.COM

Owner/Operator Indicator:	Owner
Owner/Operator Name: SCP 2010-C36-503 LLC	
Legal Status:	Private
Date Became Current:	20101217
Date Ended Current:	Not reported
Owner/Operator Address:	490 S HIGHLAND AVE
Owner/Operator City,State,Zip:	PITTSBURGH, PA 15206
Owner/Operator Telephone:	412-661-5233
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: KENTUCKY CVS PHARMACY LLC	
Legal Status:	Private
Date Became Current:	20100516
Date Ended Current:	Not reported
Owner/Operator Address:	SAME
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Owner/Operator Indicator: Owner
Owner/Operator Name: KENTUCKY CVS PHARMACY, L.L.C.
Legal Status: Private
Date Became Current: 20100516
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: SCP 2010-C36-503 LLC
Legal Status: Private
Date Became Current: 20101217
Date Ended Current: Not reported
Owner/Operator Address: 490 S HIGHLAND AVE
Owner/Operator City,State,Zip: PITTSBURGH, PA 15206
Owner/Operator Telephone: 412-661-5233
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20160907
Handler Name: CVS PHARMACY #6941
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180216
Handler Name: CVS PHARMACY #6941
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20120213
Handler Name: CVS PHARMACY #6941
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No

CVS PHARMACY #6941 (Continued) **1014923640**

Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20120604
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20130506
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20130624
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20140228
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Electronic Manifest Broker:	Not reported
Receive Date:	20141015
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20150914
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20160916
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20170913
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20180917
Handler Name: CVS PHARMACY #6941	
Federal Waste Generator Description:	Large Quantity Generator

CVS PHARMACY #6941 (Continued) **1014923640**

State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20190912
Handler Name: CVS PHARMACY #6941
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20190930
Handler Name: CVS PHARMACY #6941
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20200909
Handler Name: CVS PHARMACY #6941
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20210916
Handler Name: CVS PHARMACY #6941
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No

CVS PHARMACY #6941 (Continued) **1014923640**

Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20220930
Handler Name: CVS PHARMACY #6941
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 44611
NAICS Description: PHARMACIES AND DRUG STORES

NAICS Code: 446110
NAICS Description: PHARMACIES AND DRUG STORES

Has the Facility Received Notices of Violations:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Container Use and Management
Date Violation was Determined: 20160927
Actual Return to Compliance Date: 20160927
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 20160927
Enforcement Identifier: 001
Date of Enforcement Action: 20160927
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Hazardous Waste Pharmaceuticals
Date Violation was Determined: 20191126
Actual Return to Compliance Date: 20200131
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20200115
Enforcement Identifier: 001
Date of Enforcement Action: 20191211
Enforcement Responsible Agency: State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYHJO
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Hazardous Waste Pharmaceuticals
Date Violation was Determined: 20191126
Actual Return to Compliance Date: 20200131
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20200115
Enforcement Identifier: 001
Date of Enforcement Action: 20191211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYHJO
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20160927
Actual Return to Compliance Date: 20160927
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 20160927
Enforcement Identifier: 001
Date of Enforcement Action: 20160927
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20180430
Actual Return to Compliance Date: 20180430
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20180430
Enforcement Identifier: 001
Date of Enforcement Action: 20180430
Enforcement Responsible Agency: State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Hazardous Waste Pharmaceuticals
Date Violation was Determined: 20191126
Actual Return to Compliance Date: 20200131
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20200115
Enforcement Identifier: 001
Date of Enforcement Action: 20191211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYHJO
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Hazardous Waste Pharmaceuticals
Date Violation was Determined: 20191126
Actual Return to Compliance Date: 20200131
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20200115
Enforcement Identifier: 001
Date of Enforcement Action: 20191211
Enforcement Responsible Agency: State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYHJO
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Container Use and Management
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Hazardous Waste Pharmaceuticals
Date Violation was Determined: 20191126
Actual Return to Compliance Date: 20200131
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20200115
Enforcement Identifier: 001
Date of Enforcement Action: 20191211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYHJO
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Hazardous Waste Pharmaceuticals
Date Violation was Determined: 20191126
Actual Return to Compliance Date: 20200131
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20200115
Enforcement Identifier: 001
Date of Enforcement Action: 20191211
Enforcement Responsible Agency: State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYHJO
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Container Use and Management
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121120
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 20121120
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Hazardous Waste Pharmaceuticals
Date Violation was Determined: 20191126
Actual Return to Compliance Date: 20200131
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20200115
Enforcement Identifier: 001
Date of Enforcement Action: 20191211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYHJO
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121120
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 20121120
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Container Use and Management
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Contingency Plan and Emergency Procedures
Date Violation was Determined: 20160927
Actual Return to Compliance Date: 20160927
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 20160927
Enforcement Identifier: 001
Date of Enforcement Action: 20160927
Enforcement Responsible Agency: State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20121120
Actual Return to Compliance Date: 20121217
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20121217
Enforcement Identifier: 001
Date of Enforcement Action: 20121120
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Hazardous Waste Pharmaceuticals
Date Violation was Determined: 20191126
Actual Return to Compliance Date: 20200131
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20200115
Enforcement Identifier: 001
Date of Enforcement Action: 20191211
Enforcement Responsible Agency: State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYHJO
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20160927
Actual Return to Compliance Date: 20160927
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 20160927
Enforcement Identifier: 001
Date of Enforcement Action: 20160927
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	20121120
Actual Return to Compliance Date:	20121120
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	20121120
Enforcement Identifier:	001
Date of Enforcement Action:	20121120
Enforcement Responsible Agency:	State

CVS PHARMACY #6941 (Continued) **1014923640**

Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 20160927
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: KYIKR
Evaluation Responsible Sub-Organization: FR
Actual Return to Compliance Date: 20160927
Scheduled Compliance Date: 20160927
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20130104
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier: KYIKR
Evaluation Responsible Sub-Organization: FR
Actual Return to Compliance Date: 20121217
Scheduled Compliance Date: 20121217
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20191126
Evaluation Responsible Agency: State
Found Violation: Yes

CVS PHARMACY #6941 (Continued) **1014923640**

Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20200131
Scheduled Compliance Date:	20200115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20200131
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOLLOW-UP INSPECTION
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20200131
Scheduled Compliance Date:	20200115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20160927
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20160927
Scheduled Compliance Date:	20160927
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20130104
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20130104
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217

CVS PHARMACY #6941 (Continued) **1014923640**

Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20180430
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20180430
Scheduled Compliance Date:	20180430
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20191126
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20200131
Scheduled Compliance Date:	20200115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Evaluation Date:	20200131
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOLLOW-UP INSPECTION
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20200131
Scheduled Compliance Date:	20200115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR

CVS PHARMACY #6941 (Continued) **1014923640**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20180328
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20210927
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20130104
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20190514
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20160504
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20191126
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20200131
Scheduled Compliance Date:	20200115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20130104
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20200131
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOLLOW-UP INSPECTION
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20200131
Scheduled Compliance Date:	20200115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20121120
Evaluation Responsible Agency:	State

CVS PHARMACY #6941 (Continued) **1014923640**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121120
Scheduled Compliance Date:	20121120
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20191126
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20200131
Scheduled Compliance Date:	20200115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150603
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121120
Scheduled Compliance Date:	20121120
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20130104
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217

CVS PHARMACY #6941 (Continued) **1014923640**

Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20160927
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20160927
Scheduled Compliance Date:	20160927
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20130104
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121217
Scheduled Compliance Date:	20121217
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20200131
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOLLOW-UP INSPECTION
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20200131
Scheduled Compliance Date:	20200115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

CVS PHARMACY #6941 (Continued) **1014923640**

Evaluation Date:	20160927
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20160927
Scheduled Compliance Date:	20160927
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20170615
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20121120
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20121120
Scheduled Compliance Date:	20121120
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

20
NNW
1/8-1/4
0.156 mi.
822 ft.

BRYANT DISTRIBUTING CO **KY UST** **U001180577**
272 NEW CIRCLE RD NW **N/A**
LEXINGTON, KY 40583

Relative:
Lower

Actual:
949 ft.

UST:

Name:	BRYANT DISTRIBUTING CO
Address:	272 NEW CIRCLE RD NW
City,State,Zip:	LEXINGTON, KY 40583
Sequence Id:	1937034
Facility ID:	65086
Owner Name:	Bryant Distributing
Owner Address:	272 New Circle Rd NW
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Lexington, KY 40583
Internal Document ID:	0

BRYANT DISTRIBUTING CO (Continued) **U001180577**

Latitude:	-84.47432756
Longitude:	38.068939
Inert Material Code:	Not reported
Removed Date:	05/01/1986
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Prior to 1988
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Empty
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TR8
Installation Date:	01/01/1973
Closed In Place Date:	Not reported
Capacity in Gallons:	1000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

G21 **LEXINGTON RV** **KY UST** **U000806933**
NNE **1675 N BROADWAY** **N/A**
1/8-1/4 **LEXINGTON, KY 40505**
0.157 mi.
827 ft. **Site 1 of 2 in cluster G**

Relative: UST:
Lower

Name:	LEXINGTON RV
Address:	1675 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	2665034

Actual:
955 ft.

LEXINGTON RV (Continued) **U000806933**

Facility ID:	63594
Owner Name:	Fayette Properties Inc
Owner Address:	120 Normal Ave Ste 101
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Morehead (Rowan), KY 40351
Internal Document ID:	0
Latitude:	-84.471583
Longitude:	38.069615
Inert Material Code:	Not reported
Removed Date:	10/04/1996
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	None
Decode For Treldetcod:	None
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1976
Closed In Place Date:	09/23/1996
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	10/04/1996
Change in Service Date:	Not reported

LEXINGTON RV (Continued) **U000806933**

Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	None
Decode For Treldetcod:	None
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2
Tank Status:	TRM
Installation Date:	01/01/1976
Closed In Place Date:	09/23/1996
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	10/04/1996
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported

LEXINGTON RV (Continued) **U000806933**

Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	None
Decode For Treldetcod:	None
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	3
Tank Status:	TRM
Installation Date:	01/01/1976
Closed In Place Date:	09/23/1996
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

---

22 **CHARLES W BUFORD PLUMBING** **KY UST** **U000201656**
South **1404 N LIMESTONE** **KY Financial Assurance** **N/A**
1/8-1/4 **LEXINGTON, KY 40505**
0.162 mi.
856 ft.

Relative: UST:
Higher

Actual:
974 ft.

Name:	CHARLES W BUFORD PLUMBING
Address:	1404 N LIMESTONE
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	4266034
Facility ID:	64413
Owner Name:	Charles W Buford & Sons Plumbing & Heating Co Inc
Owner Address:	1404 N Limestone St
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Lexington, KY 40505
Internal Document ID:	0
Latitude:	-84.473812
Longitude:	38.062618
Inert Material Code:	Not reported
Removed Date:	08/03/1992
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported

CHARLES W BUFORD PLUMBING (Continued) **U000201656**

Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	550
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

KY Financial Assurance 2:

Region:	2
Account:	PST
AI:	64413
cause:	101117
Approval Date:	06/12/1996
NFA Date:	04/06/1994
Coverage Amount:	Up to 1 million dollar limit coverage
Effective Period:	Would be from the time of the release to the end of the clean up

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G23 **SHOP N GO O6** **KY UST** **U001441702**
NNE **1687 N BROADWAY** **KY Financial Assurance** **N/A**
1/8-1/4 **LEXINGTON, KY 40505**
0.180 mi.
953 ft. **Site 2 of 2 in cluster G**

Relative: UST:
Lower

Actual: Name:	SHOP N GO O6
956 ft. Address:	1687 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	459034
Facility ID:	67245

SHOP N GO O6 (Continued) **U001441702**

Owner Name:	Shop N Go Food Mart Inc
Owner Address:	PO Box 71
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Bronston, KY 42518
Internal Document ID:	0
Latitude:	-84.470514
Longitude:	38.069036
Inert Material Code:	Not reported
Removed Date:	03/07/1991
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1974
Closed In Place Date:	Not reported
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	03/07/1991
Change in Service Date:	Not reported
Tank Pit Num:	Not reported

SHOP N GO O6 (Continued) **U001441702**

Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2
Tank Status:	TRM
Installation Date:	01/01/1974
Closed In Place Date:	Not reported
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	03/07/1991
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported

SHOP N GO O6 (Continued) **U001441702**

Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	3
Tank Status:	TRM
Installation Date:	01/01/1974
Closed In Place Date:	Not reported
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	03/07/1991
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown

SHOP N GO O6 (Continued) **U001441702**

Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	4
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	500
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	03/07/1991
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	5
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	500
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

SHOP N GO O6 (Continued) **U001441702**

KY Financial Assurance 2:
- Region: 2
- Account: FRA
- AI: 67245
- cause: 6910004
- Approval Date: 07/10/1991
- NFA Date: 01/22/1996
- Coverage Amount: Up to 1 million dollar limit coverage
- Effective Period: Would be from the time of the release to the end of the clean up

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H24 **SWIFTY STATION #243** **RCRA NonGen / NLR** **1010564213**
NE **1701 N. BROADWAY STREET** **KYR000046672**
1/8-1/4 **LEXINGTON, KY 40505**
0.201 mi.
1060 ft. **Site 1 of 2 in cluster H**

Relative: **Lower**

Actual: **958 ft.**

RCRA Listings:

Date Form Received by Agency:	20070724
Handler Name:	Swifty Station #243
Handler Address:	N. BROADWAY STREET
Handler City,State,Zip:	LEXINGTON, KY 40505
EPA ID:	KYR000046672
Contact Name:	SONJA ISON
Contact Address:	P.O BOX 1002
Contact City,State,Zip:	SEYMOUR, IN 47274
Contact Telephone:	812-522-1640
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	0499
Mailing Address:	P.O BOX 1002
Mailing City,State,Zip:	SEYMOUR, IN 47274
Owner Name:	Swifty Oil Co. Inc.
Owner Type:	Private
Operator Name:	Swifty Oil
Operator Type:	Tribal
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No

SWIFTY STATION #243 (Continued) **1010564213**

Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20070802
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D018
Waste Description:	Benzene

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: SWIFTY OIL	
Legal Status:	Tribal
Date Became Current:	20070724
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: SWIFTY OIL CO. INC.	
Legal Status:	Private
Date Became Current:	20070724
Date Ended Current:	Not reported
Owner/Operator Address:	P.O. BOX 1002
Owner/Operator City,State,Zip:	SEYMOUR, IN 47274

SWIFTY STATION #243 (Continued) **1010564213**

Owner/Operator Telephone: 812-522-1640
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20070724
Handler Name: SWIFTY STATION #243
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 44719
NAICS Description: OTHER GASOLINE STATIONS

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

SWIFTY STATION #243 (Continued) **1010564213**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	20080115
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

H25 **6K & UNDER AUTO SALES** **KY UST** **U000806384**
NE **1701 N BROADWAY** **N/A**
1/8-1/4 **LEXINGTON, KY 40505**
0.213 mi.
1123 ft. **Site 2 of 2 in cluster H**

Relative: **Lower**
Actual: **957 ft.**

UST:

Name:	6K & UNDER AUTO SALES
Address:	1701 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	2129034
Facility ID:	62023
Owner Name:	Swifty Oil LLC
Owner Address:	PO Box 1002
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Seymour, IN 47274
Internal Document ID:	0
Latitude:	-84.469607
Longitude:	38.06938
Inert Material Code:	Not reported
Removed Date:	04/10/2007
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	FLR
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported

6K & UNDER AUTO SALES (Continued) **U000806384**

Last CP Test Date:	01/27/2004
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Impressed Current Cathodic Prot
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Fiberglass
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1979
Closed In Place Date:	Not reported
Capacity in Gallons:	12000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

Inert Material Code:	Not reported
Removed Date:	04/10/2007
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	FLR
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	01/27/2004
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Impressed Current Cathodic Prot
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Fiberglass
Decode For Pextcoprcd:	Not Applicable

6K & UNDER AUTO SALES (Continued) **U000806384**

Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2
Tank Status:	TRM
Installation Date:	01/01/1979
Closed In Place Date:	Not reported
Capacity in Gallons:	12000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	04/10/2007
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	FLR
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	01/27/2004
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Impressed Current Cathodic Prot
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Fiberglass
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	3
Tank Status:	TRM
Installation Date:	01/01/1979
Closed In Place Date:	Not reported
Capacity in Gallons:	12000
Compartment Number:	1

6K & UNDER AUTO SALES (Continued) **U000806384**

Piping Installation Date: Not reported
Added To Tank Date: Not reported

Inert Material Code: Not reported
Removed Date: 11/07/2017
Change in Service Date: Not reported
Tank Pit Num: Not reported
Tank Mfg Code: PER
Tank Overfill Protection: FLR
Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: ELD
Pipe Rel Detect Suc Code: NON
Pipe Leak Detect Code: Not reported
Last Contained Date: 12/18/2013
Pipe Mfg Code: OPW
Last Pipe Test Date: 09/01/2008
Last CP Test Date: Not reported
Added To Flex Date: Not reported
Added To Piping Date: Not reported
Decode For Tstatus: Removed Tank Verified
Decode For Inertmatcd: Not reported
Decode For Tmatcode: Steel Mix
Decode For Textcrprcd: Not Applicable
Decode For Treldetcod: Automatic Tank Gauging
Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Single Wall Spill Bucket
Decode For Tovflprvcd: Flow Restrictor
Decode For Pmatcode: Double Wall Flexible
Decode For Pextcoprcd: Not Applicable
Decode For Ptypecode: Pressurized
Decode For Preldetcod: Electronic Leak Detection
Decode For Preldetsuc: None
Decode For Plekdetcod: Not reported
Decode For Tsubcd: Kerosene
Decode For Tmancd: Permatank
Decode For Pmancd: OPW Pices
Subject Item ID: 4
Tank Status: TRM
Installation Date: 06/26/1998
Closed In Place Date: 12/18/2013
Capacity in Gallons: 6000
Compartment Number: 1
Piping Installation Date: Not reported
Added To Tank Date: Not reported

Inert Material Code: Not reported
Removed Date: 11/07/2017
Change in Service Date: Not reported
Tank Pit Num: Not reported
Tank Mfg Code: PER
Tank Overfill Protection: FLR
Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: ELD

6K & UNDER AUTO SALES (Continued) **U000806384**

Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	12/18/2013
Pipe Mfg Code:	OPW
Last Pipe Test Date:	09/01/2008
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Mix
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Permatank
Decode For Pmancd:	OPW Pices
Subject Item ID:	5
Tank Status:	TRM
Installation Date:	04/12/2007
Closed In Place Date:	12/18/2013
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	04/12/2007
Inert Material Code:	Not reported
Removed Date:	11/07/2017
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	PER
Tank Overfill Protection:	FLR
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	ELD
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	12/18/2013
Pipe Mfg Code:	OPW
Last Pipe Test Date:	09/01/2008
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Mix
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging

6K & UNDER AUTO SALES (Continued) **U000806384**

Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-UNL-Reg Unl Gas
Decode For Tmancd:	Permatank
Decode For Pmancd:	OPW Pices
Subject Item ID:	6
Tank Status:	TRM
Installation Date:	04/12/2007
Closed In Place Date:	12/18/2013
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	04/12/2007
Inert Material Code:	Not reported
Removed Date:	11/07/2017
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	PER
Tank Overfill Protection:	FLR
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	ELD
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	12/18/2013
Pipe Mfg Code:	OPW
Last Pipe Test Date:	09/01/2008
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Mix
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-PRM-Prem Unl Gas
Decode For Tmancd:	Permatank
Decode For Pmancd:	OPW Pices
Subject Item ID:	7

6K & UNDER AUTO SALES (Continued) **U000806384**

Tank Status:	TRM
Installation Date:	04/12/2007
Closed In Place Date:	12/18/2013
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	04/12/2007

26
WSW
1/8-1/4
0.216 mi.
1140 ft.

FIRESTONE STORE 0596-005851 **KY UST** **U001442599**
1405 N BROADWAY **N/A**
LEXINGTON, KY 40505

Relative:
Higher

Actual:
990 ft.

UST:

Name:	FIRESTONE STORE 0596-005851
Address:	1405 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	993034
Facility ID:	66350
Owner Name:	Firestone Master Care Service
Owner Address:	1405 N Broadway
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Lexington, KY 40505
Internal Document ID:	0
Latitude:	-84.477987
Longitude:	38.064541
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Exempt
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Unknown
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown

FIRESTONE STORE 0596-005851 (Continued) **U001442599**

Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Other Substance
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TEX
Installation Date:	01/01/1976
Closed In Place Date:	Not reported
Capacity in Gallons:	1000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	05/05/1990
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2
Tank Status:	TRM
Installation Date:	01/01/1976
Closed In Place Date:	Not reported
Capacity in Gallons:	260
Compartment Number:	1
Piping Installation Date:	Not reported

FIRESTONE STORE 0596-005851 (Continued) **U001442599**

Added To Tank Date: Not reported

27
ESE
1/8-1/4
0.221 mi.
1168 ft.

ADVANCE AUTO PARTS
145 E NEW CIRCLE RD
LEXINGTON, KY 40511

KY SWRCY **S123494414**
N/A

Relative:
Lower

Actual:
960 ft.

SWRCY:

Name:	ADVANCE AUTO PARTS
Address:	145 E NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40511
Facility Type:	AUTOMOTIVE SERVICE
Contact Name:	Not reported
Contact Name2:	Not reported
Contact Phone:	(859) 299-9824
Contact Phone2:	Not reported
Serves:	REGIONAL
Function:	OTHER
Material Accepted:	UO
Notes:	Most stores will accept used motor oil. Call to confirm. Advance Auto Parts 1989 Georgetown Rd, Lexington, KY 40511 (859) 357-0812 Advance Auto Parts 145 E New Circle Rd, Lexington, KY 40505 (859) 299-9824 Advance Auto Parts 1317 Versailles Rd, Lexington, KY 40504 (859) 259-1399 Advance Auto Parts 1292 Industry Rd, Lexington, KY 40505 (859) 255-3957 Advance Auto Parts 1600 E New Circle Rd, Lexington, KY 40509 (859) 402-2260 Advance Auto Parts 201 Southland Dr, Lexington, KY 40503 (859) 278-8921 Advance Auto Parts 2300 Nicholasville Rd, Lexington, KY 40503 (859) 276-6222 Advance Auto Parts 3490 Richmond Rd, Lexington, KY 40509 (859) 264-8959

I28
WSW
1/4-1/2
0.298 mi.
1574 ft.

EMRO BONDED#1102
1300 N BROADWAY
LEXINGTON, KY

Site 1 of 2 in cluster I

KY SB193 **S105701404**
N/A

Relative:
Higher

Actual:
999 ft.

KY SENATE BILL 193 INVENTORY:

KY SENATE BILL 193 INVENTORY:	SIW
Facility ID:	5991034
Soil / Groundwater:	Groundwater
Agency Interest Number:	62199

I29
WSW
1/4-1/2
0.298 mi.
1574 ft.

BONDED #1102
1300 N BROADWAY
LEXINGTON, KY 40505

Site 2 of 2 in cluster I

KY PSTEAF **1001817184**
KY UST **KYR000021188**
RCRA NonGen / NLR
FINDS
ECHO
KY Financial Assurance

Relative:
Higher

Actual:
999 ft.

PSTEAF:

Name:	BONDED NO 1102
Address:	1300 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40505
Facility Id:	62199

BONDED #1102 (Continued) **1001817184**

AI Number: 62199
UST Id Number: 5991034
Rank: 2
Financial Account: FRA
Project Manager: Takacs

UST:
Name: BONDED NO 1102
Address: 1300 N BROADWAY
City,State,Zip: LEXINGTON, KY 40505
Sequence Id: 5991034
Facility ID: 62199
Owner Name: Marathon Petroleum Co LP
Owner Address: 539 S Main St
Owner Address2: Not reported
Owner Address3: Not reported
Owner City,St,Zip: Findlay, OH 45840
Internal Document ID: 0
Latitude: -84.47896779
Longitude: 38.06333128

Inert Material Code: Not reported
Removed Date: 09/01/1999
Change in Service Date: Not reported
Tank Pit Num: Not reported
Tank Mfg Code: Not reported
Tank Overfill Protection: UNK
Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: NON
Pipe Rel Detect Suc Code: NON
Pipe Leak Detect Code: Not reported
Last Contained Date: Not reported
Pipe Mfg Code: Not reported
Last Pipe Test Date: Not reported
Last CP Test Date: Not reported
Added To Flex Date: Not reported
Added To Piping Date: Not reported
Decode For Tstatus: Removed Tank Verified
Decode For Inertmatcd: Not reported
Decode For Tmatcode: Fiberglass Reinforced
Decode For Textcrprcd: Not Applicable
Decode For Treldetcod: Statistical Inventory Recon
Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Unknown
Decode For Tovflprvcd: Unknown
Decode For Pmatcode: Fiberglass Reinforced Plastic
Decode For Pextcoprcd: Not Applicable
Decode For Ptypecode: Pressurized
Decode For Preldetcod: None
Decode For Preldetsuc: None
Decode For Plekdetcod: Not reported
Decode For Tsubcd: Gasoline
Decode For Tmancd: Not reported
Decode For Pmancd: Not reported
Subject Item ID: 1

BONDED #1102 (Continued) **1001817184**

Tank Status:	TRM
Installation Date:	09/01/1976
Closed In Place Date:	09/04/1998
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	09/01/1999
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Statistical Inventory Recon
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2
Tank Status:	TRM
Installation Date:	09/01/1976
Closed In Place Date:	09/04/1998
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	09/01/1999
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported

BONDED #1102 (Continued) **1001817184**

Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Statistical Inventory Recon
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	3
Tank Status:	TRM
Installation Date:	09/01/1976
Closed In Place Date:	09/04/1998
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

RCRA Listings:

Date Form Received by Agency:	19990929
Handler Name:	Bonded #1102
Handler Address:	N BROADWAY
Handler City,State,Zip:	LEXINGTON, KY 40505
EPA ID:	KYR000021188
Contact Name:	JULIUS M. BLANCO
Contact Address:	P.O. BOX 1500
Contact City,State,Zip:	SPRINGFIELD, OH 45501
Contact Telephone:	937-864-3000
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported

BONDED #1102 (Continued) **1001817184**

Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	0499
Mailing Address:	P.O. BOX 1500
Mailing City,State,Zip:	SPRINGFIELD, OH 45501
Owner Name:	Speedway Superamerica Llc
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	NONE
Waste Description:	Not Defined

BONDED #1102 (Continued) **1001817184**

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: SPEEDWAY SUPERAMERICA LLC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: P.O. BOX 1500
Owner/Operator City,State,Zip: SPRINGFIELD, OH 45501
Owner/Operator Telephone: 937-864-3000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19990929
Handler Name: BONDED #1102
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 4471
NAICS Description: GASOLINE STATIONS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110003255628

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

BONDED #1102 (Continued) **1001817184**

Envid:	1001817184
Registry ID:	110003255628
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110003255628
Name:	BONDED #1102
Address:	1300 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40505

KY Financial Assurance 2:

Region:	2
Account:	FRA
AI:	62199
cause:	102623
Approval Date:	08/31/2000
NFA Date:	Not reported
Coverage Amount:	Up to 1 million dollar limit coverage
Effective Period:	Would be from the time of the release to the end of the clean up

---

30
NNW
1/4-1/2
0.315 mi.
1661 ft.

CLARKS PUMP N SHOP #44
313 W NEW CIRCLE RD
LEXINGTON, KY 40505

KY SB193 **U001183202**
KY UST **N/A**

Relative:
Lower

Actual:
944 ft.

KY SENATE BILL 193 INVENTORY:

KY SENATE BILL 193 INVENTORY:	CLW
Facility ID:	4885034
Soil / Groundwater:	Soil
Agency Interest Number:	62094

UST:

Name:	CLARKS PUMP N SHOP #44
Address:	313 W NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	4885034
Facility ID:	62094
Owner Name:	NONE
Owner Address:	Not reported
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	NONE, NONE NONE
Internal Document ID:	0
Latitude:	-84.476099
Longitude:	38.070888
Inert Material Code:	Not reported
Removed Date:	08/02/2004
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	OFX
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	LTT
Pipe Rel Detect Suc Code:	ALT
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported

CLARKS PUMP N SHOP #44 (Continued) **U001183202**

Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Manual Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Spill Prevention Exempt (waste oil)
Decode For Tovflprvcd:	Exempt From Overfill (waste oil)
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Line Tightness Test
Decode For Preldetsuc:	Annual Rlease Testing (historic)
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Used Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1983
Closed In Place Date:	Not reported
Capacity in Gallons:	1000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	ASD
Last Tank Test Date:	12/27/2005
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	ELD
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	ENV
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	01/01/1983
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device

CLARKS PUMP N SHOP #44 (Continued) **U001183202**

Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-UNL-Reg Unl Gas
Decode For Tmancd:	Not reported
Decode For Pmancd:	Environ - Geoflex D
Subject Item ID:	2
Tank Status:	TAC
Installation Date:	01/01/1983
Closed In Place Date:	Not reported
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	ASD
Last Tank Test Date:	12/27/2005
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	ELD
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	ENV
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	01/01/1983
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-PRM-Prem Unl Gas
Decode For Tmancd:	Not reported
Decode For Pmancd:	Environ - Geoflex D
Subject Item ID:	3
Tank Status:	TAC
Installation Date:	01/01/1983
Closed In Place Date:	Not reported

CLARKS PUMP N SHOP #44 (Continued) **U001183202**

Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	ASD
Last Tank Test Date:	12/27/2005
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	ELD
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	ENV
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	01/01/1983
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Diesel
Decode For Tmancd:	Not reported
Decode For Pmancd:	Environ - Geoflex D
Subject Item ID:	4
Tank Status:	TAC
Installation Date:	01/01/1983
Closed In Place Date:	Not reported
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

31
SE
1/4-1/2
0.340 mi.
1793 ft.

GARON PROPERTY-SAFELITE AUTO GLASS
212 NEW CIRCLE RD
LEXINGTON, KY 40505

KY SHWS **U002034012**
KY UST **N/A**
KY Financial Assurance

Relative:
Lower

Actual:
963 ft.

SHWS:

Name:	GARON PROPERTY-SAFELITE AUTO GLASS
Address:	212 NEW CIRCLE ROAD
City,State,Zip:	LEXINGTON, KY 40505
Facility Id:	67482
Status:	**Closed**
Description:	GARON ESTATE (Closed: Restored)
Closure Date:	08/10/1995
Longitude:	-84.467238
Latitude:	38.061996
Subject Item County:	Fayette
Sub Item Longitude:	-84.467490
Sub Item Latitude:	38.061931
Subject Item Address:	212 New Circle Rd
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40505
Regulatory Desc:	Petroleum Cleanup
Closure Option:	Option C Restored
Side SG:	36371
Acreage:	Not reported

UST:

Name:	GARON PROPERTY-SAFELITE AUTO GLASS
Address:	212 NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	1010034
Facility ID:	67482
Owner Name:	Estate of Milton J Garon
Owner Address:	101 S 5th St 300 National City Tower
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Louisville, KY 40202
Internal Document ID:	0
Latitude:	-84.467238
Longitude:	38.061996
Inert Material Code:	Not reported
Removed Date:	12/06/1994
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported

GARON PROPERTY-SAFELITE AUTO GLASS (Continued) **U002034012**

Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Suction
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	12/06/1994
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Suction
Decode For Preldetcod:	None

GARON PROPERTY-SAFELITE AUTO GLASS (Continued) **U002034012**

Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	12/06/1994
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Exempt
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Suction
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	3
Tank Status:	TEX
Installation Date:	01/01/1901
Closed In Place Date:	09/06/1994
Capacity in Gallons:	550
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

GARON PROPERTY-SAFELITE AUTO GLASS (Continued) **U002034012**

Inert Material Code:	Not reported
Removed Date:	12/06/1994
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	NON
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Suction
Decode For Preldetcod:	None
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	4
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	09/06/1994
Capacity in Gallons:	6000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

KY Financial Assurance 2:

Region:	2
Account:	PST
AI:	67482
cause:	103242
Approval Date:	08/19/1999
NFA Date:	10/30/1995
Coverage Amount:	Up to 1 million dollar limit coverage
Effective Period:	Would be from the time of the release to the end of the clean up

32 SSW 1/4-1/2 0.343 mi. 1813 ft.

LITTERAL GROCERY
610 HWY 205 NORTH
VANCLEAVE, KY 41385

KY SB193 **1001968197**
RCRA NonGen / NLR **KYR000023242**

Relative: Higher

Actual: 995 ft.

KY SENATE BILL 193 INVENTORY:

KY SENATE BILL 193 INVENTORY:	SIW
Facility ID:	1024013
Soil / Groundwater:	Soil
Agency Interest Number:	56780

RCRA Listings:

Date Form Received by Agency:	20000223
Handler Name:	Litteral Grocery
Handler Address:	HWY 205 NORTH
Handler City,State,Zip:	VANCLEAVE, KY 41385
EPA ID:	KYR000023242
Contact Name:	PHILLIP LITTERAL
Contact Address:	P.O. BOX 537
Contact City,State,Zip:	BETSY LAYNE, KY 41605
Contact Telephone:	606-666-2456
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	0699
Mailing Address:	P.O. BOX 537
Mailing City,State,Zip:	BETSY LAYNE, KY 41605
Owner Name:	John M. Litteral
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline

LITTERAL GROCERY (Continued) **1001968197**

202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	NONE
Waste Description:	Not Defined

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: JOHN M. LITTERAL	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	610 HWY. 205 NORTH
Owner/Operator City,State,Zip:	VAN CLEAVE, KY 41385
Owner/Operator Telephone:	606-666-2456
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20000223
Handler Name: LITTERAL GROCERY	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

LITTERAL GROCERY (Continued) **1001968197**

NAICS Code: 4471
NAICS Description: GASOLINE STATIONS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

J33 **NORTHLAND SHOPPING CENTER** **KY SHWS** **S106884629**
WSW **1245-1345 N BROADWAY** **N/A**
1/4-1/2 **LEXINGTON, KY 40505**
0.349 mi.
1843 ft. **Site 1 of 2 in cluster J**

Relative:
Higher

Actual:
992 ft.

SHWS:
Name: NORTHLAND SHOPPING CENTER
Address: 1245-1345 N BROADWAY
City,State,Zip: LEXINGTON, KY 40505
Facility Id: 52035
Status: **Closed**
Description: Closed as restored 8/14/14.
Closure Date: 08/14/2014
Longitude: -84.480810
Latitude: 38.064200
Subject Item County: Fayette
Sub Item Longitude: -84.480810
Sub Item Latitude: 38.0642
Subject Item Address: 1245 N Broadway
Subject Item Address2: Not reported
Subject Item City,St,Zip: Lexington, KY 40505
Regulatory Desc: State Superfund
Closure Option: Option C Restored
Side SG: 7459
Acreage: Not reported

J34 **TRIUMPH AUTO GLASS** **KY SB193** **1001196338**
WSW **1200 N BROADWAY** **RCRA NonGen / NLR** **KYR000010835**
1/4-1/2 **LEXINGTON, KY 40505** **FINDS**
0.363 mi. **ECHO**
1918 ft. **Site 2 of 2 in cluster J**

Relative:
Higher

Actual:
990 ft.

KY SENATE BILL 193 INVENTORY:
KY SENATE BILL 193 INVENTORY: SIW
Facility ID: 1038034
Soil / Groundwater: Soil and Groundwater
Agency Interest Number: 61996

RCRA Listings:
Date Form Received by Agency: 19970527
Handler Name: Triumph Auto Glass
Handler Address: N BROADWAY
Handler City,State,Zip: LEXINGTON, KY 40505
EPA ID: KYR000010835

TRIUMPH AUTO GLASS (Continued) **1001196338**

Contact Name:	JOE MINOR
Contact Address:	P.O. BOX 55070
Contact City,State,Zip:	LEXINGTON, KY 40555
Contact Telephone:	606-258-2663
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Not reported
State District Owner:	Ky
State District:	0499
Mailing Address:	P.O. BOX 55070
Mailing City,State,Zip:	LEXINGTON, KY 40555
Owner Name:	Eastland Auto Sales
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20150414
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No

TRIUMPH AUTO GLASS (Continued) **1001196338**

Importer of Spent Lead Acid Batteries: No
Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: Not reported
Manifest Broker: Not reported
Sub-Part P Indicator: No

Hazardous Waste Summary:
Waste Code: NONE
Waste Description: Not Defined

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: EASTLAND AUTO SALES
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: P.O. BOX 55070
Owner/Operator City,State,Zip: LEXINGTON, KY 40555
Owner/Operator Telephone: 606-258-2663
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19970527
Handler Name: TRIUMPH AUTO GLASS
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 4471
NAICS Description: GASOLINE STATIONS

Has the Facility Received Notices of Violations:
Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Used Oil - Generators
Date Violation was Determined: 20220622
Actual Return to Compliance Date: 20220714
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20220715
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported

TRIUMPH AUTO GLASS (Continued) **1001196338**

Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYGWE
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Used Oil - Generators
Date Violation was Determined: 20220622
Actual Return to Compliance Date: 20220714
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20220715
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYGWE
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported

TRIUMPH AUTO GLASS (Continued) **1001196338**

SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 20220622
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier: KYGWE
Evaluation Responsible Sub-Organization: FR
Actual Return to Compliance Date: 20220714
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20220715
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: FOLLOW-UP INSPECTION
Evaluation Responsible Person Identifier: KYGWE
Evaluation Responsible Sub-Organization: FR
Actual Return to Compliance Date: 20220714
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

FINDS:
Registry ID: 110003250142

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:
The Resource Conservation and Recovery Act Information System (RCRAInfo) is EPA's comprehensive information system in support of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. It tracks many types of information about generators, transporters, treaters, storers, and disposers of hazardous waste.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1001196338
Registry ID: 110003250142
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110003250142
Name: TRIUMPH AUTO GLASS
Address: 1200 N BROADWAY

TRIUMPH AUTO GLASS (Continued) **1001196338**

City,State,Zip: LEXINGTON, KY 40505

35
NNW
1/4-1/2
0.391 mi.
2065 ft.

MINIT MART RUSSELL CAVE
435 NEW CIRCLE RD
LEXINGTON, KY 40505

KY PSTEAF **U001185108**
KY UST **N/A**
KY Financial Assurance

Relative:
Lower

Actual:
939 ft.

PSTEAF:

Name:	MINIT MART RUSSELL CAVE
Address:	435 NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40505
Facility Id:	62190
AI Number:	62190
UST Id Number:	8263034
Rank:	2
Financial Account:	FRA
Project Manager:	Takacs

UST:

Name:	MINIT MART RUSSELL CAVE
Address:	435 NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40505
Sequence Id:	8263034
Facility ID:	62190
Owner Name:	Thoroughbred Energy LLC
Owner Address:	250 W Main St Ste 3030
Owner Address2:	Not reported
Owner Address3:	Not reported
Owner City,St,Zip:	Lexington, KY 40507
Internal Document ID:	0
Latitude:	-84.4775
Longitude:	38.071667
Inert Material Code:	Not reported
Removed Date:	10/30/1989
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None

MINIT MART RUSSELL CAVE (Continued) **U001185108**

Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Fuel Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	1
Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	550
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	10/30/1989
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Single Wall Steel
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Used Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	2

MINIT MART RUSSELL CAVE (Continued) **U001185108**

Tank Status:	TRM
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	99
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	02/21/2006
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP
Tank Overfill Protection:	ASD
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	SIR
Pipe Rel Detect Suc Code:	SIR
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	FRP
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	03/01/2005
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Statistical Inventory Recon
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Statistical Inventory Recon
Decode For Preldetsuc:	Statistical Inventory Recon
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	Fiberglass Manufacturer Unknown
Subject Item ID:	3
Tank Status:	TRM
Installation Date:	01/01/1985
Closed In Place Date:	Not reported
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	02/21/2006
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP

MINIT MART RUSSELL CAVE (Continued) **U001185108**

Tank Overfill Protection:	ASD
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	SIR
Pipe Rel Detect Suc Code:	SIR
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	FRP
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	03/01/2005
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Statistical Inventory Recon
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Statistical Inventory Recon
Decode For Preldetsuc:	Statistical Inventory Recon
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	Fiberglass Manufacturer Unknown
Subject Item ID:	4
Tank Status:	TRM
Installation Date:	01/01/1985
Closed In Place Date:	Not reported
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	06/28/2005
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP
Tank Overfill Protection:	ASD
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	SIR
Pipe Rel Detect Suc Code:	SIR
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	FRP
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	03/01/2005

MINIT MART RUSSELL CAVE (Continued) **U001185108**

Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Statistical Inventory Recon
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Single Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Statistical Inventory Recon
Decode For Preldetsuc:	Statistical Inventory Recon
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Gasoline
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	Fiberglass Manufacturer Unknown
Subject Item ID:	5
Tank Status:	TRM
Installation Date:	01/01/1970
Closed In Place Date:	Not reported
Capacity in Gallons:	8000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	12/01/1993
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Interstitial Monitor
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown

MINIT MART RUSSELL CAVE (Continued) **U001185108**

Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Used Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	6
Tank Status:	TRM
Installation Date:	01/01/1990
Closed In Place Date:	Not reported
Capacity in Gallons:	1000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP
Tank Overfill Protection:	ASD
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	ELD
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	OPW
Last Pipe Test Date:	08/21/2021
Last CP Test Date:	Not reported
Added To Flex Date:	06/26/2009
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Fiberglass
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Double Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-UNL-Reg Unl Gas
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	OPW Pices
Subject Item ID:	7
Tank Status:	TAC
Installation Date:	06/26/2006
Closed In Place Date:	Not reported
Capacity in Gallons:	12000
Compartment Number:	1
Piping Installation Date:	06/26/2006
Added To Tank Date:	Not reported

MINIT MART RUSSELL CAVE (Continued) **U001185108**

Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP
Tank Overfill Protection:	ASD
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	ELD
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	OPW
Last Pipe Test Date:	08/21/2021
Last CP Test Date:	Not reported
Added To Flex Date:	03/03/2009
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Fiberglass
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Double Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-PRM-Prem Unl Gas
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	OPW Pices
Subject Item ID:	8
Tank Status:	TAC
Installation Date:	06/26/2006
Closed In Place Date:	Not reported
Capacity in Gallons:	8000
Compartment Number:	1
Piping Installation Date:	06/26/2006
Added To Tank Date:	Not reported

Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	FRP
Tank Overfill Protection:	FLR
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	ELD
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported

MINIT MART RUSSELL CAVE (Continued) **U001185108**

Pipe Mfg Code:	OPW
Last Pipe Test Date:	08/21/2021
Last CP Test Date:	Not reported
Added To Flex Date:	03/03/2009
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Double Wall Fiberglass
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Double Wall Spill Bucket
Decode For Tovflprvcd:	Flow Restrictor
Decode For Pmatcode:	Double Wall Flexible
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Electronic Leak Detection
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Diesel
Decode For Tmancd:	Fiberglass Manufacturer Unknown
Decode For Pmancd:	OPW Pices
Subject Item ID:	9
Tank Status:	TAC
Installation Date:	06/26/2006
Closed In Place Date:	Not reported
Capacity in Gallons:	2500
Compartment Number:	1
Piping Installation Date:	06/26/2006
Added To Tank Date:	Not reported

KY Financial Assurance 2:

Region:	2
Account:	FRA
AI:	62190
cause:	104825
Approval Date:	04/14/2006
NFA Date:	Not reported
Coverage Amount:	Up to 1 million dollar limit coverage
Effective Period:	Would be from the time of the release to the end of the clean up

Region:	2
Account:	FRA
AI:	62190
cause:	105043
Approval Date:	12/21/2007
NFA Date:	Not reported
Coverage Amount:	Up to 1 million dollar limit coverage
Effective Period:	Would be from the time of the release to the end of the clean up

36
SW
1/2-1
0.663 mi.
3499 ft.

THORNTON OIL #38
802 N BROADWAY
LEXINGTON, KY 40505

KY SHWS **S106884702**
KY SB193 **N/A**
KY NPDES

Relative:
Lower

Actual:
961 ft.

SHWS:

Name:	THORNTON #38
Address:	802 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40508
Facility Id:	62002
Status:	**Closed**
Description:	(Closed Option C Restored 2/28/2018) Waste oil release from a service station that appeared to use a dry well for disposing the waste oil.
Closure Date:	02/28/2018
Longitude:	-84.484010
Latitude:	38.059851
Subject Item County:	Fayette
Sub Item Longitude:	-84.483555
Sub Item Latitude:	38.059472
Subject Item Address:	802 N Broadway
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40508
Regulatory Desc:	Petroleum Cleanup
Closure Option:	Option C Restored
Side SG:	Waste Oil Release
Acreage:	Not reported

KY SENATE BILL 193 INVENTORY:

KY SENATE BILL 193 INVENTORY:	CLW
Facility ID:	3126034
Soil / Groundwater:	Soil
Agency Interest Number:	62002

NPDES:

Name:	THORNTON OIL #38
Address:	802 N BROADWAY
City,State,Zip:	LEXINGTON, KY 40505
Federal Facility ID:	Not reported
Facility Status:	INACTIVE
KY DES #:	KYR106291
Total App# Design Flow (MGD):	Not reported
Horizontal Collect Method Desc:	Not reported
Facility Addr 2:	Not reported
Inactive Date:	10/19/2010
Design Capacity:	Not reported
Fee Category:	Not reported
SIC Code:	8741
Lat/Long:	Not reported
Lat/Long Method:	Not reported
USGS Hydrologic Basin Code:	Not reported
Facility Stream Segment:	Not reported
Facility Mileage Indicator:	Not reported
Basin Code:	Not reported
Basin Code Description:	Not reported
DMR Contact:	JOEY MORRIS
Contact Telephone:	5022677771
Mailing Address:	J MORRIS & SONS CONST MGMT

THORNTON OIL #38 (Continued) **S106884702**

Mailing Address 2:	5005 OLD HEADY RD
Mailing City,St,Zip:	LOUISVILLE, KY 40299
Permit Issued:	07/01/2009
Permit Expires:	07/31/2014
SIC Code Description:	MANAGEMENT SERVICES
Reveiving Waters:	CANE RUN
Major/Minor:	MINOR
Effective Date:	Not reported
Affiliation Type Desc:	Not reported
Organization Formal Name:	Not reported
Facility Type Desc:	Not reported
State Facility ID:	Not reported
Original Issue Date:	Not reported
Approved For Electronic DMR Submission:	Not reported

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37 **LEXTRAN** **KY SHWS** **S123196939**
SW **109 W LOUDON AVE** **N/A**
1/2-1 **LEXINGTON, KY 40508**
0.677 mi.
3576 ft.

Relative: **Lower**
Actual: **964 ft.**

SHWS:

Name:	LEXTRAN
Address:	109 W LOUDON AVE
City,State,Zip:	LEXINGTON, KY 40508
Facility Id:	47589
Status:	**Active**
Description:	removal of lifts and O/W separator
Closure Date:	Not reported
Longitude:	-84.482394
Latitude:	38.058640
Subject Item County:	Fayette
Sub Item Longitude:	-84.482551
Sub Item Latitude:	38.058338
Subject Item Address:	109 W Loudon Ave
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40508
Regulatory Desc:	Petroleum Cleanup
Closure Option:	Not reported
Side SG:	Facility Spill
Acreage:	1.91

---

38 **B&B TIRE & TOWING LLC** **KY SHWS** **S119011441**
SW **130 E. LOUDON AVE** **N/A**
1/2-1 **LEXINGTON, KY 40505**
0.719 mi.
3798 ft.

Relative: **Higher**
Actual: **975 ft.**

SHWS:

Name:	B&B TIRE & TOWING LLC
Address:	130 E. LOUDON AVE
City,State,Zip:	LEXINGTON, KY 40505
Facility Id:	107284
Status:	**Closed**
Description:	Former B&B Tire & Towing LLC
Closure Date:	10/05/2016

B&B TIRE & TOWING LLC (Continued) **S119011441**

Longitude:	-84.481556
Latitude:	38.056649
Subject Item County:	Fayette
Sub Item Longitude:	-84.481082
Sub Item Latitude:	38.056674
Subject Item Address:	730 Bryan Ave
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40508
Regulatory Desc:	Petroleum Cleanup
Closure Option:	Option C Restored
Side SG:	Exempt UST
Acreage:	Not reported

K39 **KENTUCKY GLASS PLANT, GE LIGHTING LLC** **CORRACTS** **1000422245**
WSW **200 WEST LOUDON AVE** **RCRA-TSDF** **KYD006386395**
1/2-1 **LEXINGTON, KY 40508** **RCRA NonGen / NLR**
0.747 mi. **US FIN ASSUR**
3944 ft. **Site 1 of 2 in cluster K** **RAATS**
KY Financial Assurance
Relative: **NY MANIFEST**
Lower **KY NPDES**

Actual:
959 ft.

CORRACTS:

Name:	KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address:	200 WEST LOUDON AVE
Address 2:	Not reported
EPA ID:	KYD006386395
Area Name:	ENTIRE FACILITY
Corrective Action:	RFA COMPLETED
Actual Date:	19950929
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Not reported
Soil Release Indicator:	Not reported
Surface Water Release Indicator:	Not reported

Name:	KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address:	200 WEST LOUDON AVE
Address 2:	Not reported
EPA ID:	KYD006386395
Area Name:	ENTIRE FACILITY
Corrective Action:	INVESTIGATION WORKPLAN RECEIVED
Actual Date:	20000218
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Not reported
Soil Release Indicator:	Not reported
Surface Water Release Indicator:	Not reported

Name:	KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address:	200 WEST LOUDON AVE
Address 2:	Not reported
EPA ID:	KYD006386395
Area Name:	ENTIRE FACILITY
Corrective Action:	INVESTIGATION WORKPLAN APPROVED
Actual Date:	20000223
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Not reported
Soil Release Indicator:	Not reported
Surface Water Release Indicator:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address: 200 WEST LOUDON AVE
Address 2: Not reported
EPA ID: KYD006386395
Area Name: ENTIRE FACILITY
Corrective Action: CMS WORKPLAN RECEIVED
Actual Date: 20010729
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address: 200 WEST LOUDON AVE
Address 2: Not reported
EPA ID: KYD006386395
Area Name: ENTIRE FACILITY
Corrective Action: CMS WORKPLAN APPROVED
Actual Date: 20010820
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address: 200 WEST LOUDON AVE
Address 2: Not reported
EPA ID: KYD006386395
Area Name: ENTIRE FACILITY
Corrective Action: CMS COMPLETE
Actual Date: 20130612
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address: 200 WEST LOUDON AVE
Address 2: Not reported
EPA ID: KYD006386395
Area Name: SWMU #14
Corrective Action: INTERIM DECISION FOR NO FURTHER ACTION
Actual Date: 20091202
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address: 200 WEST LOUDON AVE
Address 2: Not reported
EPA ID: KYD006386395
Area Name: SWMU 5C
Corrective Action: INTERIM DECISION FOR NO FURTHER ACTION
Actual Date: 20091202
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address: 200 WEST LOUDON AVE
Address 2: Not reported
EPA ID: KYD006386395
Area Name: ENTIRE FACILITY
Corrective Action: CMI WORKPLAN APPROVED
Actual Date: 20060101
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address: 200 WEST LOUDON AVE
Address 2: Not reported
EPA ID: KYD006386395
Area Name: SWMU #14
Corrective Action: CONFIRMATORY SAMPLING WORKPLAN RECEIVED
Actual Date: 19991130
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address: 200 WEST LOUDON AVE
Address 2: Not reported
EPA ID: KYD006386395
Area Name: SWMU #14
Corrective Action: CONFIRMATORY SAMPLING WORK PLAN APPROVED
Actual Date: 20000223
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Click this hyperlink while viewing on your computer to access
15 additional CORRACTS: record(s) in the EDR Site Report.

RCRA TSDF:
Treatment Storage and Disposal Type: Storage, Treatment
Full Enforcement Universe: Not reported
Corrective Action Workload Universe: Yes
Permit Renewals Workload Universe: Not reported
Permit Workload Universe: Not reported
Permit Progress Universe: Storage, Treatment
Post-Closure Workload Universe: Not reported
Closure Workload Universe: Not reported
Operating TSDF Universe: Not reported
Commercial TSD Indicator: No
Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported
Active Site Converter Treatment storage and Disposal Facility: Not reported
Active Site State-Reg Treatment Storage and Disposal Facility: Not reported
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: No

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

TSDFs Only Subject to CA under Discretionary Auth Universe: Yes

Biennial: List of Years
Year: 2011

Click Here for Biennial Reporting System Data:
Year: 2009

Click Here for Biennial Reporting System Data:
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2005

Click Here for Biennial Reporting System Data:
Year: 2003

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

RCRA Listings:

Date Form Received by Agency:	20171113
Handler Name:	Kentucky Glass Plant, Ge Lighting Llc
Handler Address:	WEST LOUDON AVE
Handler City,State,Zip:	LEXINGTON, KY 40508
EPA ID:	KYD006386395
Contact Name:	ROY BLICKWEDEL
Contact Address:	FREEDOM BUSINESS CENTER
Contact City,State,Zip:	KING OF PRUSSIA, PA 19406
Contact Telephone:	828-693-2148
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Corrective Action Activities
State District Owner:	Ky
State District:	04
Mailing Address:	FREEDOM BUSINESS CENTER
Mailing City,State,Zip:	KING OF PRUSSIA, PA 19406
Owner Name:	General Electric
Owner Type:	Private
Operator Name:	Same
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	Yes
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	Medium
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20171113
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2011

Click Here for Biennial Reporting System Data:
Year: 2009

Click Here for Biennial Reporting System Data:
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2005

Click Here for Biennial Reporting System Data:
Year: 2003

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: D002
Waste Description: Corrosive Waste

Waste Code: D003
Waste Description: Reactive Waste

Waste Code: D006
Waste Description: Cadmium

Waste Code: D007
Waste Description: Chromium

Waste Code: D008
Waste Description: Lead

Waste Code: D009
Waste Description: Mercury

Waste Code: D011
Waste Description: Silver

Waste Code: D035
Waste Description: Methyl Ethyl Ketone

Waste Code: F001
Waste Description: The Following Spent Halogenated Solvents Used In Degreasing: Tetrachloroethylene, Trichlorethylene, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride And Chlorinated Fluorocarbons; All Spent Solvent Mixtures/Blends Used In Degreasing Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F002
Waste Description: The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Waste Code: U002
Waste Description: 2-Propanone (I) (Or) Acetone (I)

Waste Code: U008
Waste Description: 2-Propenoic Acid (I) (Or) Acrylic Acid (I)

Waste Code: U096
Waste Description: Alpha,Alpha-Dimethylbenzylhydroperoxide (R) (Or) Hydroperoxide, 1-Methyl-1-Phenylethyl- (R)

Waste Code: U134
Waste Description: Hydrofluoric Acid (C,T) (Or) Hydrogen Fluoride (C,T)

Waste Code: U154
Waste Description: Methanol (I) (Or) Methyl Alcohol (I)

Waste Code: U159
Waste Description: 2-Butanone (I,T) (Or) Methyl Ethyl Ketone (Mek) (I,T)

Waste Code: U161
Waste Description: 4-Methyl-2-Pentanone (I) (Or) Methyl Isobutyl Ketone (I) (Or) Pentanol, 4-Methyl-

Waste Code: U202
Waste Description: 1,2-Benzisothiazol-3(2h)-One, 1,1-Dioxide, & Salts (Or) Saccharin, & Salts

Waste Code: U213
Waste Description: Furan, Tetrahydro-(I) (Or) Tetrahydrofuran (I)

Waste Code: U220
Waste Description: Benzene, Methyl- (Or) Toluene

Waste Code: U238
Waste Description: Carbamic Acid, Ethyl Ester (Or) Ethyl Carbamate (Urethane)

Waste Code: U239
Waste Description: Benzene, Dimethyl- (I,T) (Or) Xylene (I)

Waste Code: U382
Waste Description: Carbamodithioic Acid, Dimethyl-, Sodium Salt (Or) Sodium Dimethyldithiocarbamate

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY
Legal Status: Private
Date Became Current: 20060302
Date Ended Current: Not reported
Owner/Operator Address: 3135 EASTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Owner/Operator Name: GENERAL ELECTRIC COMPANY	
Legal Status:	Private
Date Became Current:	20060302
Date Ended Current:	Not reported
Owner/Operator Address:	3135 EASTON TURNPIKE
Owner/Operator City,State,Zip:	FAIRFIELD, CT 06431
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: GENERAL ELECTRIC	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip:	FAIRFIELD, CT 06431
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: SAME	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: SAME	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: SAME	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: GENERAL ELECTRIC	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip:	FAIRFIELD, CT 06431
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: SAME	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: UNKNOWN	
Legal Status:	Private
Date Became Current:	20030131
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060215
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: GENERAL ELECTRIC	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip:	FAIRFIELD, CT 06431

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: 3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: 3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060215
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY
Legal Status: Private
Date Became Current: 20060302
Date Ended Current: Not reported
Owner/Operator Address: 3135 EASTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19470101

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: 3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: 3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY
Legal Status: Private
Date Became Current: 20010215
Date Ended Current: Not reported
Owner/Operator Address: 3135 EASTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: 859-425-1226
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY
Legal Status: Private
Date Became Current: 20060302
Date Ended Current: Not reported
Owner/Operator Address: 3135 EASTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: UNKNOWN
Legal Status: Private
Date Became Current: 20030131
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY
Legal Status: Private
Date Became Current: 20010215
Date Ended Current: Not reported
Owner/Operator Address: 3135 EASTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: 859-425-1226
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: 3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: SAME	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: GENERAL ELECTRIC	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip:	FAIRFIELD, CT 06431
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: G.E. LIGHTING	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	903 RUSSELL CAVE PIKE
Owner/Operator City,State,Zip:	LEXINGTON, KY 40505
Owner/Operator Telephone:	606-254-4406
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: UNKNOWN	
Legal Status:	Private
Date Became Current:	20030131
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060215
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: GENERAL ELECTRIC	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip:	FAIRFIELD, CT 06431
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: SAME	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: GENERAL ELECTRIC	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip:	FAIRFIELD, CT 06431
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: SAME	
Legal Status:	Private
Date Became Current:	19470101
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY	
Legal Status:	Private
Date Became Current:	20060302

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Date Ended Current: Not reported
Owner/Operator Address: 200 W LOUDON AVE
Owner/Operator City,State,Zip: LEXINGTON, KY 40508
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060302
Date Ended Current: Not reported
Owner/Operator Address: 200 W LOUDON AVE
Owner/Operator City,State,Zip: LEXINGTON, KY 40508
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: 3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY
Legal Status: Private
Date Became Current: 20010215
Date Ended Current: Not reported
Owner/Operator Address: 3135 EASTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: 859-425-1226
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY
Legal Status: Private
Date Became Current: 20010215
Date Ended Current: Not reported
Owner/Operator Address: 3135 EASTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: 859-425-1226
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Owner/Operator Name: GENERAL ELECTRIC
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: 3135 EKSTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: KENTUCKY GLASS PLANT GE LIGHT BR UNKNOWN
Legal Status: Private
Date Became Current: 20030101
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: GENERAL ELECTRIC COMPANY
Legal Status: Private
Date Became Current: 20010215
Date Ended Current: Not reported
Owner/Operator Address: 3135 EASTON TURNPIKE
Owner/Operator City,State,Zip: FAIRFIELD, CT 06431
Owner/Operator Telephone: 859-425-1226
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: UNKNOWN
Legal Status: Private
Date Became Current: 20030131
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060215
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: KENTUCKY GLASS PLANT GE LIGHT BR UNKNOWN
Legal Status: Private
Date Became Current: 20030101
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19470101
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 19930419
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20100406
Handler Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20120319
Handler Name: KENTUCKY GLASS PLANT, GE LIGHTING, LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20000307
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20010215
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Electronic Manifest Broker: Not reported

Receive Date: 20020214
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20020214
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20020214
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20020214
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20021109
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20030131
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040209
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040301
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20050208
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060302
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060302
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070301
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070516
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Receive Date:	20080228
Handler Name:	KENTUCKY GLASS PLANT GE LIGHTING LLC
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20090227
Handler Name:	KENTUCKY GLASS PLANT GE LIGHTING
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20100204
Handler Name:	KENTUCKY GLASS PLANT GE LIGHTING
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20100820
Handler Name:	KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20110216
Handler Name:	KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20120227
Handler Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20120320
Handler Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20130228
Handler Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20140513
Handler Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20140527
Handler Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20171113
Handler Name: KENTUCKY GLASS PLANT, GE LIGHTING LLC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19900301
Handler Name: KY. GLASS PLANT - GENERAL ELECTRIC COMPA
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19920301
Handler Name: GENERAL ELEC CO/GLASS PLT
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19940301
Handler Name: GENERAL ELEC CO/GLASS PLT

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19960301
Handler Name:	KENTUCKY GLASS PLANT
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19980301
Handler Name:	KENTUCKY GLASS PLANT
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20001127
Handler Name:	GE, KENTUCKY GLASS PLANT
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20020603
Handler Name:	GE, KENTUCKY GLASS PLANT
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040101
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: KENTUCKY GLASS PLANT
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20080228
Handler Name: KENTUCKY GLASS PLANT GE LIGHTING
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 327212
NAICS Description: OTHER PRESSED AND BLOWN GLASS AND GLASSWARE MANUFACTURING

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930113
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920723
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19980623
Actual Return to Compliance Date: 19980722
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19980723
Enforcement Identifier: 000
Date of Enforcement Action: 19980710
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYJBE
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920427
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930304
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19920313
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General Facility Standards
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920702
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920723
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921207
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920427
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920723
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921209
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920702
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19930312
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19930312
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930312
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Container Use and Management
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930128
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Chemical, Physical, AND Treatment
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920723
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930113
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920313
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920313
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Chemical, Physical, AND Treatment
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930312
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930304
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General Facility Standards
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930113
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921209
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920313
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19890322
Actual Return to Compliance Date: 19890331
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 004
Date of Enforcement Action: 19890703
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 2450
Final Monetary Amount: 2450
Paid Amount: Not reported
Final Count: 1
Final Amount: 2450

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Container Use and Management
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930128
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19930312
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Container Use and Management
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930113
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921214
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921209
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Container Use and Management
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920410
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930208
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General Facility Standards
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930304
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920723
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930208
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901002
Actual Return to Compliance Date: 19901025
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930304
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921207
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921209
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930208
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Used Oil - Generators
Date Violation was Determined: 20180419
Actual Return to Compliance Date: 20180423
Return to Compliance Qualifier: Documented

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: 20180505
Enforcement Identifier: 001
Date of Enforcement Action: 20180419
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYRFE
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19890322
Actual Return to Compliance Date: 19890331
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921209
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19890322
Actual Return to Compliance Date: 19890331
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 005
Date of Enforcement Action: 19890322
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Container Use and Management
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921207
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930208
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920702
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920313
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19890322
Actual Return to Compliance Date: 19890331
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	002
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Chemical, Physical, AND Treatment
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921209
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920818
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930304
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920427
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19920313
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921209
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General Facility Standards
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930113
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19890322
Actual Return to Compliance Date: 19890331
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 005
Date of Enforcement Action: 19890322
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920702
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930113
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901002
Actual Return to Compliance Date: 19901025
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930113
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19930113
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-Chemical, Physical, AND Treatment
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930128
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930113
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19980623
Actual Return to Compliance Date:	19980722
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	19980723
Enforcement Identifier:	000
Date of Enforcement Action:	19980710
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYJBE
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19980623
Actual Return to Compliance Date:	19980722
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19980723
Enforcement Identifier:	000
Date of Enforcement Action:	19980710
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYJBE
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901002
Actual Return to Compliance Date: 19901025
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930208
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19890322
Actual Return to Compliance Date:	19890331
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890703
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 2450
Final Monetary Amount: 2450
Paid Amount: Not reported
Final Count: 1
Final Amount: 2450

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19890322
Actual Return to Compliance Date: 19890331
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19920313
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920410
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921214
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Chemical, Physical, AND Treatment
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930113
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-Chemical, Physical, AND Treatment
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930128
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General Facility Standards
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930312
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921209
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: LDR - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930208
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: APT
Date of Enforcement Action: 19930929
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: R4
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: DHIMS
Enforcement Responsible Sub-Organization: RC
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 97819
Final Monetary Amount: 83000
Paid Amount: 83000
Final Count: 1
Final Amount: 83000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920427
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Container Use and Management
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901002
Actual Return to Compliance Date: 19901025
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921209
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921209
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Container Use and Management
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930128
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930304
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930304
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920313
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920723
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19901002
Actual Return to Compliance Date: 19901025
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 006
Date of Enforcement Action: 19901002
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19901002
Actual Return to Compliance Date:	19901025
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19901002
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19930113
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921209
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920818
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930205
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920427
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19980623
Actual Return to Compliance Date: 19980722
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: 19980723
Enforcement Identifier: 000
Date of Enforcement Action: 19980710
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYJBE
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19921209
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921209
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921209
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920818
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General Facility Standards
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19920427
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD IS-Chemical, Physical, AND Treatment
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930128
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921209
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930208
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930304
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19920313
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930312
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Records/Reporting
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920723
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD IS-Chemical, Physical, AND Treatment
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930128
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930127
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Container Use and Management
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930128
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930208
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920702
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930127
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19940912
Actual Return to Compliance Date: 19940912
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: 19940912
Enforcement Identifier: 000
Date of Enforcement Action: 19940912
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYKCR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920702
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930312
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930113
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930312
Actual Return to Compliance Date:	19930312
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930325
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: REFERRAL TO ENFORCEMENT
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920410
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19930113
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19930312
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General Facility Standards
Date Violation was Determined:	19921207
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930208
Actual Return to Compliance Date:	19930830
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19920630
Actual Return to Compliance Date:	19920702
Return to Compliance Qualifier:	Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930310
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930223
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19921214
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920313
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19890322
Actual Return to Compliance Date:	19890331
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19930830
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYGWI
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	190000
Final Monetary Amount:	190000
Paid Amount:	190000
Final Count:	1
Final Amount:	190000
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General Facility Standards
Date Violation was Determined: 19921207
Actual Return to Compliance Date: 19930830
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 002
Date of Enforcement Action: 19930325
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: ADMINISTRATIVE CONFERENCE (ENFORCEMENT CONFERENCE HELD WITH FACILITY)
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930205
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920630
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920313
Actual Return to Compliance Date:	19930310
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	19930223
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	REFERRAL TO ENFORCEMENT
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19930113
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19930830
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: KY
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYGWI
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 190000
Final Monetary Amount: 190000
Paid Amount: 190000
Final Count: 1
Final Amount: 190000

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920630
Actual Return to Compliance Date: 19920723
Return to Compliance Qualifier: Observed

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19920630
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 20120308
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier: KYMWO
Evaluation Responsible Sub-Organization: HW
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19930208
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier: KYMSW
Evaluation Responsible Sub-Organization: FR
Actual Return to Compliance Date: 19930113
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Former Citation:	Not reported
Evaluation Date:	20110426
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20160427
Evaluation Responsible Agency:	State
Found Violation:	No

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19980623
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYJBE
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19980722
Scheduled Compliance Date:	19980723
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920427
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930304
Scheduled Compliance Date:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19990721
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930830
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NOT A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	20000517
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920427
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19980428
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150422
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20090406
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20040122
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYDSA
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20130327
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20120417
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030819
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20081201
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	WKAPP
Evaluation Responsible Sub-Organization:	ECB
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890510
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYSVE
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19970501
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20171109
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYGWE
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070523
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930304
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030820
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030820
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	20030819
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20041214
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890331
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19890331
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20080527
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930113
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930113
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NOT A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030820
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19990723
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930304
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19901002
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901025
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930304
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921207

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20060411
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	20180419
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYRFE
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20180423
Scheduled Compliance Date:	20180505
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890331
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19890331
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150422
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19961024
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	KYKCR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20110426
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070523
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19950710
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20210219
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYGWE
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890322
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMG
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19890331
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921207
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19980429
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100322
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890322
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMG
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19890331
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20000517
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930304
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19960424
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	LLAMB
Evaluation Responsible Sub-Organization:	RC
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20110428
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920427
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19960510
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930113
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890331
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19890331
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20120627
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	RGQ
Evaluation Responsible Sub-Organization:	RCRA_DIV
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930113
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19901025
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901025
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	20130327
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20080527
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100413
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20140402
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930113
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930113
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	NOT A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19980722
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYJBE
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19980722
Scheduled Compliance Date:	19980723
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19980722
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYJBE
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19980722
Scheduled Compliance Date:	19980723
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19901025
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901025
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19960424
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYKCR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890322
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMG
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19890331
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20050406
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890322
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMG
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19890331
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NOT A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19970501
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20100413
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930113
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19951205
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYKCR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19941103
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	KYKCR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030819
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920818
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYSLO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20040726
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19930208
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	DHIMS
Evaluation Responsible Sub-Organization:	RC
Actual Return to Compliance Date:	19930208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920427
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20140402
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19901002
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901025
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920818
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYSLO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930304
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930304
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20160427
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20090406
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19901002
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901025
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070625
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYEGR
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20060411
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19901025
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901025
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930113
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920427
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19980623
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYJBE

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19980722
Scheduled Compliance Date:	19980723
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920818
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYSLO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20060302
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJHJ
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920818
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYSLO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920427
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930205
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NOT A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920818
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYSLO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921209
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930208
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20050215
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJHJ
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930304
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920313
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20080411
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20120417
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930128
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20090310
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890713
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMHA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19940912
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYKCR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19940912
Scheduled Compliance Date:	19940912
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930113

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930312
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930113
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19960808
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	KYSLO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19960919
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	KYKCR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920702
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20121031
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19921214
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890331
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMGO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19890331
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930312
Evaluation Responsible Agency:	State

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19951220
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	KYKCR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19921207
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930830
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930205
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930310

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920630
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19930113
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930208
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920723
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

US FIN ASSUR:

Name:	KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address:	200 WEST LOUDON AVE
City,State,Zip:	LEXINGTON, KY 40508
EPA ID:	KYD006386395
County:	Not reported
Mechanism type:	F
Mechanism Type Description:	FINANCIAL TEST
Cost estimate:	88881
Face value:	173298905
Effective date:	2016-03-18 00:00:00
Provider:	GENERAL ELECTRIC COMPANY
EPA region:	4

Name:	KENTUCKY GLASS PLANT, GE LIGHTING LLC
Address:	200 WEST LOUDON AVE
City,State,Zip:	LEXINGTON, KY 40508
EPA ID:	KYD006386395
County:	Not reported
Mechanism type:	F
Mechanism Type Description:	FINANCIAL TEST
Cost estimate:	2000000
Face value:	173298905
Effective date:	2016-03-18 00:00:00
Provider:	GENERAL ELECTRIC COMPANY
EPA region:	4

RAATS:

Entry No:	1
Facility ID:	KYD006386395
Type:	Not reported
Docket No:	93-08-R
Region:	04
Issue Date:	07/14/1993
Final Date:	09/27/1993
Status:	Consent Agreement/Final Order
Additional:	Not reported
Action ID:	000003647
Action:	3008 (A)
Violation No:	Not reported
Viol No Cited:	268.7(A)
Total No Cited:	Not reported
Reg Type:	CFR
Prop. Penalty:	97,819.00
Final Penalty:	83,000.00
Total Prop. Penalty:	97,819.00
Comments:	Not reported

KY Financial Assurance 1:

Name:	GE GLASS PLANT
Address:	200 W LOUDON AVE
City,State,Zip:	LEXINGTON, KY 40508
City,State,Zip:	LEXINGTON, KY 40508
Region:	1
Company:	GE GLASS PLANT
I.D. Number:	KYD-006-386-395

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

A.I. Number: 40513
Assurance Type: Financial Test
Value: $2,088,881

NY MANIFEST:
Name: GENERAL ELECTRIC GLASS PLT
Address: 200 W LOUDON AVE
City,State,Zip: LEXINGTON, KY 40508
Country: USA
EPA ID: KYD006386395
Facility Status: Not reported
Location Address 1: 903 RUSSELL CAVE ROAD
Code: BP
Location Address 2: Not reported
Total Tanks: Not reported
Location City: LEXINGTON
Location State: KY
Location Zip: 40505
Location Zip 4: Not reported

NY MANIFEST:
EPAID: KYD006386395
Mailing Name: GENERAL ELECTRIC GLASS PLT
Mailing Contact: JOHN STINNETT
Mailing Address 1: 903 RUSSELL CAVE ROAD
Mailing Address 2: Not reported
Mailing City: LEXINGTON
Mailing State: KY
Mailing Zip: 40505
Mailing Zip 4: Not reported
Mailing Country: USA
Mailing Phone: 6062544406

NPDES:
Name: GE KY GLASS LLC
Address: 903 RUSSELL CAVE RD
City,State,Zip: LEXINGTON, KY 40505
Federal Facility ID: Not reported
Facility Status: ACTIVE
KY DES #: KY0002739
Total App# Design Flow (MGD): Not reported
Horizontal Collect Method Desc: Not reported
Facility Addr 2: Not reported
Inactive Date: Not reported
Design Capacity: 00000.8890
Fee Category: NPIND
SIC Code: 3229
Lat/Long: +3803410 / -08429130
Lat/Long Method: A
USGS Hydrologic Basin Code: 05100205
Facility Stream Segment: Not reported
Facility Mileage Indicator: Not reported
Basin Code: 0514
Basin Code Description: OR/KENTUCKY R.
DMR Contact: TOM BILLUPS, PLT MGR
Contact Telephone: 8592544406

KENTUCKY GLASS PLANT, GE LIGHTING LLC (Continued) **1000422245**

Mailing Address:	200 W LOUDON AVE
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LEXINGTON, KY 40508
Permit Issued:	09/10/2007
Permit Expires:	10/31/2012
SIC Code Description:	PRESSED & BLOWN GLASS & GWARE
Reveiving Waters:	CANE RUN CRK / UT
Major/Minor:	MINOR
Effective Date:	Not reported
Affiliation Type Desc:	Not reported
Organization Formal Name:	Not reported
Facility Type Desc:	Not reported
State Facility ID:	Not reported
Original Issue Date:	Not reported
Approved For Electronic DMR Submission:	Not reported

K40 **LEXTRAN HEADQUARTERS COMPLEX** **KY SHWS S117572037**
WSW **200 W LOUDON AVE** **KY AIRS N/A**
1/2-1 **LEXINGTON, KY 40508** **KY NPDES**
0.747 mi.
3944 ft. **Site 2 of 2 in cluster K**

Relative: **Lower**

Actual: **959 ft.**

SHWS:

Name:	TRANSIT AUTHORITY OF LEXINGTON (LEXTRAN) - LEXTRAN HEADQUARTERS COMPLEX
Address:	200 W LOUDON AVE
City,State,Zip:	LEXINGTON, KY 40508
Facility Id:	40513
Status:	**Closed**
Description:	GE GLASS PLANT - Considered CLOSED as "Unfounded" by Superfund on 12/04/2001. Sampling collected by inspectors detected lead ranging from <50ppm lead to 195 ppm lead. Source of lead was attributed to anthropogenic sources, not the operation of the facility. This status changed by Nathan hancock after conversion from Not/Com per information provided by Tim Hubbbard.
Closure Date:	12/04/2001
Longitude:	-84.486606
Latitude:	38.061581
Subject Item County:	Fayette
Sub Item Longitude:	-84.485524
Sub Item Latitude:	38.060873
Subject Item Address:	200 W Loudon Ave
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40508
Regulatory Desc:	State Superfund
Closure Option:	Unfounded
Side SG:	55546
Acreage:	Not reported

AIRS:

Name:	TRANSIT AUTHORITY OF LEXINGTON (LEXTRAN) - LEXTRAN HEADQUARTERS COMPLEX
Address:	200 W LOUDON AVE
City,State,Zip:	LEXINGTON, KY 40508
Facility:	2106700245
Mailing Address 3:	Not reported
Emps:	1
Plant Class Description:	R; Registered Source
Acreage:	1.00

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Alternate Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
Alternate Facility End Date:	Not reported
Principal Product:	Transportation Hub
State Plant Class Code:	R000
DAQ AI Type:	TRANS-Transit & Ground Passenger Transp. (485)
DAQ Reg Comment:	Not reported
Mailing Address Line 2:	Not reported
Inspector Assigned AI:	Natasha Parker
Last Inspection Lead:	Kathleen Saunier
Last Inspection Date:	04/14/2010
Air Programs:	0-SIP Source; 9-NSPS; 9-NSPS; G-Area Source MACT; M-MACT; Title V Permit
Air Subparts:	Not Applicable; 9-CC-Glass Manufacturing Plant; 9-IIII-Compression Igntion Int. Comb Eng; G-ZZZZ-Recipro. Int. Comb Engine (RICE); M-N-Chromium Electroplating; Not Applicable

Emission:

Year:	2016
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2016
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2016
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2016
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2016
County:	Fayette

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2016
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Lead, Total (as Pb)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Nitrous Oxide
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM2.5 (Particulate Matter - 2.5 Microns Or Less)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Year:	2017
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2020
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2020
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2020
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported

Year:	2020
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2020
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2020
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	0
Subject Item Designation:	Not reported
ID Number:	Not reported
Longitude:	Not reported
Latitude:	Not reported
Coordinate System:	Not reported
Datum:	Not reported
Estimated Emissions (ton/year):	Not reported
PTE Emissions (tons/yr):	Not reported
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	Not reported
Plume Height (ft):	Not reported
Construction DT:	Not reported
Emissions Document:	Not reported
Year:	2021
County:	Fayette
Facility ID:	2106700245

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01445400
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01997280
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00157680
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM2.5 (Particulate Matter - 2.5 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01997280
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01997280
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Nitrous Oxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00578160
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.26280000
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00604440
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Lead, Total (as Pb)
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00000131
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.10512000

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 06
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	315.36000000
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01686300
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.02330160
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00183960
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM2.5 (Particulate Matter - 2.5 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.02330160
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.02330160
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Nitrous Oxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00674520
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.28820400
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00705180
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Lead, Total (as Pb)
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00000153
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.12264000
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 07
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	367.92000000
Stack Diameter(ft):	0.67
Stack Height (ft):	5.28
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	9.54
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.04336200
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.05991840
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00473040
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM2.5 (Particulate Matter - 2.5 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.05991840
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.05991840
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Nitrous Oxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01734480
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.74109600

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01813320
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Lead, Total (as Pb)
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00000394
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.31536000
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 05
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	946.08000000
Stack Diameter(ft):	0.50
Stack Height (ft):	2.83
Stack Flow Rate (cubic ft/min):	5,720.00
Stack Velocity (ft/sec):	485.53
Temperature (F):	95.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.02409000
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.03328800
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00262800
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM2.5 (Particulate Matter - 2.5 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.03328800
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.03328800
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Nitrous Oxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00963600
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.43800000
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01007400
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Lead, Total (as Pb)
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00000219
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.36792000
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 03
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	525.60000000
Stack Diameter(ft):	0.50
Stack Height (ft):	4.25
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	16.98
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.07467900
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.10319280
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00814680
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM2.5 (Particulate Matter - 2.5 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.10319280

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.10319280
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Nitrous Oxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.02987160
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	1.35780000
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.03122940
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Lead, Total (as Pb)
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00000679
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	1.14055200
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00
Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 04
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	1,629.36000000
Stack Diameter(ft):	1.80
Stack Height (ft):	27.00
Stack Flow Rate (cubic ft/min):	200.00

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Velocity (ft/sec):	1.31
Temperature (F):	450.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.62241250
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.13382500
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.50121250
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM2.5 (Particulate Matter - 2.5 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.13382500
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.13382500
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Nitrous Oxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00517625
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	4.01980000
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.01388750
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Lead, Total (as Pb)
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00002525
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	1.67533750
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 01
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	285.32500000
Stack Diameter(ft):	0.33
Stack Height (ft):	9.00
Stack Flow Rate (cubic ft/min):	2,606.00
Stack Velocity (ft/sec):	507.81
Temperature (F):	981.00
Plume Height (ft):	Not reported
Construction DT:	03/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.05299750

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PT (Particulate Matter)
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.04568750
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	SO2 (Sulfur Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.04267750
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM2.5 (Particulate Matter - 2.5 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.04568750
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	PM10 (Particulate Matter - 10 Microns Or Less)
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.04568750
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Nitrous Oxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00044075
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	NO2 (Nitrogen Dioxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.64930000
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00118250
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Lead, Total (as Pb)
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00000204
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	CO (Carbon Monoxide)
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.13975000
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 02
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	24.29500000
Stack Diameter(ft):	0.21
Stack Height (ft):	6.83
Stack Flow Rate (cubic ft/min):	448.00
Stack Velocity (ft/sec):	215.57
Temperature (F):	1,044.00
Plume Height (ft):	Not reported
Construction DT:	01/01/2004
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Methane
Actual Emissions:	Not reported
Subject Item Designation:	EU 10
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00014041
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	70.00
Plume Height (ft):	3.00
Construction DT:	02/01/2017
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	Carbon Dioxide
Actual Emissions:	Not reported
Subject Item Designation:	EU 10
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00000702
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	70.00
Plume Height (ft):	3.00
Construction DT:	02/01/2017
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 09
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00152560
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	77.00
Plume Height (ft):	10.00
Construction DT:	01/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 09
ID Number:	2
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00277532
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	77.00
Plume Height (ft):	10.00

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Construction DT:	01/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 08
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.11818405
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	77.00
Plume Height (ft):	10.00
Construction DT:	01/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 08
ID Number:	2
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.09867379
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	77.00
Plume Height (ft):	10.00
Construction DT:	01/01/2016
Emissions Document:	2021 Emissions Survey
Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Actual Emissions:	Not reported
Subject Item Designation:	EU 10
ID Number:	1
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00152560
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	77.00
Plume Height (ft):	10.00
Construction DT:	01/01/2016
Emissions Document:	2021 Emissions Survey

Year:	2021
County:	Fayette
Facility ID:	2106700245
Facility Name:	Transit Authority of Lexington (LexTran) - LexTran Headquarters Complex
AI ID:	40513
Pollutant:	VOC (Volatile Organic Compounds)
Actual Emissions:	Not reported
Subject Item Designation:	EU 10
ID Number:	2
Longitude:	-84.486606
Latitude:	38.061581
Coordinate System:	Decimal Degrees
Datum:	NAD83
Estimated Emissions (ton/year):	0.00000000
PTE Emissions (tons/yr):	0.00277532
Stack Diameter(ft):	Not reported
Stack Height (ft):	Not reported
Stack Flow Rate (cubic ft/min):	Not reported
Stack Velocity (ft/sec):	Not reported
Temperature (F):	77.00
Plume Height (ft):	10.00
Construction DT:	01/01/2016
Emissions Document:	2021 Emissions Survey

NPDES:

Name:	LEXTRAN HEADQUARTERS COMPLEX
Address:	200 W LOUDON AVE
City,State,Zip:	LEXINGTON, KY 40508
Federal Facility ID:	Not reported
Facility Status:	Terminated
KY DES #:	KYR10J014
Total App# Design Flow (MGD):	Not reported
Horizontal Collect Method Desc:	Not reported
Facility Addr 2:	Not reported
Inactive Date:	07/11/2016
Design Capacity:	Not reported
Fee Category:	Not reported
SIC Code:	1611

LEXTRAN HEADQUARTERS COMPLEX (Continued) **S117572037**

Lat/Long:	38.061111 / -84.486667
Lat/Long Method:	Not reported
USGS Hydrologic Basin Code:	027
Facility Stream Segment:	Not reported
Facility Mileage Indicator:	Not reported
Basin Code:	Not reported
Basin Code Description:	Not reported
DMR Contact:	Not reported
Contact Telephone:	Not reported
Mailing Address:	1075 Red Mile Rd
Mailing Address 2:	Not reported
Mailing City,St,Zip:	Lexington, KY 40504
Permit Issued:	12/03/2014
Permit Expires:	11/30/2019
SIC Code Description:	Highway And Street Construction
Reveiving Waters:	LFUCG
Major/Minor:	Minor
Effective Date:	12/03/2014
Affiliation Type Desc:	PMA
Organization Formal Name:	Lextran Headquarters Complex
Facility Type Desc:	Not reported
State Facility ID:	40513
Original Issue Date:	12/03/2014
Approved For Electronic DMR Submission:	No

41
SW
1/2-1
0.772 mi.
4076 ft.

BELL AIR BATTERY **KY SHWS** **S107152324**
760 N LIMESTONE **N/A**
LEXINGTON, KY 40508

Relative:
Lower

Actual:
968 ft.

SHWS:

Name:	BELL AIR BATTERY
Address:	760 N LIMESTONE
City,State,Zip:	LEXINGTON, KY 40508
Facility Id:	52595
Status:	**Closed**
Description:	BELL AIR BATTERY (Closed: No Action Necessary)
Closure Date:	10/29/1993
Longitude:	-84.482690
Latitude:	38.056512
Subject Item County:	Fayette
Sub Item Longitude:	-84.482690
Sub Item Latitude:	38.056511
Subject Item Address:	760 N Limestone
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40508
Regulatory Desc:	Petroleum Cleanup
Closure Option:	Option A No Action Necessary
Side SG:	31245
Acreage:	Not reported

42
SW
1/2-1
0.807 mi.
4263 ft.

WALKER SERVICE CENTER
717 NORTH BROADWAY
LEXINGTON, KY 40508

KY SHWS **S106884658**
KY Financial Assurance **N/A**

Relative:
Lower

Actual:
962 ft.

SHWS:

Name:	WALKER SERVICE CENTER
Address:	717 NORTH BROADWAY
City,State,Zip:	LEXINGTON, KY 40508
Facility Id:	52771
Status:	**Closed**
Description:	WALKER SERVICE CENTER (Closed: Non-Incident)
Closure Date:	01/27/1998
Longitude:	-84.486501
Latitude:	38.058294
Subject Item County:	Fayette
Sub Item Longitude:	-84.486501
Sub Item Latitude:	38.058293
Subject Item Address:	717 N Broadway
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40508
Regulatory Desc:	Petroleum Cleanup
Closure Option:	Non-Incident
Side SG:	35592
Acreage:	Not reported

KY Financial Assurance 2:

Region:	2
Account:	PST
AI:	65094
cause:	100455
Approval Date:	06/21/1995
NFA Date:	03/01/1995
Coverage Amount:	Up to 1 million dollar limit coverage
Effective Period:	Would be from the time of the release to the end of the clean up

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43
NE
1/2-1
0.878 mi.
4635 ft.

MINIT MART PARIS PIKE
1949 N BROADWAY
LEXINGTON, KY 40505

KY SHWS **U003180081**
KY PSTEAF **N/A**
KY UST
KY Financial Assurance

Relative:
Higher

Actual:
987 ft.

SHWS:

Name:	MINIT MART PARIS PIKE
Address:	1949 NORTH BROADWAY
City,State,Zip:	LEXINGTON, KY 40505
Facility Id:	51710
Status:	**Closed**
Description:	SHELL OIL STATION (Closed: Restored)
Closure Date:	08/21/1995
Longitude:	-84.459409
Latitude:	38.074601
Subject Item County:	Fayette
Sub Item Longitude:	-84.459417
Sub Item Latitude:	38.074703
Subject Item Address:	1949 N Broadway
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40505

MINIT MART PARIS PIKE (Continued) **U003180081**

Regulatory Desc: Petroleum Cleanup
Closure Option: Option C Restored
Side SG: 33340
Acreage: Not reported

PSTEAF:
Name: MINIT MART PARIS PIKE
Address: 1949 N BROADWAY
City,State,Zip: LEXINGTON, KY 40505
Facility Id: 51710
AI Number: 51710
UST Id Number: 1154034
Rank: 2
Financial Account: FRA
Project Manager: Takacs

UST:
Name: MINIT MART PARIS PIKE
Address: 1949 N BROADWAY
City,State,Zip: LEXINGTON, KY 40505
Sequence Id: 1154034
Facility ID: 51710
Owner Name: Minit Mart LLC
Owner Address: 165 Flanders Rd
Owner Address2: Not reported
Owner Address3: Not reported
Owner City,St,Zip: Westborough, MA 01581
Internal Document ID: 0
Latitude: -84.459409
Longitude: 38.074601

Inert Material Code: Not reported
Removed Date: Not reported
Change in Service Date: Not reported
Tank Pit Num: Not reported
Tank Mfg Code: Not reported
Tank Overfill Protection: ASD
Last Tank Test Date: Not reported
Relined Date: Not reported
Lining Insp Date: Not reported
Pipe Release Detection: LTT
Pipe Rel Detect Suc Code: NON
Pipe Leak Detect Code: Not reported
Last Contained Date: Not reported
Pipe Mfg Code: FRP
Last Pipe Test Date: 01/09/2019
Last CP Test Date: Not reported
Added To Flex Date: Not reported
Added To Piping Date: Not reported
Decode For Tstatus: Active
Decode For Inertmatcd: Not reported
Decode For Tmatcode: Fiberglass Reinforced
Decode For Textcrprcd: Not Applicable
Decode For Treldetcod: Automatic Tank Gauging
Decode For Tintprotcd: Not Applicable
Decode For Tsplprevcd: Double Wall Spill Bucket

MINIT MART PARIS PIKE (Continued) **U003180081**

Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Line Tightness Test
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-UNL-Reg Unl Gas
Decode For Tmancd:	Not reported
Decode For Pmancd:	Fiberglass Manufacturer Unknown
Subject Item ID:	1
Tank Status:	TAC
Installation Date:	01/01/1983
Closed In Place Date:	Not reported
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	ASD
Last Tank Test Date:	03/09/2016
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	LTT
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	FRP
Last Pipe Test Date:	01/09/2019
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Double Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Line Tightness Test
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Diesel
Decode For Tmancd:	Not reported
Decode For Pmancd:	Fiberglass Manufacturer Unknown
Subject Item ID:	2
Tank Status:	TAC
Installation Date:	01/01/1983

MINIT MART PARIS PIKE (Continued) **U003180081**

Closed In Place Date:	Not reported
Capacity in Gallons:	10000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	ASD
Last Tank Test Date:	03/01/2016
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	LTT
Pipe Rel Detect Suc Code:	NON
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	FRP
Last Pipe Test Date:	03/03/2022
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Active
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Fiberglass Reinforced
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Automatic Tank Gauging
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Double Wall Spill Bucket
Decode For Tovflprvcd:	Automatic Shutoff Device
Decode For Pmatcode:	Fiberglass Reinforced Plastic
Decode For Pextcoprcd:	Not Applicable
Decode For Ptypecode:	Pressurized
Decode For Preldetcod:	Line Tightness Test
Decode For Preldetsuc:	None
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	GAS-PRM-Prem Unl Gas
Decode For Tmancd:	Not reported
Decode For Pmancd:	Fiberglass Manufacturer Unknown
Subject Item ID:	3
Tank Status:	TAC
Installation Date:	01/01/1969
Closed In Place Date:	Not reported
Capacity in Gallons:	8000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	09/11/1989
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported

MINIT MART PARIS PIKE (Continued) **U003180081**

Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Single Wall Steel
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Unknown
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Used Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	4
Tank Status:	TRM
Installation Date:	01/01/1965
Closed In Place Date:	Not reported
Capacity in Gallons:	500
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	07/02/1993
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported

MINIT MART PARIS PIKE (Continued) **U003180081**

Decode For Tmatcode:	Double Wall Fiberglass
Decode For Textcrprcd:	Not Applicable
Decode For Treldetcod:	Interstitial Monitor
Decode For Tintprotcd:	Not Applicable
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Unknown
Decode For Pextcoprcd:	None
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Used Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	5
Tank Status:	TRM
Installation Date:	01/01/1989
Closed In Place Date:	Not reported
Capacity in Gallons:	1000
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	07/02/1993
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Removed Tank Verified
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Unknown
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Unknown
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	Fuel Oil

MINIT MART PARIS PIKE (Continued) **U003180081**

Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	6
Tank Status:	TRM
Installation Date:	09/01/1989
Closed In Place Date:	Not reported
Capacity in Gallons:	550
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported
Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Exempt
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Unknown
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Unknown
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	New Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	7
Tank Status:	TEX
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	50
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported
Inert Material Code:	Not reported
Removed Date:	Not reported

MINIT MART PARIS PIKE (Continued) **U003180081**

Change in Service Date:	Not reported
Tank Pit Num:	Not reported
Tank Mfg Code:	Not reported
Tank Overfill Protection:	UNK
Last Tank Test Date:	Not reported
Relined Date:	Not reported
Lining Insp Date:	Not reported
Pipe Release Detection:	UNK
Pipe Rel Detect Suc Code:	UNK
Pipe Leak Detect Code:	Not reported
Last Contained Date:	Not reported
Pipe Mfg Code:	Not reported
Last Pipe Test Date:	Not reported
Last CP Test Date:	Not reported
Added To Flex Date:	Not reported
Added To Piping Date:	Not reported
Decode For Tstatus:	Exempt
Decode For Inertmatcd:	Not reported
Decode For Tmatcode:	Unknown
Decode For Textcrprcd:	Unknown
Decode For Treldetcod:	None
Decode For Tintprotcd:	Unknown
Decode For Tsplprevcd:	Unknown
Decode For Tovflprvcd:	Unknown
Decode For Pmatcode:	Unknown
Decode For Pextcoprcd:	Unknown
Decode For Ptypecode:	Unknown
Decode For Preldetcod:	Unknown
Decode For Preldetsuc:	Unknown
Decode For Plekdetcod:	Not reported
Decode For Tsubcd:	New Oil
Decode For Tmancd:	Not reported
Decode For Pmancd:	Not reported
Subject Item ID:	8
Tank Status:	TEX
Installation Date:	01/01/1901
Closed In Place Date:	Not reported
Capacity in Gallons:	50
Compartment Number:	1
Piping Installation Date:	Not reported
Added To Tank Date:	Not reported

KY Financial Assurance 2:

Region:	2
Account:	FRA
AI:	51710
cause:	103564
Approval Date:	Not reported
NFA Date:	08/18/1995
Coverage Amount:	Up to 1 million dollar limit coverage
Effective Period:	Would be from the time of the release to the end of the clean up

44
WNW
1/2-1
0.878 mi.
4637 ft.

Relative:
Lower

Actual:
959 ft.

IBM CORP
740 NEW CIRCLE RD NW
LEXINGTON, KY 40511

SEMS-ARCHIVE
CORRACTS
RCRA-TSDF
RCRA-SQG
US FIN ASSUR
2020 COR ACTION
NJ MANIFEST
WI MANIFEST
NY MANIFEST
PA MANIFEST

1000108976
KYD006375737

SEMS Archive:

Site ID:	0401935
EPA ID:	KYD006375737
Name:	IBM CORP
Address:	740 NEW CIRCLE RD NW
Address 2:	Not reported
City,State,Zip:	LEXINGTON, KY 40511
Cong District:	06
FIPS Code:	21067
FF:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:

Region:	04
Site ID:	0401935
EPA ID:	KYD006375737
Site Name:	IBM CORP
NPL:	N
FF:	N
OU:	00
Action Code:	VS
Action Name:	ARCH SITE
SEQ:	1
Start Date:	Not reported
Finish Date:	1988-11-15 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf In-Hse

Region:	04
Site ID:	0401935
EPA ID:	KYD006375737
Site Name:	IBM CORP
NPL:	N
FF:	N
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1980-08-01 04:00:00
Finish Date:	1980-08-01 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	04
Site ID:	0401935
EPA ID:	KYD006375737
Site Name:	IBM CORP
NPL:	N

IBM CORP (Continued) **1000108976**

FF: N
OU: 00
Action Code: SI
Action Name: SI
SEQ: 1
Start Date: Not reported
Finish Date: 1988-11-15 05:00:00
Qual: N
Current Action Lead: EPA Perf

Region: 04
Site ID: 0401935
EPA ID: KYD006375737
Site Name: IBM CORP
NPL: N
FF: N
OU: 00
Action Code: PA
Action Name: PA
SEQ: 1
Start Date: Not reported
Finish Date: 1984-08-01 05:00:00
Qual: L
Current Action Lead: St Perf

CORRACTS:
Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: ADMINISTRATIVE APPEAL
Actual Date: 19951029
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: CONFIRMATORY SAMPLING WORKPLAN RECEIVED
Actual Date: 19951214
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: CONFIRM. SAMPLING WORKPLAN - NOTI ISSUED

IBM CORP (Continued) **1000108976**

Actual Date: 19960327
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: CONFIRMATORY SAMPLING WORK PLAN APPROVED
Actual Date: 19960624
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: REGION IV - RPS STABILIZATION CATEGORIES
Actual Date: 19950815
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: COMMENTS SENT TO EPA
Actual Date: 19970319
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: RFA INITIATION
Actual Date: Not reported
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported

IBM CORP (Continued) **1000108976**

EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: CA PRIORITIZATION-MEDIUM CA PRIORITY
Actual Date: 19940929
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: INVESTIGATION IMPOSITION
Actual Date: 19951029
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: INVESTIGATION WORKPLAN RECEIVED
Actual Date: 19950205
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: LEXMARK INTERNATIONAL INC.
Address: 740 WEST NEW CIRCLE RD
Address 2: Not reported
EPA ID: KYD006375737
Area Name: ENTIRE FACILITY
Corrective Action: INVESTIGATION WORKPLAN NOTICE OF DEFICIENCY ISSUED
Actual Date: Not reported
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Click this hyperlink while viewing on your computer to access
109 additional CORRACTS: record(s) in the EDR Site Report.

RCRA TSDF:
Treatment Storage and Disposal Type: Storage
Full Enforcement Universe: Solid Waste Management Unit
Corrective Action Workload Universe: Yes
Permit Renewals Workload Universe: Not reported
Permit Workload Universe: Not reported
Permit Progress Universe: Storage, Solid Waste Management Unit
Post-Closure Workload Universe: Not reported
Closure Workload Universe: Solid Waste Management Unit

IBM CORP (Continued) **1000108976**

Operating TSDF Universe:	Not reported
Commercial TSD Indicator:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Solid Waste Management Unit
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	Yes

Biennial: List of Years
Year: 2009

Click Here for Biennial Reporting System Data:
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2005

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

RCRA Listings:

Date Form Received by Agency:	20230215
Handler Name:	Lexmark International Inc.
Handler Address:	WEST NEW CIRCLE RD
Handler City,State,Zip:	LEXINGTON, KY 40550
EPA ID:	KYD006375737
Contact Name:	JEFF A SAMS
Contact Address:	WEST NEW CIRCLE RD
Contact City,State,Zip:	LEXINGTON, KY 40550
Contact Telephone:	859-232-4480
Contact Fax:	Not reported
Contact Email:	JEFF.SAMS@LEXMARK.COM
Contact Title:	WASTE PROGRAMS MGR
EPA Region:	04
Land Type:	Private
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities, Permitting Activities, Corrective Action Activities
State District Owner:	Ky
State District:	0402
Mailing Address:	WEST NEW CIRCLE RD
Mailing City,State,Zip:	LEXINGTON, KY 40550
Owner Name:	Lexmark International
Owner Type:	Private
Operator Name:	Lexmark International
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No

IBM CORP (Continued) **1000108976**

Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	Yes
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Accomplished
202 GPRA Corrective Action Baseline:	Yes
Subject to Corrective Action Universe:	Yes
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	Medium
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	Yes
Groundwater Controls Indicator:	Yes
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Corrective Action
Handler Date of Last Change:	20230607
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2009

Click Here for Biennial Reporting System Data:
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2005

Click Here for Biennial Reporting System Data:
Year: 2001

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Hazardous Waste Summary:
Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: D002
Waste Description: Corrosive Waste

IBM CORP (Continued) **1000108976**

Waste Code:	D003
Waste Description:	Reactive Waste
Waste Code:	D004
Waste Description:	Arsenic
Waste Code:	D005
Waste Description:	Barium
Waste Code:	D006
Waste Description:	Cadmium
Waste Code:	D007
Waste Description:	Chromium
Waste Code:	D008
Waste Description:	Lead
Waste Code:	D009
Waste Description:	Mercury
Waste Code:	D010
Waste Description:	Selenium
Waste Code:	D011
Waste Description:	Silver
Waste Code:	D012
Waste Description:	Endrin (1,2,3,4,10,10-Hexachloro-1,7-Epoxy-1,4,4a,5,6,7,8,8a-Octahydro-1,4-En do, Endo-5,8-Dimeth-Ano-Naphthalene)
Waste Code:	D013
Waste Description:	Lindane (1,2,3,4,5,6-Hexa-Chlorocyclohexane, Gamma Isomer)
Waste Code:	D014
Waste Description:	Methoxychlor (1,1,1-Trichloro-2,2-Bis [P-Methoxyphenyl] Ethane)
Waste Code:	D015
Waste Description:	Toxaphene (C10 H10 Cl8, Technical Chlorinated Camphene, 67-69 Percent Chlorine)
Waste Code:	D016
Waste Description:	2,4-D (2,4-Dichlorophenoxyacetic Acid)
Waste Code:	D017
Waste Description:	2,4,5-Tp Silvex (2,4,5-Trichlorophenoxypropionic Acid)
Waste Code:	D018
Waste Description:	Benzene
Waste Code:	D019
Waste Description:	Carbon Tetrachloride
Waste Code:	D020
Waste Description:	Chlordane

IBM CORP (Continued) **1000108976**

Waste Code: D021
Waste Description: Chlorobenzene

Waste Code: D022
Waste Description: Chloroform

Waste Code: D023
Waste Description: O-Cresol

Waste Code: D024
Waste Description: M-Cresol

Waste Code: D025
Waste Description: P-Cresol

Waste Code: D026
Waste Description: Cresol

Waste Code: D027
Waste Description: 1,4-Dichlorobenzene

Waste Code: D028
Waste Description: 1,2-Dichloroethane

Waste Code: D029
Waste Description: 1,1-Dichloroethylene

Waste Code: D030
Waste Description: 2,4-Dinitrotoluene

Waste Code: D031
Waste Description: Heptachlor (And Its Epoxide)

Waste Code: D032
Waste Description: Hexachlorobenzene

Waste Code: D033
Waste Description: Hexachlorobutadiene

Waste Code: D034
Waste Description: Hexachloroethane

Waste Code: D035
Waste Description: Methyl Ethyl Ketone

Waste Code: D036
Waste Description: Nitrobenzene

Waste Code: D037
Waste Description: Pentachlorophenol

Waste Code: D038
Waste Description: Pyridine

Waste Code: D039
Waste Description: Tetrachloroethylene

IBM CORP (Continued) **1000108976**

Waste Code: D040
Waste Description: Trichlorethylene

Waste Code: D041
Waste Description: 2,4,5-Trichlorophenol

Waste Code: D042
Waste Description: 2,4,6-Trichlorophenol

Waste Code: D043
Waste Description: Vinyl Chloride

Waste Code: F001
Waste Description: The Following Spent Halogenated Solvents Used In Degreasing: Tetrachloroethylene, Trichlorethylene, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride And Chlorinated Fluorocarbons; All Spent Solvent Mixtures/Blends Used In Degreasing Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F002
Waste Description: The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F003
Waste Description: The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F004
Waste Description: The Following Spent Nonhalogenated Solvents: Cresols, Cresylic Acid, And Nitrobenzene; And The Still Bottoms From The Recovery Of These Solvents; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene,

IBM CORP (Continued) **1000108976**

2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F006
Waste Description: Wastewater Treatment Sludges From Electroplating Operations, Except From The Following Processes: (1) Sulfuric Acid Anodizing Of Aluminum; (2) Tin Plating On Carbon Steel; (3) Zinc Plating (Segregated Basis) On Carbon Steel; (4) Aluminum Or Zinc-Aluminum Plating On Carbon Steel; (5) Cleaning/Stripping Associated With Tin, Zinc, And Aluminum Plating On Carbon Steel; And (6) Chemical Etching And Milling Of Aluminum.

Waste Code: F007
Waste Description: Spent Cyanide Plating Bath Solutions From Electroplating Operations.

Waste Code: F008
Waste Description: Plating Bath Residues From The Bottom Of Plating Baths From Electroplating Operations In Which Cyanides Are Used In The Process.

Waste Code: F009
Waste Description: Spent Stripping And Cleaning Bath Solutions From Electroplating Operations In Which Cyanides Are Used In The Process.

Waste Code: F010
Waste Description: Quenching Bath Residues From Oil Baths From Metal Heat Treating Operations In Which Cyanides Are Used In The Process.

Waste Code: F011
Waste Description: Spent Cyanide Solutions From Slat Bath Pot Cleaning From Metal Heat Treating Operations.

Waste Code: F012
Waste Description: Quenching Wastewater Treatment Sludges From Metal Heat Treating Operations In Which Cyanides Are Used In The Process.

Waste Code: F019
Waste Description: Wastewater Treatment Sludges From The Chemical Conversion Coating Of Aluminum, Except From Zirconium Phosphating In Aluminum Can Washing When Such Phosphating Is An Exclusive Conversion Coating Process.

Waste Code: F020
Waste Description: Wastes (Except Wastewater And Spent Carbon From Hydrogen Chloride Purification) From The Production Or Manufacturing Use (As A Reactant, Chemical Intermediate, Or Component In A Formulating Process) Of Tri- Or Tetrachlorophenol Or Of Intermediates Used To Produce Their Pesticide Derivatives. (This Listing Does Not Include Wastes From The Production Of Hexachlorophene From Highly Purified 2,4,5-Trichlorophenol.)

Waste Code: F021
Waste Description: Wastes (Except Wastewater And Spent Carbon From Hydrogen Chloride Purification) From The Production Or Manufacturing Use (As A Reactant, Chemical Intermediate, Or Component In A Formulating Process) Of Pentachlorophenol, Or Of Intermediates Used To Produce Derivatives.

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Waste Code: F022
Waste Description: Wastes (Except Wastewater And Spent Carbon From Hydrogen Chloride Purification) From The Manufacturing Use (As A Reactant, Chemical Intermediate, Or Component In A Formulating Process) Of Tetra-, Penta-, Or Hexachlorobenzenes Under Alkaline Conditions.

Waste Code: F023
Waste Description: Wastes (Except Wastewater And Spent Carbon From Hydrogen Chloride Purification) From The Production Of Materials On Equipment Previously Used For The Production Or Manufacturing Use (As A Reactant, Chemical Intermediate, Or Component In A Formulating Process) Of Tri- And Tetrachlorophenols. (This Listing Does Not Include Wastes From Equipment Used Only For The Production Or Use Of Hexachlorophene From Highly Purified 2,4,5-Trichlorophenol.)

Waste Code: F024
Waste Description: Process Wastes Including, But Not Limited To, Distillation Residues, Heavy Ends, Tars, And Reactor Clean-Out Wastes From The Production Of Certain Chlorinated Aliphatic Hydrocarbons By Free Radical Catalyzed Processes. These Chlorinated Aliphatic Hydrocarbons Are Those Having Carbon Chain Lengths Ranging From One To, And Including Five, With Varying Amounts And Positions Of Chlorine Substitution. (This Listing Does Not Include Wastewaters, Wastewater Treatment Sludge, Spent Catalysts, And Wastes Listed In Sections 261.31. Or 261.32)

Waste Code: F025
Waste Description: Condensed Light Ends, Spent Filters And Filter Aids, And Spent Desiccant Wastes From The Production Of Certain Chlorinated Aliphatic Hydrocarbons By Free Radical Catalyzed Processes. These Chlorinated Aliphatic Hydrocarbons Are Those Having Carbon Chain Lengths Ranging From One To, And Including Five, With Varying Amounts And Positions Of Chlorine Substitution.

Waste Code: F026
Waste Description: Wastes (Except Wastewater And Spent Carbon From Hydrogen Chloride Purification) From The Production Of Materials On Equipment Previously Used For The Manufacturing Use (As A Reactant, Chemical Intermediate, Or Component In A Formulating Process) Of Tetra-, Penta-, Or Hexachlorobenzene Under Alkaline Conditions.

Waste Code: F027
Waste Description: Discarded Unused Formulations Containing Tri-, Tetra-, Or Pentachlorophenol Or Discarded Unused Formulations Containing Compounds Derived From These Chlorophenols. (This Listing Does Not Include Formulations Containing Hexachlorophene Synthesized From Prepurified 2,4,5-Trichlorophenol As The Sole Component.)

Waste Code: F028
Waste Description: Residues Resulting From The Incineration Or Thermal Treatment Of Soil Contaminated With Epa Hazardous Waste Nos. F020, F021, F022, F023, F026, And F027.

Waste Code: F032
Waste Description: Wastewaters, Process Residuals, Preservative Drippage, And Spent Formulations From Wood Preserving Processes Generated At Plants That Currently Use, Or Have Previously Used, Chlorophenolic Formulations [Except Potentially Cross-Contaminated Wastes That Have Had The F032

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Waste Code Deleted In Accordance With Section 261.35 (I.E., The Newly Promulgated Equipment Cleaning Or Replacement Standards), And Where The Generator Does Not Resume Or Initiate Use Of Chlorophenolic Formulations]. (This Listing Does Not Include K001 Bottom Sediment Sludge From The Treatment Of Wastewater From Wood Preserving Processes That Use Creosote And/Or Pentachlorophenol.)

Waste Code: F034
Waste Description: Wastewaters, Process Residuals, Preservative Drippage, And Spent Formulations From Wood Preserving Processes Generated At Plants That Use Creosote Formulations. This Listing Does Not Include K001 Bottom Sediment Sludge From The Treatment Of Wastewater From Wood Preserving Processes That Use Creosote And/Or Pentachlorophenol.

Waste Code: F035
Waste Description: Wastewaters, Process Residuals, Preservative Drippage, And Spent Formulations From Wood Preserving Processes Generated At Plants That Use Inorganic Preservatives Containing Arsenic Or Chromium. This Listing Does Not Include K001 Bottom Sediment Sludge From The Treatment Of Wastewater From Wood Preserving Processes That Use Creosote And/Or Pentachlorophenol.

Waste Code: F037
Waste Description: Petroleum Refinery Primary Oil/Water/Solids Separation Sludge - Any Sludge Generated From The Gravitational Separation Of Oil/Water/Solids During The Storage Or Treatment Of Process Wastewaters And Oily Cooling Wastewaters From Petroleum Refineries. Such Sludges Include, But Are Not Limited To, Those Generated In Oil/Water/Solids Separators; Tanks And Impoundments; Ditches And Other Conveyances; Sumps; And Storm Water Units Receiving Dry Weather Flow. Sludges Generated In Storm Water Units That Do Not Receive Dry Weather Flow, Sludges Generated In Aggressive Biological Treatment Units As Defined In Section 261.31(B)(2) (Including Sludges Generated In One Or More Additional Units After Wastewaters Have Been Treated In Aggressive Biological Treatment Units), And K051 Wastes Are Exempted From This Listing.

Waste Code: F038
Waste Description: Petroleum Refinery Secondary (Emulsified) Oil/Water/Solids Separation Sludge - Any Sludge And/Or Float Generated From The Physical And/Or Chemical Separation Of Oil/Water/Solids In Process Wastewaters And Oily Cooling Wastewaters From Petroleum Refineries. Such Wastes Include, But Are Not Limited To, All Sludges And Floats Generated In Induced Air Flotation (Iaf) Units, Tanks And Impoundments, And All Sludges Generated In Daf Units. Sludges Generated In Stormwater Units That Do Not Receive Dry Weather Flow, Sludges Generated In Aggressive Biological Treatment Units As Defined In Section 261.31(B)(2) (Including Sludges Generated In One Or More Additional Units After Wastewaters Have Been Treated In Aggressive Biological Treatment Units), And F037, K048, And K051 Wastes Are Exempted From This Listing.

Waste Code: F039
Waste Description: Leachate Resulting From The Treatment, Storage, Or Disposal Of Wastes Classified By More Than One Waste Code Under Subpart D, Or From A Mixture Of Wastes Classified Under Subparts C And D Of This Part. (Leachate Resulting From The Management Of One Or More Of The

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Following Epa Hazardous Wastes And No Other Hazardous Wastes Retains Its Hazardous Waste Code(S): F020, F021, F022, F023, F026, F027, And/Or F028.)

Waste Code: LABP
Waste Description: Labp

Waste Code: P001
Waste Description: 2h-1-Benzopyran-2-One, 4-Hydroxy-3-(3-Oxo-1-Phenylbutyl)-, & Salts, When Present At Concentrations Greater Than 0.3% (Or) Warfarin, & Salts, When Present At Concentrations Greater Than 0.3%

Waste Code: P002
Waste Description: 1-Acetyl-2-Thiourea (Or) Acetamide, N-(Aminothioxomethyl)-

Waste Code: P003
Waste Description: 2-Propenal (Or) Acrolein

Waste Code: P004
Waste Description: 1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-Hexa-Chloro-1,4,4a,5,8,8a,-Hexahydro-, (1alpha, 4alpha, 4abeta, 5alpha, 8alpha, 8abeta)- (Or) Aldrin

Waste Code: P005
Waste Description: 2-Propen-1-Ol (Or) Allyl Alcohol

Waste Code: P006
Waste Description: Aluminum Phosphide (R,T)

Waste Code: P007
Waste Description: 3(2h)-Isoxazolone, 5-(Aminomethyl)- (Or) 5-(Aminomethyl)-3-Isoxazolol

Waste Code: P008
Waste Description: 4-Aminopyridine (Or) 4-Pyridinamine

Waste Code: P009
Waste Description: Ammonium Picrate (R) (Or) Phenol, 2,4,6-Trinitro-, Ammonium Salt (R)

Waste Code: P010
Waste Description: Arsenic Acid H3aso4

Waste Code: P011
Waste Description: Arsenic Oxide As2o5 (Or) Arsenic Pentoxide

Waste Code: P012
Waste Description: Arsenic Oxide As2o3 (Or) Arsenic Trioxide

Waste Code: P013
Waste Description: Barium Cyanide

Waste Code: P014
Waste Description: Benzenethiol (Or) Thiophenol

Waste Code: P015
Waste Description: Beryllium

Waste Code: P016

IBM CORP (Continued) **1000108976**

Waste Description: Dichloromethyl Ether (Or) Methane, Oxybis[Chloro-

Waste Code: P017
Waste Description: 2-Propanone, 1-Bromo- (Or) Bromoacetone

Waste Code: P018
Waste Description: Brucine (Or) Strychnidin-10-One, 2,3-Dimethoxy-

Waste Code: P020
Waste Description: Dinoseb (Or) Phenol, 2-(1-Methylpropyl)-4,6-Dinitro-

Waste Code: P021
Waste Description: Calcium Cyanide (Or) Calcium Cyanide Ca(Cn)2

Waste Code: P022
Waste Description: Carbon Disulfide

Waste Code: P023
Waste Description: Acetaldehyde, Chloro- (Or) Chloroacetaldehyde

Waste Code: P024
Waste Description: Benzenamine, 4-Chloro- (Or) P-Chloraniline

Waste Code: P026
Waste Description: 1-(O-Chlorophenyl)Thiourea (Or) Thiourea, (2-Chlorophenyl)-

Waste Code: P027
Waste Description: 3-Chloropropionitrile (Or) Propanenitrile, 3-Chloro-

Waste Code: P028
Waste Description: Benzene, (Chloromethyl)- (Or) Benzyl Chloride

Waste Code: P029
Waste Description: Copper Cyanide (Or) Copper Cyanide Cu(Cn)

Waste Code: P030
Waste Description: Cyanides (Soluble Cyanide Salts), Not Otherwise Specified

Waste Code: P031
Waste Description: Cyanogen (Or) Ethanedinitrile

Waste Code: P033
Waste Description: Cyanogen Chloride (Or) Cyanogen Chloride (Cn)Cl

Waste Code: P034
Waste Description: 2-Cyclohexyl-4,6-Dinitrophenol (Or) Phenol, 2-Cyclohexyl-4,6-Dinitro-

Waste Code: P036
Waste Description: Arsonous Dichloride, Phenyl- (Or) Dichlorophenylarsine

Waste Code: P037
Waste Description: 2,7:3,6-Dimethanonaphth[2,3-B]Oxirene,
3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro-, (1aalpha,
2beta, 2aalpha, 3beta, 6beta, 6aalpha, 7beta, 7aalpha)- (Or) Dieldrin

Waste Code: P038
Waste Description: Arsine, Diethyl- (Or) Diethylarsine

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Waste Code: P039
Waste Description: Disulfoton (Or) Phosphorodithioic Acid, O,O-Diethyl S-[2-(Ethylthio)Ethyl] Ester

Waste Code: P040
Waste Description: O,O-Diethyl O-Pyrazinyl Phosphorothioate (Or) Phosphorothioic Acid, O,O-Diethyl O-Pyrazinyl Ester

Waste Code: P041
Waste Description: Diethyl-P-Nitrophenyl Phosphate (Or) Phosphoric Acid, Diethyl 4-Nitrophenyl Ester

Waste Code: P042
Waste Description: 1,2-Benzenediol, 4-[1-Hydroxy-2-(Methylamino)Ethyl]-, (R)- (Or) Epinephrine

Waste Code: P043
Waste Description: Diisopropylfluorophosphate (Dfp) (Or) Phosphorofluoridic Acid, Bis(1-Methylethyl) Ester

Waste Code: P044
Waste Description: Dimethoate (Or) Phosphorodithioic Acid, O,O-Dimethyl S-[2-(Methylamino)-2-Oxoethyl] Ester

Waste Code: P045
Waste Description: 2-Butanone, 3,3-Dimethyl-1-(Methylthio)-, O-[Methylamino)Carbonyl] Oxime (Or) Thiofanox

Waste Code: P046
Waste Description: Alpha,Alpha-Dimethylphenethylamine (Or) Benzeneethanamine, Alpha, Alpha-Dimethyl-

Waste Code: P047
Waste Description: 4,6-Dinitro-O-Cresol, & Salts (Or) Phenol, 2-Methyl-4,6-Dinitro-, & Salts

Waste Code: P048
Waste Description: 2,4-Dinitrophenol (Or) Phenol, 2,4-Dinitro-

Waste Code: P049
Waste Description: Dithiobiuret (Or) Thioimidodicarbonic Diamide [(H2n)C(S)]2nh

Waste Code: P050
Waste Description: 6,9-Methano-2,4,3-Benzodioxathiepin,6,7,8,9,10,10-Hexachloro-1,5,5a,6, 9,9a-Hexahydro-,3-Oxide (Or) Endosulfan

Waste Code: P051
Waste Description: 2,7:3,6-Dimethanonaphth[2,3-B]Oxirene, 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro-, (1aalpha, 2beta, 2abeta, 3alpha, 6alpha, 6abeta, 7beta, 7aalpha)- & Metabolites (Or) Endrin (Or) Endrin, & Metabolites

Waste Code: P054
Waste Description: Aziridine (Or) Ethyleneimine

Waste Code: P056
Waste Description: Fluorine

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Waste Code:	P057
Waste Description:	Acetamide, 2-Fluoro- (Or) Fluoroacetamide
Waste Code:	P058
Waste Description:	Acetic Acid, Fluoro-, Sodium Salt (Or) Fluoroacetic Acid, Sodium Salt
Waste Code:	P059
Waste Description:	4,7-Methano-1h-Indene, 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-Tetrahydro- (Or) Heptachlor
Waste Code:	P060
Waste Description:	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-Hexa-Chloro-1,4,4a,5,8,8a,-Hexahydro-, (1alpha, 4alpha, 4abeta, 5beta, 8beta, 8abeta)- (Or) Isodrin
Waste Code:	P062
Waste Description:	Hexaethyl Tetraphosphate (Or) Tetraphosphoric Acid, Hexaethyl Ester
Waste Code:	P063
Waste Description:	Hydrocyanic Acid (Or) Hydrogen Cyanide
Waste Code:	P064
Waste Description:	Methane, Isocyanato- (Or) Methyl Isocyanate
Waste Code:	P065
Waste Description:	Fulminic Acid, Mercury(2+) Salt (R,T) (Or) Mercury Fulminate (R,T)
Waste Code:	P066
Waste Description:	Ethanimidothioic Acid, N-[[(Methylamino)Carbonyl]Oxy]-, Methyl Ester (Or) Methomyl
Waste Code:	P067
Waste Description:	1,2-Propylenimine (Or) Aziridine, 2-Methyl-
Waste Code:	P068
Waste Description:	Hydrazine, Methyl- (Or) Methyl Hydrazine
Waste Code:	P069
Waste Description:	2-Methyllactonitrile (Or) Propanenitrile, 2-Hydroxy-2-Methyl-
Waste Code:	P070
Waste Description:	Aldicarb (Or) Propanal, 2-Methyl-2-(Methylthio)-, O-[(Methylamino)Carbonyl]Oxime
Waste Code:	P071
Waste Description:	Methyl Parathion (Or) Phosphorothioic Acid, O,O,-Dimethyl O-(4-Nitrophenyl) Ester
Waste Code:	P072
Waste Description:	Alpha-Naphthylthiourea (Or) Thiourea, 1-Naphthalenyl-
Waste Code:	P073
Waste Description:	Nickel Carbonyl (Or) Nickel Carbonyl Ni(Co)4, (T-4)-
Waste Code:	P074
Waste Description:	Nickel Cyanide (Or) Nickel Cyanide Ni(Cn)2

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Waste Code: P075
Waste Description: Nicotine, & Salts (Or) Pyridine, 3-(1-Methyl-2-Pyrrolidinyl)-,(S)-, & Salts

Waste Code: P076
Waste Description: Nitric Oxide (Or) Nitrogen Oxide No

Waste Code: P077
Waste Description: Benzenamine, 4-Nitro- (Or) P-Nitroaniline

Waste Code: P078
Waste Description: Nitrogen Dioxide (Or) Nitrogen Oxide No2

Waste Code: P081
Waste Description: 1,2,3-Propanetriol, Trinitrate (R) (Or) Nitroglycerine (R)

Waste Code: P082
Waste Description: Methanimine, N-Methyl-N-Nitroso- (Or) N-Nitrosodimethylamine

Waste Code: P084
Waste Description: N-Nitrosomethylvinylamine (Or) Vinylamine, N-Methyl-N-Nitroso-

Waste Code: P085
Waste Description: Diphosphoramide, Octamethyl- (Or) Octamethylpyrophosphoramide

Waste Code: P087
Waste Description: Osmium Oxide Oso4, (T-4)- (Or) Osmium Tetroxide

Waste Code: P088
Waste Description: 7-Oxabicyclo[2.2.1]Heptane-2,3-Dicarboxylic Acid (Or) Endothall

Waste Code: P089
Waste Description: Parathion (Or) Phosphorothioic Acid, O,O-Diethyl-O-(4-Nitrophenyl) Ester

Waste Code: P092
Waste Description: Mercury, (Acetato-O)Phenyl- (Or) Phenylmercury Acetate

Waste Code: P093
Waste Description: Phenylthiourea (Or) Thiourea, Phenyl-

Waste Code: P094
Waste Description: Phorate (Or) Phosphorodithioic Acid, O,O-Diethyl S-[(Ethylthio)Methyl] Ester

Waste Code: P095
Waste Description: Carbonic Dichloride (Or) Phosgene

Waste Code: P096
Waste Description: Hydrogen Phosphide (Or) Phosphine

Waste Code: P097
Waste Description: Famphur (Or) Phosphorothioic Acid O-[4-[(Dimethylamino)Sulfonyl]Phenyl] O,O-Dimethyl Ester

Waste Code: P098
Waste Description: Potassium Cyanide (Or) Potassium Cyanide K(Cn)

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Waste Code: P099
Waste Description: Argentate (1-), Bis(Cyano-C)-, Potassium (Or) Potassium Silver Cyanide

Waste Code: P101
Waste Description: Ethyl Cyanide (Or) Propanenitrile

Waste Code: P102
Waste Description: 2-Propyn-1-Ol (Or) Propargyl Alcohol

Waste Code: P103
Waste Description: Selenourea

Waste Code: P104
Waste Description: Silver Cyanide (Or) Silver Cyanide Ag(Cn)

Waste Code: P105
Waste Description: Sodium Azide

Waste Code: P106
Waste Description: Sodium Cyanide (Or) Sodium Cyanide Na(Cn)

Waste Code: P107
Waste Description: Strontium Sulfide Srs

Waste Code: P108
Waste Description: Strychnidin-10-One, & Salts (Or) Strychnine, & Salts

Waste Code: P109
Waste Description: Tetraethyldithiopyrophosphate (Or) Thiodiphosphoric Acid, Tetraethyl Ester

Waste Code: P110
Waste Description: Plumbane, Tetraethyl- (Or) Tetraethyl Lead

Waste Code: P111
Waste Description: Diphosphoric Acid, Tetraethyl Ester (Or) Tetraethyl Pyrophosphate

Waste Code: P112
Waste Description: Methane, Tetranitro- (R) (Or) Tetranitromethane (R)

Waste Code: P113
Waste Description: Thallic Oxide (Or) Thallium Oxide Tl2o3

Waste Code: P114
Waste Description: Selenious Acid, Dithallium (1+) Salt (Or) Thallium(I) Selenite

Waste Code: P115
Waste Description: Sulfuric Acid, Dithallium (1+) Salt (Or) Thallium(I) Sulfate

Waste Code: P116
Waste Description: Hydrazinecarbothioamide (Or) Thiosemicarbazide

Waste Code: P118
Waste Description: Methanethiol, Trichloro- (Or) Trichloromethanethiol

Waste Code: P119
Waste Description: Ammonium Vanadate (Or) Vanadic Acid, Ammonium Salt

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Waste Code: P120
Waste Description: Vanadium Oxide V2o5 (Or) Vanadium Pentoxide

Waste Code: P121
Waste Description: Zinc Cyanide (Or) Zinc Cyanide Zn(Cn)2

Waste Code: P122
Waste Description: Zinc Phosphide Zn3p2, When Present At Concentrations Greater Than 10% (R,T)

Waste Code: P123
Waste Description: Toxaphene

Waste Code: P127
Waste Description: P127

Waste Code: P128
Waste Description: P128

Waste Code: P185
Waste Description: 1,3-Dithiolane-2-Carboxaldehyde, 2,4-Dimethyl-, O-[(Methylamino)-Carbonyl]Oxime (Or) Tirpate

Waste Code: P188
Waste Description: Benzoic Acid, 2-Hydroxy-, Compd. With (3as-Cis)-1,2,3,3a,8,8a-Hexahydro-1,3a,8-Trimethylpyrrolo[2,3-B]Indol-5-Yl Methylcarbamate Ester (1:1) (Or) Physostigmine Salicylate

Waste Code: P189
Waste Description: Carbamic Acid, [(Dibutylamino)-Thio]Methyl-, 2,3-Dihydro-2,2-Dimethyl -7-Benzofuranyl Ester (Or) Carbosulfan

Waste Code: P190
Waste Description: Carbamic Acid, Methyl-, 3-Methylphenyl Ester (Or) Metolcarb

Waste Code: P191
Waste Description: Carbamic Acid, Dimethyl-, 1-[(Dimethyl-Amino)Carbonyl]- 5-Methyl-1h-Pyrazol-3-Yl Ester (Or) Dimetilan

Waste Code: P192
Waste Description: Isolan (Or) Carbamic Acid, Dimethyl-, 3-Methy-L-(1-Methylethyl)-1h-Pyrazol-5-Yl Ester

Waste Code: P194
Waste Description: Ethanimidothioc Acid, 2-(Dimethylamino)-N-[[(Methylamino) Carbonyl]Oxy]-2-Oxo-, Methyl Ester (Or) Oxamyl

Waste Code: P196
Waste Description: Manganese Dimethyldithiocarbamate (Or) Manganese, Bis(Dimethylcarbamodithioato-S,S')-,

Waste Code: P197
Waste Description: Formparanate (Or) Methanimidamide, N,N-Dimethyl-N'-[2-Methyl-4-[[(Methylamino)Carbonyl]Oxy]Phenyl]

Waste Code: P198
Waste Description: Methanimidamide,

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N,N-Dimethyl-N'-[3-[[(Methylamino)-Carbonyl]Oxy]Phenyl]-, Monohydrochloride (Or) Formetanate Hydrochloride

Waste Code: P199
Waste Description: P199

Waste Code: P201
Waste Description: Phenol, 3-Methyl-5-(1-Methylethyl)-, Methyl Carbamate (Or) Promecarb

Waste Code: P202
Waste Description: M-Cumenyl Methylcarbamate (Or) 3-Isopropylphenyl N-Methylcarbamate (Or) Phenol, 3-(1-Methylethyl)-, Methyl Carbamate

Waste Code: P203
Waste Description: Aldicarb Sulfone (Or) Propanal, 2-Methyl-2-(Methyl-Sulfonyl)-, O-[(Methylamino)Carbonyl] Oxime

Waste Code: P204
Waste Description: Physostigmine (Or) Pyrrolo[2,3-B]Indol-5-Ol, 1,2,3,3a,8,8a-Hexahydro-1,3a,8-Trimethyl-Methylcarbamate (Ester), (3as-Cis)-

Waste Code: P205
Waste Description: Zinc, Bis(Dimethylcarbamodithioato-S,S')-, (Or) Ziram

Waste Code: U001
Waste Description: Acetaldehyde (I) (Or) Ethanal (I)

Waste Code: U002
Waste Description: 2-Propanone (I) (Or) Acetone (I)

Waste Code: U003
Waste Description: Acetonitrile (I,T)

Waste Code: U004
Waste Description: Acetophenone (Or) Ethanone, 1-Phenyl-

Waste Code: U005
Waste Description: 2-Acetylaminofluorene (Or) Acetamide, N-9h-Fluoren-2-Yl

Waste Code: U006
Waste Description: Acetyl Chloride (C,R,T)

Waste Code: U007
Waste Description: 2-Propenamide (Or) Acrylamide

Waste Code: U008
Waste Description: 2-Propenoic Acid (I) (Or) Acrylic Acid (I)

Waste Code: U009
Waste Description: 2-Propenenitrile (Or) Acrylonitrile

Waste Code: U010
Waste Description: Azirino [2',3':3,4]Pyrrolo[1,2-A]Indole-4,7-Dione, 6-Amino-8-[[(Aminocarbonyl)Oxy]Methyl]-1,1a,2,8,8a,8b-Hexahydro-8a-Methoxy-5-Methyl-, [1as-(1aalpha, 8beta, 8aalpha, 8balpha)]- (Or) Mitomycin C

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Waste Code:	U011
Waste Description:	1h-1,2,4-Triazol-3-Amine (Or) Amitrole
Waste Code:	U012
Waste Description:	Aniline (I,T) (Or) Benzenamine (I,T)
Waste Code:	U014
Waste Description:	Auramine (Or) Benzenamine, 4,4'-Carbonimidoylbis[N,N-Dimethyl-
Waste Code:	U015
Waste Description:	Azaserine (Or) L-Serine, Diazoacetate (Ester)
Waste Code:	U016
Waste Description:	Benz[C]Acridine
Waste Code:	U017
Waste Description:	Benzal Chloride (Or) Benzene, (Dichloromethyl)-
Waste Code:	U018
Waste Description:	Benz[A]Anthracene
Waste Code:	U019
Waste Description:	Benzene (I,T)
Waste Code:	U020
Waste Description:	Benzenesulfonic Acid Chloride (C,R) (Or) Benzenesulfonyl Chloride (C,R)
Waste Code:	U021
Waste Description:	[1,1'-Biphenyl]-4,4'-Diamine (Or) Benzidine
Waste Code:	U022
Waste Description:	Benzo[A]Pyrene
Waste Code:	U023
Waste Description:	Benzene, (Trichloromethyl)- (Or) Benzotrichloride (C,R,T)
Waste Code:	U024
Waste Description:	Dichloromethoxy Ethane (Or) Ethane, 1,1'-[Methylenebis(Oxy)]Bis[2-Chloro-
Waste Code:	U025
Waste Description:	Dichloroethyl Ether (Or) Ethane, 1,1'-Oxybis[2-Chloro-
Waste Code:	U026
Waste Description:	Chlornaphazin (Or) Naphthalenamine, N,N'-Bis(2-Chloroethyl)-
Waste Code:	U027
Waste Description:	Dichloroisopropyl Ether (Or) Propane, 2,2'-Oxybis[2-Chloro-
Waste Code:	U028
Waste Description:	1,2-Benzenedicarboxylic Acid, Bis(2-Ethylhexyl) Ester (Or) Diethylhexyl Phthalate
Waste Code:	U029
Waste Description:	Methane, Bromo- (Or) Methyl Bromide

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Waste Code: U030
Waste Description: 4-Bromophenyl Phenyl Ether (Or) Benzene, 1-Bromo-4-Phenoxy-

Waste Code: U031
Waste Description: 1-Butanol (I) (Or) N-Butyl Alcohol (I)

Waste Code: U032
Waste Description: Calcium Chromate (Or) Chromic Acid H2cro4, Calcium Salt

Waste Code: U033
Waste Description: Carbon Oxyfluoride (R,T) (Or) Carbonic Difluoride

Waste Code: U034
Waste Description: Acetaldehyde, Trichloro- (Or) Chloral

Waste Code: U035
Waste Description: Benzenebutanoic Acid, 4-[Bis(2-Chloroethyl)Amino]- (Or) Chlorambucil

Waste Code: U036
Waste Description: 4,7-Methano-1h-Indene,
1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-Hexahydro- (Or) Chlordane,
Alpha & Gamma Isomers

Waste Code: U037
Waste Description: Benzene, Chloro- (Or) Chlorobenzene

Waste Code: U038
Waste Description: Benzeneacetic Acid, 4-Chloro-Alpha-(4-Chlorophenyl)-Alpha-Hydroxy-,
Ethyl Ester (Or) Chlorobenzilate

Waste Code: U039
Waste Description: P-Chloro-M-Cresol (Or) Phenol, 4-Chloro-3-Methyl-

Waste Code: U041
Waste Description: Epichlorohydrin (Or) Oxirane, (Chloromethyl)-

Waste Code: U042
Waste Description: 2-Chloroethyl Vinyl Ether (Or) Ethene, (2-Chloroethoxy)-

Waste Code: U043
Waste Description: Ethene, Chloro- (Or) Vinyl Chloride

Waste Code: U044
Waste Description: Chloroform (Or) Methane, Trichloro-

Waste Code: U045
Waste Description: Methane, Chloro- (I,T) (Or) Methyl Chloride (I,T)

Waste Code: U046
Waste Description: Chloromethyl Methyl Ether (Or) Methane, Chloromethoxy-

Waste Code: U047
Waste Description: Beta-Chloronaphthalene (Or) Naphthalene, 2-Chloro-

Waste Code: U048
Waste Description: O-Chlorophenol (Or) Phenol, 2-Chloro-

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Waste Code: U049
Waste Description: 4-Chloro-O-Toluidine, Hydrochloride (Or) Benzenamine, 4-Chloro-2-Methyl-, Hydrochloride

Waste Code: U050
Waste Description: Chrysene

Waste Code: U051
Waste Description: Creosote

Waste Code: U052
Waste Description: Cresol (Cresylic Acid) (Or) Phenol, Methyl-

Waste Code: U053
Waste Description: 2-Butenal (Or) Crotonaldehyde

Waste Code: U055
Waste Description: Benzene, (1-Methylethyl)- (I) (Or) Cumene (I)

Waste Code: U056
Waste Description: Benzene, Hexahydro- (I) (Or) Cyclohexane (I)

Waste Code: U057
Waste Description: Cyclohexanone (I)

Waste Code: U058
Waste Description: 2h-1,3,2-Oxazaphosphorin-2-Amine, N,N-Bis(2-Chloroethyl)Tetrahydro-, 2-Oxide (Or) Cyclophosphamide

Waste Code: U059
Waste Description: 5,12-Naphthacenedione, 8-Acetyl-10-[(3-Amino-2,3,6-Trideoxy)-Alpha-L-Lyxo-Hexopyranosyl)Oxy]-7,8,9,10-Tetrahydro-6,8,11-Trihydroxy-1-Methoxy-, (8s-Cis)- (Or) Daunomycin

Waste Code: U060
Waste Description: Benzene, 1,1'-(2,2-Dichloroethylidene)Bis[4-Chloro- (Or) Ddd

Waste Code: U061
Waste Description: Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Chloro- (Or) Ddt

Waste Code: U062
Waste Description: Carbamothioic Acid, Bis(1-Methylethyl)-, S-(2,3-Dichloro-2-Propenyl) Ester (Or) Diallate

Waste Code: U063
Waste Description: Dibenz[A,H]Anthracene

Waste Code: U064
Waste Description: Benzo[Rst]Pentaphene (Or) Dibenzo[A,I]Pyrene

Waste Code: U066
Waste Description: 1,2-Dibromo-3-Chloropropane (Or) Propane, 1,2-Dibromo-3-Chloro-

Waste Code: U067
Waste Description: Ethane, 1,2-Dibromo- (Or) Ethylene Dibromide

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Waste Code: U068
Waste Description: Methane, Dibromo- (Or) Methylene Bromide

Waste Code: U069
Waste Description: 1,2-Benzenedicarboxylic Acid, Dibutyl Ester (Or) Dibutyl Phthalate

Waste Code: U070
Waste Description: Benzene, 1,2-Dichloro- (Or) O-Dichlorobenzene

Waste Code: U071
Waste Description: Benzene, 1,3-Dichloro- (Or) M-Dichlorobenzene

Waste Code: U072
Waste Description: Benzene, 1,4-Dichloro- (Or) P-Dichlorobenzene

Waste Code: U073
Waste Description: [1,1'-Biphenyl]-4,4'-Diamine, 3,3'-Dichloro- (Or) 3,3'-Dichlorobenzidine

Waste Code: U074
Waste Description: 1,4-Dichloro-2-Butene (I,T) (Or) 2-Butene, 1,4-Dichloro- (I,T)

Waste Code: U075
Waste Description: Dichlorodifluoromethane (Or) Methane, Dichlorodifluoro-

Waste Code: U076
Waste Description: Ethane, 1,1-Dichloro- (Or) Ethylidene Dichloride

Waste Code: U077
Waste Description: Ethane, 1,2-Dichloro- (Or) Ethylene Dichloride

Waste Code: U078
Waste Description: 1,1-Dichloroethylene (Or) Ethene, 1,1-Dichloro-

Waste Code: U079
Waste Description: 1,2-Dichloroethylene (Or) Ethene, 1,2-Dichloro-,(E)-

Waste Code: U080
Waste Description: Methane, Dichloro- (Or) Methylene Chloride

Waste Code: U081
Waste Description: 2,4-Dichlorophenol (Or) Phenol, 2,4-Dichloro-

Waste Code: U082
Waste Description: 2,6-Dichlorophenol (Or) Phenol, 2,6-Dichloro-

Waste Code: U083
Waste Description: Propane, 1,2-Dichloro- (Or) Propylene Dichloride

Waste Code: U084
Waste Description: 1,3-Dichloropropene (Or) 1-Propene, 1,3-Dichloro-

Waste Code: U085
Waste Description: 1,2:3,4-Diepoxybutane (I,T) (Or) 2,2'-Bioxirane

Waste Code: U086
Waste Description: Hydrazine, 1,2-Diethyl- (Or) N,N'-Diethylhydrazine

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Waste Code: U087
Waste Description: O,O-Diethyl S-Methyl Dithiophosphate (Or) Phosphorodithioic Acid, O,O-Diethyl S-Methyl Ester

Waste Code: U088
Waste Description: 1,2-Benzenedicarboxylic Acid, Diethyl Ester (Or) Diethyl Phthalate

Waste Code: U089
Waste Description: Diethylstilbesterol (Or) Phenol, 4,4'-(1,2-Diethyl-1,2-Ethenediyl)Bis, (E)-

Waste Code: U090
Waste Description: 1,3-Benzodioxole, 5-Propyl- (Or) Dihydrosafrole

Waste Code: U091
Waste Description: [1,1'-Biphenyl]-4,4'-Diamine, 3,3'-Dimethoxy- (Or) 3,3'-Dimethoxybenzidine

Waste Code: U092
Waste Description: Dimethylamine (I) (Or) Methanamine, N-Methyl- (I)

Waste Code: U093
Waste Description: Benzenamine, N,N-Dimethyl-4-(Phenylazo)- (Or) P-Dimethylaminoazobenzene

Waste Code: U094
Waste Description: 7,12-Dimethylbenz[A]Anthracene (Or) Benz[A]Anthracene, 7,12-Dimethyl-

Waste Code: U095
Waste Description: [1,1'-Biphenyl]-4,4'-Diamine, 3,3'-Dimethyl- (Or) 3,3'-Dimethylbenzidine

Waste Code: U096
Waste Description: Alpha,Alpha-Dimethylbenzylhydroperoxide (R) (Or) Hydroperoxide, 1-Methyl-1-Phenylethyl- (R)

Waste Code: U097
Waste Description: Carbamic Chloride, Dimethyl- (Or) Dimethylcarbamoyl Chloride

Waste Code: U098
Waste Description: 1,1-Dimethylhydrazine (Or) Hydrazine, 1,1-Dimethyl-

Waste Code: U099
Waste Description: 1,2-Dimethylhydrazine (Or) Hydrazine, 1,2-Diphenyl-

Waste Code: U101
Waste Description: 2,4-Dimethylphenol (Or) Phenol, 2,4-Dimethyl-

Waste Code: U102
Waste Description: 1,2-Benzenedicarboxylic Acid, Dimethyl Ester (Or) Dimethyl Phthalate

Waste Code: U103
Waste Description: Dimethyl Sulfate (Or) Sulfuric Acid, Dimethyl Ester

Waste Code: U105
Waste Description: 2,4-Dinitrotoluene (Or) Benzene, 1-Methyl-2,4-Dinitro-

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Waste Code: U106
Waste Description: 2,6-Dinitrotoluene (Or) Benzene, 2-Methyl-1,3-Dinitro-

Waste Code: U107
Waste Description: 1,2-Benzenedicarboxylic Acid, Dioctyl Ester (Or) Di-N-Octyl Phthalate

Waste Code: U108
Waste Description: 1,4-Diethyleneoxide (Or) 1,4-Dioxane

Waste Code: U109
Waste Description: 1,2-Diphenylhydrazine (Or) Hydrazine, 1,2-Diphenyl-

Waste Code: U110
Waste Description: 1-Propanimine, N-Propyl-(I) (Or) Dipropylamine (I)

Waste Code: U111
Waste Description: 1-Propanamine, N-Nitroso-N-Propyl- (Or) Di-N-Propylnitrosamine

Waste Code: U112
Waste Description: Acetic Acid, Ethyl Ester (I) (Or) Ethyl Acetate (I)

Waste Code: U113
Waste Description: 2-Propenoic Acid, Ethyl Ester (I) (Or) Ethyl Acrylate (I)

Waste Code: U114
Waste Description: Carbamodithioic Acid, 1,2-Ethanediylbis-, Salts & Esters (Or) Ethylenebisdithiocarbamic Acid, Salts & Esters

Waste Code: U115
Waste Description: Ethylene Oxide (I,T) (Or) Oxirane (I,T)

Waste Code: U116
Waste Description: 2-Imidazolidinethione (Or) Ethylenethiourea

Waste Code: U117
Waste Description: Ethane, 1,1'-Oxybis-(I) (Or) Ethyl Ether (I)

Waste Code: U118
Waste Description: 2-Propenoic Acid, 2-Methyl-, Ethyl Ester (Or) Ethyl Methacrylate

Waste Code: U119
Waste Description: Ethyl Methanesulfonate (Or) Methanesulfonic Acid, Ethyl Ester

Waste Code: U120
Waste Description: Fluoranthene

Waste Code: U121
Waste Description: Methane, Trichlorofluoro- (Or) Trichloromonofluoromethane

Waste Code: U122
Waste Description: Formaldehyde

Waste Code: U123
Waste Description: Formic Acid (C,T)

Waste Code: U124
Waste Description: Furan (I) (Or) Furfuran (I)

IBM CORP (Continued) **1000108976**

Waste Code: U125
Waste Description: 2-Furancarboxaldehyde (I) (Or) Furfural (I)

Waste Code: U126
Waste Description: Glycidylaldehyde (Or) Oxiranecarboxyaldehyde

Waste Code: U127
Waste Description: Benzene, Hexachloro- (Or) Hexachlorobenzene

Waste Code: U128
Waste Description: 1,3-Butadiene, 1,1,2,3,4,4-Hexachloro- (Or) Hexachlorobutadiene

Waste Code: U129
Waste Description: Cyclohexane, 1,2,3,4,5,6-Hexachloro-, (1alpha, 2alpha, 3beta, 4alpha, 5alpha, 6beta)- (Or) Lindane

Waste Code: U130
Waste Description: 1,3-Cyclopentadiene, 1,2,3,4,5,5-Hexachloro- (Or) Hexachlorocyclopentadiene

Waste Code: U131
Waste Description: Ethane, Hexachloro- (Or) Hexachloroethane

Waste Code: U132
Waste Description: Hexachlorophene (Or) Phenol, 2,2'-Methylenebis[3,4,6-Trichloro-

Waste Code: U133
Waste Description: Hydrazine (R,T)

Waste Code: U134
Waste Description: Hydrofluoric Acid (C,T) (Or) Hydrogen Fluoride (C,T)

Waste Code: U135
Waste Description: Hydrogen Sulfide (Or) Hydrogen Sulfide H2s

Waste Code: U136
Waste Description: Arsinic Acid, Dimethyl- (Or) Cacodylic Acid

Waste Code: U137
Waste Description: Indeno[1,2,3-Cd]Pyrene

Waste Code: U138
Waste Description: Methane, Iodo- (Or) Methyl Iodide

Waste Code: U140
Waste Description: 1-Propanol, 2-Methyl- (I,T) (Or) Isobutyl Alcohol (I,T)

Waste Code: U141
Waste Description: 1,3-Benzodioxole, 5-(1-Propenyl)- (Or) Isosafrole

Waste Code: U142
Waste Description: 1,3,4-Metheno-2h-Cyclobuta[Cd]Pentalen-2-One, 1,1a,3,3a,4,5,5,5a,5b,6-Decachlorooctahydro- (Or) Kepone

Waste Code: U143
Waste Description: 2-Butenoic Acid, 2-Methyl-, 7-[[2,3-Dihydroxy-2-(1-Methoxyethyl)-3-Methyl-1-Oxobutoxy]Methyl]-2,3,

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5,7a-Tetrahydro-1h-Pyrrolizin-1-Yl Ester, [1s-[1alpha(Z), 7(2s*,3r*), 7aalpha]]- (Or) Lasiocarpine

Waste Code: U144
Waste Description: Acetic Acid, Lead(2+) Salt (Or) Lead Acetate

Waste Code: U145
Waste Description: Lead Phosphate (Or) Phosphoric Acid, Lead(2+) Salt (2:3)

Waste Code: U146
Waste Description: Lead Subacetate (Or) Lead, Bis(Acetato-O)Tetrahydroxytri-

Waste Code: U147
Waste Description: 2,5-Furandione (Or) Maleic Anhydride

Waste Code: U148
Waste Description: 3,6-Pyridazinedione, 1,2-Dihydro- (Or) Maleic Hydrazide

Waste Code: U149
Waste Description: Malononitrile (Or) Propanedinitrile

Waste Code: U150
Waste Description: L-Phenylalanine, 4-[Bis(2-Chloroethyl)Amino]- (Or) Melphalan

Waste Code: U151
Waste Description: Mercury

Waste Code: U152
Waste Description: 2-Propenenitrile, 2-Methyl- (I,T) (Or) Methacrylonitrile (I,T)

Waste Code: U153
Waste Description: Methanethiol (I,T) (Or) Thiomethanol (I,T)

Waste Code: U154
Waste Description: Methanol (I) (Or) Methyl Alcohol (I)

Waste Code: U155
Waste Description: 1,2-Ethanediamine, N,N-Dimethyl-N'-2-Pyridinyl-N'-(2-Thienylmethyl)- (Or) Methapyrilene

Waste Code: U156
Waste Description: Carbonochloridic Acid, Methyl Ester, (I,T) (Or) Methyl Chlorocarbonate (I,T)

Waste Code: U157
Waste Description: 3-Methylcholanthrene (Or) Benz[J]Aceanthrylene, 1,2-Dihydro-3-Methyl-

Waste Code: U158
Waste Description: 4,4'-Methylenebis(2-Chloroaniline) (Or) Benzenamine, 4,4'-Methylenebis[2-Chloro-

Waste Code: U159
Waste Description: 2-Butanone (I,T) (Or) Methyl Ethyl Ketone (Mek) (I,T)

Waste Code: U160
Waste Description: 2-Butanone, Peroxide (R,T) (Or) Methyl Ethyl Ketone Peroxide (R,T)

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Waste Code: U161
Waste Description: 4-Methyl-2-Pentanone (I) (Or) Methyl Isobutyl Ketone (I) (Or) Pentanol, 4-Methyl-

Waste Code: U162
Waste Description: 2-Propenoic Acid, 2-Methyl-, Methyl Ester (I,T) (Or) Methyl Methacrylate (I,T)

Waste Code: U163
Waste Description: Guanidine, N-Methyl-N'-Nitro-N-Nitroso- (Or) Mnng

Waste Code: U164
Waste Description: 4(1h)-Pyrimidinone, 2,3-Dihydro-6-Methyl-2-Thioxo- (Or) Methylthiouracil

Waste Code: U165
Waste Description: Naphthalene

Waste Code: U166
Waste Description: 1,4-Naphthalenedione (Or) 1,4-Naphthoquinone

Waste Code: U167
Waste Description: 1-Napthalenamine (Or) Alpha-Naphthylamine

Waste Code: U168
Waste Description: 2-Napthalenamine (Or) Beta-Naphthylamine

Waste Code: U169
Waste Description: Benzene, Nitro- (Or) Nitrobenzene (I,T)

Waste Code: U170
Waste Description: P-Nitrophenol (I,T) (Or) Phenol, 4-Nitro-

Waste Code: U171
Waste Description: 2-Nitropropane (I,T) (Or) Propane, 2-Nitro- (I,T)

Waste Code: U172
Waste Description: 1-Butanamine, N-Butyl-N-Nitroso- (Or) N-Nitrosodi-N-Butylamine

Waste Code: U173
Waste Description: Ethanol, 2,2'-(Nitrosoimino)Bis- (Or) N-Nitrosodiethanolamine

Waste Code: U174
Waste Description: Ethanamine, N-Ethyl-N-Nitroso- (Or) N-Nitrosodiethylamine

Waste Code: U176
Waste Description: N-Nitroso-N-Ethylurea (Or) Urea, N-Ethyl-N-Nitroso-

Waste Code: U177
Waste Description: N-Nitroso-N-Methylurea (Or) Urea, N-Methyl-N-Nitroso-

Waste Code: U178
Waste Description: Carbamic Acid, Methylnitroso-, Ethyl Ester (Or) N-Nitroso-N-Methylurethane

Waste Code: U179
Waste Description: N-Nitrosopiperidine (Or) Piperidine, 1-Nitroso-

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Waste Code: U180
Waste Description: N-Nitrosopyrrolidine (Or) Pyrrolidine, 1-Nitroso-

Waste Code: U181
Waste Description: 5-Nitro-O-Toluidine (Or) Benzenamine, 2-Methyl-5-Nitro

Waste Code: U182
Waste Description: 1,3,5-Trioxane, 2,4,6-Trimethyl- (Or) Paraldehyde

Waste Code: U183
Waste Description: Benzene, Pentachloro- (Or) Pentachlorobenzene

Waste Code: U184
Waste Description: Ethane, Pentachloro- (Or) Pentachloroethane

Waste Code: U185
Waste Description: Benzene, Pentachloronitro- (Or) Pentachloronitrobenzene (Pcnb)

Waste Code: U186
Waste Description: 1,3-Pentadiene (I) (Or) 1-Methylbutadiene (I)

Waste Code: U187
Waste Description: Acetamide, N-(4-Ethoxyphenyl)- (Or) Phenacetin

Waste Code: U188
Waste Description: Phenol

Waste Code: U189
Waste Description: Phosphorus Sulfide (R) (Or) Sulfur Phosphide (R)

Waste Code: U190
Waste Description: 1,3-Isobenzofurandione (Or) Phthalic Anhydride

Waste Code: U191
Waste Description: 2-Picoline (Or) Pyridine, 2-Methyl-

Waste Code: U192
Waste Description: Benzamide, 3,5-Dichloro-N-(1,1-Dimethyl-2-Propynyl)- (Or) Pronamide

Waste Code: U193
Waste Description: 1,2-Oxathiolane, 2,2-Dioxide (Or) 1,3-Propane Sultone

Waste Code: U194
Waste Description: 1-Propanamine (I,T) (Or) N-Propylamine (I,T)

Waste Code: U196
Waste Description: Pyridine

Waste Code: U197
Waste Description: 2,5-Cyclohexadiene-1,4-Dione (Or) P-Benzoquinone

Waste Code: U200
Waste Description: Reserpine (Or) Yohimban-16-Carboxylic Acid, 11,17-Dimethoxy-18-[(3,4,5-Trimethoxybenzoyl)Oxy]-, Methyl Ester, (3beta, 16beta, 17alpha, 18beta, 20alpha)-

Waste Code: U201

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Waste Description:	1,3-Benzenediol (Or) Resorcinol
Waste Code:	U202
Waste Description:	1,2-Benzisothiazol-3(2h)-One, 1,1-Dioxide, & Salts (Or) Saccharin, & Salts
Waste Code:	U203
Waste Description:	1,3-Benzodioxole, 5-(2-Propenyl)- (Or) Safrole
Waste Code:	U204
Waste Description:	Selenious Acid (Or) Selenium Dioxide
Waste Code:	U205
Waste Description:	Selenium Sulfide (Or) Selenium Sulfide Ses2 (R,T)
Waste Code:	U206
Waste Description:	D-Glucose, 2-Deoxy-2-[[(Methylnitrosoamino)-Carbonyl]Amino]- (Or) Glucopyranose, 2-Deoxy-2-(3-Methyl-3-Nitrosoureido)-,D- (Or) Streptozotocin
Waste Code:	U207
Waste Description:	1,2,4,5-Tetrachlorobenzene (Or) Benzene, 1,2,4,5-Tetrachloro-
Waste Code:	U208
Waste Description:	1,1,1,2-Tetrachloroethane (Or) Ethane, 1,1,1,2-Tetrachloro-
Waste Code:	U209
Waste Description:	1,1,2,2-Tetrachloroethane (Or) Ethane, 1,1,2,2-Tetrachloro-
Waste Code:	U210
Waste Description:	Ethene, Tetrachloro- (Or) Tetrachloroethylene
Waste Code:	U211
Waste Description:	Carbon Tetrachloride (Or) Methane, Tetrachloro-
Waste Code:	U213
Waste Description:	Furan, Tetrahydro-(I) (Or) Tetrahydrofuran (I)
Waste Code:	U214
Waste Description:	Acetic Acid, Thallium(1+) Salt (Or) Thallium(I) Acetate
Waste Code:	U215
Waste Description:	Carbonic Acid, Dithallium(1+) Salt (Or) Thallium(I) Carbonate
Waste Code:	U216
Waste Description:	Thallium Chloride Tlcl (Or) Thallium(I) Chloride
Waste Code:	U217
Waste Description:	Nitric Acid, Thallium(1+) Salt (Or) Thallium(I) Nitrate
Waste Code:	U218
Waste Description:	Ethanethioamide (Or) Thioacetamide
Waste Code:	U219
Waste Description:	Thiourea
Waste Code:	U220

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Waste Description: Benzene, Methyl- (Or) Toluene

Waste Code: U221
Waste Description: Benzenediamine, Ar-Methyl- (Or) Toluenediamine

Waste Code: U222
Waste Description: Benzenamine, 2-Methyl-, Hydrochloride (Or) O-Toluidine Hydrochloride

Waste Code: U223
Waste Description: Benzene, 1,3-Diisocyanatomethyl- (R,T) (Or) Toluene Diisocyanate (R,T)

Waste Code: U225
Waste Description: Bromoform (Or) Methane, Tribromo-

Waste Code: U226
Waste Description: Ethane, 1,1,1-Trichloro- (Or) Methyl Chloroform

Waste Code: U227
Waste Description: 1,1,2-Trichloroethane (Or) Ethane, 1,1,2-Trichloro-

Waste Code: U228
Waste Description: Ethene, Trichloro- (Or) Trichloroethylene

Waste Code: U234
Waste Description: 1,3,5-Trinitrobenzene (R,T) (Or) Benzene, 1,3,5-Trinitro-

Waste Code: U235
Waste Description: 1-Propanol, 2,3-Dibromo-, Phosphate (3:1) (Or) Tris(2,3,-Dibromopropyl) Phosphate

Waste Code: U236
Waste Description: 2,7-Naphthalenedisulfonic Acid,3,3'-[(3,3'-Dimethyl[1,1'-Biphenyl]-4,4'-Diyl)Bis(Azo)Bis[5-Amino -4-Hydroxy]-, Tetrasodium Salt (Or) Trypan Blue

Waste Code: U237
Waste Description: 2,4-(1h,3h)-Pyrimidinedione, 5-[Bis(2-Chloroethyl)Amino]- (Or) Uracil Mustard

Waste Code: U238
Waste Description: Carbamic Acid, Ethyl Ester (Or) Ethyl Carbamate (Urethane)

Waste Code: U239
Waste Description: Benzene, Dimethyl- (I,T) (Or) Xylene (I)

Waste Code: U240
Waste Description: 2,4-D, Salts & Esters (Or) Acetic Acid, (2,4-Dichlorophenoxy)-, Salts & Esters (Or) Dichlorophenoxyacetic Acid 2,4-D

Waste Code: U243
Waste Description: 1-Propene, 1,1,2,3,3,3-Hexachloro- (Or) Hexachloropropene

Waste Code: U244
Waste Description: Thioperoxydicarbonic Diamide [(H2n)C(S)]2s2, Tetramethyl- (Or) Thiram

Waste Code: U246
Waste Description: Cyanogen Bromide (Cn)Br

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Waste Code:	U247
Waste Description:	Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Methoxy- (Or) Methoxychlor
Waste Code:	U248
Waste Description:	2h-1-Benzopyran-2-One, 4-Hydroxy-3-(3-Oxo-1-Phenyl-Butyl)-, & Salts, When Present At Concentrations Of 0.3% Or Less (Or) Warfarin, & Salts, When Present At Concentrations Of 0.3% Or Less
Waste Code:	U249
Waste Description:	Zinc Phosphide Zn3p2, When Present At Concentrations Of 10% Or Less
Waste Code:	U271
Waste Description:	Benomyl (Or) Carbamic Acid, [1-[(Butylamino)Carbonyl]-1h-Benzimidazol-2-Yl]-, Methyl Ester
Waste Code:	U277
Waste Description:	Sulfallate (Or) Carbamodithioic Acid, Diethyl-, 2-Chloro-2-Propenyl Ester
Waste Code:	U278
Waste Description:	Bendiocarb (Or) 1,3-Benzodioxol-4-Ol, 2,2-Dimethyl-, Methyl Carbamate
Waste Code:	U279
Waste Description:	U279
Waste Code:	U280
Waste Description:	Barban (Or) Carbamic Acid, (3-Chlorophenyl)-, 4-Chloro-2-Butynyl Ester
Waste Code:	U328
Waste Description:	Benzenamine, 2-Methyl- (Or) O-Toluidine
Waste Code:	U353
Waste Description:	Benzenamine, 4-Methyl- (Or) P-Toluidine
Waste Code:	U359
Waste Description:	Ethanol, 2-Ethoxy- (Or) Ethylene Glycol Monoethyl Ether
Waste Code:	U364
Waste Description:	Bendiocarb Phenol (Or) 1,3-Benzodioxol-4-Ol, 2,2-Dimethyl-
Waste Code:	U365
Waste Description:	H-Azepine-1-Carbothioic Acid, Hexahydro-, S-Ethyl Ester (Or) Molinate
Waste Code:	U366
Waste Description:	Dazomet (Or) 2h-1,3,5-Thiadiazine- 2-Thione, Tetrahydro-3,5-Dimethyl-
Waste Code:	U367
Waste Description:	7-Benzofuranol, 2,3-Dihydro-2,2-Dimethyl- (Or) Carbofuran Phenol
Waste Code:	U372
Waste Description:	Carbamic Acid, 1h-Benzimidazol-2-Yl, Methyl Ester (Or) Carbendazim
Waste Code:	U373
Waste Description:	Carbamic Acid, Phenyl-, 1-Methylethyl Ester (Or) Propham
Waste Code:	U375

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Waste Description: Carbamic Acid, Butyl-, 3-Iodo-2-Propynyl Ester (Or) 3-Iodo-2-Propynyl N-Butylcarbamate

Waste Code: U376
Waste Description: Carbamodithioic Acid, Dimethyl-, Tetraanhydrosulfide With Orthothiosetenious Acid (Or) Selenium, Tetrakis (Dimethyldithiocarbamate)

Waste Code: U377
Waste Description: Carbamodithioic Acid, Methyl-, Monopotassium Salt (Or) Potassium N-Methyldithiocarbamate

Waste Code: U378
Waste Description: Carbamodithioic Acid, (Hydroxymethyl) Methyl-, Monopotassium Salt (Or) Potassium N-Hydroxymethyl- N-Methyldi-Thiocarbamate

Waste Code: U379
Waste Description: Sodium Dibutyldithiocarbamate (Or) Carbamodithioic Acid, Dibutyl, Sodium Salt

Waste Code: U381
Waste Description: Carbamodithioic Acid, Diethyl-, Sodium Salt (Or) Sodium Diethyldithiocarbamate

Waste Code: U382
Waste Description: Carbamodithioic Acid, Dimethyl-, Sodium Salt (Or) Sodium Dimethyldithiocarbamate

Waste Code: U383
Waste Description: Carbamodithioic Acid, Dimethyl, Potassium Salt (Or) Potassium Dimethyldithiocarbamate

Waste Code: U384
Waste Description: Carbamodithioic Acid, Methyl-, Monosodium Salt (Or) Metam Sodium

Waste Code: U385
Waste Description: Carbamothioic Acid, Dipropyl-, S-Propyl Ester

Waste Code: U386
Waste Description: Carbamothioic Acid, Cyclohexylethyl-, S-Ethyl Ester (Or) Cycloate

Waste Code: U387
Waste Description: Carbamothioic Acid, Dipropyl-, S-(Phenylmethyl) Ester (Or) Prosulfocarb

Waste Code: U389
Waste Description: Carbamothioic Acid, Bis(1-Methylethyl)-, S-(2,3,3-Trichloro-2-Propenyl) Ester (Or) Triallate

Waste Code: U390
Waste Description: Carbamothioic Acid, Dipropyl-, S-Ethyl Ester (Or) Eptc

Waste Code: U391
Waste Description: Carbamothioic Acid, Butylethyl-, S-Propyl Ester (Or) Pebulate

Waste Code: U392
Waste Description: Butylate (Or) Carbamothioic Acid, Bis(2-Methylpropyl)-, S-Ethyl Ester

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Waste Code: U393
Waste Description: Copper, Bis(Dimethylcarbamodithioato-S,S')- (Or) Copper Dimethyldithiocarbamate

Waste Code: U394
Waste Description: A2213 (Or) Ethanimidothioic Acid, 2-(Dimethylamino)-N-Hydroxy-2-Oxo-, Methyl Ester

Waste Code: U395
Waste Description: Diethylene Glycol, Dicarbamate (Or) Ethanol, 2,2'-Oxybis-, Dicarbamate

Waste Code: U396
Waste Description: Ferbam (Or) Iron, Tris(Dimethylcarbamodithioato-S,S')-,

Waste Code: U400
Waste Description: Bis(Pentamethylene)Thiuram Tetrasulfide (Or) Piperidine, 1,1'-(Tetrathiodicarbonothioyl)-Bis-

Waste Code: U401
Waste Description: Bis(Dimethylthiocarbamoyl) Sulfide (Or) Tetramethylthiuram Monosulfide

Waste Code: U402
Waste Description: Tetrabutylthiuram Disulfide (Or) Thioperoxydicarbonic Diamide, Tetrabutyl

Waste Code: U403
Waste Description: Disulfiram (Or) Thioperoxydicarbonic Diamide, Tetraethyl

Waste Code: U404
Waste Description: U404

Waste Code: U407
Waste Description: Ethyl Ziram

Waste Code: U408
Waste Description: U408

Waste Code: U409
Waste Description: Carbamic Acid, [1,2-Phenylenebis (Iminocarbonothioyl)]Bis-, Dimethyl Ester (Or) Thiophanate-Methyl

Waste Code: U410
Waste Description: Ethanimidothioic Acid, N,N'-[Thiobis[(Methylimino)Carbonyloxy]]Bis-, Dimethyl Ester (Or) Thiodicarb

Waste Code: U411
Waste Description: U411

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19910328
Date Ended Current: Not reported
Owner/Operator Address: 740 W NEW CIRCLE RD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: Not reported

IBM CORP (Continued) **1000108976**

Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
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Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported

IBM CORP (Continued) **1000108976**

Owner/Operator Address: 740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: 740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: 740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19910328
Date Ended Current: Not reported
Owner/Operator Address: 740 W NEW CIRCLE RD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: LEXMARK INTERNATIONAL, INC.
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 740 NEW CIRCLE ROAD
Owner/Operator City,State,Zip: LEXINGTON, KY 40511
Owner/Operator Telephone: 606-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL

IBM CORP (Continued) **1000108976**

Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL, INC.	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	740 W NEW CIRCLE RD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

IBM CORP (Continued) **1000108976**

Owner/Operator Indicator:	Operator
Owner/Operator Name: UNKNOWN	
Legal Status:	Private
Date Became Current:	20030214
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported

IBM CORP (Continued) **1000108976**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: 740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: 740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported

IBM CORP (Continued) **1000108976**

Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL, INC.
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 740 W NEW CIRCLE RD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: UNKNOWN
Legal Status: Private
Date Became Current: 20030214
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private

IBM CORP (Continued) **1000108976**

Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 W NEW CIRCLE RD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL, INC.	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	740 W NEW CIRCLE RD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

IBM CORP (Continued) **1000108976**

Owner/Operator Indicator:	Operator
Owner/Operator Name: UNKNOWN	
Legal Status:	Private
Date Became Current:	20030214
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	859-232-2000
Owner/Operator Telephone Ext:	Not reported

IBM CORP (Continued) **1000108976**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: SAME
Legal Status: Private
Date Became Current: 19910328
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL, INC.
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 740 W NEW CIRCLE RD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: UNKNOWN
Legal Status: Private
Date Became Current: 20030214
Date Ended Current: Not reported
Owner/Operator Address: Not reported

IBM CORP (Continued) **1000108976**

Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL, INC.
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 740 W NEW CIRCLE RD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: LEXMARK INTERNATIONAL
Legal Status: Private
Date Became Current: 20060117
Date Ended Current: Not reported
Owner/Operator Address: 740 WEST NEW CIRCLE ROAD
Owner/Operator City,State,Zip: LEXINGTON, KY 40550
Owner/Operator Telephone: 859-232-2000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: N/A
Legal Status: Private

IBM CORP (Continued) **1000108976**

Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: N/A	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: LEXMARK INTERNATIONAL	
Legal Status:	Private
Date Became Current:	20060117
Date Ended Current:	Not reported
Owner/Operator Address:	740 W NEW CIRCLE RD
Owner/Operator City,State,Zip:	LEXINGTON, KY 40550
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: SAME	
Legal Status:	Private
Date Became Current:	19910328
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19910326
Handler Name: LEXMARK INTERNATIONAL INC.	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported

IBM CORP (Continued) **1000108976**

Electronic Manifest Broker: Not reported

Receive Date: 20100324
Handler Name: LEXMARK INTERNATIONAL INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19900911
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20000104
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20010104
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20010309
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator

IBM CORP (Continued) **1000108976**

State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20011214
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20020214
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20030214
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040216
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No

IBM CORP (Continued) **1000108976**

Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20050214
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20041229
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060117
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070124
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

IBM CORP (Continued) **1000108976**

Receive Date:	20080128
Handler Name:	LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	Yes
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20090202
Handler Name:	LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	Yes
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20100215
Handler Name:	LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	Yes
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20110214
Handler Name:	LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	Yes
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20120213
Handler Name:	LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Ky
Large Quantity Handler of Universal Waste:	Yes

IBM CORP (Continued) **1000108976**

Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20130220
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20140213
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20150213
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20160216
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

IBM CORP (Continued) **1000108976**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20170209
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180215
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20190228
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20200210
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20210217
Handler Name: LEXMARK INTERNATIONAL INC.

IBM CORP (Continued) **1000108976**

Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20220210
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20230215
Handler Name: LEXMARK INTERNATIONAL INC.
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Ky
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19900226
Handler Name: IBM CORPORATION
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19010101
Handler Name: LEXMARK INTERNATIONAL, INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No

IBM CORP (Continued) **1000108976**

Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19010101
Handler Name: LEXMARK INTERNATIONAL, INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19010101
Handler Name: LEXMARK INTERNATIONAL INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19980301
Handler Name: LEXMARK INTERNATIONAL INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20001127
Handler Name: LEXMARK INTERNATIONAL INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

IBM CORP (Continued) **1000108976**

Receive Date: 20020521
Handler Name: LEXMARK INTERNATIONAL INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060101
Handler Name: LEXMARK INTERNATIONAL INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20080118
Handler Name: LEXMARK INTERNATIONAL INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 32591
NAICS Description: PRINTING INK MANUFACTURING

NAICS Code: 332813
NAICS Description: ELECTROPLATING, PLATING, POLISHING, ANODIZING, AND COLORING

NAICS Code: 333313
NAICS Description: OFFICE MACHINERY MANUFACTURING

NAICS Code: 33341
NAICS Description: VENTILATION, HEATING, AIR-CONDITIONING, AND COMMERCIAL REFRIGERATION EQUIPMENT MANUFACTURING

NAICS Code: 33411
NAICS Description: COMPUTER AND PERIPHERAL EQUIPMENT MANUFACTURING

NAICS Code: 334119

IBM CORP (Continued) **1000108976**

NAICS Description: OTHER COMPUTER PERIPHERAL EQUIPMENT MANUFACTURING

NAICS Code: 334412
NAICS Description: BARE PRINTED CIRCUIT BOARD MANUFACTURING

NAICS Code: 335999
NAICS Description: ALL OTHER MISCELLANEOUS ELECTRICAL EQUIPMENT AND COMPONENT MANUFACTURING

NAICS Code: 33991
NAICS Description: JEWELRY AND SILVERWARE MANUFACTURING

NAICS Code: 339944
NAICS Description: CARBON PAPER AND INKED RIBBON MANUFACTURING

Has the Facility Received Notices of Violations:

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19880211
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19900930
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Listing - General
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19890724
Actual Return to Compliance Date: 19911114
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920519
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYSMU
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 10000
Final Monetary Amount: 4500
Paid Amount: Not reported
Final Count: 1
Final Amount: 4500

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19901031
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19901031
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920602
Actual Return to Compliance Date:	19920602
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19920602
Enforcement Identifier:	000
Date of Enforcement Action:	19920602
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	VERBAL INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19880211
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	003
Date of Enforcement Action:	19880211
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19911114
Actual Return to Compliance Date:	19920131
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19911114
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYAME
Enforcement Responsible Sub-Organization: HW
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Listing - General
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	LDR - General
Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19901031
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19880211
Actual Return to Compliance Date: 19901031
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 003
Date of Enforcement Action: 19880211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890724
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19911114
Actual Return to Compliance Date:	19920131
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19890724
Actual Return to Compliance Date: 19911114
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 004
Date of Enforcement Action: 19890724
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19880211
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	003
Date of Enforcement Action:	19880211
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890724
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19931115
Actual Return to Compliance Date:	19931115
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19931115
Enforcement Identifier:	000
Date of Enforcement Action:	19931115
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	VERBAL INFORMAL
Enforcement Responsible Person:	KYLFU
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19911114
Actual Return to Compliance Date: 19920131
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19911114
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYAME
Enforcement Responsible Sub-Organization: HW
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890724
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19880211
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19900930
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19931115
Actual Return to Compliance Date:	19931115
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19931115
Enforcement Identifier:	000
Date of Enforcement Action:	19931115
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	KY
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	VERBAL INFORMAL
Enforcement Responsible Person:	KYLFU
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920602
Actual Return to Compliance Date:	19920602
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19920602
Enforcement Identifier:	000
Date of Enforcement Action:	19920602
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	VERBAL INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890724
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers

IBM CORP (Continued) **1000108976**

Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19900518
Actual Return to Compliance Date: 19901031
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19901031
Enforcement Identifier: 001
Date of Enforcement Action: 19900814
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19880211
Actual Return to Compliance Date: 19901031
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19900930
Enforcement Identifier: 001
Date of Enforcement Action: 19900814
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19911114
Actual Return to Compliance Date:	19920131
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19911114
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYAME
Enforcement Responsible Sub-Organization:	HW
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19901031
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19890724
Actual Return to Compliance Date: 19911114
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920519
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYSMU
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 10000
Final Monetary Amount: 4500
Paid Amount: Not reported
Final Count: 1
Final Amount: 4500

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers

IBM CORP (Continued) **1000108976**

Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19890724
Actual Return to Compliance Date: 19911114
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 004
Date of Enforcement Action: 19890724
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19911114
Actual Return to Compliance Date:	19920131
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19911114
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYAME
Enforcement Responsible Sub-Organization:	HW
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920602
Actual Return to Compliance Date:	19920602
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19920602
Enforcement Identifier:	000
Date of Enforcement Action:	19920602
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	VERBAL INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19911114
Actual Return to Compliance Date:	19920131
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19920602
Actual Return to Compliance Date:	19920602
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19920602
Enforcement Identifier:	000
Date of Enforcement Action:	19920602
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	VERBAL INFORMAL
Enforcement Responsible Person:	KYMSW
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	LDR - General
Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19901031
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	20020611
Actual Return to Compliance Date:	20020619
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20020715
Enforcement Identifier:	001
Date of Enforcement Action:	20020611
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYWSC
Enforcement Responsible Sub-Organization:	HW
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19911114
Actual Return to Compliance Date:	19920131
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	LDR - General
Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19901031
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890724
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements
Date Violation was Determined: 19890724
Actual Return to Compliance Date: 19911114
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 000
Date of Enforcement Action: 19920519
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person: KYSMU
Enforcement Responsible Sub-Organization: EN
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: 10000
Final Monetary Amount: 4500
Paid Amount: Not reported
Final Count: 1
Final Amount: 4500

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150106
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150106
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19910626
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20020611
Actual Return to Compliance Date:	20020619
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20020715
Enforcement Identifier:	001
Date of Enforcement Action:	20020611
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYWSC
Enforcement Responsible Sub-Organization:	HW
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20110210
Actual Return to Compliance Date:	20110210
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	20110210
Enforcement Identifier:	001
Date of Enforcement Action:	20110210
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	VERBAL INFORMAL
Enforcement Responsible Person:	KYAMI
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	20110210
Actual Return to Compliance Date:	20110210
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	20110210
Enforcement Identifier:	001
Date of Enforcement Action:	20110210
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	VERBAL INFORMAL
Enforcement Responsible Person:	KYAMI
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19911114
Actual Return to Compliance Date:	19920131
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	000
Date of Enforcement Action:	19920519
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL 3008(A) COMPLIANCE ORDER
Enforcement Responsible Person:	KYSMU
Enforcement Responsible Sub-Organization:	EN
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	10000
Final Monetary Amount:	4500
Paid Amount:	Not reported
Final Count:	1
Final Amount:	4500

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Manifest
Date Violation was Determined:	19880211
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19900930
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19920602
Actual Return to Compliance Date: 19920602
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19920602
Enforcement Identifier: 000
Date of Enforcement Action: 19920602
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Manifest
Date Violation was Determined: 19880211
Actual Return to Compliance Date: 19901031
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 003
Date of Enforcement Action: 19880211
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: LDR - General

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19901031
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19901031
Enforcement Identifier:	001
Date of Enforcement Action:	19900814
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Listing - General
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Universal Waste - Large Quantity Handlers

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	20150106
Actual Return to Compliance Date:	20150527
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	20150302
Enforcement Identifier:	001
Date of Enforcement Action:	20150106
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	KYIKR
Enforcement Responsible Sub-Organization:	FR
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General

IBM CORP (Continued) **1000108976**

Date Violation was Determined:	19900518
Actual Return to Compliance Date:	19910626
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19890724
Actual Return to Compliance Date:	19911114
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	004
Date of Enforcement Action:	19890724
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Records/Reporting
Date Violation was Determined: 19920602
Actual Return to Compliance Date: 19920602
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19920602
Enforcement Identifier: 000
Date of Enforcement Action: 19920602
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: VERBAL INFORMAL
Enforcement Responsible Person: KYMSW
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported

IBM CORP (Continued) **1000108976**

Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported

IBM CORP (Continued) **1000108976**

Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Universal Waste - Large Quantity Handlers
Date Violation was Determined: 20150106
Actual Return to Compliance Date: 20150527
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: 20150302
Enforcement Identifier: 001
Date of Enforcement Action: 20150106
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: KYIKR
Enforcement Responsible Sub-Organization: FR
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 19911114
Evaluation Responsible Agency: State

IBM CORP (Continued) **1000108976**

Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20090206
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900518
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19850424
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported

IBM CORP (Continued) **1000108976**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19970918
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19880211
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYBLY
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19900930
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19850226
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910626
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW

IBM CORP (Continued) **1000108976**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19901031
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19841002
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20080211
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910626
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

IBM CORP (Continued) **1000108976**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19970922
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900518
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19901031
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070618
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20130304
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State

IBM CORP (Continued) **1000108976**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920602
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920602
Scheduled Compliance Date:	19920602
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19850620
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920430
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920225
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19920131

IBM CORP (Continued) **1000108976**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900518
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19901031
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920430
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

Evaluation Date:	19930326
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20180829
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR

IBM CORP (Continued) **1000108976**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20190724
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890724
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150626
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930401
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

IBM CORP (Continued) **1000108976**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19920131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19960314
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890724
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20050228
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJHJ
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State

IBM CORP (Continued) **1000108976**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890724
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890724
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19911114

IBM CORP (Continued) **1000108976**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19880211
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYBLY
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890724
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19971013
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930929
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20060410
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20031120
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU

IBM CORP (Continued) **1000108976**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20170627
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYHJO
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported

IBM CORP (Continued) **1000108976**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19931115
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19931115
Scheduled Compliance Date:	19931115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19960131
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20221024
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	FO
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20020102
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900518
Evaluation Responsible Agency:	State

IBM CORP (Continued) **1000108976**

Found Violation:	No
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20170329
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19950906
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920225
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19920131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19911114

IBM CORP (Continued) **1000108976**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19901002
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20190724
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19880211
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYBLY
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19900930
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

Evaluation Date:	19931115
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19931115
Scheduled Compliance Date:	19931115
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19901002
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYVFR
Evaluation Responsible Sub-Organization:	07
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920602
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920602
Scheduled Compliance Date:	19920602
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20191003
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYHJO

IBM CORP (Continued) **1000108976**

Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20080422
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19900518
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19901031
Date of Request:	Not reported
Date Response Received:	Not reported

IBM CORP (Continued) **1000108976**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070706
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYAMI
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150706
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19941205
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20200817
Evaluation Responsible Agency:	State

IBM CORP (Continued) **1000108976**

Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	FO
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20110427
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920430
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19900930
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19950213
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19920131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910626
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031

IBM CORP (Continued) **1000108976**

Scheduled Compliance Date:	19901031
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19890724
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19960314
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

Evaluation Date:	19911113
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19920131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20070302
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYEGR

IBM CORP (Continued) **1000108976**

Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20100225
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYMWO
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19990427
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported

IBM CORP (Continued) **1000108976**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20220331
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	OPERATION AND MAINTENANCE INSPECTION
Evaluation Responsible Person Identifier:	KYCWI
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920602
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920602
Scheduled Compliance Date:	19920602
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19950213
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19920131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920602
Evaluation Responsible Agency:	State

IBM CORP (Continued) **1000108976**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920602
Scheduled Compliance Date:	19920602
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19910626
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19901031
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20050422
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20020611
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	20020619
Scheduled Compliance Date:	20020715
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20180829
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported

IBM CORP (Continued) **1000108976**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20190613
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	OPERATION AND MAINTENANCE INSPECTION
Evaluation Responsible Person Identifier:	KYCWI
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20051018
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

Evaluation Date:	19920225
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19920131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900518
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19901031
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890724
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20020422
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19890724
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME

IBM CORP (Continued) **1000108976**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19911114
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20000522
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20200817
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	FO
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150106
Scheduled Compliance Date:	20150106
Date of Request:	Not reported
Date Response Received:	Not reported

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Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150326
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910626
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19910626
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State

IBM CORP (Continued) **1000108976**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20020619
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	20020619
Scheduled Compliance Date:	20020715
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19950210
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20170926
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19850312
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported

IBM CORP (Continued) **1000108976**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20000522
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19970918
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20110210
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYAMI
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20110210
Scheduled Compliance Date:	20110210
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20110210
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYAMI
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20110210
Scheduled Compliance Date:	20110210
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

Evaluation Date:	20081218
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920225
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19920131
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920430
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19900930
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19920602
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920602
Scheduled Compliance Date:	19920602
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20000301
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU

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Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20040504
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJFM
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19880211
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYBLY
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910626
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19901031
Scheduled Compliance Date:	19901031
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20020619
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

IBM CORP (Continued) **1000108976**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20030505
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYWSC
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20060227
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NON-FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYJHJ
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20150106
Evaluation Responsible Agency:	State

IBM CORP (Continued) **1000108976**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150106
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19900518
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19910626
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19911114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FINANCIAL RECORD REVIEW
Evaluation Responsible Person Identifier:	KYAME
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	19911114

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Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19920602
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYMSW
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	19920602
Scheduled Compliance Date:	19920602
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20160928
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	OPERATION AND MAINTENANCE INSPECTION
Evaluation Responsible Person Identifier:	KYCWI
Evaluation Responsible Sub-Organization:	HW
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19970421
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20050126
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

Evaluation Date:	20220209
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	AMC
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20030204
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION ON-SITE
Evaluation Responsible Person Identifier:	KYLFU
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20150527
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE SCHEDULE EVALUATION
Evaluation Responsible Person Identifier:	KYIKR
Evaluation Responsible Sub-Organization:	FR
Actual Return to Compliance Date:	20150527
Scheduled Compliance Date:	20150302
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

IBM CORP (Continued) **1000108976**

US FIN ASSUR:

Name:	LEXMARK INTERNATIONAL INC.
Address:	740 W NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40550
EPA ID:	KYD006375737
County:	Not reported
Mechanism type:	I
Mechanism Type Description:	INSURANCE
Cost estimate:	8000000
Face value:	8000000
Effective date:	2017-08-05 00:00:00
Provider:	BEAZLEY ECLIPSE
EPA region:	4

Name:	LEXMARK INTERNATIONAL INC.
Address:	740 W NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40550
EPA ID:	KYD006375737
County:	Not reported
Mechanism type:	L
Mechanism Type Description:	LETTER OF CREDIT
Cost estimate:	3881697
Face value:	3881697
Effective date:	2017-03-27 00:00:00
Provider:	CITIBANK, N.A.
EPA region:	4

2020 COR ACTION:

EPA ID:	KYD006375737
Region:	4
Action:	Remedy Construction

NJ MANIFEST:

EPA Id:	KYD006375737
Mail Address:	Not reported
Mail City/State/Zip:	Not reported
Facility Phone:	Not reported
Emergency Phone:	Not reported
Contact:	Not reported
Comments:	Not reported
SIC Code:	Not reported
County:	00
Municipal:	00
Previous EPA Id:	Not reported
Gen Flag:	X
Trans Flag:	Not reported
TSDF Flag:	Not reported
Name Change:	Not reported
Date Change:	Not reported

Manifest:

Manifest Number:	000184384VES
EPA ID:	KYD006375737
Date Shipped:	06/01/2009
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	NJD080631369

IBM CORP (Continued) **1000108976**

Transporter 2 EPA ID:	NYD980769947
Transporter 3 EPA ID:	NJD080631369
Transporter 4 EPA ID:	NJD000692061
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 9 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	06/01/2009
Date Trans2 Transported Waste:	06/03/2009
Date Trans3 Transported Waste:	06/03/2009
Date Trans4 Transported Waste:	06/05/2009
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	06/11/2009
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Was Load Rejected:	No
Reason Load Was Rejected:	Not reported

Waste:

Manifest Year:	Not reported
Waste Code:	D001
Hand Code:	H141
Quantity:	10 P
Manifest Year:	Not reported
Waste Code:	D001
Hand Code:	H141
Quantity:	80 P
Manifest Year:	Not reported
Waste Code:	D001
Hand Code:	H141
Quantity:	5 P
Manifest Year:	Not reported
Waste Code:	D002
Hand Code:	H141
Quantity:	10 P
Manifest Year:	Not reported

IBM CORP (Continued) **1000108976**

Waste Code:	U002
Hand Code:	H141
Quantity:	400 P
Manifest Year:	Not reported
Waste Code:	D001
Hand Code:	H141
Quantity:	20 P
Manifest Year:	Not reported
Waste Code:	D003
Hand Code:	H141
Quantity:	10 P
Manifest Number:	000201320FLE
EPA ID:	KYD006375737
Date Shipped:	06/10/2009
TSDF EPA ID:	NJD980536593
Transporter EPA ID:	TXR000077970
Transporter 2 EPA ID:	TXR000077970
Transporter 3 EPA ID:	NJD080631369
Transporter 4 EPA ID:	NJD054126164
Transporter 5 EPA ID:	Not reported
Transporter 6 EPA ID:	Not reported
Transporter 7 EPA ID:	Not reported
Transporter 8 EPA ID:	Not reported
Transporter 9 EPA ID:	Not reported
Transporter 10 EPA ID:	Not reported
Date Trans1 Transported Waste:	06/10/2009
Date Trans2 Transported Waste:	06/18/2009
Date Trans3 Transported Waste:	06/18/2009
Date Trans4 Transported Waste:	06/22/2009
Date Trans5 Transported Waste:	Not reported
Date Trans6 Transported Waste:	Not reported
Date Trans7 Transported Waste:	Not reported
Date Trans8 Transported Waste:	Not reported
Date Trans9 Transported Waste:	Not reported
Date Trans10 Transported Waste:	Not reported
Date TSDF Received Waste:	06/24/2009
TSDF EPA Facility Name:	Not reported
QTY Units:	Not reported
Transporter SEQ ID:	Not reported
Transporter-1 Date:	Not reported
Waste SEQ ID:	Not reported
Waste Type Code 2:	Not reported
Waste Type Code 3:	Not reported
Waste Type Code 4:	Not reported
Waste Type Code 5:	Not reported
Waste Type Code 6:	Not reported
Date Accepted:	Not reported
Manifest Discrepancy Type:	Not reported
Data Entry Number:	Not reported
Was Load Rejected:	No
Reason Load Was Rejected:	Not reported

Waste:

Manifest Year:	Not reported

IBM CORP (Continued) **1000108976**

Waste Code: F003
Hand Code: H141
Quantity: 534 P

Manifest Year: Not reported
Waste Code: D001
Hand Code: H141
Quantity: 906 P

Manifest Year: Not reported
Waste Code: D001
Hand Code: H141
Quantity: 3400 P

Manifest Year: Not reported
Waste Code: D040
Hand Code: H141
Quantity: 1037 P

WI MANIFEST:
Name: LEXMARK INTERNATIONAL
Address: 740 NEW CIRCLE RD
City,State,Zip: LEXINGTON, KY 40505
Year: 2008
EPA ID: KYD006375737
FID: Not reported
ACT Code: 201
ACT Status: A
ACT Code 1: 201
ACT Name: HW Generator - Large
Contact Title: Not reported
Contact Name: Not reported
Contact Address: Not reported
Contact City/State/Zip: Not reported
Contact Telephone: Not reported
Contact EMail Address: Not reported

Name: LEXMARK INTERNATIONAL
Address: 740 NEW CIRCLE RD
City,State,Zip: LEXINGTON, KY 40505
Year: 2005
EPA ID: KYD006375737
FID: 0
ACT Code: 201
ACT Status: A
ACT Code 1: 201
ACT Name: HW Generator - Large
Contact Title: Not reported
Contact Name: Not reported
Contact Address: Not reported
Contact City/State/Zip: 0
Contact Telephone: 0
Contact EMail Address: Not reported

IBM CORP (Continued) **1000108976**

NY MANIFEST:

Name:	INTERNATIONAL BUSINESS MACHINES CORP
Address:	740 W NEW CIRCLE RD
City,State,Zip:	LEXINGTON, KY 40550
Country:	USA
EPA ID:	KYD006375737
Facility Status:	Not reported
Location Address 1:	740 NEW CIRCLE ROAD
Code:	BP
Location Address 2:	Not reported
Total Tanks:	Not reported
Location City:	LEXINGTON
Location State:	KY
Location Zip:	40511
Location Zip 4:	Not reported

NY MANIFEST:

EPAID:	KYD006375737
Mailing Name:	INTERNATIONAL BUSINESS MACHINES CORP
Mailing Contact:	DALE J. LARSON
Mailing Address 1:	740 NEW CIRCLE ROAD
Mailing Address 2:	Not reported
Mailing City:	LEXINGTON
Mailing State:	KY
Mailing Zip:	40511
Mailing Zip 4:	Not reported
Mailing Country:	USA
Mailing Phone:	6062323397

Manifest Details:

Year:	2007
Manifest Number:	000201305FLE
Manifest Type:	Not reported
Generator EPA Id:	KYD006375737
Generator Date:	04/04/2007
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	606-233-0483
TSD EPA Id:	PAD987270725
TSD Date:	Not reported
TSD Facility Name:	ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address:	118 PARK ROAD
TSD Facility City:	DARLINGTON
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	F001
Container Number:	1
Container Type:	Portable tanks
Waste Quantity:	2633
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

IBM CORP (Continued) **1000108976**

Year:	2007
Manifest Number:	000201305FLE
Manifest Type:	Not reported
Generator EPA Id:	KYD006375737
Generator Date:	04/04/2007
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	606-233-0483
TSD EPA Id:	PAD987270725
TSD Date:	Not reported
TSD Facility Name:	ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address:	118 PARK ROAD
TSD Facility City:	DARLINGTON
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D040
Container Number:	1
Container Type:	Portable tanks
Waste Quantity:	2633
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2007
Manifest Number:	000201307FLE
Manifest Type:	Not reported
Generator EPA Id:	KYD006375737
Generator Date:	05/31/2007
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	606-233-0483
TSD EPA Id:	PAD987270725
TSD Date:	Not reported
TSD Facility Name:	ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address:	118 PARK ROAD
TSD Facility City:	DARLINGTON
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	D040
Container Number:	2
Container Type:	Portable tanks
Waste Quantity:	5221
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2007
Manifest Number:	000201307FLE
Manifest Type:	Not reported

IBM CORP (Continued) **1000108976**

Generator EPA Id:	KYD006375737
Generator Date:	05/31/2007
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	606-233-0483
TSD EPA Id:	PAD987270725
TSD Date:	Not reported
TSD Facility Name:	ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address:	118 PARK ROAD
TSD Facility City:	DARLINGTON
TSD Facility State:	PA
Facility Telephone:	Not reported
Page Number:	1
Line Number:	1
Waste Number:	F001
Container Number:	2
Container Type:	Portable tanks
Waste Quantity:	5221
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported
Year:	2006
Manifest Number:	PAH095724
Manifest Type:	TSD Copy
Generator EPA Id:	KYD006375737
Generator Date:	06/30/2006
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
TSD EPA Id:	PAD987270725
TSD Date:	Not reported
TSD Facility Name:	ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address:	118 PARK ROAD
TSD Facility City:	DARLINGTON
TSD Facility State:	PA
Facility Telephone:	606-233-0483
Page Number:	1
Line Number:	1
Waste Number:	F001
Container Number:	1
Container Type:	Portable tanks
Waste Quantity:	2330
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported
Year:	2006
Manifest Number:	PAH182768
Manifest Type:	TSD Copy
Generator EPA Id:	KYD006375737
Generator Date:	05/10/2006
Mailing Address:	Not reported

IBM CORP (Continued) **1000108976**

Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
TSD EPA Id:	PAD987270725
TSD Date:	Not reported
TSD Facility Name:	ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address:	118 PARK ROAD
TSD Facility City:	DARLINGTON
TSD Facility State:	PA
Facility Telephone:	606-233-0483
Page Number:	1
Line Number:	1
Waste Number:	D040
Container Number:	1
Container Type:	Portable tanks
Waste Quantity:	2603
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2006
Manifest Number:	PAH095724
Manifest Type:	TSD Copy
Generator EPA Id:	KYD006375737
Generator Date:	06/30/2006
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
TSD EPA Id:	PAD987270725
TSD Date:	Not reported
TSD Facility Name:	ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address:	118 PARK ROAD
TSD Facility City:	DARLINGTON
TSD Facility State:	PA
Facility Telephone:	606-233-0483
Page Number:	1
Line Number:	1
Waste Number:	D040
Container Number:	1
Container Type:	Portable tanks
Waste Quantity:	2330
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Year:	2006
Manifest Number:	000201301FLE
Manifest Type:	TSD Copy
Generator EPA Id:	KYD006375737
Generator Date:	11/02/2006
Mailing Address:	Not reported
Mailing City,St,Zip:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported

IBM CORP (Continued) **1000108976**

TSD EPA Id: PAD987270725
TSD Date: Not reported
TSD Facility Name: ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address: 118 PARK ROAD
TSD Facility City: DARLINGTON
TSD Facility State: PA
Facility Telephone: 606-233-0483
Page Number: 1
Line Number: 1
Waste Number: D040
Container Number: 1
Container Type: Portable tanks
Waste Quantity: 2606
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2006
Manifest Number: 000201301FLE
Manifest Type: TSD Copy
Generator EPA Id: KYD006375737
Generator Date: 11/02/2006
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: PAD987270725
TSD Date: Not reported
TSD Facility Name: ENVIROTROL INC DARLINGTON FACILITY
TSD Facility Address: 118 PARK ROAD
TSD Facility City: DARLINGTON
TSD Facility State: PA
Facility Telephone: 606-233-0483
Page Number: 1
Line Number: 1
Waste Number: F001
Container Number: 1
Container Type: Portable tanks
Waste Quantity: 2606
Unit: Pounds
Handling Code: Not reported
TSP EPA Id: Not reported
Date TSP Sig: Not reported

Year: 2006
Manifest Number: PAH182768
Manifest Type: TSD Copy
Generator EPA Id: KYD006375737
Generator Date: 05/10/2006
Mailing Address: Not reported
Mailing City,St,Zip: Not reported
Contact Name: Not reported
Contact Phone: Not reported
TSD EPA Id: PAD987270725
TSD Date: Not reported
TSD Facility Name: ENVIROTROL INC DARLINGTON FACILITY

IBM CORP (Continued) **1000108976**

TSD Facility Address:	118 PARK ROAD
TSD Facility City:	DARLINGTON
TSD Facility State:	PA
Facility Telephone:	606-233-0483
Page Number:	1
Line Number:	1
Waste Number:	F001
Container Number:	1
Container Type:	Portable tanks
Waste Quantity:	2603
Unit:	Pounds
Handling Code:	Not reported
TSP EPA Id:	Not reported
Date TSP Sig:	Not reported

Click this hyperlink while viewing on your computer to access
4 additional PA_MANIFEST: record(s) in the EDR Site Report.

L45 **M & E STORAGE FACILITY** **KY SHWS** **S106884638**
SSW **720 LANCASTER AVENUE** **KY INST CONTROL** **N/A**
1/2-1 **LEXINGTON, KY 40508**
0.907 mi.
4789 ft. **Site 1 of 2 in cluster L**

Relative:
Lower

Actual:
972 ft.

SHWS:

Name:	M & E STORAGE FACILITY
Address:	720 LANCASTER AVENUE
City,State,Zip:	LEXINGTON, KY 40508
Facility Id:	52476
Status:	**Managed**
Description:	M & E STORAGE FACILITY (Closed: Contained/Managed)
Closure Date:	03/21/2003
Longitude:	-84.479428
Latitude:	38.053336
Subject Item County:	Fayette
Sub Item Longitude:	-84.478358
Sub Item Latitude:	38.053336
Subject Item Address:	720 Lancaster Ave
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40508
Regulatory Desc:	State Superfund
Closure Option:	Option B Contained/Managed
Side SG:	96824
Acreage:	6.17

KS INSTUTIONAL CONTROL:

Name:	M & E STORAGE FACILITY
Address:	720 LANCASTER AVENUE
City,State,Zip:	LEXINGTON, KY 40508
Incident Id:	52476
GARA Number:	GARA0000000001
Facilty Status:	Not reported
Lat/Lon:	37.988610 -84.477780
Remedy:	Not reported
Control Type:	Deed Restriction
Program:	Superfund
Date Filed:	10/29/2002

M & E STORAGE FACILITY (Continued) **S106884638**

Date Removed: Not reported
Control Method: Groundwater Use Restrictions, Capping (explain), Land Use Restrictions
Acreage: Not reported

L46 **CLEM PROPERTY** **KY SHWS** **S117892185**
SSW **713 LANCASTER AVE. APARTMENT B** **KY CDL** **N/A**
1/2-1 **LEXINGTON, KY 40508**
0.922 mi.
4870 ft. **Site 2 of 2 in cluster L**

Relative:
Lower

Actual:
969 ft.

SHWS:

Name:	CLEM PROPERTY
Address:	713 LANCASTER AVE. APARTMENT B
City,State,Zip:	LEXINGTON, KY 40508
Facility Id:	126264
Status:	**Closed**
Description:	713 Lancaster Ave. Apt. B Meth Lab (Closed 6/11/2015)
Closure Date:	06/11/2015
Longitude:	-84.480263
Latitude:	38.052907
Subject Item County:	Fayette
Sub Item Longitude:	-84.480262
Sub Item Latitude:	38.052906
Subject Item Address:	713 Lancaster Ave Apt B
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40508
Regulatory Desc:	State Superfund
Closure Option:	Option C Restored
Side SG:	Meth Lab
Acreage:	Not reported

CDL:

Name:	CLEM PROPERTY
Address:	713 LANCASTER AVE. APARTMENT B
Address 2:	Not reported
City,State,Zip:	LEXINGTON, KY 40508
Site Status:	Closed
Facility Group:	AAZZ0001
Agency Interest Id Number:	126264
Designation:	Meth Lab
Description:	713 Lancaster Ave. Apt. B Meth Lab (Closed 6/11/2015)
Regulatory Description:	State Superfund
Closure Option:	Option C Restored
Closure Date:	06/11/2015
Latitude:	38.05291
Longitude:	-84.48026

47
East
1/2-1
0.989 mi.
5221 ft.

HI-ACRES SHOPPING CENTER
BRYAN STATION RD
LEXINGTON, KY 40505

KY SHWS **S120760912**
N/A

Relative:
Higher

Actual:
1001 ft.

SHWS:

Name:	HI-ACRES SHOPPING CENTER
Address:	BRYAN STATION RD
City,State,Zip:	LEXINGTON, KY 40505
Facility Id:	129187
Status:	**Active**
Description:	Big B Cleaners / One Hour Martinizing
Closure Date:	Not reported
Longitude:	-84.453365
Latitude:	38.063647
Subject Item County:	Fayette
Sub Item Longitude:	-84.453029
Sub Item Latitude:	38.062767
Subject Item Address:	Bryan Station Rd
Subject Item Address2:	Not reported
Subject Item City,St,Zip:	Lexington, KY 40505
Regulatory Desc:	State Superfund
Closure Option:	Not reported
Side SG:	Dry Cleaners
Acreage:	5.60

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: N/A
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2023
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 09/26/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/03/2023
Date Data Arrived at EDR: 08/07/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 64

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/02/2023
Next Scheduled EDR Contact: 11/20/2023
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/22/2023
Date Data Arrived at EDR: 05/23/2023
Date Made Active in Reports: 07/24/2023
Number of Days to Update: 62

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/22/2023
Date Data Arrived at EDR: 05/23/2023
Date Made Active in Reports: 07/24/2023
Number of Days to Update: 62

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/12/2023
Date Data Arrived at EDR: 06/20/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 55

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

Lists of state- and tribal hazardous waste facilities

SHWS: State Leads List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 06/07/2023
Date Data Arrived at EDR: 06/08/2023
Date Made Active in Reports: 08/29/2023
Number of Days to Update: 82

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 08/16/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Quarterly

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/28/2023
Date Data Arrived at EDR: 05/03/2023
Date Made Active in Reports: 07/26/2023
Number of Days to Update: 84

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Semi-Annually

Lists of state and tribal leaking storage tanks

PSTEAF: Facility Ranking List

The Underground Storage Tank Branch (USTB) has ranked all PSTEAF reimbursable facilities requiring corrective action, in accordance with 401 KAR 42:290. Directive letters will be issued on the basis of facility ranking and available PSTEAF funding in sequential order as ranked. For example, Rank 2 facilities will be issued directives before Rank 3 facilities.

Date of Government Version: 06/01/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/22/2023
Number of Days to Update: 85

Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

SB193: SB193 Branch Site Inventory List

The inventory indicates facilities that have performed permanent closure activities at a regulated underground storage tank facility and have known soil and/or groundwater contamination.

Date of Government Version: 09/05/2006
Date Data Arrived at EDR: 09/13/2006
Date Made Active in Reports: 10/18/2006
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 04/08/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: No Update Planned

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 03/08/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 05/30/2023
Number of Days to Update: 82

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 05/02/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 05/11/2023
Number of Days to Update: 2

Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Quarterly

AST: Above Ground Storage Tanks

A listing of aboveground storage tank site locations.

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/02/2021
Date Made Active in Reports: 08/23/2021
Number of Days to Update: 82

Source: Office of State Fire Marshal
Telephone: 502-564-4010
Last EDR Contact: 08/07/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/19/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/14/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/26/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/20/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/25/2023
Date Data Arrived at EDR: 05/09/2023
Date Made Active in Reports: 07/14/2023
Number of Days to Update: 66

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/11/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Site Listing
A listing of sites that use engineering controls.

Date of Government Version: 06/06/2023
Date Data Arrived at EDR: 06/08/2023
Date Made Active in Reports: 08/29/2023
Number of Days to Update: 82
Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 08/16/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

INST CONTROL: State Superfund Database
A list of closed sites in the State Superfund Database. Institutional controls would be in place at any site that uses Contained or Managed as a Closure Option.

Date of Government Version: 06/06/2023
Date Data Arrived at EDR: 06/08/2023
Date Made Active in Reports: 08/29/2023
Number of Days to Update: 82
Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 08/16/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Sites
Sites that have been accepted into the Voluntary Cleanup Program or have submitted an application.

Date of Government Version: 07/31/2023
Date Data Arrived at EDR: 08/02/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 78
Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 09/21/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Kentucky Brownfield Inventory
The Kentucky Brownfield Program has created an inventory of brownfield sites in order to market the properties to those interested in brownfield redevelopment. The Kentucky Brownfield Program is working to promote the redevelopment of these sites by helping to remove barriers that prevent reuse, providing useful information to communities, developers and the public and encouraging a climate that fosters redevelopment of contaminated sites.

Date of Government Version: 07/07/2023
Date Data Arrived at EDR: 08/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 77
Source: Division of Compliance Assistance
Telephone: 502-564-0323
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 04/06/2023
Date Data Arrived at EDR: 04/13/2023
Date Made Active in Reports: 04/19/2023
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

HIST LF: Historical Landfills

This solid waste facility listing contains detail information that is not included in the landfill listing. A listing with detail information is no longer available by the Department of Environmental Protection.

Date of Government Version: 05/01/2003
Date Data Arrived at EDR: 03/30/2006
Date Made Active in Reports: 05/01/2006
Number of Days to Update: 32

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SWRCY: Recycling Facilities

A listing of recycling facilities located in the state of Kentucky.

Date of Government Version: 09/04/2020
Date Data Arrived at EDR: 10/14/2020
Date Made Active in Reports: 01/04/2021
Number of Days to Update: 82

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/22/2023
Date Data Arrived at EDR: 05/23/2023
Date Made Active in Reports: 07/10/2023
Number of Days to Update: 48
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: No Update Planned

CDL: Clandestine Drub Lab Location Listing
Clandestine drug lab site locations.

Date of Government Version: 06/07/2023
Date Data Arrived at EDR: 06/08/2023
Date Made Active in Reports: 08/29/2023
Number of Days to Update: 82
Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 08/16/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/22/2023
Date Data Arrived at EDR: 05/23/2023
Date Made Active in Reports: 07/10/2023
Number of Days to Update: 48
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/19/2023
Date Data Arrived at EDR: 06/23/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

SPILLS: State spills

A listing of spill and/or release related incidents.

Date of Government Version: 08/02/2023
Date Data Arrived at EDR: 08/03/2023
Date Made Active in Reports: 08/21/2023
Number of Days to Update: 18

Source: DEP, Emergency Response
Telephone: 502-564-2380
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 07/24/2023
Date Data Arrived at EDR: 07/31/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 14

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 56

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/09/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/01/2023
Next Scheduled EDR Contact: 11/20/2023
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/19/2023
Date Data Arrived at EDR: 06/20/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 55

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 07/31/2023
Next Scheduled EDR Contact: 11/13/2023
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/03/2023
Next Scheduled EDR Contact: 11/13/2023
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/15/2023
Next Scheduled EDR Contact: 12/25/2023
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 02/16/2023
Date Made Active in Reports: 05/02/2023
Number of Days to Update: 75

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/18/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/17/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 84

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/09/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 09/26/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 11/13/2023
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2023
Date Data Arrived at EDR: 04/04/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 66

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/06/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/27/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/20/2023
Date Data Arrived at EDR: 09/01/2023
Date Made Active in Reports: 09/20/2023
Number of Days to Update: 19
Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 04/14/2023
Date Made Active in Reports: 07/10/2023
Number of Days to Update: 87
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/01/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/28/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/03/2023
Next Scheduled EDR Contact: 11/13/2023
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/22/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2023
Date Data Arrived at EDR: 07/19/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 83

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2021
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 03/20/2023
Number of Days to Update: 11

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/20/2023
Next Scheduled EDR Contact: 01/01/2024
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/02/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 10/25/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/10/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/19/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 16

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/08/2024
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 10/04/2023
Next Scheduled EDR Contact: 11/20/2023
Data Release Frequency: Quarterly

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/01/2023
Date Data Arrived at EDR: 05/24/2023
Date Made Active in Reports: 07/24/2023
Number of Days to Update: 61

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/22/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing
This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 01/07/2022
Date Data Arrived at EDR: 02/24/2023
Date Made Active in Reports: 05/17/2023
Number of Days to Update: 82

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing
Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines
An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/13/2023
Date Data Arrived at EDR: 06/14/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 61

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/12/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 08/23/2022
Date Data Arrived at EDR: 11/22/2022
Date Made Active in Reports: 02/28/2023
Number of Days to Update: 98

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/24/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/04/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 07/24/2023
Number of Days to Update: 60

Source: EPA
Telephone: (404) 562-9900
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/24/2023
Date Data Arrived at EDR: 06/29/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 11/09/2021
Date Data Arrived at EDR: 10/20/2022
Date Made Active in Reports: 01/10/2023
Number of Days to Update: 82

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 09/13/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 12/04/2023
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/14/2023
Date Data Arrived at EDR: 08/15/2023
Date Made Active in Reports: 10/19/2023
Number of Days to Update: 65

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/15/2023
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 06/24/2020
Date Data Arrived at EDR: 03/17/2021
Date Made Active in Reports: 11/08/2022
Number of Days to Update: 601

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 09/23/2023
Date Data Arrived at EDR: 10/03/2023
Date Made Active in Reports: 10/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 10/02/2023
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS ECHO FIRE TRAINING: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PFAS PART 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/05/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/06/2023
Date Made Active in Reports: 09/25/2023
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: No Update Planned

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Varies

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 07/16/2023
Date Data Arrived at EDR: 07/18/2023
Date Made Active in Reports: 08/28/2023
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 10/03/2023
Next Scheduled EDR Contact: 01/29/2024
Data Release Frequency: Varies

PFAS: PFAS Detections Site Listing
The presence of PFAS contamination at locations, including water treatment plants.

Date of Government Version: 03/06/2023
Date Data Arrived at EDR: 03/09/2023
Date Made Active in Reports: 05/26/2023
Number of Days to Update: 78
Source: Department of Environmental Protection
Telephone: 502-564-3410
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Varies

AIRS: Permitted Airs Facility Listing
A listing of permitted Airs facilities.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/20/2023
Date Made Active in Reports: 08/29/2023
Number of Days to Update: 40
Source: Department of Environmental Protection
Telephone: 502-573-3382
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Semi-Annually

ASBESTOS: Asbestos Notification Listing
Asbestos sites

Date of Government Version: 06/14/2023
Date Data Arrived at EDR: 06/15/2023
Date Made Active in Reports: 08/11/2023
Number of Days to Update: 57
Source: Department of Environmental Protection
Telephone: 502-782-6780
Last EDR Contact: 08/23/2023
Next Scheduled EDR Contact: 12/11/2023
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites
A listing of coal ash pond site locations.

Date of Government Version: 07/18/2023
Date Data Arrived at EDR: 07/25/2023
Date Made Active in Reports: 10/12/2023
Number of Days to Update: 79
Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/27/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: No Update Planned

DRYCLEANERS: Drycleaner Listing
A listing of drycleaner facility locations.

Date of Government Version: 07/05/2023
Date Data Arrived at EDR: 07/20/2023
Date Made Active in Reports: 08/29/2023
Number of Days to Update: 40
Source: Department of Environmental Protection
Telephone: 502-573-3382
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Semi-Annually

Financial Assurance 1: Financial Assurance Information Listing
A listing of financial assurance information.

Date of Government Version: 08/22/2023
Date Data Arrived at EDR: 08/24/2023
Date Made Active in Reports: 08/29/2023
Number of Days to Update: 5
Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 06/24/2014
Number of Days to Update: 18
Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 10/20/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

Financial Assurance 3: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 06/06/2023
Date Data Arrived at EDR: 06/08/2023
Date Made Active in Reports: 08/29/2023
Number of Days to Update: 82
Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/23/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Varies

LEAD: Environmental Lead Program Report Tracking Database
Lead Report Tracking Database

Date of Government Version: 01/27/2017
Date Data Arrived at EDR: 02/02/2017
Date Made Active in Reports: 08/21/2017
Number of Days to Update: 200
Source: Department of Public Health
Telephone: 502-564-4537
Last EDR Contact: 10/26/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Varies

NPDES: Permitted Facility Listing
A listing of permitted wastewater facilities.

Date of Government Version: 02/21/2023
Date Data Arrived at EDR: 02/23/2023
Date Made Active in Reports: 02/27/2023
Number of Days to Update: 4
Source: Department of Environmental Protection
Telephone: 502-564-3410
Last EDR Contact: 10/26/2023
Next Scheduled EDR Contact: 02/12/2024
Data Release Frequency: Semi-Annually

UIC: UIC Information
A listing of wells identified as underground injection wells, in the Kentucky Oil & Gas Wells data base.

Date of Government Version: 06/28/2023
Date Data Arrived at EDR: 07/10/2023
Date Made Active in Reports: 09/28/2023
Number of Days to Update: 80
Source: Kentucky Geological Survey
Telephone: 859-323-0544
Last EDR Contact: 10/10/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A
Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/15/2014
Number of Days to Update: 198

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 08/07/2023
Date Data Arrived at EDR: 08/08/2023
Date Made Active in Reports: 10/24/2023
Number of Days to Update: 77

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/08/2023
Next Scheduled EDR Contact: 11/20/2023
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 09/28/2023
Next Scheduled EDR Contact: 01/15/2024
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 10/29/2021
Date Made Active in Reports: 01/19/2022
Number of Days to Update: 82

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/28/2023
Next Scheduled EDR Contact: 02/05/2024
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/05/2023
Next Scheduled EDR Contact: 01/22/2024
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/10/2022
Next Scheduled EDR Contact: 11/27/2023
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 08/30/2023
Next Scheduled EDR Contact: 12/18/2023
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Certified Child Care Homes
Source: Cabinet for Families & Children
Telephone: 502-564-7130

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Environmental & Public Protection Cabinet
Telephone: 502-564-6736

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

130 & 134 W. NEW CIRCLE ROAD
130 & 134 W. NEW CIRCLE ROAD
LEXINGTON, KY 40505

TARGET PROPERTY COORDINATES

Latitude (North):	38.066072 - 38° 3' 57.86''
Longitude (West):	84.473151 - 84° 28' 23.34''
Universal Tranverse Mercator:	Zone 16
UTM X (Meters):	721674.3
UTM Y (Meters):	4215955.0
Elevation:	974 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	13046646 LEXINGTON EAST, KY
Version Date:	2019

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

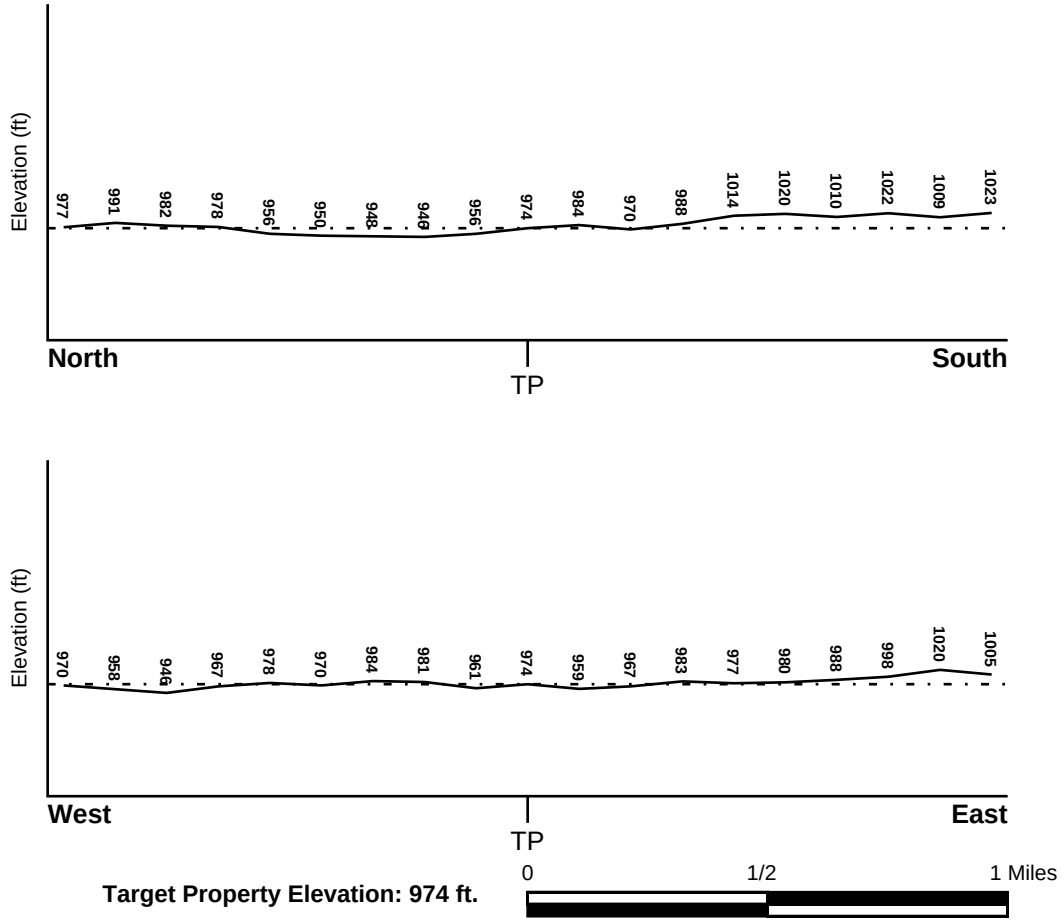
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 974 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
2100670128E	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
2100670129E	FEMA FIRM Flood data
2100670080C	FEMA Q3 Flood data
2100670137E	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
LEXINGTON EAST	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

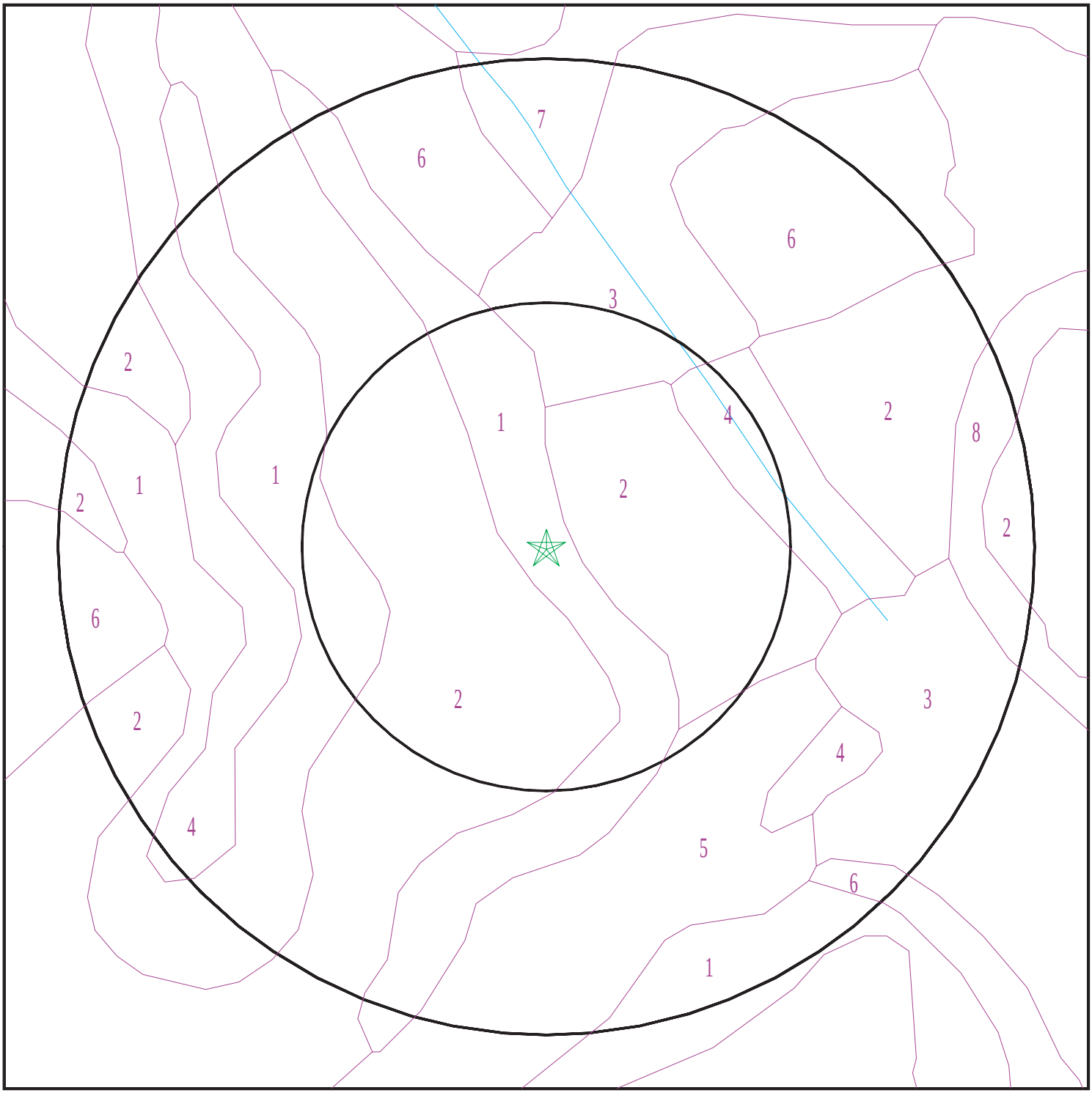
Era:	Paleozoic
System:	Ordovician
Series:	Middle Ordovician (Mohawkian)
Code:	O2 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 7485365.2s



★ Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	130 & 134 W. New Circle Road	CLIENT:	Shield Environmental
ADDRESS:	130 & 134 W. New Circle Road Lexington KY 40505	CONTACT:	Elizabeth Greathouse
		INQUIRY #:	7485365.2s
LAT/LONG:	38.066072 / 84.473151	DATE:	October 31, 2023 7:45 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Maury

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information

	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5
2	16 inches	29 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5
3	29 inches	42 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
4	42 inches	74 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5

Soil Map ID: 2

Soil Component Name: Maury

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5
2	16 inches	29 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	29 inches	42 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5
4	42 inches	74 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6 Min: 4.5

Soil Map ID: 3

Soil Component Name: Made land over silty materials

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Huntington

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 7.8 Min: 5.6
2	11 inches	63 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 7.8 Min: 5.6
3	63 inches	74 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 7.8 Min: 5.6

Soil Map ID: 5

Soil Component Name: Armour (elk)

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5
2	9 inches	42 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5
3	42 inches	68 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5

Soil Map ID: 6

Soil Component Name: Urban land

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 7

Soil Component Name: Lindside

Soil Surface Texture: silt loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 69 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: 7.8 Min: 5.6
2	7 inches	44 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: 7.8 Min: 5.6
3	44 inches	59 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 42 Min: 1.4	Max: 7.8 Min: 5.6

Soil Map ID: 8

Soil Component Name: Armour (elk)

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5
2	9 inches	42 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5
3	42 inches	68 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 4.5

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
AG554	USGS40000385553	1/2 - 1 Mile NW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	KY7000000075102	0 - 1/8 Mile NNE
A2	KY7000000063722	0 - 1/8 Mile NNE
A3	KY7000000063721	0 - 1/8 Mile NNE
A4	KY7000000064958	0 - 1/8 Mile NNE
A5	KY7000000063723	0 - 1/8 Mile NNE
A6	KY7000000064954	0 - 1/8 Mile NNE
A7	KY7000000064957	0 - 1/8 Mile NNE
A8	KY7000000063724	0 - 1/8 Mile NNE
A9	KY7000000063725	0 - 1/8 Mile NNE
B10	KY7000000099477	1/8 - 1/4 Mile ESE
B11	KY7000000092995	1/8 - 1/4 Mile SE
B12	KY7000000092996	1/8 - 1/4 Mile SE
B13	KY7000000099474	1/8 - 1/4 Mile ESE
B14	KY7000000092997	1/8 - 1/4 Mile SE
B15	KY7000000060146	1/8 - 1/4 Mile SE
B16	KY7000000080797	1/8 - 1/4 Mile SE
B17	KY7000000058278	1/8 - 1/4 Mile SE
B18	KY7000000058279	1/8 - 1/4 Mile SE
B19	KY7000000080800	1/8 - 1/4 Mile SE
B20	KY7000000080801	1/8 - 1/4 Mile SE
B21	KY7000000080798	1/8 - 1/4 Mile SE
B22	KY7000000080799	1/8 - 1/4 Mile SE
B23	KY7000000092998	1/8 - 1/4 Mile SE
B24	KY7000000092999	1/8 - 1/4 Mile ESE
B25	KY7000000099476	1/8 - 1/4 Mile ESE
B26	KY7000000099475	1/8 - 1/4 Mile ESE
C27	KY7000000094094	1/4 - 1/2 Mile WSW
C28	KY7000000070539	1/4 - 1/2 Mile WSW
C29	KY7000000070540	1/4 - 1/2 Mile WSW
C30	KY7000000070533	1/4 - 1/2 Mile WSW
C31	KY7000000070534	1/4 - 1/2 Mile WSW
C32	KY7000000070537	1/4 - 1/2 Mile WSW
C33	KY7000000070538	1/4 - 1/2 Mile WSW
C34	KY7000000089757	1/4 - 1/2 Mile WSW
C35	KY7000000089756	1/4 - 1/2 Mile WSW
C36	KY7000000089755	1/4 - 1/2 Mile WSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D37	KY7000000062875	1/4 - 1/2 Mile NNW
C38	KY7000000070535	1/4 - 1/2 Mile WSW
C39	KY7000000070536	1/4 - 1/2 Mile WSW
E40	KY7000000078491	1/4 - 1/2 Mile SW
E41	KY7000000078490	1/4 - 1/2 Mile SW
E42	KY7000000078489	1/4 - 1/2 Mile SW
E43	KY7000000078492	1/4 - 1/2 Mile SW
E44	KY7000000078967	1/4 - 1/2 Mile SW
E45	KY7000000078966	1/4 - 1/2 Mile SW
E46	KY7000000078493	1/4 - 1/2 Mile SW
E47	KY7000000077265	1/4 - 1/2 Mile SW
E48	KY7000000077264	1/4 - 1/2 Mile SW
E49	KY7000000077263	1/4 - 1/2 Mile SW
E50	KY7000000077266	1/4 - 1/2 Mile SW
E51	KY7000000078488	1/4 - 1/2 Mile SW
E52	KY7000000077268	1/4 - 1/2 Mile SW
E53	KY7000000077267	1/4 - 1/2 Mile SW
F54	KY7000000066421	1/4 - 1/2 Mile SE
F55	KY7000000066473	1/4 - 1/2 Mile SE
F56	KY7000000066422	1/4 - 1/2 Mile SE
C57	KY7000000061052	1/4 - 1/2 Mile WSW
C58	KY7000000061051	1/4 - 1/2 Mile WSW
C59	KY7000000061050	1/4 - 1/2 Mile WSW
C60	KY7000000061047	1/4 - 1/2 Mile WSW
C61	KY7000000061048	1/4 - 1/2 Mile WSW
C62	KY7000000061049	1/4 - 1/2 Mile WSW
G63	KY7000000094093	1/4 - 1/2 Mile WSW
D64	KY7000000104764	1/4 - 1/2 Mile NNW
D65	KY7000000078381	1/4 - 1/2 Mile NNW
D66	KY7000000078380	1/4 - 1/2 Mile NNW
D67	KY7000000078385	1/4 - 1/2 Mile NNW
D68	KY7000000078384	1/4 - 1/2 Mile NNW
E69	KY7000000098553	1/4 - 1/2 Mile WSW
H70	KY7000000079589	1/4 - 1/2 Mile SSW
H71	KY7000000079590	1/4 - 1/2 Mile SSW
H72	KY7000000079592	1/4 - 1/2 Mile SSW
I73	KY7000000098552	1/4 - 1/2 Mile WSW
E74	KY7000000098554	1/4 - 1/2 Mile SW
D75	KY7000000078012	1/4 - 1/2 Mile NNW
I76	KY7000000081544	1/4 - 1/2 Mile WSW
I77	KY7000000081545	1/4 - 1/2 Mile WSW
I78	KY7000000081543	1/4 - 1/2 Mile WSW
I79	KY7000000080872	1/4 - 1/2 Mile WSW
I80	KY7000000080873	1/4 - 1/2 Mile WSW
I81	KY7000000082663	1/4 - 1/2 Mile WSW
I82	KY7000000082664	1/4 - 1/2 Mile WSW
I83	KY7000000081548	1/4 - 1/2 Mile WSW
I84	KY7000000081546	1/4 - 1/2 Mile WSW
I85	KY7000000081547	1/4 - 1/2 Mile WSW
I86	KY7000000077826	1/4 - 1/2 Mile WSW
I87	KY7000000077827	1/4 - 1/2 Mile WSW
I88	KY7000000077825	1/4 - 1/2 Mile WSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
I89	KY7000000077819	1/4 - 1/2 Mile WSW
I90	KY7000000077820	1/4 - 1/2 Mile WSW
I91	KY7000000077831	1/4 - 1/2 Mile WSW
I92	KY7000000077832	1/4 - 1/2 Mile WSW
I93	KY7000000077830	1/4 - 1/2 Mile WSW
I94	KY7000000077828	1/4 - 1/2 Mile WSW
I95	KY7000000077829	1/4 - 1/2 Mile WSW
I96	KY7000000082668	1/4 - 1/2 Mile WSW
I97	KY7000000082669	1/4 - 1/2 Mile WSW
I98	KY7000000082670	1/4 - 1/2 Mile WSW
I99	KY7000000082665	1/4 - 1/2 Mile WSW
I100	KY7000000082666	1/4 - 1/2 Mile WSW
I101	KY7000000082667	1/4 - 1/2 Mile WSW
J102	KY7000000081204	1/4 - 1/2 Mile NNW
J103	KY7000000081205	1/4 - 1/2 Mile NNW
J104	KY7000000081206	1/4 - 1/2 Mile NNW
J105	KY7000000081029	1/4 - 1/2 Mile NNW
J106	KY7000000081030	1/4 - 1/2 Mile NNW
J107	KY7000000081031	1/4 - 1/2 Mile NNW
I108	KY7000000069568	1/4 - 1/2 Mile WSW
K109	KY7000000095299	1/4 - 1/2 Mile NNW
K110	KY7000000095300	1/4 - 1/2 Mile NNW
K111	KY7000000095301	1/4 - 1/2 Mile NNW
G112	KY7000000083851	1/4 - 1/2 Mile WSW
G113	KY7000000083852	1/4 - 1/2 Mile WSW
G114	KY7000000083850	1/4 - 1/2 Mile WSW
G115	KY7000000082702	1/4 - 1/2 Mile WSW
G116	KY7000000082703	1/4 - 1/2 Mile WSW
G117	KY7000000083853	1/4 - 1/2 Mile WSW
G118	KY7000000084317	1/4 - 1/2 Mile WSW
G119	KY7000000084318	1/4 - 1/2 Mile WSW
G120	KY7000000084316	1/4 - 1/2 Mile WSW
G121	KY7000000083854	1/4 - 1/2 Mile WSW
G122	KY7000000083855	1/4 - 1/2 Mile WSW
K123	KY7000000091932	1/4 - 1/2 Mile NNW
K124	KY7000000091931	1/4 - 1/2 Mile NNW
K125	KY7000000091930	1/4 - 1/2 Mile NNW
K126	KY7000000091935	1/4 - 1/2 Mile NNW
K127	KY7000000091934	1/4 - 1/2 Mile NNW
K128	KY7000000091933	1/4 - 1/2 Mile NNW
K129	KY7000000071778	1/4 - 1/2 Mile NNW
K130	KY7000000071777	1/4 - 1/2 Mile NNW
K131	KY7000000071780	1/4 - 1/2 Mile NNW
K132	KY7000000071779	1/4 - 1/2 Mile NNW
K133	KY7000000071746	1/4 - 1/2 Mile NNW
K134	KY7000000071745	1/4 - 1/2 Mile NNW
K135	KY7000000071748	1/4 - 1/2 Mile NNW
K136	KY7000000071747	1/4 - 1/2 Mile NNW
J137	KY7000000095302	1/4 - 1/2 Mile NNW
J138	KY7000000095303	1/4 - 1/2 Mile NNW
J139	KY7000000095304	1/4 - 1/2 Mile NNW
K140	KY7000000091926	1/4 - 1/2 Mile NNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
K141	KY7000000091925	1/4 - 1/2 Mile NNW
K142	KY7000000091924	1/4 - 1/2 Mile NNW
K143	KY7000000091742	1/4 - 1/2 Mile NNW
K144	KY7000000091741	1/4 - 1/2 Mile NNW
K145	KY7000000091744	1/4 - 1/2 Mile NNW
K146	KY7000000091743	1/4 - 1/2 Mile NNW
K147	KY7000000091738	1/4 - 1/2 Mile NNW
K148	KY7000000091737	1/4 - 1/2 Mile NNW
K149	KY7000000091740	1/4 - 1/2 Mile NNW
K150	KY7000000091739	1/4 - 1/2 Mile NNW
K151	KY7000000091745	1/4 - 1/2 Mile NNW
K152	KY7000000091936	1/4 - 1/2 Mile NNW
K153	KY7000000091937	1/4 - 1/2 Mile NNW
K154	KY7000000091938	1/4 - 1/2 Mile NNW
K155	KY7000000094732	1/4 - 1/2 Mile NW
K156	KY7000000094733	1/4 - 1/2 Mile NW
K157	KY7000000094734	1/4 - 1/2 Mile NW
K158	KY7000000102962	1/4 - 1/2 Mile NNW
K159	KY7000000091921	1/4 - 1/2 Mile NNW
K160	KY7000000091922	1/4 - 1/2 Mile NNW
K161	KY7000000091923	1/4 - 1/2 Mile NNW
K162	KY7000000091920	1/4 - 1/2 Mile NNW
K163	KY7000000091916	1/4 - 1/2 Mile NNW
K164	KY7000000091915	1/4 - 1/2 Mile NNW
K165	KY7000000091914	1/4 - 1/2 Mile NNW
L166	KY7000000077502	1/4 - 1/2 Mile SE
L167	KY7000000077503	1/4 - 1/2 Mile SE
L168	KY7000000077499	1/4 - 1/2 Mile SE
L169	KY7000000077500	1/4 - 1/2 Mile SE
K170	KY7000000091917	1/4 - 1/2 Mile NNW
K171	KY7000000091918	1/4 - 1/2 Mile NNW
K172	KY7000000091919	1/4 - 1/2 Mile NNW
K173	KY7000000087799	1/4 - 1/2 Mile NNW
K174	KY7000000087800	1/4 - 1/2 Mile NNW
K175	KY7000000087801	1/4 - 1/2 Mile NNW
K176	KY7000000094729	1/4 - 1/2 Mile NW
K177	KY7000000094730	1/4 - 1/2 Mile NW
K178	KY7000000094731	1/4 - 1/2 Mile NW
K179	KY7000000091951	1/4 - 1/2 Mile NNW
K180	KY7000000091952	1/4 - 1/2 Mile NNW
K181	KY7000000091953	1/4 - 1/2 Mile NNW
K182	KY7000000091948	1/4 - 1/2 Mile NNW
K183	KY7000000091949	1/4 - 1/2 Mile NNW
K184	KY7000000091950	1/4 - 1/2 Mile NNW
L185	KY7000000104063	1/4 - 1/2 Mile SE
H186	KY7000000078165	1/4 - 1/2 Mile SSW
H187	KY7000000079597	1/4 - 1/2 Mile SSW
H188	KY7000000080286	1/4 - 1/2 Mile SSW
K189	KY7000000091927	1/4 - 1/2 Mile NNW
K190	KY7000000091928	1/4 - 1/2 Mile NNW
K191	KY7000000091929	1/4 - 1/2 Mile NNW
L192	KY7000000104064	1/4 - 1/2 Mile SE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
L193	KY7000000104062	1/4 - 1/2 Mile SE
K194	KY7000000091954	1/4 - 1/2 Mile NW
K195	KY7000000091955	1/4 - 1/2 Mile NW
K196	KY7000000091956	1/4 - 1/2 Mile NW
K197	KY7000000094717	1/4 - 1/2 Mile NNW
K198	KY7000000094718	1/4 - 1/2 Mile NNW
K199	KY7000000094719	1/4 - 1/2 Mile NNW
K200	KY7000000091945	1/4 - 1/2 Mile NNW
K201	KY7000000091946	1/4 - 1/2 Mile NNW
K202	KY7000000091947	1/4 - 1/2 Mile NNW
K203	KY7000000091957	1/4 - 1/2 Mile NNW
K204	KY7000000091958	1/4 - 1/2 Mile NNW
K205	KY7000000091959	1/4 - 1/2 Mile NNW
K206	KY7000000102960	1/4 - 1/2 Mile NNW
K207	KY7000000095296	1/4 - 1/2 Mile NNW
K208	KY7000000095297	1/4 - 1/2 Mile NNW
K209	KY7000000095298	1/4 - 1/2 Mile NNW
M210	KY7000000070304	1/2 - 1 Mile NNW
M211	KY7000000070305	1/2 - 1 Mile NNW
K212	KY7000000091941	1/2 - 1 Mile NNW
K213	KY7000000091940	1/2 - 1 Mile NNW
K214	KY7000000091939	1/2 - 1 Mile NNW
K215	KY7000000091944	1/2 - 1 Mile NNW
K216	KY7000000091943	1/2 - 1 Mile NNW
K217	KY7000000091942	1/2 - 1 Mile NNW
K218	KY7000000091781	1/2 - 1 Mile NNW
K219	KY7000000091780	1/2 - 1 Mile NNW
K220	KY7000000091779	1/2 - 1 Mile NNW
K221	KY7000000091757	1/2 - 1 Mile NW
K222	KY7000000091773	1/2 - 1 Mile NW
K223	KY7000000091755	1/2 - 1 Mile NW
K224	KY7000000091756	1/2 - 1 Mile NW
K225	KY7000000091774	1/2 - 1 Mile NW
K226	KY7000000091775	1/2 - 1 Mile NW
K227	KY7000000091963	1/2 - 1 Mile NNW
K228	KY7000000091964	1/2 - 1 Mile NNW
K229	KY7000000091965	1/2 - 1 Mile NNW
K230	KY7000000091960	1/2 - 1 Mile NNW
K231	KY7000000091961	1/2 - 1 Mile NNW
K232	KY7000000091962	1/2 - 1 Mile NNW
N233	KY7000000102961	1/2 - 1 Mile NW
K234	KY7000000091782	1/2 - 1 Mile NNW
K235	KY7000000091783	1/2 - 1 Mile NNW
K236	KY7000000091784	1/2 - 1 Mile NNW
K237	KY7000000091776	1/2 - 1 Mile NNW
K238	KY7000000091777	1/2 - 1 Mile NNW
K239	KY7000000091778	1/2 - 1 Mile NNW
N240	KY7000000091763	1/2 - 1 Mile NW
N241	KY7000000091762	1/2 - 1 Mile NW
N242	KY7000000091761	1/2 - 1 Mile NW
N243	KY7000000071722	1/2 - 1 Mile NW
N244	KY7000000071721	1/2 - 1 Mile NW

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
N245	KY7000000071724	1/2 - 1 Mile NW
N246	KY7000000071723	1/2 - 1 Mile NW
M247	KY7000000091772	1/2 - 1 Mile NNW
M248	KY7000000091771	1/2 - 1 Mile NNW
M249	KY7000000091770	1/2 - 1 Mile NNW
M250	KY7000000070306	1/2 - 1 Mile NNW
M251	KY7000000070307	1/2 - 1 Mile NNW
N252	KY7000000091760	1/2 - 1 Mile NW
N253	KY7000000091759	1/2 - 1 Mile NW
N254	KY7000000091758	1/2 - 1 Mile NW
M255	KY7000000104608	1/2 - 1 Mile NNW
M256	KY7000000094725	1/2 - 1 Mile NNW
M257	KY7000000094724	1/2 - 1 Mile NNW
M258	KY7000000094723	1/2 - 1 Mile NNW
M259	KY7000000091768	1/2 - 1 Mile NNW
M260	KY7000000091767	1/2 - 1 Mile NNW
M261	KY7000000091769	1/2 - 1 Mile NNW
N262	KY7000000091766	1/2 - 1 Mile NW
N263	KY7000000091765	1/2 - 1 Mile NW
N264	KY7000000091764	1/2 - 1 Mile NW
M265	KY7000000095293	1/2 - 1 Mile NNW
M266	KY7000000095294	1/2 - 1 Mile NNW
M267	KY7000000095295	1/2 - 1 Mile NNW
N268	KY7000000071798	1/2 - 1 Mile NW
N269	KY7000000071797	1/2 - 1 Mile NW
N270	KY7000000071800	1/2 - 1 Mile NW
N271	KY7000000071799	1/2 - 1 Mile NW
N272	KY7000000071742	1/2 - 1 Mile NW
N273	KY7000000071741	1/2 - 1 Mile NW
N274	KY7000000071744	1/2 - 1 Mile NW
N275	KY7000000071743	1/2 - 1 Mile NW
N276	KY7000000071738	1/2 - 1 Mile NW
N277	KY7000000071737	1/2 - 1 Mile NW
N278	KY7000000071740	1/2 - 1 Mile NW
N279	KY7000000071739	1/2 - 1 Mile NW
M280	KY7000000070311	1/2 - 1 Mile NNW
M281	KY7000000070310	1/2 - 1 Mile NNW
N282	KY7000000071734	1/2 - 1 Mile NW
N283	KY7000000071733	1/2 - 1 Mile NW
N284	KY7000000071736	1/2 - 1 Mile NW
N285	KY7000000071735	1/2 - 1 Mile NW
N286	KY7000000071802	1/2 - 1 Mile NNW
N287	KY7000000071801	1/2 - 1 Mile NNW
N288	KY7000000071804	1/2 - 1 Mile NNW
N289	KY7000000071803	1/2 - 1 Mile NNW
O290	KY7000000090659	1/2 - 1 Mile West
O291	KY7000000090658	1/2 - 1 Mile West
O292	KY7000000090657	1/2 - 1 Mile West
O293	KY7000000090681	1/2 - 1 Mile West
O294	KY7000000090684	1/2 - 1 Mile West
O295	KY7000000090683	1/2 - 1 Mile West
O296	KY7000000090682	1/2 - 1 Mile West

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
N297	KY7000000071731	1/2 - 1 Mile NW
N298	KY7000000071730	1/2 - 1 Mile NW
N299	KY7000000071729	1/2 - 1 Mile NW
N300	KY7000000071732	1/2 - 1 Mile NW
M301	KY7000000095286	1/2 - 1 Mile NNW
M302	KY7000000095287	1/2 - 1 Mile NNW
M303	KY7000000095288	1/2 - 1 Mile NNW
N304	KY7000000071726	1/2 - 1 Mile NW
N305	KY7000000071725	1/2 - 1 Mile NW
N306	KY7000000071728	1/2 - 1 Mile NW
N307	KY7000000071727	1/2 - 1 Mile NW
M308	KY7000000070308	1/2 - 1 Mile NNW
M309	KY7000000070309	1/2 - 1 Mile NNW
N310	KY7000000071758	1/2 - 1 Mile NW
N311	KY7000000071757	1/2 - 1 Mile NW
N312	KY7000000071760	1/2 - 1 Mile NW
N313	KY7000000071759	1/2 - 1 Mile NW
N314	KY7000000071762	1/2 - 1 Mile NW
N315	KY7000000071761	1/2 - 1 Mile NW
N316	KY7000000071764	1/2 - 1 Mile NW
N317	KY7000000071763	1/2 - 1 Mile NW
N318	KY7000000071750	1/2 - 1 Mile NW
N319	KY7000000071749	1/2 - 1 Mile NW
N320	KY7000000071752	1/2 - 1 Mile NW
N321	KY7000000071751	1/2 - 1 Mile NW
N322	KY7000000071806	1/2 - 1 Mile NW
N323	KY7000000071805	1/2 - 1 Mile NW
N324	KY7000000071808	1/2 - 1 Mile NW
N325	KY7000000071807	1/2 - 1 Mile NW
N326	KY7000000071754	1/2 - 1 Mile NW
N327	KY7000000071753	1/2 - 1 Mile NW
N328	KY7000000071756	1/2 - 1 Mile NW
N329	KY7000000071755	1/2 - 1 Mile NW
P330	KY7000000093850	1/2 - 1 Mile SE
N331	KY7000000071782	1/2 - 1 Mile NW
N332	KY7000000071781	1/2 - 1 Mile NW
N333	KY7000000071784	1/2 - 1 Mile NW
N334	KY7000000071783	1/2 - 1 Mile NW
N335	KY7000000071766	1/2 - 1 Mile NW
N336	KY7000000071765	1/2 - 1 Mile NW
N337	KY7000000071768	1/2 - 1 Mile NW
N338	KY7000000071767	1/2 - 1 Mile NW
N339	KY7000000071787	1/2 - 1 Mile NW
N340	KY7000000071786	1/2 - 1 Mile NW
N341	KY7000000071785	1/2 - 1 Mile NW
N342	KY7000000071788	1/2 - 1 Mile NW
N343	KY7000000071770	1/2 - 1 Mile NW
N344	KY7000000071769	1/2 - 1 Mile NW
N345	KY7000000071772	1/2 - 1 Mile NW
N346	KY7000000071771	1/2 - 1 Mile NW
P347	KY7000000097261	1/2 - 1 Mile SE
N348	KY7000000071718	1/2 - 1 Mile NNW

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
N349	KY7000000071717	1/2 - 1 Mile NNW
N350	KY7000000071720	1/2 - 1 Mile NNW
N351	KY7000000071719	1/2 - 1 Mile NNW
N352	KY7000000091785	1/2 - 1 Mile NW
N353	KY7000000091786	1/2 - 1 Mile NW
N354	KY7000000091787	1/2 - 1 Mile NW
N355	KY7000000071790	1/2 - 1 Mile NW
N356	KY7000000071789	1/2 - 1 Mile NW
N357	KY7000000071792	1/2 - 1 Mile NW
N358	KY7000000071791	1/2 - 1 Mile NW
N359	KY7000000071794	1/2 - 1 Mile NW
N360	KY7000000071793	1/2 - 1 Mile NW
N361	KY7000000071796	1/2 - 1 Mile NW
N362	KY7000000071795	1/2 - 1 Mile NW
N363	KY7000000071774	1/2 - 1 Mile NW
N364	KY7000000071773	1/2 - 1 Mile NW
N365	KY7000000071776	1/2 - 1 Mile NW
N366	KY7000000071775	1/2 - 1 Mile NW
Q367	KY7000000095335	1/2 - 1 Mile NW
Q368	KY7000000095336	1/2 - 1 Mile NW
Q369	KY7000000095337	1/2 - 1 Mile NW
P370	KY7000000095626	1/2 - 1 Mile SE
P371	KY7000000097263	1/2 - 1 Mile SE
N372	KY7000000095280	1/2 - 1 Mile NW
N373	KY7000000095281	1/2 - 1 Mile NW
N374	KY7000000095282	1/2 - 1 Mile NW
Q375	KY7000000094720	1/2 - 1 Mile NW
Q376	KY7000000094721	1/2 - 1 Mile NW
Q377	KY7000000094722	1/2 - 1 Mile NW
P378	KY7000000095625	1/2 - 1 Mile SE
P379	KY7000000095624	1/2 - 1 Mile SE
P380	KY7000000080365	1/2 - 1 Mile SE
P381	KY7000000093848	1/2 - 1 Mile SE
P382	KY7000000098176	1/2 - 1 Mile SE
P383	KY7000000080167	1/2 - 1 Mile SE
P384	KY7000000062827	1/2 - 1 Mile SE
P385	KY7000000062826	1/2 - 1 Mile SE
P386	KY7000000062825	1/2 - 1 Mile SE
P387	KY7000000064487	1/2 - 1 Mile SE
P388	KY7000000062828	1/2 - 1 Mile SE
P389	KY7000000080364	1/2 - 1 Mile SE
P390	KY7000000080363	1/2 - 1 Mile SE
P391	KY7000000093849	1/2 - 1 Mile SE
P392	KY7000000083614	1/2 - 1 Mile SE
P393	KY7000000098174	1/2 - 1 Mile SE
R394	KY7000000095283	1/2 - 1 Mile NNW
R395	KY7000000095284	1/2 - 1 Mile NNW
R396	KY7000000095285	1/2 - 1 Mile NNW
P397	KY7000000083615	1/2 - 1 Mile SE
P398	KY7000000098175	1/2 - 1 Mile SE
Q399	KY7000000095338	1/2 - 1 Mile NW
Q400	KY7000000095339	1/2 - 1 Mile NW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
Q401	KY7000000095340	1/2 - 1 Mile NW
P402	KY7000000066294	1/2 - 1 Mile SE
P403	KY7000000080168	1/2 - 1 Mile SE
Q404	KY7000000095332	1/2 - 1 Mile NW
Q405	KY7000000095333	1/2 - 1 Mile NW
Q406	KY7000000095334	1/2 - 1 Mile NW
P407	KY7000000098173	1/2 - 1 Mile SE
P408	KY7000000080169	1/2 - 1 Mile SE
Q409	KY7000000095329	1/2 - 1 Mile NW
Q410	KY7000000095330	1/2 - 1 Mile NW
Q411	KY7000000095331	1/2 - 1 Mile NW
S412	KY7000000082584	1/2 - 1 Mile WNW
S413	KY7000000082585	1/2 - 1 Mile WNW
T414	KY7000000069814	1/2 - 1 Mile WSW
415	KY7000000064895	1/2 - 1 Mile West
U416	KY7000000064757	1/2 - 1 Mile SW
V417	KY7000000093688	1/2 - 1 Mile SW
T418	KY7000000069815	1/2 - 1 Mile WSW
T419	KY7000000069807	1/2 - 1 Mile WSW
T420	KY7000000069808	1/2 - 1 Mile WSW
T421	KY7000000069811	1/2 - 1 Mile WSW
T422	KY7000000069810	1/2 - 1 Mile WSW
V423	KY7000000093687	1/2 - 1 Mile SW
T424	KY7000000069813	1/2 - 1 Mile WSW
T425	KY7000000069809	1/2 - 1 Mile WSW
T426	KY7000000069812	1/2 - 1 Mile WSW
T427	KY7000000069817	1/2 - 1 Mile WSW
V428	KY7000000073741	1/2 - 1 Mile SW
V429	KY7000000073742	1/2 - 1 Mile SW
V430	KY7000000093689	1/2 - 1 Mile SW
W431	KY7000000064944	1/2 - 1 Mile NW
W432	KY7000000064943	1/2 - 1 Mile NW
U433	KY7000000076333	1/2 - 1 Mile SW
U434	KY7000000083394	1/2 - 1 Mile SW
U435	KY7000000076331	1/2 - 1 Mile SW
U436	KY7000000076332	1/2 - 1 Mile SW
U437	KY7000000083395	1/2 - 1 Mile SW
U438	KY7000000083398	1/2 - 1 Mile SW
U439	KY7000000083399	1/2 - 1 Mile SW
U440	KY7000000083396	1/2 - 1 Mile SW
U441	KY7000000083397	1/2 - 1 Mile SW
T442	KY7000000069804	1/2 - 1 Mile WSW
X443	KY7000000069816	1/2 - 1 Mile WSW
X444	KY7000000069806	1/2 - 1 Mile WSW
X445	KY7000000069805	1/2 - 1 Mile WSW
Y446	KY7000000007426	1/2 - 1 Mile WNW
Z447	KY7000000007429	1/2 - 1 Mile WNW
AA448	KY7000000077294	1/2 - 1 Mile WSW
AA449	KY7000000077293	1/2 - 1 Mile WSW
AA450	KY7000000077882	1/2 - 1 Mile WSW
Z451	KY7000000064919	1/2 - 1 Mile WNW
AB452	KY7000000064915	1/2 - 1 Mile NW

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
AC453	KY7000000064939	1/2 - 1 Mile WNW
AC454	KY7000000064942	1/2 - 1 Mile WNW
AC455	KY7000000064941	1/2 - 1 Mile WNW
AC456	KY7000000064940	1/2 - 1 Mile WNW
AA457	KY7000000079541	1/2 - 1 Mile WSW
AA458	KY7000000079401	1/2 - 1 Mile WSW
X459	KY7000000077881	1/2 - 1 Mile WSW
X460	KY7000000077290	1/2 - 1 Mile WSW
X461	KY7000000077289	1/2 - 1 Mile WSW
X462	KY7000000100952	1/2 - 1 Mile WSW
463	KY7000000064889	1/2 - 1 Mile West
464	KY7000000064892	1/2 - 1 Mile West
X465	KY7000000075777	1/2 - 1 Mile WSW
X466	KY7000000075776	1/2 - 1 Mile WSW
AA467	KY7000000100953	1/2 - 1 Mile WSW
AA468	KY7000000080083	1/2 - 1 Mile WSW
Y469	KY7000000064897	1/2 - 1 Mile WNW
Y470	KY7000000064896	1/2 - 1 Mile WNW
Z471	KY7000000064893	1/2 - 1 Mile West
Z472	KY7000000064894	1/2 - 1 Mile West
AD473	KY7000000079546	1/2 - 1 Mile WSW
AD474	KY7000000079545	1/2 - 1 Mile WSW
AA475	KY7000000077878	1/2 - 1 Mile WSW
X476	KY7000000077880	1/2 - 1 Mile WSW
X477	KY7000000077291	1/2 - 1 Mile WSW
AA478	KY7000000069843	1/2 - 1 Mile WSW
AA479	KY7000000069844	1/2 - 1 Mile WSW
AA480	KY7000000069845	1/2 - 1 Mile WSW
AA481	KY7000000069842	1/2 - 1 Mile WSW
AA482	KY7000000069841	1/2 - 1 Mile WSW
AA483	KY7000000083261	1/2 - 1 Mile WSW
484	KY7000000064905	1/2 - 1 Mile WNW
AA485	KY7000000077879	1/2 - 1 Mile WSW
AA486	KY7000000077884	1/2 - 1 Mile WSW
AA487	KY7000000080079	1/2 - 1 Mile WSW
AA488	KY7000000080080	1/2 - 1 Mile WSW
AA489	KY7000000082055	1/2 - 1 Mile WSW
AA490	KY7000000080796	1/2 - 1 Mile WSW
AC491	KY7000000064910	1/2 - 1 Mile WNW
Z492	KY7000000064911	1/2 - 1 Mile WNW
AA493	KY7000000080077	1/2 - 1 Mile WSW
AA494	KY7000000080078	1/2 - 1 Mile WSW
AB495	KY7000000064916	1/2 - 1 Mile NW
AE496	KY7000000082053	1/2 - 1 Mile WSW
AE497	KY7000000082052	1/2 - 1 Mile WSW
AF498	KY7000000064920	1/2 - 1 Mile West
AF499	KY7000000064925	1/2 - 1 Mile West
AF500	KY7000000092689	1/2 - 1 Mile West
501	KY7000000064888	1/2 - 1 Mile West
AF502	KY7000000064938	1/2 - 1 Mile West
503	KY7000000064917	1/2 - 1 Mile NW
AG504	KY7000000007427	1/2 - 1 Mile NW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
AH505	KY7000000064890	1/2 - 1 Mile West
AI506	KY7000000085546	1/2 - 1 Mile WNW
AI507	KY7000000085545	1/2 - 1 Mile WNW
AH508	KY7000000064891	1/2 - 1 Mile West
AI509	KY7000000090765	1/2 - 1 Mile WNW
AI510	KY7000000090766	1/2 - 1 Mile WNW
AF511	KY7000000065061	1/2 - 1 Mile West
AF512	KY7000000065062	1/2 - 1 Mile West
513	KY7000000022024	1/2 - 1 Mile North
AF514	KY7000000065057	1/2 - 1 Mile West
AF515	KY7000000065058	1/2 - 1 Mile West
AF516	KY7000000065056	1/2 - 1 Mile West
AF517	KY7000000065054	1/2 - 1 Mile West
AF518	KY7000000065055	1/2 - 1 Mile West
AF519	KY7000000065074	1/2 - 1 Mile West
AF520	KY7000000065075	1/2 - 1 Mile West
AF521	KY7000000065059	1/2 - 1 Mile West
AF522	KY7000000065060	1/2 - 1 Mile West
AJ523	KY7000000069244	1/2 - 1 Mile NE
AJ524	KY7000000065301	1/2 - 1 Mile NE
AJ525	KY7000000065300	1/2 - 1 Mile NE
AJ526	KY7000000069245	1/2 - 1 Mile NE
AJ527	KY7000000069248	1/2 - 1 Mile NE
AJ528	KY7000000069247	1/2 - 1 Mile NE
AJ529	KY7000000069246	1/2 - 1 Mile NE
AJ530	KY7000000065299	1/2 - 1 Mile NE
AJ531	KY7000000060670	1/2 - 1 Mile NE
AJ532	KY7000000060669	1/2 - 1 Mile NE
AJ533	KY7000000060668	1/2 - 1 Mile NE
AJ534	KY7000000060671	1/2 - 1 Mile NE
AJ535	KY7000000065298	1/2 - 1 Mile NE
AJ536	KY7000000065297	1/2 - 1 Mile NE
AJ537	KY7000000065296	1/2 - 1 Mile NE
AJ538	KY7000000088401	1/2 - 1 Mile NE
AJ539	KY7000000088400	1/2 - 1 Mile NE
AJ540	KY7000000088399	1/2 - 1 Mile NE
AJ541	KY7000000088402	1/2 - 1 Mile NE
AJ542	KY7000000088405	1/2 - 1 Mile NE
AJ543	KY7000000088404	1/2 - 1 Mile NE
AJ544	KY7000000088403	1/2 - 1 Mile NE
AJ545	KY7000000088398	1/2 - 1 Mile NE
AJ546	KY7000000075639	1/2 - 1 Mile NE
AJ547	KY7000000075638	1/2 - 1 Mile NE
AJ548	KY7000000075637	1/2 - 1 Mile NE
AJ549	KY7000000075640	1/2 - 1 Mile NE
AJ550	KY7000000075656	1/2 - 1 Mile NE
AJ551	KY7000000075655	1/2 - 1 Mile NE
AJ552	KY7000000075641	1/2 - 1 Mile NE
AK553	KY7000000069803	1/2 - 1 Mile NE
AH555	KY7000000007430	1/2 - 1 Mile West
AK556	KY7000000094823	1/2 - 1 Mile NE
AL557	KY7000000078738	1/2 - 1 Mile West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

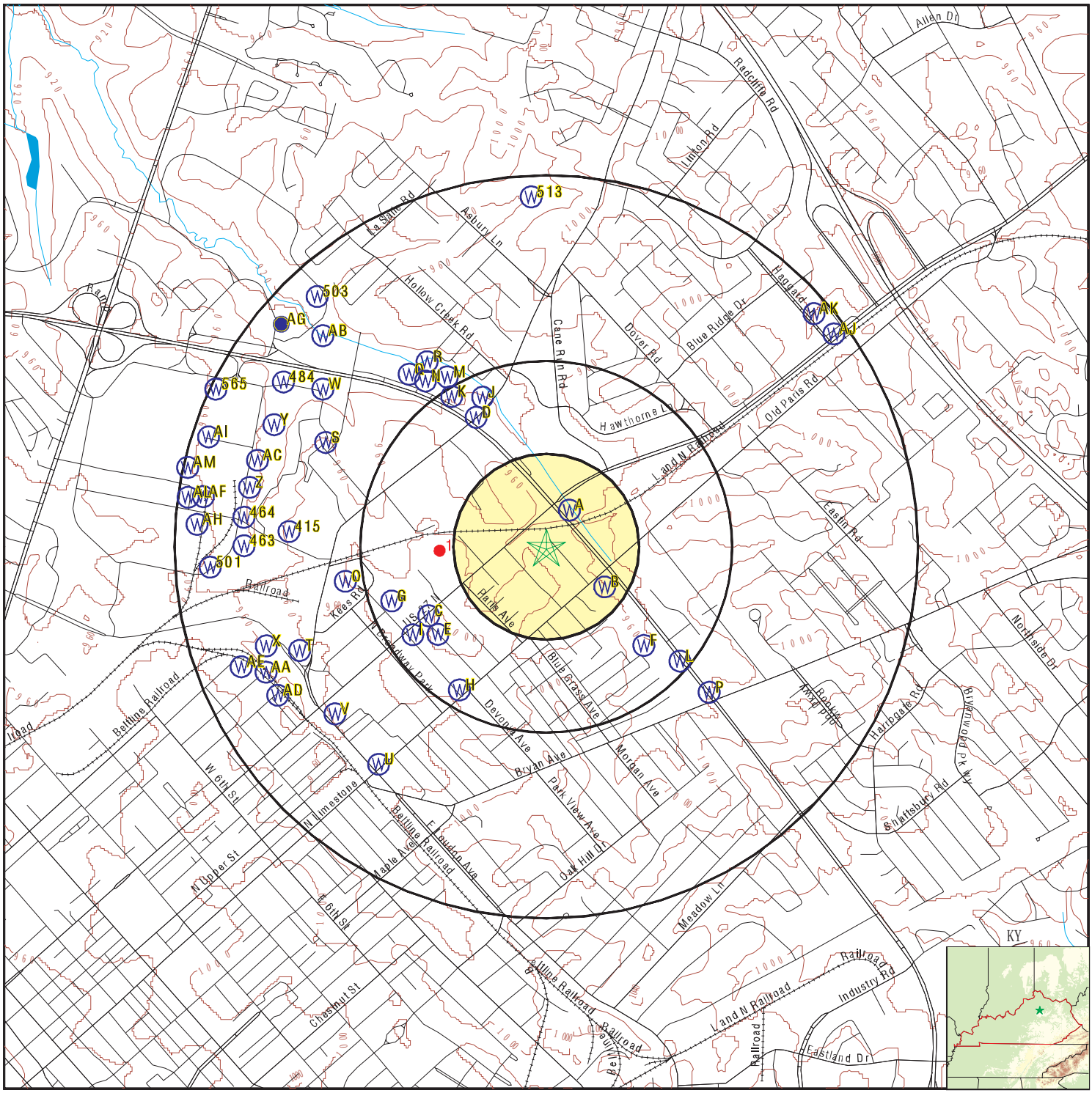
MAP ID	WELL ID	LOCATION FROM TP
AL558	KY7000000092687	1/2 - 1 Mile West
AL559	KY7000000092688	1/2 - 1 Mile West
AI560	KY7000000065073	1/2 - 1 Mile WNW
AI561	KY7000000064428	1/2 - 1 Mile WNW
AI562	KY7000000064427	1/2 - 1 Mile WNW
AM563	KY7000000065071	1/2 - 1 Mile WNW
AM564	KY7000000064429	1/2 - 1 Mile WNW
565	KY7000000064906	1/2 - 1 Mile WNW
AJ566	KY7000000069659	1/2 - 1 Mile NE
AJ567	KY7000000069658	1/2 - 1 Mile NE
AJ568	KY7000000069661	1/2 - 1 Mile NE
AJ569	KY7000000069660	1/2 - 1 Mile NE
AM570	KY7000000065072	1/2 - 1 Mile WNW
AM571	KY7000000064430	1/2 - 1 Mile WNW
AJ572	KY7000000066332	1/2 - 1 Mile NE
AJ573	KY7000000083575	1/2 - 1 Mile NE
AJ574	KY7000000083576	1/2 - 1 Mile NE
AJ575	KY7000000066329	1/2 - 1 Mile NE
AJ576	KY7000000066330	1/2 - 1 Mile NE
AJ577	KY7000000066331	1/2 - 1 Mile NE
AJ578	KY7000000083669	1/2 - 1 Mile NE
AJ579	KY7000000083668	1/2 - 1 Mile NE
AJ580	KY7000000083673	1/2 - 1 Mile NE
AJ581	KY7000000083672	1/2 - 1 Mile NE
AJ582	KY7000000083578	1/2 - 1 Mile NE
AJ583	KY7000000083577	1/2 - 1 Mile NE
AJ584	KY7000000083667	1/2 - 1 Mile NE
AJ585	KY7000000083666	1/2 - 1 Mile NE

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	KYOG14000008412	1/4 - 1/2 Mile West

PHYSICAL SETTING SOURCE MAP - 7485365.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- Oil, gas or related wells

SITE NAME:	130 & 134 W. New Circle Road	CLIENT:	Shield Environmental
ADDRESS:	130 & 134 W. New Circle Road Lexington KY 40505	CONTACT:	Elizabeth Greathouse
		INQUIRY #:	7485365.2s
LAT/LONG:	38.066072 / 84.473151	DATE:	October 31, 2023 7:45 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000075102**

AKGWA ID:	80030462	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	B-20
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	9.5
End Date:	29-JUL-96		

A2
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000063722**

AKGWA ID:	80009758	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18.799999	Depth to Bedrock:	13.3
End Date:	18-AUG-93		

A3
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000063721**

AKGWA ID:	80009757	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	31.200001	Depth to Bedrock:	12.2
End Date:	17-AUG-93		

A4
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000064958**

AKGWA ID:	80012112	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	B-11
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13.5	Depth to Bedrock:	13.5
End Date:	21-NOV-93		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

A5
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000063723**

AKGWA ID:	80009759	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.1	Depth to Bedrock:	9.1
End Date:	19-AUG-93		

A6
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000064954**

AKGWA ID:	80012108	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	B-09
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14	Depth to Bedrock:	14
End Date:	22-NOV-93		

A7
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000064957**

AKGWA ID:	80012111	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	B-10
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.5	Depth to Bedrock:	13.6
End Date:	20-NOV-93		

A8
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000063724**

AKGWA ID:	80009760	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.5	Depth to Bedrock:	12.5
End Date:	19-AUG-93		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A9
NNE
0 - 1/8 Mile
Lower

KY WELLS **KY7000000063725**

AKGWA ID:	80009761	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Duffs Ashland
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	0
End Date:	19-AUG-93		

B10
ESE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000099477**

AKGWA ID:	80062920	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	960	Usage:	Remediation
Total Depth:	9.5	Depth to Bedrock:	9
End Date:	18-JUL-11		

B11
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000092995**

AKGWA ID:	80054061	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported	Well Name:	Heritage Motors (former)
Surface Elevation:	953.909973	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	10
End Date:	20-JUN-07		

B12
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000092996**

AKGWA ID:	80054062	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	Heritage Motors (former)
Surface Elevation:	953.849976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	20-JUN-07		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B13
ESE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000099474**

AKGWA ID:	80062917	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	960	Usage:	Remediation
Total Depth:	15	Depth to Bedrock:	14.5
End Date:	19-JUL-11		

B14
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000092997**

AKGWA ID:	80054063	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-08
PWS ID:	Not Reported	Well Name:	Heritage Motors (former)
Surface Elevation:	953.859985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	5	Depth to Bedrock:	5
End Date:	20-JUN-07		

B15
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000060146**

AKGWA ID:	80005263	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	K J Energy Co - Sunoco Station (former)
Surface Elevation:	956	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.3	Depth to Bedrock:	11.3
End Date:	12-OCT-92		

B16
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000080797**

AKGWA ID:	80038041	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	956	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.1	Depth to Bedrock:	12.1
End Date:	25-JUN-99		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

B17
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000058278**

AKGWA ID:	80002554	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	K J Energy Co - Sunoco Station (former)
Surface Elevation:	956	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18	Depth to Bedrock:	18
End Date:	13-OCT-92		

B18
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000058279**

AKGWA ID:	80002555	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	K J Energy Co - Sunoco Station (former)
Surface Elevation:	956	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13.9	Depth to Bedrock:	13.9
End Date:	13-OCT-92		

B19
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000080800**

AKGWA ID:	80038044	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	956	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10
End Date:	25-JUN-99		

B20
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000080801**

AKGWA ID:	80038045	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	956	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	17	Depth to Bedrock:	17
End Date:	25-JUN-99		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B21
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000080798**

AKGWA ID:	80038042	Well Type:	Monitoring Well
Well Status:	Unsuitable For Intended Use	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	956	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6	Depth to Bedrock:	6
End Date:	25-JUN-99		

B22
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000080799**

AKGWA ID:	80038043	Well Type:	Monitoring Well
Well Status:	Unsuitable For Intended Use	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	956	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6	Depth to Bedrock:	5
End Date:	25-JUN-99		

B23
SE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000092998**

AKGWA ID:	80054064	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07
PWS ID:	Not Reported	Well Name:	Heritage Motors (former)
Surface Elevation:	954	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	5.5	Depth to Bedrock:	5.5
End Date:	20-JUN-07		

B24
ESE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000092999**

AKGWA ID:	80054065	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06
PWS ID:	Not Reported	Well Name:	Heritage Motors (former)
Surface Elevation:	953.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	10
End Date:	20-JUN-07		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B25
ESE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000099476**

AKGWA ID:	80062919	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	960	Usage:	Remediation
Total Depth:	16	Depth to Bedrock:	15.5
End Date:	19-JUL-11		

B26
ESE
1/8 - 1/4 Mile
Lower

KY WELLS **KY7000000099475**

AKGWA ID:	80062918	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported	Well Name:	Early Bird Dry Cleaners
Surface Elevation:	960	Usage:	Remediation
Total Depth:	10.5	Depth to Bedrock:	10
End Date:	19-JUL-11		

C27
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000094094**

AKGWA ID:	80055530	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-23
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	989.599976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.700001	Depth to Bedrock:	2.5
End Date:	24-MAR-09		

C28
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000070539**

AKGWA ID:	80020235	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MWL-4
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	996	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.4	Depth to Bedrock:	0
End Date:	18-APR-91		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C29
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000070540**

AKGWA ID:	80020235	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MWL-4
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	996	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.4	Depth to Bedrock:	0
End Date:	18-APR-91		

C30
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000070533**

AKGWA ID:	80020232	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MWL-1
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	997	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	29.049999	Depth to Bedrock:	0
End Date:	17-APR-91		

C31
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000070534**

AKGWA ID:	80020232	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MWL-1
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	997	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	29.049999	Depth to Bedrock:	0
End Date:	17-APR-91		

C32
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000070537**

AKGWA ID:	80020234	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MWL-3
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	996	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	23.700001	Depth to Bedrock:	0
End Date:	17-APR-91		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C33
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000070538**

AKGWA ID:	80020234	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MWL-3
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	996	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	23.700001	Depth to Bedrock:	0
End Date:	17-APR-91		

C34
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000089757**

AKGWA ID:	80049317	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-21
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25.299999	Depth to Bedrock:	6.5
End Date:	28-APR-05		

C35
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000089756**

AKGWA ID:	80049316	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-20
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	38	Depth to Bedrock:	17
End Date:	28-APR-05		

C36
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000089755**

AKGWA ID:	80049315	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-19
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	23.5	Depth to Bedrock:	14
End Date:	27-APR-05		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D37
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000062875**

AKGWA ID:	80008511	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-03(?)
PWS ID:	Not Reported	Well Name:	Chevron 42642 (North Park Chevron)
Surface Elevation:	945	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10.5
End Date:	12-APR-93		

C38
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000070535**

AKGWA ID:	80020233	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MWL-2
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	995	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.5	Depth to Bedrock:	0
End Date:	17-APR-91		

C39
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000070536**

AKGWA ID:	80020233	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MWL-2
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	995	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.5	Depth to Bedrock:	0
End Date:	17-APR-91		

E40
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000078491**

AKGWA ID:	80035078	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	RW-01
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.5	Depth to Bedrock:	6
End Date:	07-JUL-98		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

E41
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000078490**

AKGWA ID:	80035077	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	RW-06
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	50.5	Depth to Bedrock:	6.75
End Date:	07-JUL-98		

E42
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000078489**

AKGWA ID:	80035076	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	RW-05
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	50.5	Depth to Bedrock:	7.5
End Date:	07-JUL-98		

E43
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000078492**

AKGWA ID:	80035079	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	RW-02
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30	Depth to Bedrock:	8
End Date:	07-JUL-98		

E44
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000078967**

AKGWA ID:	80035752	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-08
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6	Depth to Bedrock:	6
End Date:	17-JUN-98		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E45
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000078966**

AKGWA ID:	80035751	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-07
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7	Depth to Bedrock:	7
End Date:	17-JUN-98		

E46
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000078493**

AKGWA ID:	80035080	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	RW-03
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	50.5	Depth to Bedrock:	9.5
End Date:	07-JUL-98		

E47
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077265**

AKGWA ID:	80033295	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-04
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.8	Depth to Bedrock:	9.8
End Date:	15-MAY-98		

E48
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077264**

AKGWA ID:	80033292	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-03
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8.5
End Date:	15-MAY-98		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
E49 **SW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000077263**

AKGWA ID:	80033291	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	11
End Date:	15-MAY-98		

	Database	EDR ID Number
E50 **SW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000077266**

AKGWA ID:	80033296	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-05
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7	Depth to Bedrock:	7
End Date:	15-MAY-98		

	Database	EDR ID Number
E51 **SW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000078488**

AKGWA ID:	80035075	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	RW-04
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	50.5	Depth to Bedrock:	7.6
End Date:	07-JUL-98		

	Database	EDR ID Number
E52 **SW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000077268**

AKGWA ID:	80033300	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-06
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.5	Depth to Bedrock:	9.5
End Date:	16-JUN-98		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E53
SW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077267**

AKGWA ID:	80033299	Well Type:	Monitoring Well
Well Status:	Unsuitable for Intended Use	Alt ID:	MW-02
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6.3	Depth to Bedrock:	6.3
End Date:	19-MAY-98		

F54
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000066421**

AKGWA ID:	80014651	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Kentucky Home Furnishings
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.1	Depth to Bedrock:	10.1
End Date:	13-JUL-94		

F55
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000066473**

AKGWA ID:	80014700	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Kentucky Home Furnishings
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.2	Depth to Bedrock:	11
End Date:	13-JUL-94		

F56
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000066422**

AKGWA ID:	80014652	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Kentucky Home Furnishings
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.4	Depth to Bedrock:	12
End Date:	13-JUL-94		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C57
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000061052**

AKGWA ID:	80006497	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05; 0002-5993
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	995	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	29.299999	Depth to Bedrock:	6.8
End Date:	31-JUL-91		

C58
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000061051**

AKGWA ID:	80006497	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05; 0002-5993
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	995	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	29.299999	Depth to Bedrock:	6.8
End Date:	31-JUL-91		

C59
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000061050**

AKGWA ID:	80006496	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07; 0002-5995
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	995	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	23.4	Depth to Bedrock:	8.5
End Date:	30-JUL-91		

C60
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000061047**

AKGWA ID:	80006495	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06; 0002-5994
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	995	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	19.799999	Depth to Bedrock:	3
End Date:	30-JUL-91		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

C61
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000061048**

AKGWA ID:	80006495	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06; 0002-5994
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	995	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	19.799999	Depth to Bedrock:	3
End Date:	30-JUL-91		

C62
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000061049**

AKGWA ID:	80006496	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07; 0002-5995
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	995	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	23.4	Depth to Bedrock:	8.5
End Date:	30-JUL-91		

G63
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000094093**

AKGWA ID:	80055529	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-22
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	981.700012	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.4	Depth to Bedrock:	20.5
End Date:	24-MAR-09		

D64
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000104764**

AKGWA ID:	80074426	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Chevron 42642 (North Park Chevron)
Surface Elevation:	947.299988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	29.25	Depth to Bedrock:	2.7
End Date:	13-JUL-18		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D65
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000078381**

AKGWA ID:	80034974	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	21	Depth to Bedrock:	10
End Date:	20-NOV-98		

D66
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000078380**

AKGWA ID:	80034973	Well Type:	Monitoring Well
Well Status:	Unsuitable For Intended Use	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20	Depth to Bedrock:	7
End Date:	20-NOV-98		

D67
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000078385**

AKGWA ID:	80034978	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20	Depth to Bedrock:	11
End Date:	20-NOV-98		

D68
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000078384**

AKGWA ID:	80034977	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	11
End Date:	19-NOV-98		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

E69
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000098553**

AKGWA ID:	80061226	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-09
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	992.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8
End Date:	22-FEB-10		

H70
SSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000079589**

AKGWA ID:	80036416	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Neal Tire Co
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10.5
End Date:	09-MAR-99		

H71
SSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000079590**

AKGWA ID:	80036417	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Neal Tire Co
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.8	Depth to Bedrock:	8.8
End Date:	10-MAR-99		

H72
SSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000079592**

AKGWA ID:	80036419	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Neal Tire Co
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7.4	Depth to Bedrock:	7.4
End Date:	10-MAR-99		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
I73 **WSW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000098552**

AKGWA ID:	80061225	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-10
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.5	Depth to Bedrock:	9
End Date:	22-FEB-10		

	Database	EDR ID Number
E74 **SW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000098554**

AKGWA ID:	80061227	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-11
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	989.099976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	9.5
End Date:	22-FEB-10		

	Database	EDR ID Number
D75 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000078012**

AKGWA ID:	80034370	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	35	Depth to Bedrock:	10.5
End Date:	02-FEB-98		

	Database	EDR ID Number
I76 **WSW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000081544**

AKGWA ID:	80038978	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25	Depth to Bedrock:	3.5
End Date:	18-NOV-99		

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
I77 **WSW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000081545**

AKGWA ID:	80038979	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.6	Depth to Bedrock:	14.2
End Date:	18-NOV-99		

	Database	EDR ID Number
I78 **WSW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000081543**

AKGWA ID:	80038978	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25	Depth to Bedrock:	3.5
End Date:	18-NOV-99		

	Database	EDR ID Number
I79 **WSW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000080872**

AKGWA ID:	80038141	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25	Depth to Bedrock:	4.1
End Date:	03-JUN-99		

	Database	EDR ID Number
I80 **WSW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000080873**

AKGWA ID:	80038141	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25	Depth to Bedrock:	4.1
End Date:	03-JUN-99		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

I81
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082663**

AKGWA ID:	80040381	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25	Depth to Bedrock:	4.3
End Date:	25-MAY-00		

I82
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082664**

AKGWA ID:	80040381	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25	Depth to Bedrock:	4.3
End Date:	25-MAY-00		

I83
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000081548**

AKGWA ID:	80038980	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25.200001	Depth to Bedrock:	4.2
End Date:	19-NOV-99		

I84
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000081546**

AKGWA ID:	80038979	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.6	Depth to Bedrock:	14.2
End Date:	18-NOV-99		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

I85
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000081547**

AKGWA ID:	80038980	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25.200001	Depth to Bedrock:	4.2
End Date:	19-NOV-99		

I86
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077826**

AKGWA ID:	80034138	Well Type:	Monitoring Well
Well Status:	Unsuitable For Intended Use	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	992	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7.3	Depth to Bedrock:	7.3
End Date:	08-JAN-98		

I87
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077827**

AKGWA ID:	80034139	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-08
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	35.299999	Depth to Bedrock:	11.4
End Date:	08-JAN-98		

I88
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077825**

AKGWA ID:	80034138	Well Type:	Monitoring Well
Well Status:	Unsuitable For Intended Use	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	992	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7.3	Depth to Bedrock:	7.3
End Date:	08-JAN-98		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

I89
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077819**

AKGWA ID:	80034134	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	993	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6.8	Depth to Bedrock:	6.8
End Date:	09-JAN-98		

I90
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077820**

AKGWA ID:	80034134	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	993	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6.8	Depth to Bedrock:	6.8
End Date:	09-JAN-98		

I91
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077831**

AKGWA ID:	80034140	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	993	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.3	Depth to Bedrock:	0
End Date:	30-OCT-09		

I92
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077832**

AKGWA ID:	80034140	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	993	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.3	Depth to Bedrock:	0
End Date:	30-OCT-09		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

I93
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077830**

AKGWA ID:	80034140	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	993	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.3	Depth to Bedrock:	14.3
End Date:	08-JAN-98		

I94
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077828**

AKGWA ID:	80034139	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-08
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	1000	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	35.299999	Depth to Bedrock:	11.4
End Date:	08-JAN-98		

I95
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000077829**

AKGWA ID:	80034140	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	993	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.3	Depth to Bedrock:	14.3
End Date:	08-JAN-98		

I96
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082668**

AKGWA ID:	80040383	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-17
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	33	Depth to Bedrock:	12.5
End Date:	25-MAY-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

I97
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082669**

AKGWA ID:	80040384	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-18
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20	Depth to Bedrock:	0
End Date:	25-MAY-00		

I98
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082670**

AKGWA ID:	80040384	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-18
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20	Depth to Bedrock:	0
End Date:	25-MAY-00		

I99
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082665**

AKGWA ID:	80040382	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-16
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.799999	Depth to Bedrock:	5.5
End Date:	25-MAY-00		

I100
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082666**

AKGWA ID:	80040382	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-16
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.799999	Depth to Bedrock:	5.5
End Date:	25-MAY-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
I101 **WSW** **1/4 - 1/2 Mile** **Higher**	**KY WELLS**	**KY7000000082667**

AKGWA ID:	80040383	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-17
PWS ID:	Not Reported	Well Name:	SSA 1102 (Former Bonded, Emro)
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	33	Depth to Bedrock:	12.5
End Date:	25-MAY-00		

J102 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000081204**

AKGWA ID:	80038561	Well Type:	Monitoring Well
Well Status:	Unsuitable For Intended Use	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	23-SEP-99		

J103 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000081205**

AKGWA ID:	80038562	Well Type:	Monitoring Well
Well Status:	Unsuitable For Intended Use	Alt ID:	MW-10
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	0
End Date:	23-SEP-99		

J104 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000081206**

AKGWA ID:	80038563	Well Type:	Monitoring Well
Well Status:	Unsuitable For Intended Use	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	23-SEP-99		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J105
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000081029**

AKGWA ID:	80038303	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	23	Depth to Bedrock:	11
End Date:	08-FEB-00		

J106
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000081030**

AKGWA ID:	80038304	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	9.5
End Date:	09-FEB-00		

J107
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000081031**

AKGWA ID:	80038305	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	Dairy Mart 80 (Russell Cave Convenient Mart)
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	3.5
End Date:	08-FEB-00		

I108
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000069568**

AKGWA ID:	80019243	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	BW-02
PWS ID:	Not Reported		
Well Name:	Crowes Master Tech Auto Repair (former Triumph Auto Glass)		
Surface Elevation:	0	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.7	Depth to Bedrock:	0
End Date:	18-MAR-13		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K109
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095299**

AKGWA ID:	80057036	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-45
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	30	Depth to Bedrock:	13
End Date:	29-APR-10		

K110
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095300**

AKGWA ID:	80057036	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-45
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	30	Depth to Bedrock:	13
End Date:	29-APR-10		

K111
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095301**

AKGWA ID:	80057036	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-45
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	30	Depth to Bedrock:	13
End Date:	29-APR-10		

G112
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000083851**

AKGWA ID:	80041977	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-08
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.7	Depth to Bedrock:	15.7
End Date:	15-FEB-01		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G113
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000083852**

AKGWA ID:	80041978	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.6	Depth to Bedrock:	0
End Date:	18-OCT-06		

G114
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000083850**

AKGWA ID:	80041976	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	21	Depth to Bedrock:	21
End Date:	15-FEB-01		

G115
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082702**

AKGWA ID:	80040418	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.700001	Depth to Bedrock:	20.700001
End Date:	16-JUN-00		

G116
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000082703**

AKGWA ID:	80040419	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18.700001	Depth to Bedrock:	18.700001
End Date:	16-JUN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

G117
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000083853**

AKGWA ID:	80041978	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.6	Depth to Bedrock:	15.6
End Date:	15-FEB-01		

G118
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000084317**

AKGWA ID:	80042524	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	11-SEP-01		

G119
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000084318**

AKGWA ID:	80042525	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.1	Depth to Bedrock:	16.1
End Date:	11-SEP-01		

G120
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000084316**

AKGWA ID:	80042523	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.8	Depth to Bedrock:	12.8
End Date:	11-SEP-01		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G121
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000083854**

AKGWA ID:	80041979	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.8	Depth to Bedrock:	14.8
End Date:	15-FEB-01		

G122
WSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000083855**

AKGWA ID:	80041980	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	Concord - Northland Shopping Center
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14	Depth to Bedrock:	14
End Date:	15-FEB-01		

K123
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091932**

AKGWA ID:	80052446	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-21
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13	Depth to Bedrock:	0
End Date:	14-JUL-05		

K124
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091931**

AKGWA ID:	80052446	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-21
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13	Depth to Bedrock:	0
End Date:	14-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K125
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091930**

AKGWA ID:	80052446	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-21
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13	Depth to Bedrock:	0
End Date:	14-JUL-05		

K126
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091935**

AKGWA ID:	80052447	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-22
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	15-JUL-05		

K127
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091934**

AKGWA ID:	80052447	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-22
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	15-JUL-05		

K128
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091933**

AKGWA ID:	80052447	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-22
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	15-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
K129 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000071778**

AKGWA ID:	80023819	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-72
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
K130 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000071777**

AKGWA ID:	80023819	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-72
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
K131 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000071780**

AKGWA ID:	80023819	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-72
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
K132 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000071779**

AKGWA ID:	80023819	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-72
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
K133 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000071746**

AKGWA ID:	80023811	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-67
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
K134 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000071745**

AKGWA ID:	80023811	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-67
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
K135 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000071748**

AKGWA ID:	80023811	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-67
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
K136 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000071747**

AKGWA ID:	80023811	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-67
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J137
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095302**

AKGWA ID:	80057037	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-44
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	24	Depth to Bedrock:	7.25
End Date:	29-APR-10		

J138
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095303**

AKGWA ID:	80057037	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-44
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	24	Depth to Bedrock:	7.25
End Date:	29-APR-10		

J139
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095304**

AKGWA ID:	80057037	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-44
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	24	Depth to Bedrock:	7.25
End Date:	29-APR-10		

K140
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091926**

AKGWA ID:	80052444	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-18
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	0
End Date:	14-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K141
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091925**

AKGWA ID:	80052444	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-18
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	0
End Date:	14-JUL-05		

K142
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091924**

AKGWA ID:	80052444	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-18
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	0
End Date:	14-JUL-05		

K143
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091742**

AKGWA ID:	80052256	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-02
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	18	Depth to Bedrock:	12
End Date:	01-JUL-05		

K144
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091741**

AKGWA ID:	80052256	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-02
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	18	Depth to Bedrock:	12
End Date:	01-JUL-05		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K145
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091744**

AKGWA ID:	80052257	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-03
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	16.5	Depth to Bedrock:	10
End Date:	01-JUL-05		

K146
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091743**

AKGWA ID:	80052257	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-03
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	16.5	Depth to Bedrock:	10
End Date:	01-JUL-05		

K147
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091738**

AKGWA ID:	80052255	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	18	Depth to Bedrock:	12
End Date:	01-JUL-05		

K148
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091737**

AKGWA ID:	80052255	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	18	Depth to Bedrock:	12
End Date:	01-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K149
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091740**

AKGWA ID:	80052256	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-02
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	18	Depth to Bedrock:	12
End Date:	01-JUL-05		

K150
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091739**

AKGWA ID:	80052255	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	18	Depth to Bedrock:	12
End Date:	01-JUL-05		

K151
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091745**

AKGWA ID:	80052257	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-03
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Remediation
Total Depth:	16.5	Depth to Bedrock:	10
End Date:	01-JUL-05		

K152
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091936**

AKGWA ID:	80052448	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-23
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16	Depth to Bedrock:	0
End Date:	15-JUL-05		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K153
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091937**

AKGWA ID:	80052448	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-23
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16	Depth to Bedrock:	0
End Date:	15-JUL-05		

K154
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091938**

AKGWA ID:	80052448	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-23
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16	Depth to Bedrock:	0
End Date:	15-JUL-05		

K155
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094732**

AKGWA ID:	80056190	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-38
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	28-APR-09		

K156
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094733**

AKGWA ID:	80056190	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-38
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	28-APR-09		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K157
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094734**

AKGWA ID:	80056190	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-38
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	28-APR-09		

K158
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000102962**

AKGWA ID:	80070237	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-63
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	946	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.5	Depth to Bedrock:	14.1
End Date:	21-MAY-20		

K159
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091921**

AKGWA ID:	80052443	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-17
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	0
End Date:	14-JUL-02		

K160
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091922**

AKGWA ID:	80052443	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-17
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	0
End Date:	14-JUL-02		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K161
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091923**

AKGWA ID:	80052443	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-17
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	0
End Date:	14-JUL-02		

K162
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091920**

AKGWA ID:	80052443	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-17
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	0
End Date:	14-JUL-02		

K163
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091916**

AKGWA ID:	80052441	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18	Depth to Bedrock:	0
End Date:	14-JUL-05		

K164
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091915**

AKGWA ID:	80052441	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18	Depth to Bedrock:	0
End Date:	14-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K165
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091914**

AKGWA ID:	80052441	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18	Depth to Bedrock:	0
End Date:	14-JUL-05		

L166
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000077502**

AKGWA ID:	80033767	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	Safelight Auto Glass
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13	Depth to Bedrock:	10
End Date:	17-JUL-97		

L167
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000077503**

AKGWA ID:	80033768	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Safelight Auto Glass
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.6	Depth to Bedrock:	9.6
End Date:	17-JUL-97		

L168
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000077499**

AKGWA ID:	80033763	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Safelight Auto Glass
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13	Depth to Bedrock:	9.4
End Date:	17-JUL-97		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

L169
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000077500**

AKGWA ID:	80033764	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Safelight Auto Glass
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13.5	Depth to Bedrock:	10.5
End Date:	17-JUL-97		

K170
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091917**

AKGWA ID:	80052442	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-16
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	0
End Date:	14-JUL-05		

K171
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091918**

AKGWA ID:	80052442	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-16
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	0
End Date:	14-JUL-05		

K172
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091919**

AKGWA ID:	80052442	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-16
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	0
End Date:	14-JUL-05		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K173
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000087799**

AKGWA ID:	80047137	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-19
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14	Depth to Bedrock:	0
End Date:	14-JUL-05		

K174
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000087800**

AKGWA ID:	80047137	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-19
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14	Depth to Bedrock:	0
End Date:	14-JUL-05		

K175
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000087801**

AKGWA ID:	80047137	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-19
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14	Depth to Bedrock:	0
End Date:	14-JUL-05		

K176
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094729**

AKGWA ID:	80056189	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-37
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	27-APR-09		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K177
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094730**

AKGWA ID:	80056189	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-37
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	27-APR-09		

K178
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094731**

AKGWA ID:	80056189	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-37
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	27-APR-09		

K179
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091951**

AKGWA ID:	80052453	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-28
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	19-JUL-05		

K180
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091952**

AKGWA ID:	80052453	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-28
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	19-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
K181 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000091953**

AKGWA ID:	80052453	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-28
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	19-JUL-05		

	Database	EDR ID Number
K182 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000091948**

AKGWA ID:	80052452	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-27
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	0
End Date:	19-JUL-05		

	Database	EDR ID Number
K183 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000091949**

AKGWA ID:	80052452	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-27
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	0
End Date:	19-JUL-05		

	Database	EDR ID Number
K184 **NNW** **1/4 - 1/2 Mile** **Lower**	**KY WELLS**	**KY7000000091950**

AKGWA ID:	80052452	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-27
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	0
End Date:	19-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

L185
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000104063**

AKGWA ID:	80072498	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-2
PWS ID:	Not Reported	Well Name:	Swifty Station No 127
Surface Elevation:	969.299988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.4	Depth to Bedrock:	12.4
End Date:	22-FEB-17		

H186
SSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000078165**

AKGWA ID:	80034580	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	Neal Tire Co
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6.4	Depth to Bedrock:	6.4
End Date:	02-AUG-99		

H187
SSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000079597**

AKGWA ID:	80036424	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-10
PWS ID:	Not Reported	Well Name:	Neal Tire Co
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7.6	Depth to Bedrock:	7.6
End Date:	02-AUG-99		

H188
SSW
1/4 - 1/2 Mile
Higher

KY WELLS **KY7000000080286**

AKGWA ID:	80037344	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	Neal Tire Co
Surface Elevation:	990	Usage:	Remediation
Total Depth:	8.5	Depth to Bedrock:	8.5
End Date:	24-AUG-01		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K189
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091927**

AKGWA ID:	80052445	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-20
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	0
End Date:	14-JUL-05		

K190
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091928**

AKGWA ID:	80052445	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-20
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	0
End Date:	14-JUL-05		

K191
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091929**

AKGWA ID:	80052445	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-20
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	0
End Date:	14-JUL-05		

L192
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000104064**

AKGWA ID:	80072499	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-3
PWS ID:	Not Reported	Well Name:	Swifty Station No 127
Surface Elevation:	969.799988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.7	Depth to Bedrock:	10.7
End Date:	22-FEB-17		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

L193
SE
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000104062**

AKGWA ID:	80072497	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-1
PWS ID:	Not Reported	Well Name:	Swifty Station No 127
Surface Elevation:	969.299988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13.35	Depth to Bedrock:	13.35
End Date:	22-FEB-17		

K194
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091954**

AKGWA ID:	80052454	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-29
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	20-JUL-05		

K195
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091955**

AKGWA ID:	80052454	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-29
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	20-JUL-05		

K196
NW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091956**

AKGWA ID:	80052454	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-29
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	20-JUL-05		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K197
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094717**

AKGWA ID:	80056185	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-33
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8.5
End Date:	27-APR-09		

K198
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094718**

AKGWA ID:	80056185	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-33
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8.5
End Date:	27-APR-09		

K199
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000094719**

AKGWA ID:	80056185	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-33
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8.5
End Date:	27-APR-09		

K200
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091945**

AKGWA ID:	80052451	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-26
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	0
End Date:	18-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K201
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091946**

AKGWA ID:	80052451	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-26
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	0
End Date:	18-JUL-05		

K202
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091947**

AKGWA ID:	80052451	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-26
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	0
End Date:	18-JUL-05		

K203
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091957**

AKGWA ID:	80052455	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-30
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

K204
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091958**

AKGWA ID:	80052455	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-30
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K205
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000091959**

AKGWA ID:	80052455	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-30
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

K206
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000102960**

AKGWA ID:	80070235	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-59
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	939	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.5	Depth to Bedrock:	10.8
End Date:	20-MAY-20		

K207
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095296**

AKGWA ID:	80057035	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-46
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	25	Depth to Bedrock:	10
End Date:	29-APR-10		

K208
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095297**

AKGWA ID:	80057035	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-46
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	25	Depth to Bedrock:	10
End Date:	29-APR-10		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K209
NNW
1/4 - 1/2 Mile
Lower

KY WELLS **KY7000000095298**

AKGWA ID:	80057035	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-46
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	25	Depth to Bedrock:	10
End Date:	29-APR-10		

M210
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000070304**

AKGWA ID:	80019970	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-39
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Compliance
Total Depth:	10.5	Depth to Bedrock:	0
End Date:	10-SEP-16		

M211
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000070305**

AKGWA ID:	80019970	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-39
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Compliance
Total Depth:	10.5	Depth to Bedrock:	0
End Date:	10-SEP-16		

K212
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091941**

AKGWA ID:	80052449	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-24
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	15-JUL-05		

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
K213 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091940**

AKGWA ID:	80052449	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-24
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	15-JUL-05		

	Database	EDR ID Number
K214 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091939**

AKGWA ID:	80052449	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-24
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	15-JUL-05		

	Database	EDR ID Number
K215 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091944**

AKGWA ID:	80052450	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-25
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Mining
Total Depth:	10	Depth to Bedrock:	0
End Date:	18-JUL-05		

	Database	EDR ID Number
K216 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091943**

AKGWA ID:	80052450	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-25
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Mining
Total Depth:	10	Depth to Bedrock:	0
End Date:	18-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K217
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091942**

AKGWA ID:	80052450	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-25
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Mining
Total Depth:	10	Depth to Bedrock:	0
End Date:	18-JUL-05		

K218
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091781**

AKGWA ID:	80052279	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

K219
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091780**

AKGWA ID:	80052279	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

K220
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091779**

AKGWA ID:	80052279	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K221
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091757**

AKGWA ID:	80052271	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.75	Depth to Bedrock:	11.2
End Date:	06-JUL-05		

K222
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091773**

AKGWA ID:	80052277	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.5	Depth to Bedrock:	10.7
End Date:	07-JUL-05		

K223
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091755**

AKGWA ID:	80052271	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.75	Depth to Bedrock:	11.2
End Date:	06-JUL-05		

K224
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091756**

AKGWA ID:	80052271	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.75	Depth to Bedrock:	11.2
End Date:	06-JUL-05		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K225
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091774**

AKGWA ID:	80052277	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.5	Depth to Bedrock:	10.7
End Date:	07-JUL-05		

K226
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091775**

AKGWA ID:	80052277	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.5	Depth to Bedrock:	10.7
End Date:	07-JUL-05		

K227
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091963**

AKGWA ID:	80052457	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-32
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

K228
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091964**

AKGWA ID:	80052457	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-32
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K229
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091965**

AKGWA ID:	80052457	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-32
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

K230
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091960**

AKGWA ID:	80052456	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-31
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

K231
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091961**

AKGWA ID:	80052456	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-31
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

K232
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091962**

AKGWA ID:	80052456	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-31
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.5	Depth to Bedrock:	0
End Date:	20-JUL-05		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N233
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000102961**

AKGWA ID:	80070236	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-62
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.5	Depth to Bedrock:	10.8
End Date:	21-MAY-20		

K234
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091782**

AKGWA ID:	80052280	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

K235
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091783**

AKGWA ID:	80052280	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

K236
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091784**

AKGWA ID:	80052280	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

K237
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091776**

AKGWA ID:	80052278	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-11
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.5	Depth to Bedrock:	10.7
End Date:	07-JUL-05		

K238
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091777**

AKGWA ID:	80052278	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-11
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.5	Depth to Bedrock:	10.7
End Date:	07-JUL-05		

K239
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091778**

AKGWA ID:	80052278	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-11
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.5	Depth to Bedrock:	10.7
End Date:	07-JUL-05		

N240
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091763**

AKGWA ID:	80052273	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	8.4
End Date:	06-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N241 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091762**

AKGWA ID:	80052273	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	8.4
End Date:	06-JUL-05		

	Database	EDR ID Number
N242 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091761**

AKGWA ID:	80052273	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	8.4
End Date:	06-JUL-05		

	Database	EDR ID Number
N243 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071722**

AKGWA ID:	80023805	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-18
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	8	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N244 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071721**

AKGWA ID:	80023805	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-18
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	8	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N245
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071724**

AKGWA ID:	80023805	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-18
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	8	Depth to Bedrock:	0
End Date:	01-JAN-00		

N246
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071723**

AKGWA ID:	80023805	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-18
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	8	Depth to Bedrock:	0
End Date:	01-JAN-00		

M247
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091772**

AKGWA ID:	80052276	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	10
End Date:	06-JUL-05		

M248
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091771**

AKGWA ID:	80052276	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	10
End Date:	06-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M249
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091770**

AKGWA ID:	80052276	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	10
End Date:	06-JUL-05		

M250
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000070306**

AKGWA ID:	80019971	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-41
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Compliance
Total Depth:	9.8	Depth to Bedrock:	0
End Date:	10-SEP-16		

M251
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000070307**

AKGWA ID:	80019971	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-41
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Compliance
Total Depth:	9.8	Depth to Bedrock:	0
End Date:	10-SEP-16		

N252
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091760**

AKGWA ID:	80052272	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18.5	Depth to Bedrock:	8.5
End Date:	06-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N253
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091759**

AKGWA ID:	80052272	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18.5	Depth to Bedrock:	8.5
End Date:	06-JUL-05		

N254
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091758**

AKGWA ID:	80052272	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18.5	Depth to Bedrock:	8.5
End Date:	06-JUL-05		

M255
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000104608**

AKGWA ID:	80074029	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-61
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	937	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.5	Depth to Bedrock:	14.1
End Date:	20-MAY-20		

M256
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000094725**

AKGWA ID:	80056187	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-35
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	10
End Date:	27-APR-09		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M257
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000094724**

AKGWA ID:	80056187	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-35
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	10
End Date:	27-APR-09		

M258
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000094723**

AKGWA ID:	80056187	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-35
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	930	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	10
End Date:	27-APR-09		

M259
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091768**

AKGWA ID:	80052275	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-08
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.5	Depth to Bedrock:	9.8
End Date:	06-JUL-05		

M260
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091767**

AKGWA ID:	80052275	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-08
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.5	Depth to Bedrock:	9.8
End Date:	06-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M261
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091769**

AKGWA ID:	80052275	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-08
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.5	Depth to Bedrock:	9.8
End Date:	06-JUL-05		

N262
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091766**

AKGWA ID:	80052274	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.25	Depth to Bedrock:	11.5
End Date:	06-JUL-05		

N263
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091765**

AKGWA ID:	80052274	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.25	Depth to Bedrock:	11.5
End Date:	06-JUL-05		

N264
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000091764**

AKGWA ID:	80052274	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19.25	Depth to Bedrock:	11.5
End Date:	06-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M265
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095293**

AKGWA ID:	80057034	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-48
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	30	Depth to Bedrock:	10.2
End Date:	29-APR-10		

M266
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095294**

AKGWA ID:	80057034	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-48
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	30	Depth to Bedrock:	10.2
End Date:	29-APR-10		

M267
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095295**

AKGWA ID:	80057034	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-48
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	30	Depth to Bedrock:	10.2
End Date:	29-APR-10		

N268
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071798**

AKGWA ID:	80023824	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-23
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

N269
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071797**

AKGWA ID:	80023824	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-23
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

N270
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071800**

AKGWA ID:	80023824	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-23
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

N271
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071799**

AKGWA ID:	80023824	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-23
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

N272
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071742**

AKGWA ID:	80023810	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-13
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

N273
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071741**

AKGWA ID:	80023810	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-13
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N274
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071744**

AKGWA ID:	80023810	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-13
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N275
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071743**

AKGWA ID:	80023810	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-13
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N276
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071738**

AKGWA ID:	80023809	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-14
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N277 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071737**

AKGWA ID:	80023809	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-14
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N278 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071740**

AKGWA ID:	80023809	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-14
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N279 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071739**

AKGWA ID:	80023809	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-14
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
M280 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000070311**

AKGWA ID:	80019973	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-43
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Compliance
Total Depth:	7	Depth to Bedrock:	0
End Date:	10-SEP-16		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
M281 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000070310**

AKGWA ID:	80019973	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-43
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Compliance
Total Depth:	7	Depth to Bedrock:	0
End Date:	10-SEP-16		

	Database	EDR ID Number
N282 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071734**

AKGWA ID:	80023808	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-15
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N283 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071733**

AKGWA ID:	80023808	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-15
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N284 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071736**

AKGWA ID:	80023808	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-15
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N285 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071735**

AKGWA ID:	80023808	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-15
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N286 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071802**

AKGWA ID:	80023825	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-24
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N287 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071801**

AKGWA ID:	80023825	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-24
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N288 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071804**

AKGWA ID:	80023825	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-24
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

N289
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071803**

AKGWA ID:	80023825	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-24
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

O290
West
1/2 - 1 Mile
Higher

KY WELLS **KY7000000090659**

AKGWA ID:	80050613	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07
PWS ID:	Not Reported	Well Name:	Russell Cave Rd Apartments
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	35.5	Depth to Bedrock:	7
End Date:	27-SEP-04		

O291
West
1/2 - 1 Mile
Higher

KY WELLS **KY7000000090658**

AKGWA ID:	80050612	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06
PWS ID:	Not Reported	Well Name:	Russell Cave Rd Apartments
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	35.5	Depth to Bedrock:	6.7
End Date:	27-SEP-04		

O292
West
1/2 - 1 Mile
Higher

KY WELLS **KY7000000090657**

AKGWA ID:	80050611	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Russell Cave Rd Apartments
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	35.5	Depth to Bedrock:	7
End Date:	27-SEP-04		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

O293
West
1/2 - 1 Mile
Higher

KY WELLS **KY7000000090681**

AKGWA ID:	80050635	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Russell Cave Rd Apartments
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7.7	Depth to Bedrock:	6.5
End Date:	20-SEP-04		

O294
West
1/2 - 1 Mile
Higher

KY WELLS **KY7000000090684**

AKGWA ID:	80050638	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	Russell Cave Rd Apartments
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7.1	Depth to Bedrock:	6.7
End Date:	20-SEP-04		

O295
West
1/2 - 1 Mile
Higher

KY WELLS **KY7000000090683**

AKGWA ID:	80050637	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Russell Cave Rd Apartments
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6	Depth to Bedrock:	5.5
End Date:	20-SEP-04		

O296
West
1/2 - 1 Mile
Higher

KY WELLS **KY7000000090682**

AKGWA ID:	80050636	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Russell Cave Rd Apartments
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	7.3	Depth to Bedrock:	6.5
End Date:	20-SEP-04		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N297 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071731**

AKGWA ID:	80023807	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-16
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N298 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071730**

AKGWA ID:	80023807	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-16
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N299 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071729**

AKGWA ID:	80023807	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-16
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N300 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071732**

AKGWA ID:	80023807	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-16
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

M301
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095286**

AKGWA ID:	80057029	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-49
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	23	Depth to Bedrock:	11
End Date:	29-APR-10		

M302
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095287**

AKGWA ID:	80057029	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-49
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	23	Depth to Bedrock:	11
End Date:	29-APR-10		

M303
NNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095288**

AKGWA ID:	80057029	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-49
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	23	Depth to Bedrock:	11
End Date:	29-APR-10		

N304
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071726**

AKGWA ID:	80023806	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-17
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N305 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071725**

AKGWA ID:	80023806	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-17
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N306 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071728**

AKGWA ID:	80023806	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-17
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N307 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071727**

AKGWA ID:	80023806	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-17
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	9	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
M308 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000070308**

AKGWA ID:	80019972	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-42
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Compliance
Total Depth:	8.5	Depth to Bedrock:	0
End Date:	10-SEP-16		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
M309 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000070309**

AKGWA ID:	80019972	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-42
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Compliance
Total Depth:	8.5	Depth to Bedrock:	0
End Date:	10-SEP-16		

	Database	EDR ID Number
N310 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071758**

AKGWA ID:	80023814	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-70
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N311 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071757**

AKGWA ID:	80023814	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-70
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N312 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071760**

AKGWA ID:	80023814	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-70
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

N313
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071759**

AKGWA ID:	80023814	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-70
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N314
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071762**

AKGWA ID:	80023815	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-75
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N315
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071761**

AKGWA ID:	80023815	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-75
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N316
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071764**

AKGWA ID:	80023815	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-75
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N317 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071763**

AKGWA ID:	80023815	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-75
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N318
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071750**

AKGWA ID:	80023812	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-48
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N319
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071749**

AKGWA ID:	80023812	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-48
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N320
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071752**

AKGWA ID:	80023812	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-48
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N321
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071751**

AKGWA ID:	80023812	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-48
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N322
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071806**

AKGWA ID:	80023826	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-09
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N323
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071805**

AKGWA ID:	80023826	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-09
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N324
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071808**

AKGWA ID:	80023826	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-09
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N325
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071807**

AKGWA ID:	80023826	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-09
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N326
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071754**

AKGWA ID:	80023813	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-08
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N327
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071753**

AKGWA ID:	80023813	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-08
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N328
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071756**

AKGWA ID:	80023813	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-08
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N329
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071755**

AKGWA ID:	80023813	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-08
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

P330
SE
1/2 - 1 Mile
Lower

KY WELLS **KY7000000093850**

AKGWA ID:	80055190	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	973.900024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	17.5	Depth to Bedrock:	8.1
End Date:	18-JUN-09		

N331
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071782**

AKGWA ID:	80023820	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-07
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N332
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071781**

AKGWA ID:	80023820	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-07
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N333 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071784**

AKGWA ID:	80023820	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-07
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N334
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071783**

AKGWA ID:	80023820	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-07
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N335
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071766**

AKGWA ID:	80023816	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-74
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N336
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071765**

AKGWA ID:	80023816	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-74
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N337 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071768**

AKGWA ID:	80023816	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-74
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N338 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071767**

AKGWA ID:	80023816	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-74
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N339 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071787**

AKGWA ID:	80023821	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-06
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N340 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071786**

AKGWA ID:	80023821	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-06
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N341 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071785**

AKGWA ID:	80023821	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-06
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N342
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071788**

AKGWA ID:	80023821	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-06
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N343
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071770**

AKGWA ID:	80023817	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-71
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N344
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071769**

AKGWA ID:	80023817	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-71
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N345 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071772**

AKGWA ID:	80023817	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-71
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N346 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071771**

AKGWA ID:	80023817	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-71
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
P347 **SE** **1/2 - 1 Mile** **Higher**	**KY WELLS**	**KY7000000097261**

AKGWA ID:	80059684	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-19
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	977.200012	Usage:	Remediation
Total Depth:	9	Depth to Bedrock:	9
End Date:	05-MAY-10		

	Database	EDR ID Number
N348 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071718**

AKGWA ID:	80023804	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-19
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	8	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N349 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071717**

AKGWA ID:	80023804	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-19
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	8	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N350 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071720**

AKGWA ID:	80023804	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-19
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	8	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N351 **NNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071719**

AKGWA ID:	80023804	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-19
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	8	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N352 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091785**

AKGWA ID:	80052281	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N353 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091786**

AKGWA ID:	80052281	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

	Database	EDR ID Number
N354 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000091787**

AKGWA ID:	80052281	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.5	Depth to Bedrock:	10
End Date:	07-JUL-05		

	Database	EDR ID Number
N355 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071790**

AKGWA ID:	80023822	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-05
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N356 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071789**

AKGWA ID:	80023822	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-05
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N357 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071792**

AKGWA ID:	80023822	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-05
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N358
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071791**

AKGWA ID:	80023822	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-05
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N359
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071794**

AKGWA ID:	80023823	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-04
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

N360
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071793**

AKGWA ID:	80023823	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-04
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N361 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071796**

AKGWA ID:	80023823	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-04
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N362 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071795**

AKGWA ID:	80023823	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-04
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	11	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N363 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071774**

AKGWA ID:	80023818	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-73
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
N364 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071773**

AKGWA ID:	80023818	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-73
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N365 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000071776**

AKGWA ID:	80023818	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-73
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

N366
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000071775**

AKGWA ID:	80023818	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	TAW-73
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	940	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10	Depth to Bedrock:	0
End Date:	01-JAN-00		

Q367
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095335**

AKGWA ID:	80057099	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-53
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	33	Depth to Bedrock:	13
End Date:	29-APR-10		

Q368
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095336**

AKGWA ID:	80057099	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-53
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	33	Depth to Bedrock:	13
End Date:	29-APR-10		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

Q369
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095337**

AKGWA ID:	80057099	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-53
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	33	Depth to Bedrock:	13
End Date:	29-APR-10		

P370
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000095626**

AKGWA ID:	80057563	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-18
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	979.099976	Usage:	Remediation
Total Depth:	9.8	Depth to Bedrock:	9.5
End Date:	17-DEC-09		

P371
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000097263**

AKGWA ID:	80059686	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-20
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980.700012	Usage:	Remediation
Total Depth:	7.5	Depth to Bedrock:	7.5
End Date:	05-MAY-10		

N372
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095280**

AKGWA ID:	80057027	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-51
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	32	Depth to Bedrock:	12
End Date:	29-APR-10		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
N373 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000095281**

AKGWA ID:	80057027	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-51
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	32	Depth to Bedrock:	12
End Date:	29-APR-10		

	Database	EDR ID Number
N374 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000095282**

AKGWA ID:	80057027	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-51
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	32	Depth to Bedrock:	12
End Date:	29-APR-10		

	Database	EDR ID Number
Q375 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000094720**

AKGWA ID:	80056186	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-34
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	935	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	10
End Date:	27-APR-09		

	Database	EDR ID Number
Q376 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000094721**

AKGWA ID:	80056186	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-34
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	935	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	10
End Date:	27-APR-09		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Q377
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000094722**

AKGWA ID:	80056186	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-34
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	935	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10	Depth to Bedrock:	10
End Date:	27-APR-09		

P378
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000095625**

AKGWA ID:	80057562	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-17
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	979.400024	Usage:	Remediation
Total Depth:	6.7	Depth to Bedrock:	6.5
End Date:	17-DEC-09		

P379
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000095624**

AKGWA ID:	80057561	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-16
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	979.799988	Usage:	Remediation
Total Depth:	8.3	Depth to Bedrock:	8.1
End Date:	17-DEC-09		

P380
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000080365**

AKGWA ID:	80037436	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8.5
End Date:	01-OCT-02		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

P381
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000093848**

AKGWA ID:	80055188	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	979.400024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.5	Depth to Bedrock:	3.7
End Date:	18-JUN-09		

P382
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000098176**

AKGWA ID:	80060720	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10R
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Remediation
Total Depth:	7.8	Depth to Bedrock:	7
End Date:	31-AUG-10		

P383
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000080167**

AKGWA ID:	80037201	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8	Depth to Bedrock:	8
End Date:	25-MAY-99		

P384
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000062827**

AKGWA ID:	80008479	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Chevron 49158
Surface Elevation:	975	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8.5
End Date:	08-APR-93		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

P385
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000062826**

AKGWA ID:	80008478	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Chevron 49158
Surface Elevation:	975	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.6	Depth to Bedrock:	10.6
End Date:	08-APR-93		

P386
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000062825**

AKGWA ID:	80008477	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Chevron 49158
Surface Elevation:	975	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10.5
End Date:	08-APR-93		

P387
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000064487**

AKGWA ID:	80010905	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Chevron 49158
Surface Elevation:	975	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.8	Depth to Bedrock:	11.8
End Date:	09-APR-93		

P388
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000062828**

AKGWA ID:	80008480	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	Chevron 49158
Surface Elevation:	975	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.4	Depth to Bedrock:	9.4
End Date:	08-APR-93		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

P389
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000080364**

AKGWA ID:	80037435	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9	Depth to Bedrock:	9
End Date:	01-OCT-02		

P390
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000080363**

AKGWA ID:	80037433	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	0
End Date:	10-JUL-03		

P391
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000093849**

AKGWA ID:	80055189	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.5	Depth to Bedrock:	4.1
End Date:	18-JUN-09		

P392
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083614**

AKGWA ID:	80041661	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-08
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	5.5	Depth to Bedrock:	0
End Date:	27-JUN-01		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
P393 **SE** **1/2 - 1 Mile** **Higher**	**KY WELLS**	**KY7000000098174**

AKGWA ID:	80060718	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-08R
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Remediation
Total Depth:	6.5	Depth to Bedrock:	6.5
End Date:	31-AUG-10		

R394 **NNW** **1/2 - 1 Mile** **Lower**		**KY WELLS**	**KY7000000095283**
AKGWA ID:	80057028	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-50
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	27	Depth to Bedrock:	7
End Date:	29-APR-10		

R395 **NNW** **1/2 - 1 Mile** **Lower**		**KY WELLS**	**KY7000000095284**
AKGWA ID:	80057028	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-50
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	27	Depth to Bedrock:	7
End Date:	29-APR-10		

R396 **NNW** **1/2 - 1 Mile** **Lower**		**KY WELLS**	**KY7000000095285**
AKGWA ID:	80057028	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-50
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	27	Depth to Bedrock:	7
End Date:	29-APR-10		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

P397
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083615**

AKGWA ID:	80041662	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16	Depth to Bedrock:	10
End Date:	27-JUN-01		

P398
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000098175**

AKGWA ID:	80060719	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-03R
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Remediation
Total Depth:	7.7	Depth to Bedrock:	7
End Date:	31-AUG-10		

Q399
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095338**

AKGWA ID:	80057100	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-52
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	32	Depth to Bedrock:	12
End Date:	29-APR-10		

Q400
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095339**

AKGWA ID:	80057100	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-52
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	32	Depth to Bedrock:	12
End Date:	29-APR-10		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Q401
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095340**

AKGWA ID:	80057100	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-52
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	32	Depth to Bedrock:	12
End Date:	29-APR-10		

P402
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000066294**

AKGWA ID:	80014430	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Chevron 49158
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.5	Depth to Bedrock:	11.5
End Date:	28-JUN-94		

P403
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000080168**

AKGWA ID:	80037202	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8
End Date:	25-MAY-99		

Q404
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095332**

AKGWA ID:	80057098	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-54
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	31	Depth to Bedrock:	11
End Date:	29-APR-10		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Q405
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095333**

AKGWA ID:	80057098	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-54
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	31	Depth to Bedrock:	11
End Date:	29-APR-10		

Q406
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095334**

AKGWA ID:	80057098	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-54
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	31	Depth to Bedrock:	11
End Date:	29-APR-10		

P407
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000098173**

AKGWA ID:	80060717	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05R
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Remediation
Total Depth:	6.5	Depth to Bedrock:	6
End Date:	31-AUG-10		

P408
SE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000080169**

AKGWA ID:	80037203	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Macs 3213 (Former Dairy Mart 58)
Surface Elevation:	980	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6	Depth to Bedrock:	6
End Date:	26-MAY-99		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Q409
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095329**

AKGWA ID:	80057097	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-55
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	31	Depth to Bedrock:	11
End Date:	29-APR-10		

Q410
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095330**

AKGWA ID:	80057097	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-55
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	31	Depth to Bedrock:	11
End Date:	29-APR-10		

Q411
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000095331**

AKGWA ID:	80057097	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-55
PWS ID:	Not Reported		
Well Name:	Minit Mart 674 (former Russell Cave Shell, Circle 4 Shell 216-4600-1400)		
Surface Elevation:	948	Usage:	Remediation
Total Depth:	31	Depth to Bedrock:	11
End Date:	29-APR-10		

S412
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000082584**

AKGWA ID:	80040298	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	DW-08
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Not Reported
Total Depth:	109.199997	Depth to Bedrock:	0
End Date:	20-AUG-90		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

S413
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000082585**

AKGWA ID:	80040298	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	DW-08
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Not Reported
Total Depth:	109.199997	Depth to Bedrock:	0
End Date:	16-JUN-00		

T414
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069814**

AKGWA ID:	80019494	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-105D
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	954.700012	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	84.599998	Depth to Bedrock:	0
End Date:	23-OCT-06		

415
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064895**

AKGWA ID:	80012018	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-22
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	942.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

U416
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064757**

AKGWA ID:	80011339	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Lexington Transit Authority (Lextran)
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.1	Depth to Bedrock:	15.7
End Date:	26-JAN-94		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

V417
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000093688**

AKGWA ID:	80054972	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Thornton Oil Corp No 38
Surface Elevation:	962	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	5	Depth to Bedrock:	3.2
End Date:	02-JUN-08		

T418
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069815**

AKGWA ID:	80019495	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-106D
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	954.099976	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	107.099998	Depth to Bedrock:	0
End Date:	23-OCT-06		

T419
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069807**

AKGWA ID:	80019487	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-5
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	954.200012	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	6.8	Depth to Bedrock:	0
End Date:	23-OCT-06		

T420
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069808**

AKGWA ID:	80019488	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-101S
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	952.700012	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10.42	Depth to Bedrock:	0
End Date:	23-OCT-06		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

T421
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069811**

AKGWA ID:	80019491	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-101D
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	953.099976	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	92.5	Depth to Bedrock:	0
End Date:	23-OCT-06		

T422
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069810**

AKGWA ID:	80019490	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-103S
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	951.400024	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	24.43	Depth to Bedrock:	0
End Date:	23-OCT-06		

V423
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000093687**

AKGWA ID:	80054971	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Thornton Oil Corp No 38
Surface Elevation:	960.799988	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	7	Depth to Bedrock:	6.9
End Date:	02-JUN-08		

T424
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069813**

AKGWA ID:	80019493	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-103D
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	951.599976	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	88.599998	Depth to Bedrock:	0
End Date:	23-OCT-06		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

T425
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069809**

AKGWA ID:	80019489	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-102S
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	953	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	19.6	Depth to Bedrock:	0
End Date:	23-OCT-06		

T426
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069812**

AKGWA ID:	80019492	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-102D
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	952.799988	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	92.199997	Depth to Bedrock:	0
End Date:	23-OCT-06		

T427
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069817**

AKGWA ID:	80019497	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-1
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	953.900024	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	23.200001	Depth to Bedrock:	0
End Date:	23-OCT-06		

V428
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000073741**

AKGWA ID:	80028722	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Imperial Mobile Home Park
Surface Elevation:	965	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.9	Depth to Bedrock:	12
End Date:	17-FEB-96		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

V429
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000073742**

AKGWA ID:	80028723	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Imperial Mobile Home Park
Surface Elevation:	965	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	16
End Date:	17-FEB-96		

V430
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000093689**

AKGWA ID:	80054973	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Thornton Oil Corp No 38
Surface Elevation:	958.200012	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	16	Depth to Bedrock:	15.5
End Date:	02-JUN-08		

W431
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064944**

AKGWA ID:	80012067	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-96A
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	930.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

W432
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064943**

AKGWA ID:	80012066	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-96B
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	931.099976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
U433 **SW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000076333**

AKGWA ID:	80031997	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-03
PWS ID:	Not Reported		
Well Name:	Kitchen Planning Center (Former Greyhound Bus Garage)		
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.3	Depth to Bedrock:	15.3
End Date:	14-FEB-97		

U434
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000083394**

AKGWA ID:	80041345	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	Lexington Transit Authority (Lextran)
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13.4	Depth to Bedrock:	13.4
End Date:	26-APR-01		

U435
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000076331**

AKGWA ID:	80031995	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-01
PWS ID:	Not Reported		
Well Name:	Kitchen Planning Center (Former Greyhound Bus Garage)		
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.2	Depth to Bedrock:	12
End Date:	14-FEB-97		

U436
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000076332**

AKGWA ID:	80031996	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-02
PWS ID:	Not Reported		
Well Name:	Kitchen Planning Center (Former Greyhound Bus Garage)		
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.9	Depth to Bedrock:	15.9
End Date:	14-FEB-97		

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

U437
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000083395**

AKGWA ID:	80041346	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Lexington Transit Authority (Lextran)
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.3	Depth to Bedrock:	9.3
End Date:	26-APR-01		

U438
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000083398**

AKGWA ID:	80041349	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-08
PWS ID:	Not Reported	Well Name:	Lexington Transit Authority (Lextran)
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10.5
End Date:	26-APR-01		

U439
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000083399**

AKGWA ID:	80041350	Well Type:	Monitoring Well
Well Status:	Lost / Destroyed	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	Lexington Transit Authority (Lextran)
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.5	Depth to Bedrock:	15.5
End Date:	26-APR-01		

U440
SW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000083396**

AKGWA ID:	80041347	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-06
PWS ID:	Not Reported	Well Name:	Lexington Transit Authority (Lextran)
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.1	Depth to Bedrock:	15.1
End Date:	26-APR-01		

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
U441 **SW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000083397**

AKGWA ID:	80041348	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-07
PWS ID:	Not Reported	Well Name:	Lexington Transit Authority (Lextran)
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.2	Depth to Bedrock:	10.2
End Date:	26-APR-01		

	Database	EDR ID Number
T442 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000069804**

AKGWA ID:	80019484	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-2A
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	953.799988	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	14	Depth to Bedrock:	0
End Date:	23-OCT-06		

	Database	EDR ID Number
X443 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000069816**

AKGWA ID:	80019496	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-201D
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	954.099976	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	107.099998	Depth to Bedrock:	0
End Date:	23-OCT-06		

	Database	EDR ID Number
X444 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000069806**

AKGWA ID:	80019486	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-4
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	949.400024	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10.2	Depth to Bedrock:	0
End Date:	23-OCT-06		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
X445 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000069805**

AKGWA ID:	80019485	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Well 997-3
PWS ID:	Not Reported	Well Name:	Hunter Manufacturing Group Inc
Surface Elevation:	949.900024	Usage:	Monitoring Well - Water Level Monitoring Only
Total Depth:	10.6	Depth to Bedrock:	0
End Date:	23-OCT-06		

Y446 **WNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000007426**

AKGWA ID:	00009527	Well Type:	Water Well
Well Status:	Active	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	920	Usage:	Industrial - General
Total Depth:	200	Depth to Bedrock:	9
End Date:	15-JUL-88		

Z447 **WNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000007429**

AKGWA ID:	00009530	Well Type:	Water Well
Well Status:	Active	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	940	Usage:	Industrial - General
Total Depth:	150	Depth to Bedrock:	11
End Date:	21-JUL-88		

AA448 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000077294**

AKGWA ID:	80033338	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	P-5D
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	31.75	Depth to Bedrock:	0
End Date:	19-MAY-15		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AA449 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000077293**

AKGWA ID:	80033338	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	P-5D
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	31.75	Depth to Bedrock:	9
End Date:	05-JAN-98		

	Database	EDR ID Number
AA450 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000077882**

AKGWA ID:	80034188	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10.5
End Date:	22-DEC-97		

	Database	EDR ID Number
Z451 **WNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000064919**

AKGWA ID:	80012042	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	947.400024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
AB452 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000064915**

AKGWA ID:	80012038	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	C-03A
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	921.299988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AC453
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064939**

AKGWA ID:	80012062	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-55-1
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

AC454
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064942**

AKGWA ID:	80012065	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-55-4
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

AC455
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064941**

AKGWA ID:	80012064	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-55-3
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

AC456
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064940**

AKGWA ID:	80012063	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-55-2
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AA457 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000079541**

AKGWA ID:	80036374	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-11B
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	29	Depth to Bedrock:	13
End Date:	26-AUG-99		

	Database	EDR ID Number
AA458 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000079401**

AKGWA ID:	80036227	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-11S
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.9	Depth to Bedrock:	14.7
End Date:	26-AUG-99		

	Database	EDR ID Number
X459 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000077881**

AKGWA ID:	80034187	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	20.5
End Date:	22-DEC-97		

	Database	EDR ID Number
X460 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000077290**

AKGWA ID:	80033335	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	P-4D
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	36.5	Depth to Bedrock:	0
End Date:	19-MAY-15		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
X461 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000077289**

AKGWA ID:	80033335	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	P-4D
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	36.5	Depth to Bedrock:	19
End Date:	05-JAN-98		

	Database	EDR ID Number
X462 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000100952**

AKGWA ID:	80065967	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14B
PWS ID:	Not Reported	Well Name:	GE Lighting LLC Kentucky Glass Plant
Surface Elevation:	956	Usage:	Monitoring Well - Compliance
Total Depth:	28	Depth to Bedrock:	9
End Date:	17-JUL-13		

	Database	EDR ID Number
463 **West** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000064889**

AKGWA ID:	80012012	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	946.700012	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	46.82	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
464 **West** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000064892**

AKGWA ID:	80012015	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-34
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
X465 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000075777**

AKGWA ID:	80031340	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-1B
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28	Depth to Bedrock:	0
End Date:	18-MAY-15		

	Database	EDR ID Number
X466 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000075776**

AKGWA ID:	80031340	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-1B
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28	Depth to Bedrock:	9
End Date:	09-FEB-98		

	Database	EDR ID Number
AA467 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000100953**

AKGWA ID:	80065968	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15B
PWS ID:	Not Reported	Well Name:	GE Lighting LLC Kentucky Glass Plant
Surface Elevation:	957.900024	Usage:	Monitoring Well - Compliance
Total Depth:	28	Depth to Bedrock:	15
End Date:	17-JUL-13		

	Database	EDR ID Number
AA468 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000080083**

AKGWA ID:	80037078	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-10B
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.5	Depth to Bedrock:	15
End Date:	27-APR-99		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

Y469
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064897**

AKGWA ID:	80012020	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-54
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	943.099976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

Y470
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064896**

AKGWA ID:	80012019	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-55
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	943.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

Z471
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064893**

AKGWA ID:	80012016	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	945.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

Z472
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064894**

AKGWA ID:	80012017	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-35
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	940.799988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AD473
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000079546**

AKGWA ID:	80036379	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-06
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	19	Depth to Bedrock:	0
End Date:	05-FEB-99		

AD474
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000079545**

AKGWA ID:	80036378	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-06D
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	45.5	Depth to Bedrock:	18.5
End Date:	05-FEB-99		

AA475
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000077878**

AKGWA ID:	80034184	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.5	Depth to Bedrock:	11.5
End Date:	19-DEC-97		

X476
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000077880**

AKGWA ID:	80034186	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.5	Depth to Bedrock:	11.5
End Date:	22-DEC-97		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

X477
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000077291**

AKGWA ID:	80033336	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	P-3D
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	35.5	Depth to Bedrock:	19
End Date:	05-JAN-98		

AA478
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069843**

AKGWA ID:	80019513	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	IW-3
PWS ID:	Not Reported	Well Name:	GE Lighting LLC Kentucky Glass Plant
Surface Elevation:	960.900024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.4	Depth to Bedrock:	0
End Date:	21-MAR-05		

AA479
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069844**

AKGWA ID:	80019514	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	IW-4
PWS ID:	Not Reported	Well Name:	GE Lighting LLC Kentucky Glass Plant
Surface Elevation:	960.900024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.4	Depth to Bedrock:	0
End Date:	21-MAR-05		

AA480
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000069845**

AKGWA ID:	80019515	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	IW-5
PWS ID:	Not Reported	Well Name:	GE Lighting LLC Kentucky Glass Plant
Surface Elevation:	960.900024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	26	Depth to Bedrock:	0
End Date:	21-MAR-05		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AA481 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000069842**

AKGWA ID:	80019512	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	IW-2
PWS ID:	Not Reported	Well Name:	GE Lighting LLC Kentucky Glass Plant
Surface Elevation:	967.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	22.1	Depth to Bedrock:	0
End Date:	21-MAR-05		

	Database	EDR ID Number
AA482 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000069841**

AKGWA ID:	80019511	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	IW-1
PWS ID:	Not Reported	Well Name:	GE Lighting LLC Kentucky Glass Plant
Surface Elevation:	967.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	30.1	Depth to Bedrock:	0
End Date:	21-MAR-05		

	Database	EDR ID Number
AA483 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000083261**

AKGWA ID:	80041229	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-13S
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	975	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20.5	Depth to Bedrock:	20
End Date:	15-DEC-00		

	Database	EDR ID Number
484 **WNW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000064905**

AKGWA ID:	80012028	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-96
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	934.099976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AA485 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000077879**

AKGWA ID:	80034185	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	10.5
End Date:	19-DEC-97		

AA486 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000077884**

AKGWA ID:	80034190	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	P-2D
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	25.25	Depth to Bedrock:	9
End Date:	05-JAN-98		

AA487 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000080079**

AKGWA ID:	80037074	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-08S
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15.5	Depth to Bedrock:	15
End Date:	27-APR-99		

AA488 **WSW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000080080**

AKGWA ID:	80037075	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-08B
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28.5	Depth to Bedrock:	12
End Date:	27-APR-99		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AA489
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000082055**

AKGWA ID:	80039680	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-3BX
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	65.5	Depth to Bedrock:	12
End Date:	22-SEP-00		

AA490
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000080796**

AKGWA ID:	80038040	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-2BX
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	46.5	Depth to Bedrock:	10
End Date:	22-SEP-00		

AC491
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064910**

AKGWA ID:	80012033	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-56
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	944.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

Z492
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064911**

AKGWA ID:	80012034	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-58
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	951.099976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AA493
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000080077**

AKGWA ID:	80037072	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-07S
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9.1	Depth to Bedrock:	8.5
End Date:	27-APR-99		

AA494
WSW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000080078**

AKGWA ID:	80037073	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-07B
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	42.5	Depth to Bedrock:	12.3
End Date:	27-APR-99		

AB495
NW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064916**

AKGWA ID:	80012039	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	C-03
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	920.299988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

AE496
WSW
1/2 - 1 Mile
Higher

KY WELLS **KY7000000082053**

AKGWA ID:	80039678	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-12B
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	40.900002	Depth to Bedrock:	14.3
End Date:	15-MAR-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AE497
WSW
1/2 - 1 Mile
Higher

KY WELLS **KY7000000082052**

AKGWA ID:	80039677	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-12S
PWS ID:	Not Reported	Well Name:	GE Lamp Glass Plant
Surface Elevation:	940	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.8	Depth to Bedrock:	14.3
End Date:	15-MAR-00		

AF498
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064920**

AKGWA ID:	80012043	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-60
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	956.200012	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

AF499
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064925**

AKGWA ID:	80012048	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-36
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	961.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

AF500
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000092689**

AKGWA ID:	80053683	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	TT-24
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	955	Usage:	Monitoring Well - Compliance
Total Depth:	23	Depth to Bedrock:	18
End Date:	09-JAN-09		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
501 **West** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000064888**

AKGWA ID:	80012011	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-21
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	966.099976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	46.82	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
AF502 **West** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000064938**

AKGWA ID:	80012061	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-014-3
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	963.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.5	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
503 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000064917**

AKGWA ID:	80012040	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-180
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	921.700012	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

	Database	EDR ID Number
AG504 **NW** **1/2 - 1 Mile** **Lower**	**KY WELLS**	**KY7000000007427**

AKGWA ID:	00009528	Well Type:	Water Well
Well Status:	Active	Alt ID:	Well 2
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	920	Usage:	Industrial - General
Total Depth:	120	Depth to Bedrock:	8
End Date:	18-JUL-88		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AH505
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064890**

AKGWA ID:	80012013	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-20
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	962.799988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	46.82	Depth to Bedrock:	0
End Date:	01-JAN-00		

AI506
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000085546**

AKGWA ID:	80044149	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	450	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	21	Depth to Bedrock:	12
End Date:	02-APR-02		

AI507
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000085545**

AKGWA ID:	80044148	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-2-02R
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16.9	Depth to Bedrock:	7
End Date:	02-APR-02		

AH508
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064891**

AKGWA ID:	80012014	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-19
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	962.900024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	46.82	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AI509
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000090765**

AKGWA ID:	80050709	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	SW-02-15
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	21.5	Depth to Bedrock:	16.5
End Date:	16-NOV-05		

AI510
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000090766**

AKGWA ID:	80050710	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	SW-02-16
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	950	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18.5	Depth to Bedrock:	13.5
End Date:	16-NOV-05		

AF511
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065061**

AKGWA ID:	80012258	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-94A
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	962	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28.6	Depth to Bedrock:	0
End Date:	01-JAN-00		

AF512
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065062**

AKGWA ID:	80012259	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-014-1
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28.6	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

513
North
1/2 - 1 Mile
Lower

KY WELLS **KY7000000022024**

AKGWA ID:	00036798	Well Type:	Water Well
Well Status:	Active	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	University of Kentucky
Surface Elevation:	965	Usage:	Agriculture - Irrigation
Total Depth:	122	Depth to Bedrock:	1
End Date:	08-NOV-94		

AF514
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065057**

AKGWA ID:	80012254	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-51-C
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	962.299988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28.299999	Depth to Bedrock:	20.799999
End Date:	28-MAY-81		

AF515
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065058**

AKGWA ID:	80012255	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-51-D
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	962.599976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28.299999	Depth to Bedrock:	20.5
End Date:	28-MAY-81		

AF516
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065056**

AKGWA ID:	80012253	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-51-B
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	961.900024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28.299999	Depth to Bedrock:	20.799999
End Date:	06-NOV-84		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AF517
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065054**

AKGWA ID:	80012251	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-51
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	23.4	Depth to Bedrock:	20
End Date:	06-APR-79		

AF518
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065055**

AKGWA ID:	80012252	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-51-A
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	961.299988	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	23.4	Depth to Bedrock:	0
End Date:	01-JAN-00		

AF519
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065074**

AKGWA ID:	80012271	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-50
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	962.599976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	47.200001	Depth to Bedrock:	23.6
End Date:	06-APR-79		

AF520
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065075**

AKGWA ID:	80012276	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-014-2
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	47.200001	Depth to Bedrock:	0
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AF521
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065059**

AKGWA ID:	80012256	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-61
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	959.200012	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18.4	Depth to Bedrock:	15.4
End Date:	08-JUN-79		

AF522
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065060**

AKGWA ID:	80012257	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-93
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	961.200012	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	28.6	Depth to Bedrock:	18.299999
End Date:	14-SEP-79		

AJ523
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069244**

AKGWA ID:	80018924	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-01
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13.5	Depth to Bedrock:	0
End Date:	13-JUN-90		

AJ524
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000065301**

AKGWA ID:	80012566	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-10
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	7
End Date:	11-AUG-94		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AJ525
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000065300**

AKGWA ID:	80012565	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-09
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	7
End Date:	11-AUG-94		

AJ526
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069245**

AKGWA ID:	80018925	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.7	Depth to Bedrock:	0
End Date:	18-JUN-90		

AJ527
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069248**

AKGWA ID:	80018927	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-04
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6.5	Depth to Bedrock:	0
End Date:	25-JUN-90		

AJ528
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069247**

AKGWA ID:	80018926	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-03
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.8	Depth to Bedrock:	0
End Date:	19-JUN-90		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AJ529
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069246**

AKGWA ID:	80018925	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.7	Depth to Bedrock:	0
End Date:	10-OCT-12		

AJ530
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000065299**

AKGWA ID:	80012564	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-12
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9	Depth to Bedrock:	2.5
End Date:	12-AUG-94		

AJ531
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000060670**

AKGWA ID:	80006081	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-07; 0002-5795
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.5	Depth to Bedrock:	6
End Date:	01-NOV-91		

AJ532
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000060669**

AKGWA ID:	80006080	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06; 0002-5794
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.6	Depth to Bedrock:	3
End Date:	01-NOV-91		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AJ533
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000060668**

AKGWA ID:	80006079	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05; 0002-5793
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13	Depth to Bedrock:	7.8
End Date:	31-OCT-91		

AJ534
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000060671**

AKGWA ID:	80006082	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-08; 0002-5796
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12.5	Depth to Bedrock:	7.8
End Date:	04-NOV-91		

AJ535
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000065298**

AKGWA ID:	80012563	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-11
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	8
End Date:	12-AUG-94		

AJ536
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000065297**

AKGWA ID:	80012562	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-14
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	6
End Date:	16-AUG-94		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

AJ537
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000065296**

AKGWA ID:	80012561	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-13
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	6.5
End Date:	15-AUG-94		

AJ538
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000088401**

AKGWA ID:	80047784	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	PT-04
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	990	Usage:	Remediation
Total Depth:	7.5	Depth to Bedrock:	0
End Date:	19-NOV-03		

AJ539
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000088400**

AKGWA ID:	80047783	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	PT-03
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	990	Usage:	Remediation
Total Depth:	6	Depth to Bedrock:	0
End Date:	19-NOV-03		

AJ540
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000088399**

AKGWA ID:	80047782	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	PT-02
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	990	Usage:	Remediation
Total Depth:	6	Depth to Bedrock:	0
End Date:	19-NOV-03		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AJ541
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000088402**

AKGWA ID:	80047785	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-20
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	4	Depth to Bedrock:	0
End Date:	18-NOV-03		

AJ542
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000088405**

AKGWA ID:	80047788	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-23
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	9	Depth to Bedrock:	0
End Date:	18-NOV-03		

AJ543
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000088404**

AKGWA ID:	80047787	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-22
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	5	Depth to Bedrock:	0
End Date:	18-NOV-03		

AJ544
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000088403**

AKGWA ID:	80047786	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-21
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	990	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	6.5	Depth to Bedrock:	0
End Date:	18-NOV-03		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AJ545
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000088398**

AKGWA ID:	80047781	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	PT-01
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	990	Usage:	Remediation
Total Depth:	6	Depth to Bedrock:	0
End Date:	19-NOV-03		

AJ546
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000075639**

AKGWA ID:	80031136	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	0
End Date:	10-OCT-12		

AJ547
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000075638**

AKGWA ID:	80031135	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-17
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.8	Depth to Bedrock:	8
End Date:	18-SEP-96		

AJ548
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000075637**

AKGWA ID:	80031135	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-17
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.8	Depth to Bedrock:	0
End Date:	10-OCT-12		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

AJ549
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000075640**

AKGWA ID:	80031136	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-15
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	8
End Date:	18-SEP-96		

AJ550
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000075656**

AKGWA ID:	80031155	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-19
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11	Depth to Bedrock:	6.5
End Date:	06-MAY-97		

AJ551
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000075655**

AKGWA ID:	80031154	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-18
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	12	Depth to Bedrock:	8
End Date:	06-MAY-97		

AJ552
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000075641**

AKGWA ID:	80031137	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-16
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	991	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	8.5	Depth to Bedrock:	8
End Date:	18-SEP-96		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

AK553
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069803**

AKGWA ID:	80019483	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-25
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	979.299988	Usage:	Monitoring Well - Compliance
Total Depth:	10.25	Depth to Bedrock:	10.25
End Date:	18-SEP-09		

AG554
NW
1/2 - 1 Mile
Lower

FED USGS **USGS40000385553**

Organization ID:	USGS-KY	Organization Name:	USGS Kentucky Water Science Center
Monitor Location:	E22C0011	Type:	Well
Description:	Not Reported	HUC:	05100205
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Not Reported	Formation Type:	Not Reported
Aquifer Type:	Not Reported	Construction Date:	Not Reported
Well Depth:	79	Well Depth Units:	ft
Well Hole Depth:	Not Reported	Well Hole Depth Units:	Not Reported

Ground water levels,Number of Measurements:	1	Level reading date:	1962-02-15
Feet below surface:	50.25	Feet to sea level:	Not Reported
Note:	Not Reported		

AH555
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000007430**

AKGWA ID:	00009531	Well Type:	Water Well
Well Status:	Active	Alt ID:	Not Reported
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Industrial - General
Total Depth:	175	Depth to Bedrock:	8
End Date:	21-JUL-88		

AK556
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000094823**

AKGWA ID:	80056323	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-24
PWS ID:	Not Reported	Well Name:	Interstate Plaza Shell
Surface Elevation:	980	Usage:	Monitoring Well - Compliance
Total Depth:	9	Depth to Bedrock:	9
End Date:	18-SEP-09		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AL557
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000078738**

AKGWA ID:	80035432	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	SW-05-01
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	970	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	16	Depth to Bedrock:	16
End Date:	02-MAY-98		

AL558
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000092687**

AKGWA ID:	80053682	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	TT-25
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Compliance
Total Depth:	28.5	Depth to Bedrock:	23.5
End Date:	09-JAN-09		

AL559
West
1/2 - 1 Mile
Lower

KY WELLS **KY7000000092688**

AKGWA ID:	80053682	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	TT-25
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Compliance
Total Depth:	28.5	Depth to Bedrock:	0
End Date:	05-JUL-17		

AI560
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065073**

AKGWA ID:	80012270	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-46
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	958.099976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	17.9	Depth to Bedrock:	13.4
End Date:	25-APR-79		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AI561
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064428**

AKGWA ID:	80010851	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	SW-02-06; MW-46
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	0	Depth to Bedrock:	0
End Date:	10-AUG-11		

AI562
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064427**

AKGWA ID:	80010851	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	SW-02-06; MW-46
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	18.5	Depth to Bedrock:	15.7
End Date:	04-OCT-93		

AM563
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065071**

AKGWA ID:	80012268	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-43
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	13.9	Depth to Bedrock:	9.9
End Date:	08-MAY-79		

AM564
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064429**

AKGWA ID:	80010852	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	SW-02-08; MW-43
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	9
End Date:	05-OCT-93		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

565
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064906**

AKGWA ID:	80012029	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-97
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	945.700012	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	121	Depth to Bedrock:	0
End Date:	01-JAN-00		

AJ566
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069659**

AKGWA ID:	80019358	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-16
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	986.599976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	32	Depth to Bedrock:	12
End Date:	01-JAN-00		

AJ567
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069658**

AKGWA ID:	80019358	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-16
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	986.599976	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	32	Depth to Bedrock:	12
End Date:	01-JAN-00		

AJ568
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069661**

AKGWA ID:	80019359	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-15
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	987.400024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	32	Depth to Bedrock:	12
End Date:	01-JAN-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AJ569
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000069660**

AKGWA ID:	80019359	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-15
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	987.400024	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	32	Depth to Bedrock:	12
End Date:	01-JAN-00		

AM570
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000065072**

AKGWA ID:	80012269	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-44
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	964.5	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14.7	Depth to Bedrock:	9
End Date:	08-MAY-79		

AM571
WNW
1/2 - 1 Mile
Lower

KY WELLS **KY7000000064430**

AKGWA ID:	80010853	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	SW-02-07; MW-44
PWS ID:	Not Reported	Well Name:	Lexmark Intl Inc
Surface Elevation:	960	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	9.3
End Date:	05-OCT-93		

AJ572
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000066332**

AKGWA ID:	80014467	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-21
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.8	Depth to Bedrock:	10.8
End Date:	18-AUG-94		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AJ573
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083575**

AKGWA ID:	80041625	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-05S
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14	Depth to Bedrock:	14.5
End Date:	15-SEP-00		

AJ574
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083576**

AKGWA ID:	80041625	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-05S
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	14	Depth to Bedrock:	14.5
End Date:	15-SEP-00		

AJ575
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000066329**

AKGWA ID:	80014466	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-20
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.7	Depth to Bedrock:	11.7
End Date:	18-AUG-94		

AJ576
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000066330**

AKGWA ID:	80014466	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-20
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	11.7	Depth to Bedrock:	11.7
End Date:	18-AUG-94		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

AJ577
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000066331**

AKGWA ID:	80014467	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-21
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.8	Depth to Bedrock:	10.8
End Date:	18-AUG-94		

AJ578
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083669**

AKGWA ID:	80041716	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02S
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20	Depth to Bedrock:	10
End Date:	15-SEP-00		

AJ579
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083668**

AKGWA ID:	80041716	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-02S
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	20	Depth to Bedrock:	10
End Date:	15-SEP-00		

AJ580
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083673**

AKGWA ID:	80041718	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	26	Depth to Bedrock:	14
End Date:	15-SEP-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

AJ581
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083672**

AKGWA ID:	80041718	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-05
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	26	Depth to Bedrock:	14
End Date:	15-SEP-00		

AJ582
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083578**

AKGWA ID:	80041626	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06S
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	11
End Date:	15-SEP-00		

AJ583
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083577**

AKGWA ID:	80041626	Well Type:	Monitoring Well
Well Status:	Active	Alt ID:	MW-06S
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	10.5	Depth to Bedrock:	11
End Date:	15-SEP-00		

AJ584
NE
1/2 - 1 Mile
Higher

KY WELLS **KY7000000083667**

AKGWA ID:	80041715	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-23
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	15
End Date:	15-SEP-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
KY WELLS	**KY7000000083666**

AJ585
NE
1/2 - 1 Mile
Higher

AKGWA ID:	80041715	Well Type:	Monitoring Well
Well Status:	Plugged	Alt ID:	MW-23
PWS ID:	Not Reported	Well Name:	Clarks Pump n Shop 36 (former Chevron 42648)
Surface Elevation:	985	Usage:	Monitoring Well - Ambient Monitoring
Total Depth:	15	Depth to Bedrock:	15
End Date:	15-SEP-00		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
West **OIL_GAS** **KYOG14000008412**
1/4 - 1/2 Mile

OIL_GAS:

API #:	Not Reported	KGS #:	8640
Well Elevation:	990	Original Farm/Lease Name:	YOUNG, GEORGE
Original Operator:	KGS-USGS MAPPING PROGRAM		
Original Well #:	LEXE2	Permit #:	Not Reported
Formation:	365LXTN	Deepest Formation:	000
Init Open or Potential Flow:	Not Reported	description in result_desc field:	D&A
Original API Classification:	Stratigraphic test with records released to public		
How Completed:	Dry and abandoned		
Bore Type:	Conventional vertical well bore		
Completion Date:	13-OCT-63	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	C-148
Cutting Call #:	Not Reported	Log on File:	Not Reported
URL:	https://kgs.uky.edu/kygeode/services/oilgas/wellReport.asp?id=8640		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: KY Radon

Radon Test Results

Zip	Test Date	Test Result
40505	3/16/2003	10.20
40505	3/24/2003	8.30
40505	4/17/2003	11.30
40505	7/10/2003	0.70
40505	2/4/2002	17.50
40505	2/4/2002	17.50
40505	3/13/2002	4.90
40505	4/1/2002	18.50
40505	4/19/2002	2.70
40505	7/20/2002	2.80
40505	7/31/2002	0.00
40505	7/31/2002	0.50
40505	11/10/2002	14.60
40505	11/14/2002	4.40
40505	11/16/2002	1.40
40505	1/20/2003	3.30
40505	1/20/2003	2.40
40505	1/28/2003	15.00
40505	3/4/2003	5.90
40505	3/7/2003	2.50
40505	3/9/2003	2.20
40505	2/21/2003	2.10
40505	8/18/2003	3.80
40505	11/5/2003	7.70
40505	11/20/2003	3.00
40505	2/12/2004	3.40
40505	6/28/2004	1.30
40505	7/23/2004	3.30
40505	2/23/2004	1.70
40505	2/27/2004	5.90
40505	4/1/2004	3.80
40505	4/2/2004	4.80
40505	4/23/2004	2.50
40505	11/29/2004	10.60
40505	3/21/2005	12.70
40505	3/21/2005	14.90
40505	5/2/2005	1.40
40505	10/2/2006	1.60

Federal EPA Radon Zone for FAYETTE County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

Federal Area Radon Information for Zip Code: 40505

Number of sites tested: 7

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	4.325 pCi/L	75%	25%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	5.443 pCi/L	43%	57%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Environmental & Public Protection Cabinet
Telephone: 502-564-6736

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Kentucky Water Well Records Database
Source: Kentucky Geological Survey
Telephone: 859-257-5500
Water Wells in Kentucky. Data from the Kentucky Ground Water Data Repository.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations
Source: Kentucky Geological Survey
Telephone: 859-257-5500
Oil and gas well locations in the state of Kentucky

RADON

State Database: KY Radon
Source: Department of Public Health
Telephone: 502-564-4856
Radon Test Results

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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130 & 134 W. New Circle Road

130 & 134 W. New Circle Road

Lexington, KY 40505

Inquiry Number: 7485365.5

October 31, 2023

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

10/31/23

Site Name:

130 & 134 W. New Circle Road
130 & 134 W. New Circle Road
Lexington, KY 40505
EDR Inquiry # 7485365.5

Client Name:

Shield Environmental
948 Floyd Drive
Lexington, KY 40505
Contact: Elizabeth Greathouse

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Search Results:

Year	*Scale*	*Details*	*Source*
2020	1"=500'	Flight Year: 2020	USDA/NAIP
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2008	1"=500'	Flight Year: 2008	USDA/NAIP
1997	1"=500'	Acquisition Date: March 11, 1997	USGS/DOQQ
1993	1"=500'	Acquisition Date: January 01, 1993	USGS/DOQQ
1984	1"=500'	Flight Date: April 07, 1984	USDA
1971	1"=500'	Flight Date: March 30, 1971	USGS
1965	1"=500'	Flight Date: February 15, 1965	USGS
1958	1"=500'	Flight Date: October 01, 1958	USGS
1949	1"=500'	Flight Date: November 01, 1949	USGS

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INQUIRY #: 7485365.5
YEAR: 2020
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 2016
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 2012
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 2008
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 1997
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 1993
= 500'
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EDR

INQUIRY #: 7485365.5
YEAR: 1984
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 1971
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 1965
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 1958
= 500'
N
EDR

INQUIRY #: 7485365.5
YEAR: 1949
= 500'
N
EDR

130 & 134 W. New Circle Road

130 & 134 W. New Circle Road

Lexington, KY 40505

Inquiry Number: 7485365.3

November 01, 2023

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/01/23

Site Name:

130 & 134 W. New Circle Road
130 & 134 W. New Circle Road
Lexington, KY 40505
EDR Inquiry # 7485365.3

Client Name:

Shield Environmental
948 Floyd Drive
Lexington, KY 40505
Contact: Elizabeth Greathouse

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Certified Sanborn Results:

Certification # 2129-480A-B55F

PO # 123-3060

Project 130 & 134 W. New Circle

Maps Provided:

1970
1963
1958
1950
1934

Sanborn® Library search results

Certification #: 2129-480A-B55F

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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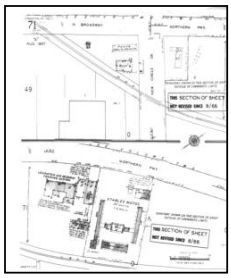
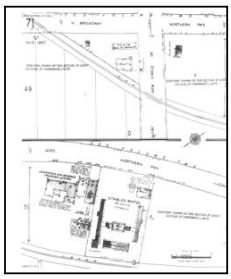
1970 Source Sheets



Volume 1, Sheet 71
1970

Volume 1, Sheet 49
1970

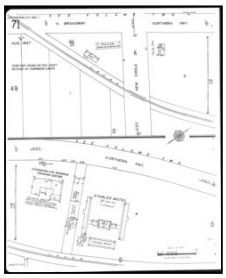
1963 Source Sheets



Volume 1, Sheet 71
1963

Volume 1, Sheet 49
1963

1958 Source Sheets



Volume 1, Sheet 71
1958

Volume 1, Sheet 49
1958

1950 Source Sheets

Volume 1, Sheet 49
1950

Sanborn Sheet Key

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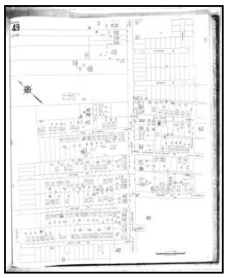
1934 Source Sheets



Volume 1, Sheet 49
1934

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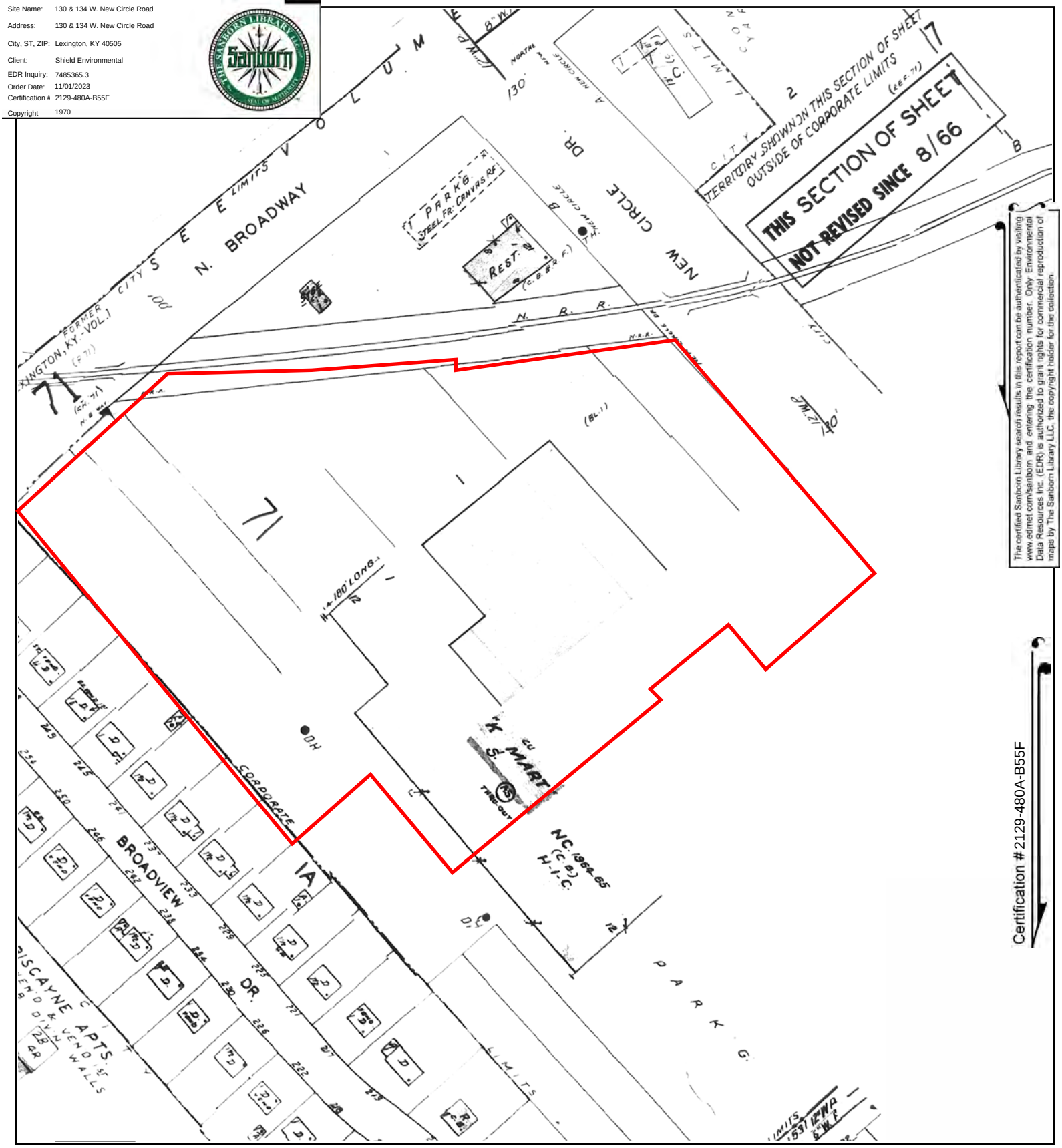
1970

Site Name: 130 & 134 W. New Circle Road
Address: 130 & 134 W. New Circle Road
City, ST, ZIP: Lexington, KY 40505
Client: Shield Environmental
EDR Inquiry: 7485365.3
Order Date: 11/01/2023
Certification #: 2129-480A-B55F
Copyright 1970



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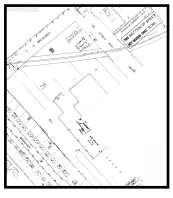

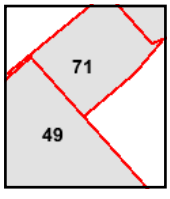

Volume 1, Sheet 49
Volume 1, Sheet 71

N

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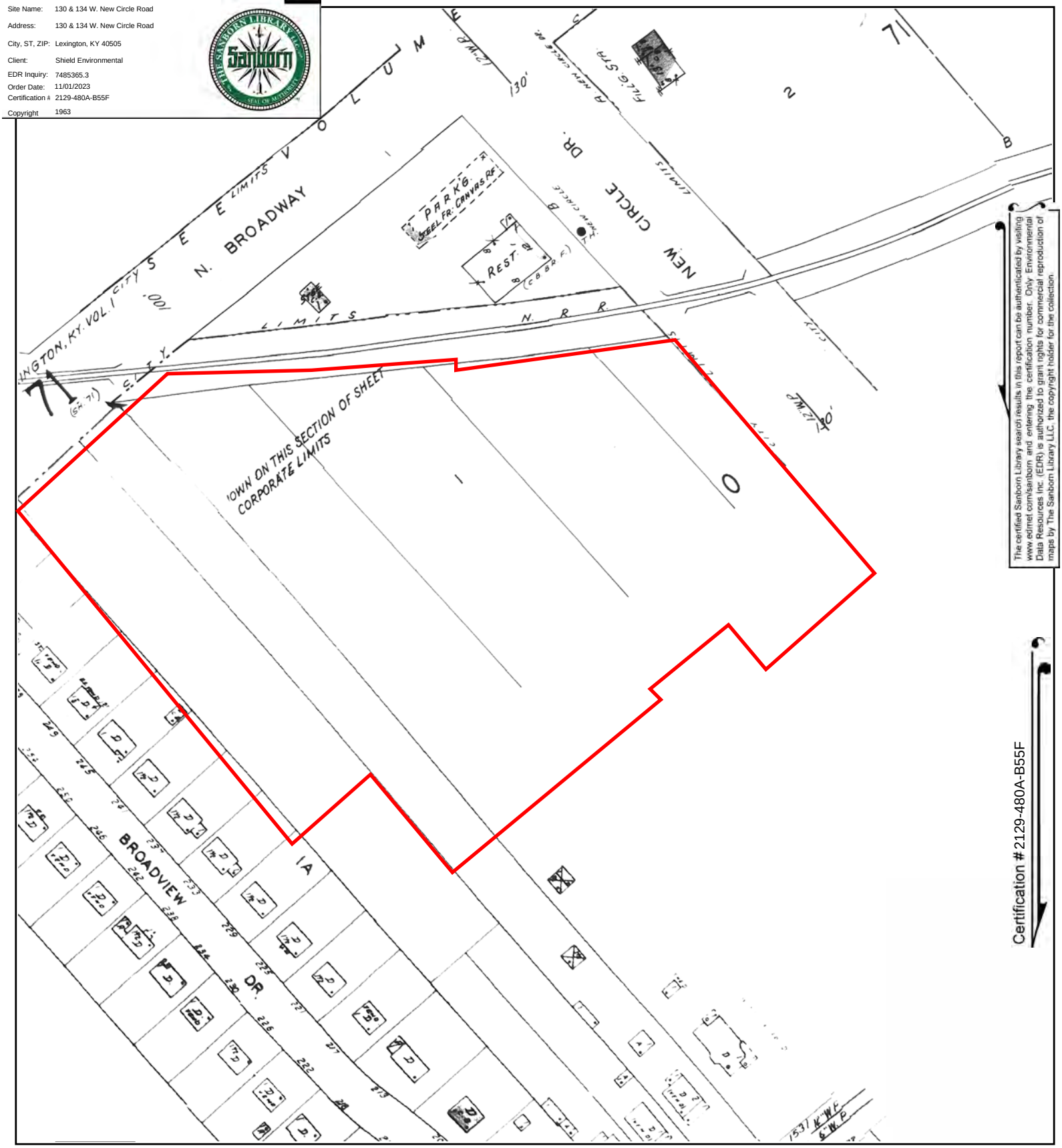
1963

Site Name: 130 & 134 W. New Circle Road
Address: 130 & 134 W. New Circle Road
City, ST, ZIP: Lexington, KY 40505
Client: Shield Environmental
EDR Inquiry: 7485365.3
Order Date: 11/01/2023
Certification #: 2129-480A-B55F
Copyright 1963



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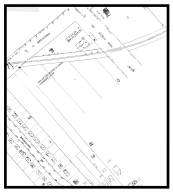

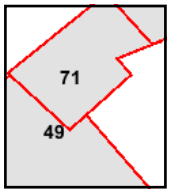

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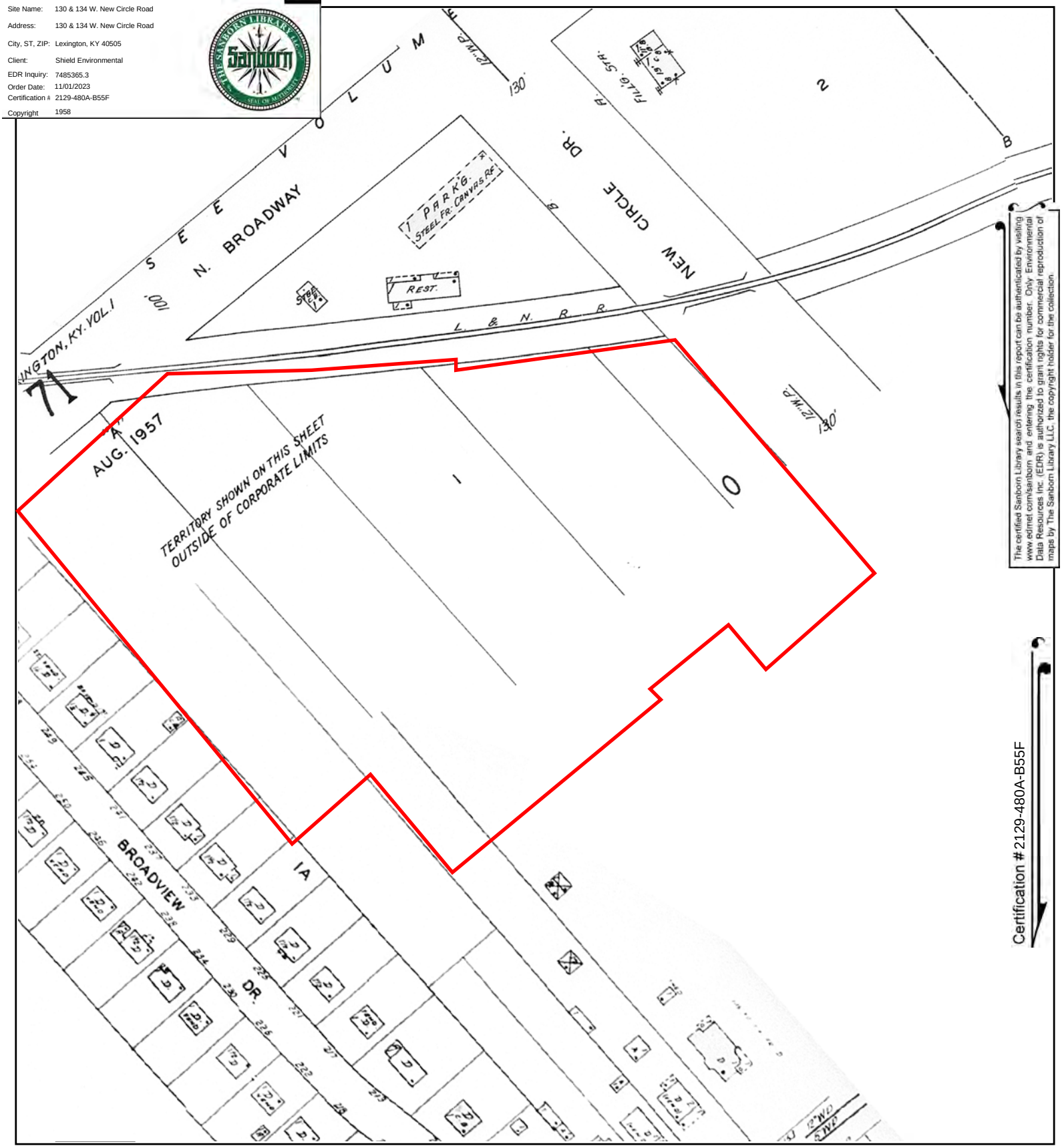
Volume 1, Sheet 71

N

Certified Sanborn® Map

1958

Site Name: 130 & 134 W. New Circle Road
Address: 130 & 134 W. New Circle Road
City, ST, ZIP: Lexington, KY 40505
Client: Shield Environmental
EDR Inquiry: 7485365.3
Order Date: 11/01/2023
Certification #: 2129-480A-B55F
Copyright 1958



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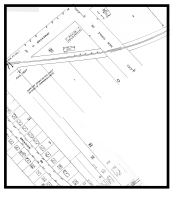
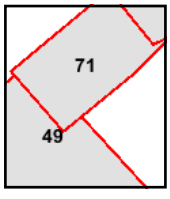




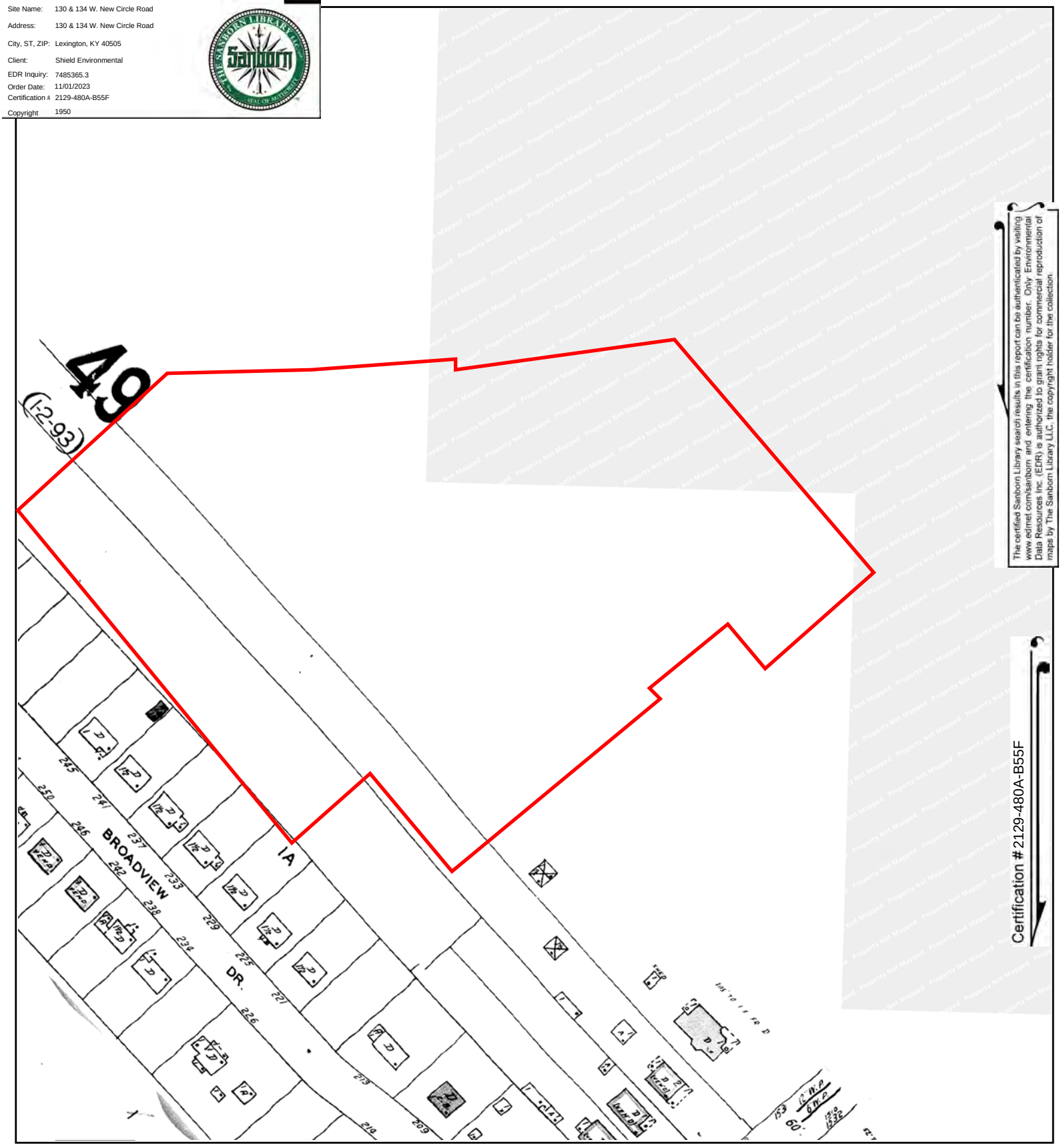
Volume 1, Sheet 49
Volume 1, Sheet 71

N

Certified Sanborn® Map

1950

Site Name: 130 & 134 W. New Circle Road
Address: 130 & 134 W. New Circle Road
City, ST, ZIP: Lexington, KY 40505
Client: Shield Environmental
EDR Inquiry: 7485365.3
Order Date: 11/01/2023
Certification #: 2129-480A-B55F
Copyright: 1950



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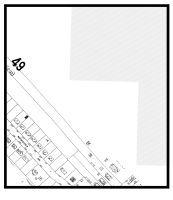
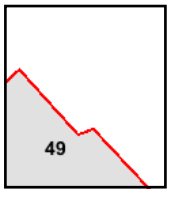




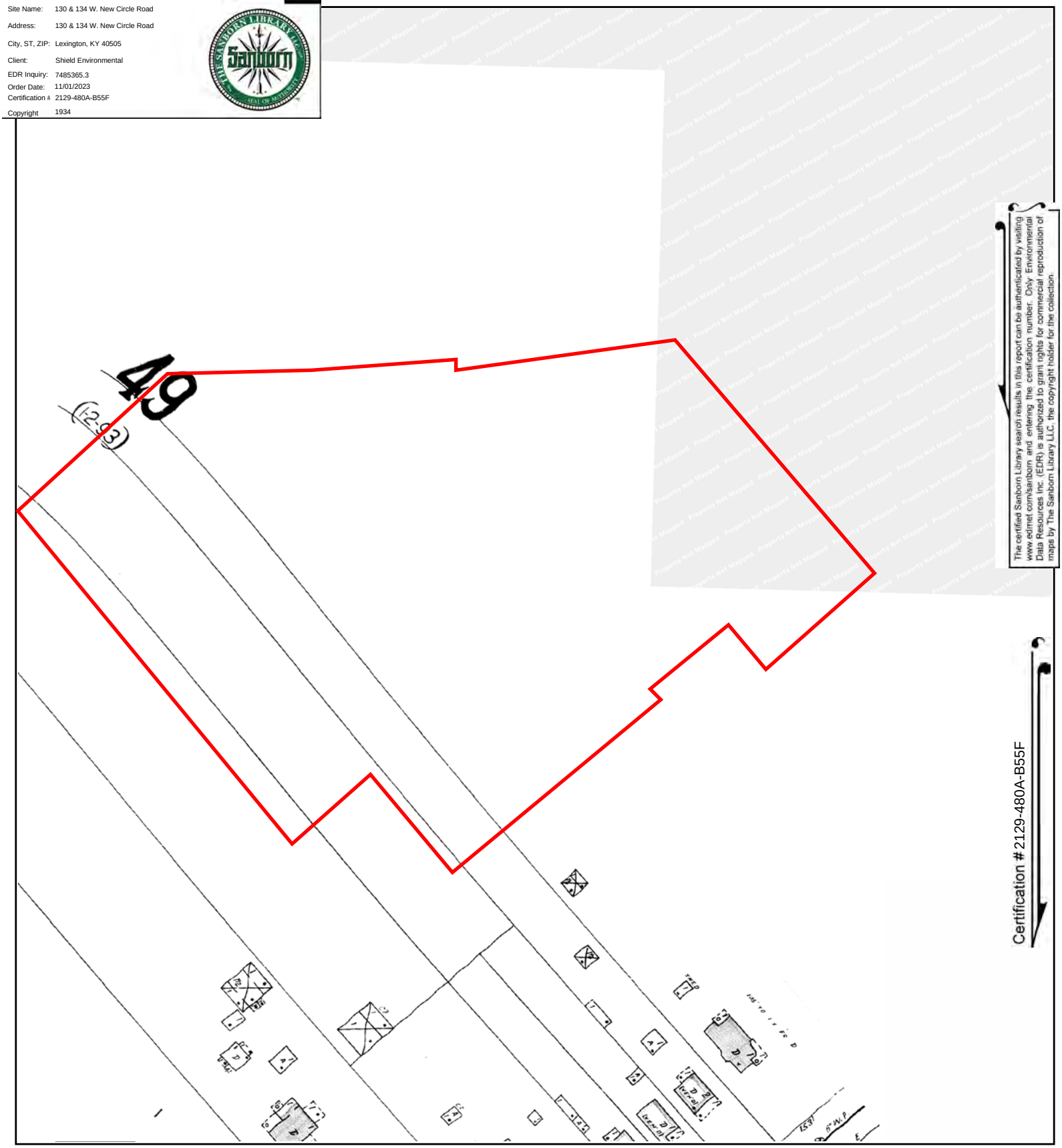
Volume 1, Sheet 49

N

Certified Sanborn® Map

1934

Site Name: 130 & 134 W. New Circle Road
Address: 130 & 134 W. New Circle Road
City, ST, ZIP: Lexington, KY 40505
Client: Shield Environmental
EDR Inquiry: 7485365.3
Order Date: 11/01/2023
Certification #: 2129-480A-B55F
Copyright: 1934



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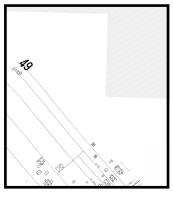

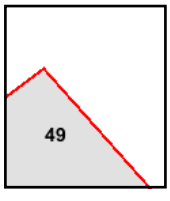

Volume 1, Sheet 49

N

130 & 134 W. New Circle Road
130 & 134 W. New Circle Road
Lexington, KY 40505

Inquiry Number: 7485365.2s
November 20, 2023

EDR Vapor Encroachment Screen

Prepared using EDR's Vapor Encroachment Worksheet

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Record Sources and Currency	**GR-1**

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by EDR. The report was designed to assist parties seeking to meet the search requirements of the ASTM Standard Practice for Assessment of Vapor Encroachment into Structures on Property Involved in Real Estate Transactions (E 2600).

STANDARD ENVIRONMENTAL RECORDS	Default Area of Concern (Miles)*	property	1/10	> 1/10
Lists of Federal NPL (Superfund) sites	1.0	0	0	0
Lists of Federal Delisted NPL sites	1.0	0	0	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders	0.5	0	0	0
Lists of Federal CERCLA sites with NFRAP	0.5	0	0	0
Lists of Federal RCRA facilities undergoing Corrective Action	1.0	0	0	0
Lists of Federal RCRA TSD facilities	0.5	0	0	0
Lists of Federal RCRA generators	0.25	0	0	0
Federal institutional controls / engineering controls registries	0.5	0	0	0
Federal ERNS list	0.001	0	0	-
Lists of state- and tribal (Superfund) equivalent sites	not searched	-	-	-
Lists of state- and tribal hazardous waste facilities	1.0	0	1	1
Lists of state and tribal landfills and solid waste disposal facilities	0.5	0	0	0
Lists of state and tribal leaking storage tanks	0.5	0	0	0
Lists of state and tribal registered storage tanks	0.25	1	0	0
State and tribal institutional control / engineering control registries	0.5	0	1	0
Lists of state and tribal voluntary cleanup sites	0.5	0	0	0
Lists of state and tribal brownfield sites	0.5	0	0	0

ADDITIONAL ENVIRONMENTAL RECORDS				
Local Brownfield lists	0.5	0	0	0
Local Lists of Landfill / Solid Waste Disposal Sites	0.5	0	0	0
Local Lists of Hazardous waste / Contaminated Sites	0.001	0	0	-
Local Lists of Registered Storage Tanks	not searched	-	-	-
Local Land Records	0.001	0	0	-
Records of Emergency Release Reports	0.001	0	0	-
Other Ascertainable Records	1.0	0	2	0

EDR HIGH RISK HISTORICAL RECORDS				
EDR Exclusive Records	1.0	0	2	1
Exclusive Recovered Govt. Archives	0.001	0	0	-

EXECUTIVE SUMMARY

EDR RECOVERED GOVERNMENT ARCHIVES

EDR Exclusive Records	1.0	0	2	1
Exclusive Recovered Govt. Archives	0.001	0	0	-

*The Default Area of Concern may be adjusted by the environmental professional using experience and professional judgement. Each category may include several databases, and each database may have a different distance. A list of individual databases is provided at the back of this report.

EXECUTIVE SUMMARY

TARGET PROPERTY INFORMATION

ADDRESS

130 & 134 W. NEW CIRCLE ROAD
130 & 134 W. NEW CIRCLE ROAD
LEXINGTON, KY 40505

COORDINATES

Latitude (North):	38.066072 - 38° 3′ 57.854004″
Longitude (West):	84.473151 - 84° 28′ 23.347778″
Elevation:	974 ft. above sea level

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records.

Site	Database(s)
ALLTEL 130 W NEW CIRCLE RD STE 170 LEXINGTON, KY 40505-1408	AST

EXECUTIVE SUMMARY

SEARCH RESULTS

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
ALLTEL AST: AST	130 W NEW CIRCLE RD STE 170	Property	▲ A1	8
EARLEY BIRD CLEANERS SHWS: SHWS AIRS: AIRS DRYCLEANERS: DRYCLEANERS INST CONTROL: INST CONTROL	1542 N LIMESTONE	<1/10 SE	◆ D5	9
MINI MARKET SHWS: SHWS	108 NE NEW CIRCLE ROAD	1/10 - 1/3 SE	◆ D7	9

ADDITIONAL ENVIRONMENTAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
K MART 4077 FINDS: FINDS	130 NEW CIRCLE RD NW	<1/10 S	▲ A2	8
EARLEY BIRD CLEANERS SHWS: SHWS AIRS: AIRS DRYCLEANERS: DRYCLEANERS INST CONTROL: INST CONTROL	1542 N LIMESTONE	<1/10 SE	◆ D5	9

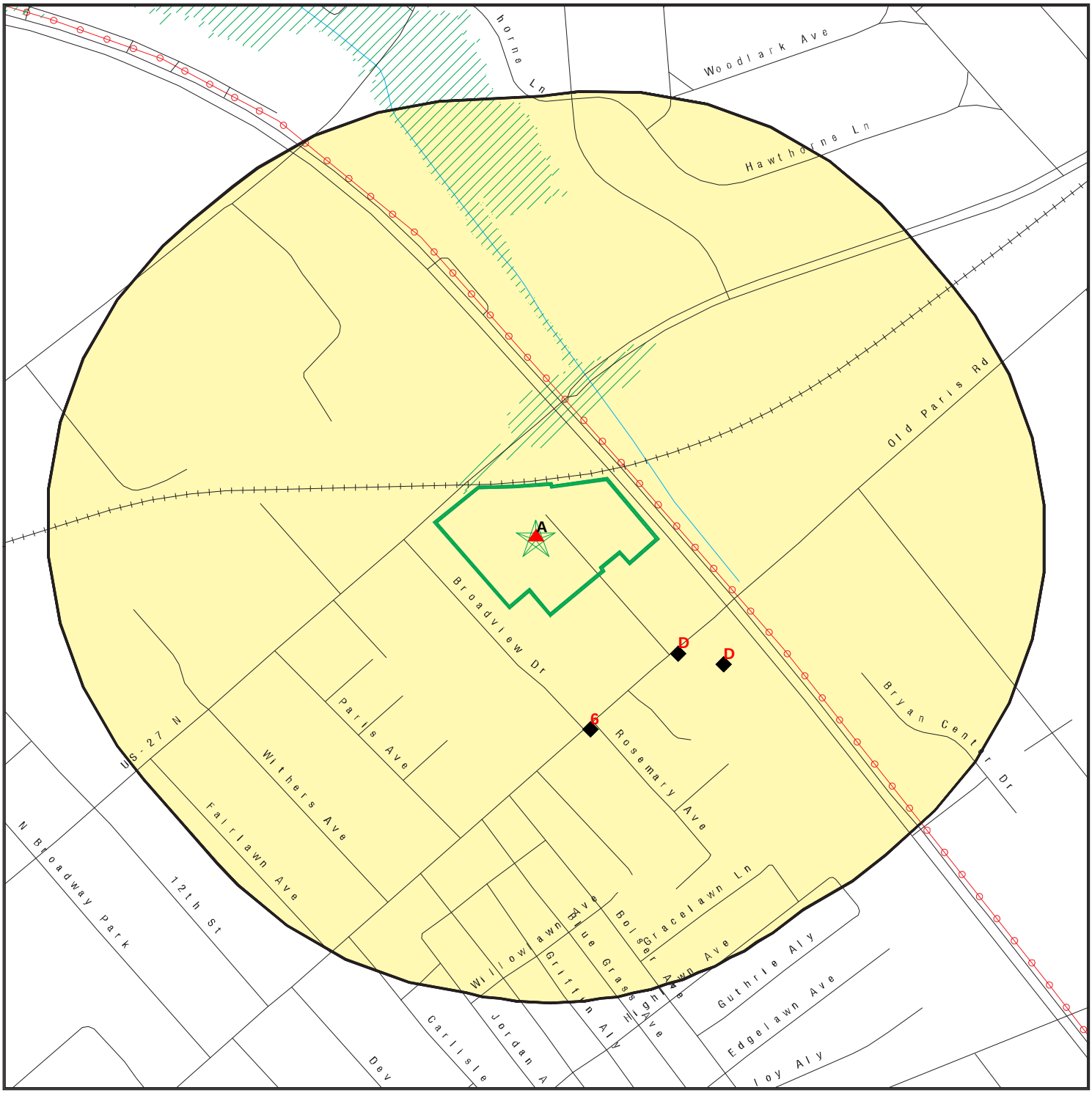
EDR HIGH RISK HISTORICAL RECORDS

Name	Address	Dist/Dir	Map ID	Page
EARLY BIRD ONE HOUR CLEANERS EDR Hist Cleaner: EDR Hist Cleaner	1542 N LIMESTONE	<1/10 SE	◆ D3	8
EARLY BIRD CLEANERS EDR Hist Cleaner: EDR Hist Cleaner	1542 N LIMESTONE ST	<1/10 SE	◆ D4	8
MC WHORTER VIRGIL H EDR Hist Cleaner: EDR Hist Cleaner	1452 N LIMESTONE	1/10 - 1/3 SSE	◆ 6	9

EDR RECOVERED GOVERNMENT ARCHIVES

Name	Address	Dist/Dir	Map ID	Page
Not Reported				

PRIMARY MAP - 7485365.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	130 & 134 W. New Circle Road	CLIENT:	Shield Environmental
ADDRESS:	130 & 134 W. New Circle Road Lexington KY 40505	CONTACT:	Elizabeth Greathouse
		INQUIRY #:	7485365.2s
LAT/LONG:	38.066072 / 84.473151	DATE:	October 31, 2023 7:44 pm

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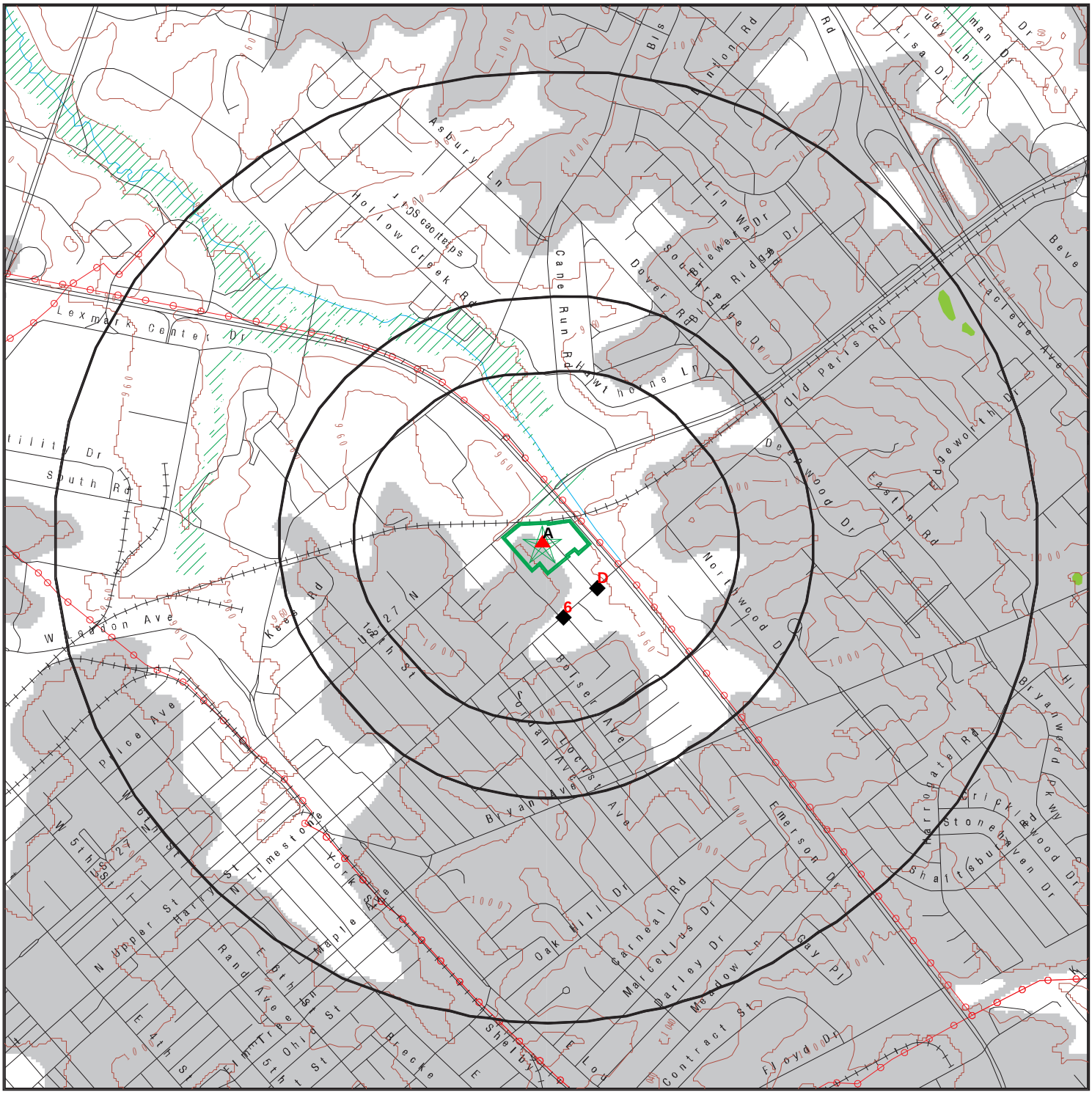
SECONDARY MAP - 7485365.2S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 130 & 134 W. New Circle Road	CLIENT: Shield Environmental
ADDRESS: 130 & 134 W. New Circle Road Lexington KY 40505	CONTACT: Elizabeth Greathouse
LAT/LONG: 38.066072 / 84.473151	INQUIRY #: 7485365.2s DATE: October 31, 2023 7:44 pm

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MAP FINDINGS

LEGEND

FACILITY NAME **FACILITY ADDRESS, CITY, ST, ZIP**		EDR SITE ID NUMBER
◆ **MAP ID#**	Direction Distance Range (Distance feet / miles) Relative Elevation Feet Above Sea Level	ASTM 2600 Record Sources found in this report. Each database searched has been assigned to one or more categories. For detailed information about categorization, see the section of the report Records Searched and Currency.

Worksheet:

Comments:
Comments may be added on the online Vapor Encroachment Worksheet.

DATABASE ACRONYM: Applicable categories (A hoverbox with database description).

ALLTEL 130 W NEW CIRCLE RD STE 170, LEXINGTON, KY, 40505-1408			A100449196
▲ A1	Target Property 974 ft. Above Sea Level		Lists of state and tribal registered storage tanks

Worksheet:

K MART 4077 130 NEW CIRCLE RD NW, LEXINGTON, KY, 40505			1015906622
▲ A2	S <1/10 Equal Elevation	(0 ft. / 0 mi.) 974 ft. Above Sea Level	Other Ascertainable Records

Worksheet:

EARLY BIRD ONE HOUR CLEANERS 1542 N LIMESTONE, LEXINGTON, KY, 40505			1019979089
◆ D3	SE <1/10 9 ft. Lower Elevation	(466 ft. / 0.088 mi.) 965 ft. Above Sea Level	EDR Exclusive Records

Worksheet:

EARLY BIRD CLEANERS 1542 N LIMESTONE ST, LEXINGTON, KY, 40505			1018610902
◆ D4	SE <1/10 9 ft. Lower Elevation	(466 ft. / 0.088 mi.) 965 ft. Above Sea Level	EDR Exclusive Records

Worksheet:

MAP FINDINGS

EARLEY BIRD CLEANERS 1542 N LIMESTONE, LEXINGTON, KY, 40505			S107516607
◆ D5	SE <1/10	(466 ft. / 0.088 mi.)	Lists of state- and tribal hazardous waste facilities State and tribal institutional control / engineering control registries Other Ascertainable Records
	9 ft. Lower Elevation	965 ft. Above Sea Level	

Worksheet:

MC WHORTER VIRGIL H 1452 N LIMESTONE, LEXINGTON, KY, 40505			1020038259
◆ 6	SSE 1/10 - 1/3	(551 ft. / 0.104 mi.)	EDR Exclusive Records
	2 ft. Lower Elevation	972 ft. Above Sea Level	

Worksheet:

MINI MARKET 108 NE NEW CIRCLE ROAD, LEXINGTON, KY, 40501			S106884619
◆ D7	SE 1/10 - 1/3	(626 ft. / 0.118 mi.)	Lists of state- and tribal hazardous waste facilities
	15 ft. Lower Elevation	959 ft. Above Sea Level	

Worksheet:

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
ENVIRONMENTAL RECORDS						
Federal NPL site list						
US	NPL	National Priority List	EPA	09/19/2023	10/03/2023	10/19/2023
US	Proposed NPL	Proposed National Priority List Sites	EPA	09/19/2023	10/03/2023	10/19/2023
US	NPL LIENS	Federal Superfund Liens	EPA	10/15/1991	02/02/1994	03/30/1994
Federal CERCLIS list						
US	SEMS	Superfund Enterprise Management System	EPA	09/19/2023	10/03/2023	10/19/2023
Federal RCRA CORRACTS facilities list						
US	CORRACTS	Corrective Action Report	EPA	07/24/2023	07/31/2023	08/14/2023
Federal RCRA TSD facilities list						
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	Environmental Protection Agency	07/24/2023	07/31/2023	08/14/2023
Federal RCRA generators list						
US	RCRA-LQG	RCRA - Large Quantity Generators	Environmental Protection Agency	07/24/2023	07/31/2023	08/14/2023
US	RCRA-SQG	RCRA - Small Quantity Generators	Environmental Protection Agency	07/24/2023	07/31/2023	08/14/2023
US	RCRA-VSQG	RCRA - Very Small Quantity Generators (Formerly Conditionall	Environmental Protection Agency	07/24/2023	07/31/2023	08/14/2023
Federal institutional controls / engineering controls registries						
US	LUCIS	Land Use Control Information System	Department of the Navy	08/03/2023	08/07/2023	10/10/2023
US	US ENG CONTROLS	Engineering Controls Sites List	Environmental Protection Agency	05/22/2023	05/23/2023	07/24/2023
US	US INST CONTROLS	Institutional Controls Sites List	Environmental Protection Agency	05/22/2023	05/23/2023	07/24/2023
Federal ERNS list						
US	ERNS	Emergency Response Notification System	National Response Center, United States Coast	06/12/2023	06/20/2023	08/14/2023
State and tribal - equivalent CERCLIS						
KY	SHWS	State Leads List	Department of Environmental Protection	06/07/2023	06/08/2023	08/29/2023
State and tribal landfill / solid waste disposal						
KY	SWF/LF	Solid Waste Facilities List	Department of Environmental Protection	04/28/2023	05/03/2023	07/26/2023
State and tribal leaking storage tank lists						
KY	PSTEAF	Facility Ranking List	Department of Environmental Protection	06/01/2023	06/29/2023	09/22/2023
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	EPA, Region 5	04/14/2023	05/09/2023	07/14/2023
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	EPA Region 10	04/20/2023	05/09/2023	07/14/2023
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	EPA Region 6	04/26/2023	05/09/2023	07/14/2023
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	Environmental Protection Agency	04/19/2023	05/09/2023	07/14/2023
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	EPA Region 1	04/20/2023	05/09/2023	07/14/2023
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	EPA Region 4	04/20/2023	05/09/2023	07/14/2023
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	EPA Region 7	04/25/2023	05/09/2023	07/14/2023
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	EPA Region 8	04/19/2023	05/09/2023	07/14/2023
KY	SB193	SB193 Branch Site Inventory List	Department of Environmental Protection	09/05/2006	09/13/2006	10/18/2006

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
State and tribal registered storage tank lists						
KY	UST	Underground Storage Tank Database	Department of Environmental Protection	05/02/2023	05/09/2023	05/11/2023
KY	AST	Above Ground Storage Tanks	Office of State Fire Marshal	06/01/2021	06/02/2021	08/23/2021
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	EPA Region 5	04/14/2023	05/09/2023	07/14/2023
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	EPA Region 6	04/26/2023	05/09/2023	07/14/2023
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	EPA Region 10	04/20/2023	05/09/2023	07/14/2023
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	EPA Region 9	04/19/2023	05/09/2023	07/14/2023
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	EPA Region 4	04/20/2023	05/09/2023	07/14/2023
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	EPA Region 7	04/25/2023	05/09/2023	07/14/2023
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	EPA Region 8	04/20/2023	05/09/2023	07/14/2023
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	EPA, Region 1	04/20/2023	05/09/2023	07/14/2023
US	FEMA UST	Underground Storage Tank Listing	FEMA	03/08/2023	03/09/2023	05/30/2023
State and tribal institutional control / engineering control registries						
KY	ENG CONTROLS	Engineering Controls Site Listing	Department of Environmental Protection	06/06/2023	06/08/2023	08/29/2023
KY	INST CONTROL	State Superfund Database	Department of Environmental Protection	06/06/2023	06/08/2023	08/29/2023
State and tribal voluntary cleanup sites						
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	EPA, Region 7	03/20/2008	04/22/2008	05/19/2008
KY	VCP	Voluntary Cleanup Program Sites	Department of Environmental Protection	07/31/2023	08/02/2023	10/19/2023
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	EPA, Region 1	07/27/2015	09/29/2015	02/18/2016
State and tribal Brownfields sites						
KY	BROWNFIELDS	Kentucky Brownfield Inventory	Division of Compliance Assistance	07/07/2023	08/03/2023	10/19/2023
Other Records						
US	CONSENT	Superfund (CERCLA) Consent Decrees	Department of Justice, Consent Decree Library	06/30/2023	07/19/2023	10/10/2023
US	ROD	Records Of Decision	EPA	09/19/2023	10/03/2023	10/19/2023
US	LIENS 2	CERCLA Lien Information	Environmental Protection Agency	09/19/2023	10/03/2023	10/19/2023
US	DEBRIS REGION 9	Torres Martinez Reservation Illegal Dump Site Locations	EPA, Region 9	01/12/2009	05/07/2009	09/21/2009
KY	SWRCY	Recycling Facilities	Department of Environmental Protection	09/04/2020	10/14/2020	01/04/2021
KY	HIST LF	Historical Landfills	Department of Environmental Protection	05/01/2003	03/30/2006	05/01/2006
US	LEAD SMELTER 2	Lead Smelter Sites	American Journal of Public Health	04/05/2001	10/27/2010	12/02/2010
US	COAL ASH EPA	Coal Combustion Residues Surface Impoundments List	Environmental Protection Agency	01/12/2017	03/05/2019	11/11/2019
US	FUSRAP	Formerly Utilized Sites Remedial Action Program	Department of Energy	03/03/2023	03/03/2023	06/09/2023
US	COAL ASH DOE	Steam-Electric Plant Operation Data	Department of Energy	12/31/2021	04/14/2023	07/10/2023
US	US FIN ASSUR	Financial Assurance Information	Environmental Protection Agency	06/19/2023	06/20/2023	08/14/2023
US	2020 COR ACTION	2020 Corrective Action Program List	Environmental Protection Agency	09/30/2017	05/08/2018	07/20/2018
US	LEAD SMELTER 1	Lead Smelter Sites	Environmental Protection Agency	09/19/2023	10/03/2023	10/19/2023
US	EPA WATCH LIST	EPA WATCH LIST	Environmental Protection Agency	08/30/2013	03/21/2014	06/17/2014
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	EPA	10/12/2016	10/26/2016	02/03/2017
US	US AIRS MINOR	Air Facility System Data	EPA	10/12/2016	10/26/2016	02/03/2017
US	PCB TRANSFORMER	PCB Transformer Registration Database	Environmental Protection Agency	09/13/2019	11/06/2019	02/10/2020
US	SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing	Environmental Protection Agency	07/30/2021	02/03/2023	02/10/2023
US	US HIST CDL	National Clandestine Laboratory Register	Drug Enforcement Administration	05/22/2023	05/23/2023	07/10/2023
US	Delisted NPL	National Priority List Deletions	EPA	09/19/2023	10/03/2023	10/19/2023

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	EPA	09/19/2023	10/03/2023	10/19/2023
US	RCRA NonGen / NLR	RCRA - Non Generators / No Longer Regulated	Environmental Protection Agency	07/24/2023	07/31/2023	08/14/2023
US	HMIRS	Hazardous Materials Information Reporting System	U.S. Department of Transportation	06/19/2023	06/23/2023	09/20/2023
US	DOT OPS	Incident and Accident Data	Department of Transporation, Office of Pipeli	01/02/2020	01/28/2020	04/17/2020
US	US CDL	Clandestine Drug Labs	Drug Enforcement Administration	05/22/2023	05/23/2023	07/10/2023
US	US BROWNFIELDS	A Listing of Brownfields Sites	Environmental Protection Agency	04/06/2023	04/13/2023	04/19/2023
US	DOD	Department of Defense Sites	USGS	06/07/2021	07/13/2021	03/09/2022
US	FEDLAND	Federal and Indian Lands	U.S. Geological Survey	04/02/2018	04/11/2018	11/06/2019
US	FUDS	Formerly Used Defense Sites	U.S. Army Corps of Engineers	08/07/2023	08/15/2023	10/10/2023
US	UMTRA	Uranium Mill Tailings Sites	Department of Energy	08/30/2019	11/15/2019	01/28/2020
US	ODI	Open Dump Inventory	Environmental Protection Agency	06/30/1985	08/09/2004	09/17/2004
US	MINES VIOLATIONS	MSHA Violation Assessment Data	DOL, Mine Safety & Health Admi	07/05/2023	07/05/2023	09/25/2023
US	US MINES	Mines Master Index File	Department of Labor, Mine Safety and Health A	05/01/2023	05/24/2023	07/24/2023
US	US MINES 2	Ferrous and Nonferrous Metal Mines Database Listing	USGS	01/07/2022	02/24/2023	05/17/2023
US	US MINES 3	Active Mines & Mineral Plants Database Listing	USGS	04/14/2011	06/08/2011	09/13/2011
US	PRP	Potentially Responsible Parties	EPA	09/19/2023	10/03/2023	10/19/2023
US	TRIS	Toxic Chemical Release Inventory System	EPA	12/31/2021	02/16/2023	05/02/2023
US	TSCA	Toxic Substances Control Act	EPA	12/31/2020	06/14/2022	03/24/2023
US	FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA/Office of Prevention, Pesticides and Toxi	04/09/2009	04/16/2009	05/11/2009
US	FTTS INSP	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fu	EPA	04/09/2009	04/16/2009	05/11/2009
US	HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	HIST FTTS INSP	FIFRA/TSCA Tracking System Inspection & Enforcement Case Lis	Environmental Protection Agency	10/19/2006	03/01/2007	04/10/2007
US	SSTS	Section 7 Tracking Systems	EPA	07/17/2023	07/18/2023	10/10/2023
US	ICIS	Integrated Compliance Information System	Environmental Protection Agency	11/18/2016	11/23/2016	02/10/2017
US	PADS	PCB Activity Database System	EPA	03/20/2023	04/04/2023	06/09/2023
US	MLTS	Material Licensing Tracking System	Nuclear Regulatory Commission	07/20/2023	09/01/2023	09/20/2023
US	RADINFO	Radiation Information Database	Environmental Protection Agency	07/01/2019	07/01/2019	09/23/2019
US	FINDS	Facility Index System/Facility Registry System	EPA	05/04/2023	05/25/2023	07/24/2023
US	RAATS	RCRA Administrative Action Tracking System	EPA	04/17/1995	07/03/1995	08/07/1995
US	RMP	Risk Management Plans	Environmental Protection Agency	05/09/2023	06/29/2023	09/25/2023
US	BRS	Biennial Reporting System	EPA/NTIS	12/31/2021	03/09/2023	03/20/2023
US	PWS	Public Water System Data	EPA	12/17/2013	01/09/2014	10/15/2014
US	INDIAN RESERV	Indian Reservations	USGS	12/31/2014	07/14/2015	01/10/2017
US	INDIAN ODI	Report on the Status of Open Dumps on Indian Lands	Environmental Protection Agency	12/31/1998	12/03/2007	01/24/2008
US	IHS OPEN DUMPS	Open Dumps on Indian Land	Department of Health & Human Serivces, Indian	04/01/2014	08/06/2014	01/29/2015
US	ABANDONED MINES	Abandoned Mines	Department of Interior	06/13/2023	06/14/2023	08/14/2023
KY	AIRS	Permitted Airs Facility Listing	Department of Environmental Protection	07/05/2023	07/20/2023	08/29/2023
KY	ASBESTOS	Asbestos Notification Listing	Department of Environmental Protection	06/14/2023	06/15/2023	08/11/2023
KY	CDL	Clandestine Drub Lab Location Listing	Department of Environmental Protection	06/07/2023	06/08/2023	08/29/2023
KY	COAL ASH	Coal Ash Disposal Sites	Department of Environmental Protection	07/18/2023	07/25/2023	10/12/2023
KY	DRYCLEANERS	Drycleaner Listing	Department of Environmental Protection	07/05/2023	07/20/2023	08/29/2023
KY	Financial Assurance 1	Financial Assurance Information Listing	Department of Environmental Protection	08/22/2023	08/24/2023	08/29/2023
KY	Financial Assurance 2	Financial Assurance Information Listing	Department of Environmental Protection	05/14/2014	06/06/2014	06/24/2014
KY	Financial Assurance 3	Financial Assurance Information Listing	Department of Environmental Protection	06/06/2023	06/08/2023	08/29/2023
KY	LEAD	Environmental Lead Program Report Tracking Database	Department of Public Health	01/27/2017	02/02/2017	08/21/2017
KY	NPDES	Permitted Facility Listing	Department of Environmental Protection	02/21/2023	02/23/2023	02/27/2023
KY	SPILLS	State spills	DEP, Emergency Response	08/02/2023	08/03/2023	08/21/2023

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Government Agency	Gov Date	Arvl. Date	Active Date
KY	UIC	UIC Information	Kentucky Geological Survey	06/28/2023	07/10/2023	09/28/2023
US	PFAS NPDES	Clean Water Act Discharge Monitoring Information	Environmental Protection Agency	07/05/2023	07/05/2023	10/02/2023
US	PFAS FEDERAL SITES	Federal Sites PFAS Information	Environmental Protection Agency	07/05/2023	07/05/2023	10/02/2023
US	PFAS WQP	Ambient Environmental Sampling for PFAS	Environmental Protection Agency	09/23/2023	10/03/2023	10/10/2023
US	AQUEOUS FOAM NRC	Aqueous Foam Related Incidents Listing	Environmental Protection Agency	07/05/2023	07/06/2023	09/25/2023
US	PFAS TRIS	List of PFAS Added to the TRI	Environmental Protection Agency	07/05/2023	07/05/2023	10/02/2023
US	PFAS ECHO FIRE TRAINING	Facilities in Industries that May Be Handling PFAS Listing	Environmental Protection Agency	07/05/2023	07/05/2023	09/25/2023
US	PFAS RCRA MANIFEST	PFAS Transfers Identified In the RCRA Database Listing	Environmental Protection Agency	07/05/2023	07/05/2023	10/02/2023
US	PFAS NPL	Superfund Sites with PFAS Detections Information	Environmental Protection Agency	07/05/2023	07/05/2023	10/02/2023
US	ECHO	Enforcement & Compliance History Information	Environmental Protection Agency	06/24/2023	06/29/2023	09/25/2023
US	DOCKET HWC	Hazardous Waste Compliance Docket Listing	Environmental Protection Agency	05/06/2021	05/21/2021	08/11/2021
US	MINES MRDS	Mineral Resources Data System	USGS	08/23/2022	11/22/2022	02/28/2023
US	PFAS ATSDR	PFAS Contamination Site Location Listing	Department of Health & Human Services	06/24/2020	03/17/2021	11/08/2022
US	UXO	Unexploded Ordnance Sites	Department of Defense	11/09/2021	10/20/2022	01/10/2023
US	FUELS PROGRAM	EPA Fuels Program Registered Listing	EPA	08/14/2023	08/15/2023	10/19/2023
US	PFAS TSCA	PFAS Manufacture and Imports Information	Environmental Protection Agency	07/05/2023	07/05/2023	10/02/2023
US	PFAS ECHO	Facilities in Industries that May Be Handling PFAS Listing	Environmental Protection Agency	07/05/2023	07/05/2023	09/25/2023
US	PFAS PART 139 AIRPORT	All Certified Part 139 Airports PFAS Information Listing	Environmental Protection Agency	07/05/2023	07/05/2023	09/25/2023
US	BIOSOLIDS	ICIS-NPDES Biosolids Facility Data	Environmental Protection Agency	07/16/2023	07/18/2023	08/28/2023
US	FEDERAL FACILITY	Federal Facility Site Information listing	Environmental Protection Agency	06/23/2023	06/23/2023	09/20/2023
KY	PFAS	PFAS Detections Site Listing	Department of Environmental Protection	03/06/2023	03/09/2023	05/26/2023

HISTORICAL USE RECORDS

US	EDR MGP	EDR Proprietary Manufactured Gas Plants	EDR, Inc.			
US	EDR Hist Auto	EDR Exclusive Historical Auto Stations	EDR, Inc.			
US	EDR Hist Cleaner	EDR Exclusive Historical Cleaners	EDR, Inc.			
KY	RGA HWS	Recovered Government Archive State Hazardous Waste Facilitie	Department of Environmental Protection		07/01/2013	01/03/2014
KY	RGA LF	Recovered Government Archive Solid Waste Facilities List	Department of Environmental Protection		07/01/2013	01/15/2014

STREET AND ADDRESS INFORMATION

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APPENDIX E

JAMES E. BICKFORD
SECRETARY

PAUL E. PATTON
GOVERNOR

COMMOMWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
14 REILLY RD
FRANKFORT KY 40601

January 29, 1996

KMART CORPORATION
3100 W BIG BEAVER
TROY MI 48084

RE: KMART 4077
130 New Circle Rd NW
Lexington--Fayette County

UST ID # 3542-034
CAR Received Date: December 16, 1991
Tank (s): #1 = 1,000 gal used oil

Dear Tank Owner:

The Division of Waste Management personnel have reviewed the information submitted regarding the assessment of the underground storage tank area for the above referenced site. The data submitted indicates that the site has been adequately assessed in accordance with 401 KAR Chapter 42 (as in effect before April 18, 1994) and 40 CFR Part 280.

From the information submitted, the division agrees that this site has satisfied the closure requirements of Kentucky Revised Statutes 224.60-105 and the requirements of 401 KAR Chapter 42 (as in effect prior to April 18, 1994). Therefore, no further action is required. The Division has based this determination on all the information submitted. The Division reserves the right to require additional monitoring or testing and to take whatever action is necessary to protect human health, safety, and the environment if the Division determines there is a need for further investigation.

Payment of any outstanding underground storage tank fees is still required pursuant to KRS 224.60-150. Failure to pay any said outstanding fees may compromise the ability of the facility to qualify for financial assistance from the Petroleum Storage Tank Environmental Assurance Fund Commission. If outstanding fees are due, you will be contacted by the Underground Storage Tank Branch.

If you have any questions regarding this matter, please contact Rob Daniell of the Underground Storage Tank Branch at (800) 928-6716, or (502) 564-6716.

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For information concerning financial assistance contact the Petroleum Storage Tank Environmental Assurance Fund Commission at 911 Leawood Drive, Frankfort, Kentucky 40601, or call 1-800-928-7782.

Sincerely,

Doyle Mills, Manager
Underground Storage Tank Branch
Division of Waste Management
Department for Environmental Protection

DM/cwt

c: Sam Lofton, Frankfort Regional Office
PSTEAFC
R. File (1)
Admin. (1)

KMART CORPORATION SRO - CONSTRUCTION DEPT
2901 CLAIRMONT RD
ATLANTA GA 30329

Notification for Underground Storage Tanks

FORM APPROVED
OMB NO. 2050-0049
APPROVAL EXPIRES 6-30-88

FOR TANKS IN KY

RETURN COMPLETED FORM TO
Natural Resources Cabinet
Division of Waste Management
Attention: Vicki Pettus
18 Reilly Road
Frankfort, KY 40601

APR 09 1986
DWM/PROGRAM

STATE USE ONLY
I.D. Number 3542 - 034
Date Received 4/9/86

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—
(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and
(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: 1. gasoline, used oil, or diesel fuel, and 2. industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:
1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. 2. Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. **This form must by completed for each location containing underground storage tanks.** If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached: 0

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
Kmart Corporation

Street Address
3100 W. Big Beaver

County
Oakland

City: Troy | State: MI | ZIP Code: 48084

Area Code | Phone Number

Type of Owner *(Mark all that apply ☒)*
☒ Current ☐ Former ☐ State or Local Gov't ☐ Federal Gov't (GSA facility I.D. no. _____) ☒ Private or Corporate ☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here ☐)

Facility Name or Company Site Identifier, as applicable
Kmart # 4077

Street Address or State Road, as applicable
130 New Circle Road N.W.

County
Fayette

City (nearest): Lexington | State: KY | ZIP Code: 40505

Indicate number of tanks at this location: 1

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here ☐) | Job Title | Area Code | Phone Number
G.R. White | Manager | 606 | 252-3543

IV. TYPE OF NOTIFICATION

☐ Mark box here only if this is an amended or subsequent notification for this location.

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative: J.B. Ronan Assistant Controller
Signature: J.B. Ronan
Date Signed: APR 04 1986

CONTINUE ON REVERSE SIDE

Owner Name (from Section I) Kmart Corporation Location (from Section II) Kmart # 4077 Page No. 1 of 1 Pages

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS (Complete for each tank at this location.)

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)		Tank No. None	Tank No.	Tank No.	Tank No.	Tank No.
1. Status of Tank (Mark all that apply ☒)	Currently in Use	XXXX	☐	☐	☐	☐
	Temporarily Out of Use	☐	☐	☐	☐	☐
	Permanently Out of Use	☐	☐	☐	☐	☐
	Brought into Use after 5/8/86	☐	☐	☐	☐	☐
2. Estimated Age (Years)		1964				
3. Estimated Total Capacity (Gallons)		1000				
4. Material of Construction (Mark one ☒)	Steel	XXX	☐	☐	☐	☐
	Concrete	☐	☐	☐	☐	☐
	Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
	Unknown	☐	☐	☐	☐	☐
	Other, Please Specify					
5. Internal Protection (Mark all that apply ☒)	Cathodic Protection	☐	☐	☐	☐	☐
	Interior Lining (e.g., epoxy resins)	☐	☐	☐	☐	☐
	None	XXX	☐	☐	☐	☐
	Unknown	☐	☐	☐	☐	☐
	Other, Please Specify					
6. External Protection (Mark all that apply ☒)	Cathodic Protection	☐	☐	☐	☐	☐
	Painted (e.g., asphaltic)	XXX	☐	☐	☐	☐
	Fiberglass Reinforced Plastic Coated	☐	☐	☐	☐	☐
	None	☐	☐	☐	☐	☐
	Unknown	☐	☐	☐	☐	☐
	Other, Please Specify					
7. Piping (Mark all that apply ☒)	Bare Steel	☐	☐	☐	☐	☐
	Galvanized Steel	XXX	☐	☐	☐	☐
	Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
	Cathodically Protected	☐	☐	☐	☐	☐
	Unknown	☐	☐	☐	☐	☐
	Other, Please Specify					
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply ☒)	a. Empty	☐	☐	☐	☐	☐
	b. Petroleum					
	Diesel	☐	☐	☐	☐	☐
	Kerosene	☐	☐	☐	☐	☐
	Gasoline (including alcohol blends)	☐	☐	☐	☐	☐
	Used Oil	XXXX	☐	☐	☐	☐
	Other, Please Specify					
	c. Hazardous Substance	☐	☐	☐	☐	☐
	Please Indicate Name of Principal CERCLA Substance					
	OR Chemical Abstract Service (CAS) No.					
	Mark box ☒ if tank stores a mixture of substances	☐	☐	☐	☐	☐
	d. Unknown	☐	☐	☐	☐	☐
9. Additional Information (for tanks permanently taken out of service)	a. Estimated date last used (mo/yr)	/	/	/	/	/
	b. Estimated quantity of substance remaining (gal.)					
	c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)	☐	☐	☐	☐	☐

CAR

RECEIVED
DEC 16 1991
U.S.T.I.

UNDERGROUND STORAGE TANK REMOVAL
THE K MART CORPORATION
STORE NUMBER 4077
LEXINGTON, KENTUCKY
ATEC PROJECT NUMBER 21-14031

DUPLICATE

MS. JULIE WEBER
THE K MART CORPORATION
2901 CLAIRMONT ROAD N.E.
ATLANTA, GEORGIA

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
[317] 849-4990, FAX # [317] 849-4278

RECEIVED
DEC 10 1991
U.S.T.

Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

July 8, 1991

Ms. Julie Weber
The K Mart Corporation
2901 Clairmont Road N.E.
Atlanta, Georgia

Re: Underground Storage Tank Removal
The K Mart Corporation
K Mart Store # 4077
ATEC Project Number 21-14031

Dear Ms. Weber:

ATEC Environmental Construction (ATEC) is pleased to provide the K Mart Corporation (K Mart) with this final report documenting the underground storage tank (UST) closure at the above-referenced facility. Work performed included the removal, cleaning, and disposal of the vessel and the performance of an environmental assessment to determine if the former UST operation had affected the surrounding environment.

ATEC recommends no further action at this site, however, within the State of Kentucky, these conclusions are subject to review by the Kentucky Department of Environmental Protection (KDEP). A copy of this report should be submitted to the KDEP for their review.

It has been a pleasure serving K Mart in this endeavor. As always, should there be any questions please feel free to contact either of the undersigned.

Very truly yours,
ATEC Associates, Inc.

Michael E. Starzyk
Assistant Project Manager

Kevin B. Hopkins, CPG
Manager,
Environmental Construction Division

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	2.2 Field Activities	5
3.0	SAMPLING AND LABORATORY ANALYSIS	6
4.0	ANALYTICAL RESULTS	8
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REFERENCES

APPENDICES

Appendix A: Project Documentation
Appendix B: Photographic Documentation
Appendix C: Site Safety Plan
Appendix D: Laboratory Analysis

UNDERGROUND STORAGE TANK REMOVAL PROJECT

The K Mart Corporation
K Mart Store # 4077
130 New Circle Road NW
Lexington, Kentucky
ATEC Project Number 21-14031

1.0 INTRODUCTION

The K Mart Corporation, Inc. (K Mart) contracted ATEC Environmental Construction (ATEC) to remove and dispose of one (1) 1,000 gallon steel underground storage tank (UST) at K Mart facility number 4077 located at 130 New Circle Road NW in Lexington, Kentucky. ATEC Proposal Number PC-90275 dated October 10, 1990 defines the scope of work and documents ATEC's level of effort. K Mart accepted the proposal on March 15, 1991 and provided ATEC with notice to proceed. ATEC filed the required thirty (30) day notification with the Kentucky Department of Environmental Protection on February 25, 1991 and received authorization to remove the vessel on March 11, 1991. Copies of the 30-day notification and authorization are in Appendix A of this report. Work was scheduled in accordance with the 30-day notification period and overall project logistics. Operations commenced on April 23, 1991 and were completed on the same day.

Information provided by K Mart indicated the vessel contracted for removal last contained waste oil and had been used for bulk storage of products generated during automotive servicing. The age of the vessel or date of installation was not available.

Regulations pertaining to USTs were promulgated on the federal level in 1988, and codified in 40 CFR 280 Underground Storage Tank Regulations. These regulations stipulate that the owners/operators of UST systems must either upgrade or remove their storage tanks in accordance with a pre-determined time table based upon the age of the system. All UST removals (with the exception of deferred systems) must undergo an environmental site assessment to determine if the operation has negatively impacted the surrounding environment. The burden of monitoring regulatory compliance and establishing environmental procedures is placed upon the state regulatory agency, which

in this case, is the Kentucky Department of Environmental Protection (KDEP).

KDEP guidelines require each UST removal or abandonment in place to undergo a detailed soil sampling program. The number of samples is based upon the size of the vessel. The required analytical method for evaluation of petroleum products is TPH,IGN,EP-TOX & TCLP Metals analysis, via U.S. Environmental Protection Agency (EPA) Method SW846-9071, 1010, 6010 & 7000 series. Further discussion of analytical methods and field techniques are included in Section 3.2 of this report.

This report serves as documentation of ATEC's field activities, removal methods, laboratory analysis, conclusions and recommendations relative to K Mart's underground storage tank program.

2.0 SITE INVESTIGATION

Documented below are ATEC's field observations and work procedures concerning this UST removal operation. Mr. Rod Parke, an ATEC Field Inspector, performed the investigation under the direct supervision of the authors.

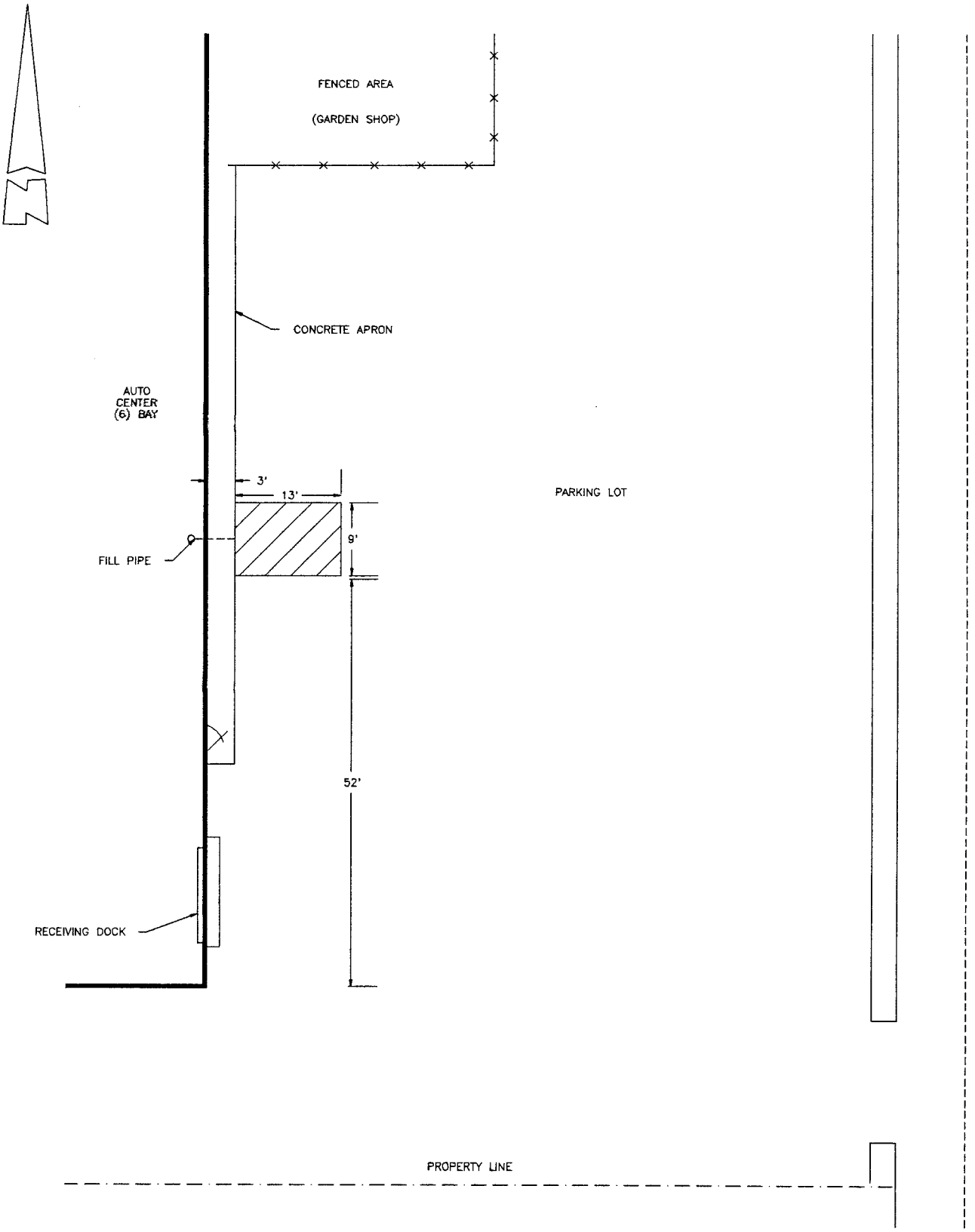
2.1 Physical Site Conditions

An ATEC UST removal crew, under the supervision of Mr. Jeff Chapman, performed the UST removal operations. Prior to ATEC's arrival on-site, K Mart had arranged for the remaining product to be removed from the vessel. Figure 1 is a topographic vicinity map indicating elevation and area location. Figure 2 illustrates the layout of the project site, UST location and ATEC's work plan.

VICINITY MAP
K-MART # 4077
130 NEW CIRCLE RD. NW
LEXINGTON, KY

PROJECT NO.	21-14031
SCALE	1" = 2000'
FIGURE NO.	1

ATEC



SITE PLAN
K-MART # 4077
130 NEW CIRCLE RD. NW
LEXINGTON, KY

PROJECT NO.	21-14031
SCALE	NONE
FIGURE NO.	2

ATEC

2.2 Field Activities

Prior to excavation activities, ATEC sawcut the parking lot surface overlying the UST installation and subsequently removed the pavement and soil overlying the UST system. Once the vessel was exposed ATEC monitored the atmosphere of the vessel for both the Lower Explosive Limit (LEL) and percent oxygen. If necessary, the vessel was inerted utilizing dry ice. Once LEL readings were less than 20 percent the atmosphere allowed for the safe removal of the vessel from the excavation. The UST was extracted with a Case model 580K backhoe. Inspection of the exhumed vessel revealed no corrosion holes in the vessel. Cutting of the vessels' walls for decontamination proceeded after the visual examination. The vessel was cut in half longitudinally using a pneumatic chisel. ATEC personnel then cleaned the interior of the vessel.

Residual sludges were placed into 17H DOT approved 55-gallon drums, which are labeled with the appropriate waste identifiers. Once the gross sludge removal was complete, the interior of the vessel was squeegeed and wiped clean with an industrial degreaser (either surficant or solvent). Rinsate was collected and drummed for disposal with the sludges.

The liquid wastes were removed from site by Superior Oil Company, a licensed liquid waste disposal contractor and disposed of within a waste stream established for K Mart. A copy of the liquid waste disposal manifest is contained within Appendix A.

ATEC secured the tank on a low boy trailer, disposing of it at the Lexington Scrap Metal Scrap Yard in Lexington, Kentucky. Certification of the UST destruction is contained in Appendix A of this document which indemnifies K Mart of further liability associated with this tank.

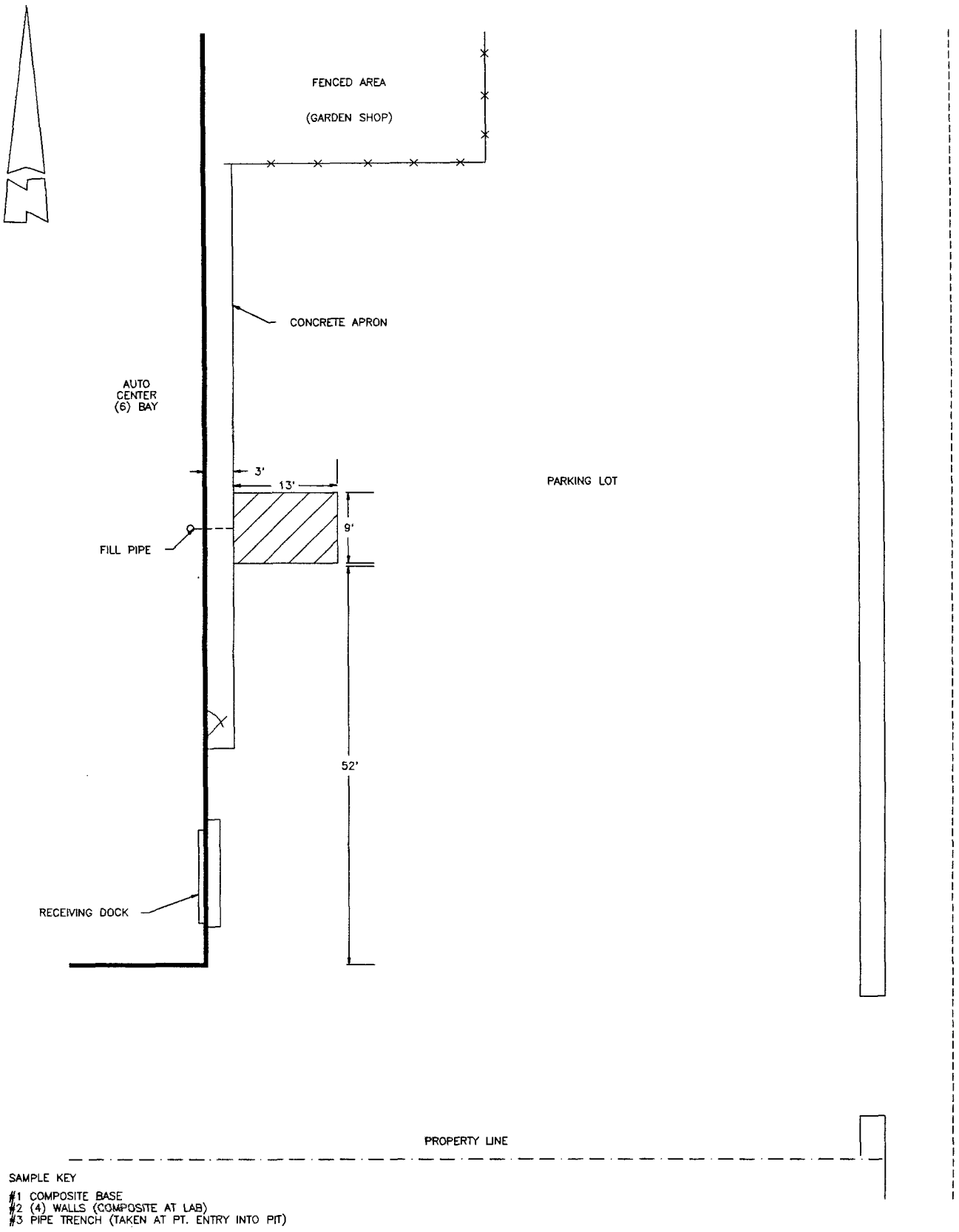
Soils surrounding the vessel did not exhibit signs of petroleum hydrocarbon contamination. ATEC field screened the soils utilizing a Photo-ionization Detector (PID) in order to qualitatively establish the level of Total Photo-ionizable Vapors (TPVs) which can relate to the level of hydrocarbon contamination. Elevated TPV levels were not recorded at this site.

3.0 SAMPLING AND LABORATORY ANALYSIS

As noted in Section 1.0 of this report, the amount and location of the soil samples collected during a UST removal are governed by the KDEP at the state level and locally by the Lexington Department of Environmental and Emergency Management (LDEEM). General guidelines are based upon the size of the vessel and local environmental receptors. Concerning closure of vessels containing petroleum products, the state stipulates that surrounding soils be analyzed for TPH, IGN and TOTAL LEAD. LDEEM requires EP-TOX & TCLP Metals in addition to the analysis mandated by the state. ATEC submitted three (3) samples to the ATEC Indianapolis laboratory for TPH, IGN, EP-TOX & TCLP Metals analysis using U.S. EPA Methods SW846-9071, 1010, 6010 & 7000 series. All quality control information for these samples are available free of charge for thirty days. All samples were collected in accordance with KDEP sampling guidelines.

Figure 3 illustrates the location of the soil samples. Each sample was collected by removing an area of soil with the backhoe bucket and collecting this sample with a decontaminated spoon. This method allowed for the safe execution of the sampling plan with no trench entry required by our personnel.

All samples were collected in accordance with SW 846 Test Methods for Evaluating Solid Waste - Physical/Chemical Methods. This includes sample preservation and chain-of-custody tracking. Hard copy of all laboratory results and chain-of-custody documentation are in Appendix D of this report.



SAMPLE KEY

#1 COMPOSITE BASE
#2 (4) WALLS (COMPOSITE AT LAB)
#3 PIPE TRENCH (TAKEN AT PT. ENTRY INTO PIT)

SAMPLE LOCATION PLAN
K-MART # 4077
130 NEW CIRCLE RD. NW
LEXINGTON, KY

PROJECT NO.
21-14031

SCALE
NONE

FIGURE NO.
3

ATEC

4.0 ANALYTICAL RESULTS

Laboratory results from the soil sampling indicates no presence of hydrocarbons surrounding the UST installation. Table 1 illustrates the laboratory results and documents the sample locations.

Table 1
Soil Sampling Results
The K Mart Store Number 4077
130 New Circle Road NW

Sample I.D.	Location	Parameter	Results	Comments
1	Base	TPH,IGN, EP-TOX & TCLP Metals	ND, >140, ND & ND	Composite
2	Walls	TPH, IGN, EP-TOX & TCLP Metals	ND, >140, ND & ND	Composite
3	Pipe Trench	TPH,IGN, EP-TOX & TCLP Metals	ND, >140, ND & ND	

*All concentrations in milligrams per kilogram (parts per million), ND=Non Detect

5.0 CONCLUSIONS

ATEC has completed the closure of the 1,000 gallon waste oil UST at this facility. The vessel was decontaminated and destroyed as per the attached documentation submitted by ATEC. During excavation and removal of the UST no contamination was detected by either instrumentation or observation. Laboratory analysis performed per KDEP guidelines on the samples from the excavation showed all concentrations below the laboratory quantitation limits or state action levels which leads ATEC to the conclusion that no further action should be required at this site. Copies of the raw laboratory data are included in Appendix D.

6.0 QUALIFICATIONS

Our professional services have been performed, our findings obtained and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering,and all work procedures were conducted in accordance with NFPA, EPA and API guidelines. This warranty is in lieu of all other warranties either express or implied. This company is not responsible for the independent conclusions, opinions or recommendations made by others based on the field exploration and laboratory test data presented in this report.

APPENDIX A

PROJECT DOCUMENTATION

Contents:

-30 Day Notification of Intent to Close

-All Permits or Letters of Authorization

-Tank Disposal Certification

-Liquid Waste Disposal Manifest

-Pavement Warranty

-Release Notification (If Applicable)

-Change of Status Notification

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
[317] 849-4990, FAX # [317] 849-4278

MEMORANDUM

Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

TO: WHOM IT MAY CONCERN

FROM: ATEC ASSOCIATES, INC.

DATE: July 8, 1991

RE: PROJECT DOCUMENTATION FROM K MART UST REMOVALS

This appendix contains all field reports from state and local regulatory inspectors along with any permits that may have been required to perform the UST removal. This appendix will also contain records of communication regarding releases from the aforementioned UST, if any.

This appendix will not contain regulatory inspection reports and permits if such reports were not issued to ATEC by the regulatory inspectors or if no permits were required to perform the scope of work within this contract.

Please note that it is uncommon for regulatory inspectors to furnish a copy of their report to the UST removal contractor, if such reports are generated.

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
[317] 849-4990, FAX # [317] 849-4278

Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

February 15, 1991

Underground Storage Tank Section
Ft. Boone Bldg. #2
18 Rielly Road
Frankfort, KY 40601

Re: Underground Storage Tank
Notice of Intent to Close
UST Owner Name: K Mart Store #4077
Site Location: 130 New Circle Rd. NW
City, State Lexington, KY 40505
ATEC Project Number 21-14031

Dear Sirs/Madam:

This letter shall serve as written notification of the owner's intent to close the following underground storage tanks (USTs) at the above-referenced location. ATEC Environmental Construction (ATEC) has been given the responsibility by the UST owner to serve as the owner's authorized agent concerning this matter.

UST removal activities are scheduled to begin after March 18, 1991, with specific closure dates approved by yourself or the local authorities. The following table identifies the UST(s) involved in this closure, the nominal capacity, and material stored in each vessel.

UST IDENTIFICATION	CAPACITY (gallons)	MATERIAL STORED	CLOSURE METHOD
1	1,000	Waste Oil	Removal

ATEC, or its subcontractor, will perform the UST removal. The UST removal will include dismantling of immediate piping, excavation, and removal of the tank vessel from below-grade. Additionally, a sampling and analysis program will be performed to assess if any adverse environmental impact has occurred. Vessels will be completely decontaminated and rendered useless as outlined by the National Fire Protection Association (NFPA), American Petroleum Institute (API) and the United States Environmental Protection Agency (EPA) standards and guidelines. All appropriate agencies will be notified at least three days prior to work beginning.

We trust this submittal is satisfactory to your requirements. Please do not hesitate to contact the undersigned if there are any questions concerning this matter.

Very truly yours,

ATEC Associates, Inc.

D. Gray Keene
Manager, Environmental Construction

ATEC Environmental Construction
5150 East 65th Street
Indianapolis, IN 46250
(317) 849-4990

Notice of Intent to Permanently Close Underground Storage Tank(s)

FOR TANKS IN KY

Return Completed Form To:
Division of Waste Management
Underground Storage Tanks
Frankfort Office Park, 18 Reilly Road
Frankfort, Kentucky 40601 (502) 564-6716

I.D. Number _____
If I.D. Number is unknown, contact the listed agency.

RECEIVED DEC 16 1990 U.S.T.

Date Received _____

INSTRUCTIONS

Complete and return thirty (30) days prior to permanent closure of tank(s).

I. Ownership of Tank(s)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
K Mart Corporation

Street Address
2901 Clairmont Rd. NE

County
Atlanta (Fulton) GA 30029
City State Zip Code

404-320-2553
Area Code Telephone Number

II. Location of Tank(s)

K Mart Store #4077
Facility Name or Company

130 New Circle Rd. NW
Street Address or State Road

Fayette
County

Lexington, KY 40505
City (nearest) State Zip Code

606-252-3543
Area Code Telephone Number

III. Contact Person

Name	Job Title	Telephone Number
Kevin B. Hopkins	Project Mgr.	(317) 849-4990

1. TYPE OF CLOSURE: (check one) x Removal from Ground _____ Closure _____ Temporary Closure
2. Number of tanks to be permanently closed at above location: 1
3. Indicate the cleaning method for tanks: Pressure wash
4. If the tank is to be closed in place, what type of fill material to be used: _____
5. Name of company/person performing the tank closure: Atec Enviromental Construction
6. Name of laboratory where samples will be sent: ATEC Associates
7. Closure date scheduled: March 26, 1990

Product Stored in Tanks	Media	Analysis to be Performed
Gasoline only	Soil	BTEX* and ignitability
	Groundwater	BTEX* and flashpoint
Diesel/Motor Fuel only	Soil	PAH** and ignitability
	Groundwater	BTEX*
Waste Oil	Soil	TPH***, ignitability and total lead
	Groundwater	TPH***, flashpoint and total lead
Other	Soil	Contact the above agency.
	Groundwater	Contact the above agency.

*BTEX--Benzene, toluene, ethylbenzene, and xylene, recommended method--SW 846/8020 **PAH--Polynuclear aromatic hydrocarbons, recommended method--SW 846/8100. ***TPH--Total petroleum hydrocarbons, recommended method--SW 846/9070 or SW 846/9071.

VERIFICATION

I verify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. KRS 224.944(4) provides for penalties for submitting false information, including the possibility of fine and imprisonment.

Mark applicable box(es) and sign.

	Name and official title	Signature	Date Signed
☐	Name and official title of owner.		
☐	Name and official title of operator or authorized representative Kevin Hopkins, Project Manager	Signature Kevin B. Hopkins	Date Signed 2-25-91
☐	Name of consultant's or contractor's authorized representative Kevin Hopkins, Project Manager	Signature Kevin B. Hopkins	Date Signed 2-25-91

DESCRIPTION OF UNDERGROUND STORAGE TANK(S) (Complete for each tank at this location)

Tank Identification No. (e.g. ABC-123), or Arbitrarily Assigned Sequential Number		Tank No.	Tank No.	Tank No.	Tank No.	Tank No.
1. Status of Tank (Mark all that apply X)	Currently in Use	☑	☐	☐	☐	☐
	Temporarily Out of Use	☐	☐	☐	☐	☐
	Permanently Out of Use	☐	☐	☐	☐	☐
	Brought into Use after 5/8/86	☐	☐	☐	☐	☐
2. Estimated Age (Years)		10-15				
3. Estimated Total Capacity (Gallons)		1000				
4. Material of Construction (Mark one X)	Steel	☐	☐	☐	☐	☐
	Concrete	☐	☐	☐	☐	☐
	Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
	Unknown	☑	☐	☐	☐	☐
	Other, Please Specify	____	____	____	____	____
5. Internal Protection (Mark all that apply X)	Cathodic Protection	☐	☐	☐	☐	☐
	Interior Lining (e.g. epoxy resins)	☐	☐	☐	☐	☐
	None	☐	☐	☐	☐	☐
	Unknown	☑	☐	☐	☐	☐
	Other, Please Specify	____	____	____	____	____
6. External Protection (Mark all that apply X)	Cathodic Protection	☐	☐	☐	☐	☐
	Painted (e.g. asphaltic)	☐	☐	☐	☐	☐
	Fiberglass Reinforced Plastic Coated	☐	☐	☐	☐	☐
	None	☐	☐	☐	☐	☐
	Unknown	☑	☐	☐	☐	☐
	Other, Please Specify	____	____	____	____	____
7. Piping (Mark all that apply X)	Bare Steel	☐	☐	☐	☐	☐
	Galvanized Steel	☐	☐	☐	☐	☐
	Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
	Cathodically Protected	☐	☐	☐	☐	☐
	Unknown	☑	☐	☐	☐	☐
	Other, Please Specify	____	____	____	____	____
8. Substance Currently or Last Stored in Greatest Quantity by Volume (Mark all that apply X)	**a. Empty**	☐	☐	☐	☐	☐
	b. Petroleum					
	Diesel	☐	☐	☐	☐	☐
	Kerosene	☐	☐	☐	☐	☐
	Gasoline (including alcohol blends)	☐	☐	☐	☐	☐
	Used Oil	☑	☐	☐	☐	☐
	Other, Please Specify	____	____	____	____	____
	c. Hazardous Substance	☐	☐	☐	☐	☐
	Please Indicate Name or Principal CERCLA Substance	____	____	____	____	____
	or					
	Chemical Abstract Service (CAS) Number	____	____	____	____	____
	Mark box X if tank stores a mixture of substances	☐	☐	☐	☐	☐
	d. Unknown	☐	☐	☐	☐	☐
9. Additional Information (for tanks permanently taken out of service)						
	a. Estimated date last used (mo/yr)	/	/	/	/	/
	b. Estimated quantity of substance remaining (gal.)	____	____	____	____	____
	c. Mark box "X" if tank was filled with inert material (e.g., sand, concrete)	☐	☐	☐	☐	☐

DEC 16 1991

Notice of Intent to Permanently Close Underground Storage Tank System

Official Use Only

Return Completed Form To:
Division of Environmental and Emergency Management
121 North Martin Luther King Boulevard
Lexington, KY 40507
(606) 258-3784

I.D. Number _____
Date Received _____

Instructions
Please complete and return thirty (30) days prior to permanently closing tank(s)

I. Ownership of Tank(s)

K Mart Corporation
Owner Name (Corporation, Individual, Public Agency, or Other Entity)
2901 Clairmont Rd. NE
Street Address
Fulton
County
Atlanta GA 30029
City State Zip
404 320-2553
Area Code Telephone Number

II. Location of Tank(s)

KMart Store #4077
Facility Name or Company
130 New Circle Rd. NW
Street Address or State Road
Fayette
County
Lexington KY 40505
City (nearest) State Zip
606 252-3543
Area Code Telephone Number

III. Contact Person

Name	Job Title	Telephone Number
Kevin B. Hopkins	Project Mgr.	(317) 849-4990

1. TYPE OF CLOSURE: (check one) X Removal from Ground ____ Close in Place (Attach variance letter.)
2. Number of tanks to be permanently closed at the above location: 1 Size(s) 1,000
   Product(s) Waste Oil
3. If the tank is to be closed in place, indicate the cleaning method and type of fill to be used: _____
4. Name of company/person performing the tank closure and the date scheduled: ATEC Environmental Construction
5. Name of laboratory where samples will be sent: ATEC Associates
6. Soil and/or groundwater samples must be collected to determine if a release has occurred. The owner should contact the laboratory prior to closure to obtain the correct sampling procedures.
   a. If the tanks are removed, soil samples must be taken immediately after the removal to prevent escape of the petroleum constituents. Samples shall be collected according to Underground Storage Tank Program methods. If groundwater is encountered during removal, groundwater shall also be sampled.
   b. If the tanks are closed in place, four (4) borings should be advanced two feet below the bottom of the tank excavation and samples collected from that level. If water is encountered during the soil borings, the groundwater shall also be sampled. Samples should be collected according to Underground Storage Tank Program methods.
   c. Below is a chart of the analysis that should be performed. The type of analysis is dependent upon the product that was stored in the tank and whether or not groundwater was encountered during the sampling event.

Products Stored in Tanks	Media	Analysis to be Performed
Gasoline only	Soil	BTEX*, ignitability and total lead
	Groundwater	BTEX*, flashpoint and total lead
Diesel/Motor Fuel only	Soil	PAH**, ignitability and total lead
	Groundwater	BTEX* and total lead
Waste Oil	Soil	TPH***, ignitability, total lead, EP Toxic, and Total metals
	Groundwater	TPH***, flashpoint and total lead

*BTEX--Benzene toluene, ethylbenzene, and xylene, recommended method--SW 846-8020. **PAH--Polynuclear aromatic hydrocarbons, recommended method--SW 846-8100. ***TPH--Total petroleum hydrocarbons, recommended method--SW 846-9070 or SW 846-9071.

Name of Person Completing Form: Kevin B. Hopkins Signature: Kevin B. Hopkins
Date Signed: 2-25-91

11/89

CARL H. BRADLEY
SECRETARY

WALLACE G. WILKINSON
GOVERNOR

MAR 1 1 1991

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
18 REILLY ROAD
FRANKFORT, KENTUCKY 40601

March 6 1991

K Mart Corp.
2901 Clairmont Rd. NE.
Atlanta Ga
Attn: Kenni B. Hopkins

RE: ID# 3542 034 130 New Circle Rd. Lexington Ky.
ID# 3544 034 2520 Nicholasville Rd. Lexington, Ky.

Dear Mr. Hopkins:

This letter is to acknowledge receipt of the Notice of Intent to Permanently Remove Underground Storage Tank(s) at the above-referenced facility. Removal may begin thirty (30) days from February 28 1991.

If you have any questions do not hesitate to contact this office or Elizabeth Judy, Field Inspector, Frankfort Field Office at 502-564-3358.

Sincerely,

Jane Akin

Jane Akin
Administrative Assistant
Underground Storage Tank Branch
Division of Waste Management

/ja

Printed on Recycled Paper
An Equal Opportunity Employer M/F/H

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
[317] 849-4990, FAX # [317] 849-4278

Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

CERTIFICATION OF DISPOSAL
USED UNDERGROUND STORAGE TANKS

The undersigned hereby certifies that the below listed underground storage tanks (USTs), have been rendered unable to be further used as storage vessels and disposed of in a manner consistent with all current applicable federal, state and local laws governing such disposal. Additionally, the undersigned agrees to assume all risk and indemnify and save the tank owner harmless from all claims and liability with respect to the disposal.

UST DATA

Removal Site: K Mart Store Number 4077
130 New Circle Road NW
Lexington, Kentucky

ATEC Project Number: 21-14031

Recycler: Lexington Scrap Metal
Recycler Location: Lexington, Kentucky

Tank Capacity	Dimension	Material	Product stored	Date Removed	Cleaning Method
1000	64"X 72"	Steel	Waste oil	April 23, 1991	Clean Wipe with Degreaser

The above data is provided for information only and is believed to be accurate to the best knowledge of the signatory.

Data provided by: ATEC Associates, Inc.

Kevin B. Hopkins
Division Manager

THROUGH BILL OF LADING
ORIGINAL - NOT NEGOTIABLE

Shipper's No. _____

Carrier's No. _____

CARRIER: SCAC Date 6/25/91

TO: Consignee	RECLAIMED ENERGY CO. INC.	FROM: Shipper	K MARTS
Street	1500 WESTERN AVE.	Street	130 NEW CIRCLE RD N.W.
Destination	CONNERSVILLE IN Zip 47331	Origin	LEXINGTON KY Zip 40505

Route: Vehicle Number

Number of Shipping Units	O HM	Kind of Packaging, Description of Articles, Special Marks and Exceptions	WEIGHT (subject to correction)	RATE	CHARGES (For Carrier use only)
1 drum		NON HAZARDOUS WASTE OIL			
		AR 3007#			

Remit C.O.D. to:
Address:
City: State: Zip:

COD Amt: $

C.O.D. FEE: Prepaid ☐ $ Collect ☐

TOTAL CHARGES: $

FREIGHT CHARGES FREIGHT PREPAID Except when box at right is checked ☐ CHECK BOX if charges are to be collect

NOTE - Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding $ Per

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges
(Signature of Consignor)

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.
Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. Per

SHIPPER
PER: [signature] DATE: 6/25/91

CARRIER:
PER: [signature] DATE: 6/25/91

EMERGENCY RESPONSE TELEPHONE NUMBER ( ) _____

Manned 24 hours/day by a person with knowledge of the hazards of the material and emergency response information or who has access to a person with that knowledge.

O Mark with an "X" to designate Hazardous Material as defined in Title 49 of the code of Federal Regulations Governing Transportation of Hazardous Materials. The use of this Column is an optional method of designating hazardous materials on bills of lading per section 172.201 and 172.202(b) of the regulations governing the transportation of such materials

10BLS-A3 (Rev. 9/88)

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
[317] 849-4990, FAX # [317] 849-4278

Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

ATEC ASSOCIATES, INC.
LIMITED PAVEMENT WARRANTY

ATEC Project Number: 21-14031

Client: K Mart Corporation

Project: K Mart Store #4077

Project Address: 130 New Circle Road NW, Lexington, Kentucky

Date Installation Completed: April 23, 1991

For a period of two, (2) years commencing from the date of completion indicated above, ATEC Associates, Inc warrants to the Client ("Client")above that, subject to the terms, conditions and limitations stated herein, ATEC Associates, Inc. will repair any condition of the resurfacing which prohibits drivability due to failures of said pavement due to workmanship or materials in the Underground Storage Tank ("UST") removal pavement repair at the above location. ATEC Associates, Inc.'s repair obligations, over the life of this warranty, are limited to the original cost of the pavement repair installation.

TERMS, CONDITIONS, LIMITATIONS

1) K Mart shall provide ATEC Associates, Inc. with written notice within thirty (30) days of the failure of said pavement.
2) If upon inspection, ATEC Associates, Inc. determines that the failure of the pavement repair is caused by defects in the material or workmanship (except as provided in paragraphs number three (3) and four (4), K Mart's remedies and ATEC Associates, Inc.'s liability shall be limited to the cost limitations set forth above.
3) ATEC Associates, Inc. shall have no obligation under this warranty until it has received payment in full for all materials and services, and all invoices for installation, supplies and services have been paid in full.
4) ATEC Associates, Inc. shall have no obligation under this warranty in the event that:

   a) The pavement repair is damaged by extraordinary natural forces including without limitations, winds equal to or in excess of hurricanes and tornadoes, earthquakes or similar acts of God or natural causes;
   b) The pavement is damaged by willful or negligent acts including, but not limited to, fire, heavy truck traffic, acts of war or other misuse;
   c) The pavement repair is damaged by chemical releases or applications, esp. asphalt;
   d) There are any alterations or repairs made on or through the pavement repair without prior written authorization of ATEC Associates, Inc.;
   e) The owner, K Mart or lessee fails to comply with any material, term or condition of this warranty.

5) ATEC Associates, Inc.'s failure to at any time to enforce any of the terms or conditions stated herein shall not be construed as a waiver of such provision.
6) ATEC Associates, Inc.'s good faith determination of the cause of failure or damage to the pavement repair shall be conclusive.

THIS WARRANTY SUPERSEDES AND IS IN LIEU OF ALL OTHER WARRANTIES OR GUARANTEES WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY SHALL BE K MART'S EXCLUSIVE REMEDY AGAINST ATEC ASSOCIATES, INC. WITH RESPECT TO THE PAVEMENT REPAIR, AND ATEC ASSOCIATES, INC. SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES. ATEC ASSOCIATES, INC.'S AGENTS HAVE NO AUTHORITY TO GIVE WARRANTIES BEYOND THOSE PROVIDED IN THIS WARRANTY.

ATEC ASSOCIATES, INC.

BY: Kevin B. Hopkins

SIGNATURE: _____
TITLE: ENVIRONMENTAL CONSTRUCTION DIVISION MANAGER
DATED: _____

DEP4058/11/90

Closure Assessment Report

FOR TANKS IN KY

Return Completed Form To:
Division of Waste Management
Underground Storage Tanks
Frankfort Office Park, 18 Reilly Road
Frankfort, Kentucky 40601
For More Information Call: (502) 564-6716

State Use Only

RECEIVED
DEC 16 1991
U.S.T.

Complete and return this form with all requested information within thirty (30) days of tank closure.

Ownership of Tank(s)

K Mart Corp.
Owner Name (Corporation, Individual, Public Agency, or Other Entity)

2901 Clairmont Rd. NE
Mailing Address

County

Atlanta — GA
City — **State**

404-320-2553 — 30029
Area Code/Telephone Number — **Zip Code**

Location of Tank(s)

K Mart Store 4077
Facility Name or Company

130 New Circle Rd. NW
Street Address or State Road

Fayette
County

Lexington — KY
City (nearest) — **State**

606-252-3543 — 40505
Area Code/Telephone Number — **Zip Code**

I.D. Number
(If I.D. Number is unknown, contact the above agency)

Tank Information

Number of Tanks Closed: 1 **Closure Date:** 4/23/91 [x] Removed from Ground [ ] Closed in Place

Name of Contractor who Permanently Closed Tank(s): ATEC Associates, Inc.

Closure Information Requested / Excavation Condition

Tank Number	Size in Gallons	Date Installed	Last Contents of Tank	Water in Excavation* Yes	Water in Excavation* No	Free Product Yes	Free Product No	Notable Odor Yes	Notable Odor No	Visible Soil Contamination Yes	Visible Soil Contamination No
1	1,000	N/A	WASTE OIL		X		X		X		X

* If yes, analysis must be submitted.

Verification

I verify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. KRS 224.99A(4) provides for penalties for submitting false information, including the possibility of fine and imprisonment.

Signature

Name and Title (Type or print): Michael E. Stanzyk - APM

Date Signed: 7-9-91

Check Appropriate Box: [ ] Owner [ ] Operator [X] Consultant/Contractor

DEC 16 1991

DEP4058/11/90

CLOSURE ASSESSMENT REPORT FORM, Page Two

Facility Name: K-Mart # 4077 Location: Lexington, Ky

Attach sample analysis for the water in excavation, pit wall(s), pit bottom, piping trench(es), excavated soils or materials, and tank sludges. Also attach photographs and other related information as appropriate. If information is not submitted, explain: Enclosed

Describe Condition of Tanks (note if corroded, pitted, etc.).

Good condition, see Attached Report

Final Destination of Tanks*: ~~Kentucky~~ Lexington Scrap Metal

Amount of Soils: -0-

Final Destination of Soils*: N/A

Amount of Sludge Removed: 55 gal

Final Destination of Sludges and/or Cleaning Liquids*: Reclaimed Energy, Connorsville, IN

* Provide copy of invoices, manifests, etc. showing disposal of items. See enclosed

Draw Schematic Map of Facility, Tank Locations, all Sampling Locations, and Property Boundaries

See Enclosed Report

APPENDIX B

PHOTOGRAPHIC DOCUMENTATION

Site Prior to Excavation

Tank Pit

Excavated Tank

Repaved Site

APPENDIX C

SITE SAFETY PLAN

ATEC ASSOCIATES, INC.
SITE SAFETY PLAN

Important: Please forward one copy of completed document to the Director of Health and Safety prior to project start up.
Items marked with "1910.120..." are required by 29 CFR 1910.120 in the paragraph noted.

A. GENERAL INFORMATION (1910.120(c)(4))

Project Name:	K Mart Store #4077	Project Number:	21-14031
Location:	Lexington, KY		
Client:	K Mart Corporation		
Plan Prepared By:	Rodney J. Parke	Date:	April 9, 1991
Plan Approved By:		Date:	
Project Start Date:	April 23, 1991		

B. SITE DESCRIPTION (1910.120(c)(4))

Facility History: Automotive service facility.

General Site Description: Retail/commercial location.

C. PROJECT OBJECTIVE(S) (1910.120(b)(3))

Description of Work Activities Planned: 1-1,000 gallon Underground Storage tank removal and site restoration.

D. PROJECT ORGANIZATION (1910.120(b)(2))

Team Member	Responsibility	Training
Rodney J. Parke	Field Inspector	40 hr OSHA
Jeff Chapman	HEO	40 hr OSHA
Pat Jackson	Technician	40 hr OSHA

E. CHEMICAL HAZARD ANALYSIS (1910.120(b)(4))

Contaminant	PEL/TLV	IDLH	LEL/UEL	Flash Point	Routes of Exposure
Used Motor Oil	N/A	N/A	N/A	275-600	Skin, eyes, mouth

NOTE: Material Safety Data Sheets attached for all substances identified above.

F. OTHER HAZARDS

Heat Stress: YES — If Yes, Specify Precautions:

Drinking water, regular rest breaks

Cold Stress: NO — If Yes, Specify Precautions:

Excessive Noise: YES — If Yes, Specify Precautions:

Ear plugs during air tool operation.

Confined Space Entry: NO — If Yes, Attach ATEC Entry Permit.

Open Excavations: YES — If Yes, Is Entry Required?, If so, Specify Precautions:

YES, proper excavation wall sloping per OSHA.

Welding/Cutting: NO — If Yes, Specify Precautions:

Heavy Equipment Operation: YES — If Yes, Type of Equipment and Precautions:

Backhoe, experienced operators only, caution tape, spotters.

Slip, Trip, Fall Hazards: YES — If Yes, Specify Precautions:

Police area often.

Overhead Utilities Present: Unknown — If Yes, Specify Location and Precautions to be Taken:

Determine on site.

Underground Utilities: YES

Utility Location Service: N/A

Name of Contact: N/A

Phone Number: 1-800-362-2764 1-502-597-3883

Precautions to be Taken: Be Careful

G. SITE CONTROL (1910.120(d))

Work Zones have been established as shown on the attached **Site Diagram.**
Site Security: Security on site will be maintained by:

X	Temporary Barricades and/or Warning Tape
	Security Fence
	24 Hour Security Guard
	Other:

H. PERSONAL PROTECTIVE EQUIPMENT (1910.120(b)(4))

Based on Evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work zones:

WORK ZONE	LEVEL OF PROTECTION	REQUIRED PROTECTIVE EQUIPMENT	
Exclusion Zone	D	Respirator:	N/A
		Filters/Cartridges:	N/A
		Boots:	Steel toe, rubber optional
		Inner Gloves:	Nytrile
		Outer Gloves:	Nytrile
		Protective Coverall:	Saranex/Tyvek (at option)
		Hard Hat:	YES
		Eye Protection:	Safety glasses
		Other:	Work gloves

WORK ZONE	LEVEL OF PROTECTION	REQUIRED PROTECTIVE EQUIPMENT	
Contamination Reduction Zone	N/A	Respirator:	
		Filters/Cartridges:	
		Boots:	
		Inner Gloves:	
		Outer Gloves:	
		Protective Coverall:	
		Hard Hat:	
		Eye Protection:	
		Other:	

I. DECONTAMINATION (1910.120(k))

Please describe below the decontamination procedures for personnel and equipment.

Personnel decontamination is accomplished by coverall and glove removal and disposal. All contamination remaining can be washed off with soap and water in the mechanics rest room. Coveralls, gloves and used sorbent pads are to be collected in trash bags and returned to the office for proper disposal.

Equipment Decontamination:

Gross Removal By: Sorbent pads if necessary.

Decon Solution: N/A

Decontamination Rinsate:

Collection Method: N/A

Disposal Method, Firm: N/A

J. AMBIENT AIR MONITORING (1910.120(b)(4))

Not required.

K. PERSONNEL AIR MONITORING (1910.120(h))

Activity/Location	Contaminant(s)	NIOSH/OSHA Protocol
UST Removal	Possibly Flammables	LEL to be < 20%

L. CONTINGENCY PLAN (1910.120(l))

Emergency Communication Signals: To be determined on site.

Emergency Escape Routes: To be determined on site.

Emergency Equipment on Site: (Location)

First Aid Kit: Truck

Fire Extinguishers: Truck

Telephone: Truck

Eye Wash/Safety Shower: N/A

Other: N/A

M. OTHER REQUIRED INFORMATION

In order to comply with OSHA standards, the following documents MUST be maintained on site:

1) Hazard Communication Manual (1910.1200)

2) Material Safety Data Sheets for all chemicals brought onto the site, or expected to be encountered (1910.1200)

3) Respirator fit test records for all employees who will be required to wear respirators (1910.134)

4) Copy of ATEC's Respirator Program (1910.134)

5) Latest medical summary for all personnel (1910.120)

N. SIGN-OFF

All personnel have read the above plan and are familiar with its provisions. All personnel have received medical surveillance and training in compliance with the ATEC Health and Safety Policy.

Name	Signature

EMERGENCY PHONE NUMBERS

— Post in Full View —

ATEC Director of Health and Safety (ATEC Office) . . . . . (317) 577-1761

Chemtrec . . . . . (800) 424-9300

Bureau of Explosives . . . . . (202) 293-4048

Communicative Disease Center . . . . . (404) 633-5313
(Biological Agents)

National Response Center . . . . . (800) 424-3802
(Oil/Hazardous Substances)

DOT Office of Hazardous Operations . . . . . (202) 426-0656

Environmental Medicine Resources (ATEC Medical Director) . . . . . (404) 455-0818
--24 hour hotline

Local Emergency Numbers (to be determined at site):

HOSPITAL: (Name): _____

(Address): _____

_____

(Phone): _____

Travel Time: _____

Directions: _____

_____

_____

Map Attached: _____

PARAMEDICS: (Name): _____

(Phone): _____

FIRE DEPARTMENT: (Name): _____

(Phone): _____

LOCAL POLICE: (Name): _____

(Phone): _____

UTILITIES: Electric: _____

Gas: _____

APPENDIX D

LABORATORY ANALYSIS

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
[317] 849-4990, FAX # [317] 849-4278

Solid & Hazardous Waste Site Assessments
Remedial Design & Construction
Underground Tank Management
Asbestos Surveys & Analysis
Hydrogeologic Investigations & Monitoring
Analytical Testing / Chemistry
Industrial Hygiene / Hazard Communication
Environmental Audits & Permitting
Exploratory Drilling & Monitoring Wells

May 9, 1991

Mr. Michael Starzyk
ATEC Environmental Construction Division
5150 E. 65th St.
Indianapolis, IN 46220

Re: Three Soil Oil & Grease, EP-Tox Metals,
TCLP Metals, Ignitability
SW 846 Methods 7000 Series, 6010, 1010
EPA-600/4-79-020 Method 413.2
K-Mart Corporation
#4077
ATEC Project Number 21-14031

Dear Mr. Starzyk:

Enclosed are the results of the Chemical Analyses for the three soil samples which were submitted to the ATEC Environmental/Analytical Testing Division on April 26, 1991, on behalf of K-Mart Corporation. Oil & Grease analyses were performed according to SW 846 Method 9071. Metals were analyzed on a Perkin-Elmer 5100 Atomic Absorption Spectrophotometer according to the 7000 Series of the methods outlined in SW 846 and a Thermo Jarrell Ash ICAP-61 according to SW 846 Method 6010.

All associated Quality Control information will be maintained in the Testing Division files, a copy of which can be forwarded to you upon request. After a thirty-day period, a fee will be assessed for this additional information.

It has been a pleasure serving you and, as always, if there are any questions concerning these results or the ATEC policies, please feel free to contact me.

Respectfully submitted,
ATEC Associates, Inc.

Donna S. Spyker
Environmental/Analytical
Testing Division

DSS/rsc

Date: May 8, 1991

Client: K-Mart Corporation
2901 Clairmont Road N.E.
Atlanta, GA 30029

Client Project Number: 21-14031
Client Sample Identification: Store #4077
Sample Matrix: Soil
Date Sample Collected: April 23, 1991
Date Sample Received: April 26, 1991
Date Sample Analyzed: April 29, 1991 to May 7, 1991

TCLP METALS
ANALYTICAL RESULTS

ATEC Lab No. 9104272

Parameter (units in mg/L unless noted)	Sample I.D. Number 1	2	3	Quantitation Limit (mg/L)	SW 846 Analytical Method No.
TCLP Metals					
Arsenic	< 0.5	< 0.5	< 0.5	0.5	7060
Barium	< 1.0	< 1.0	< 1.0	1.0	6010
Cadmium	< 0.1	< 0.1	< 0.1	0.1	6010
Chromium	< 0.5	< 0.5	< 0.5	0.5	6010
Lead	< 0.5	< 0.5	< 0.5	0.5	6010
Mercury	<0.002	<0.002	<0.002	0.002	7470
Selenium	< 0.1	< 0.1	< 0.1	0.1	7740
Silver	< 0.5	< 0.5	< 0.5	0.5	6010
Ignitability					
Flashpoint (°F)	>140	>140	>140	---	1010

Analyst: MAM, KEB EVS
Verified: KEB, JDD
Date Verified: May 8, 1991

Respectfully submitted,

Environmental/Analytical Testing Division

Date: May 8, 1991

Client: K-Mart Corporation
2901 Clairmont Road N.E.
Atlanta, GA 30029

Client Project Number: 21-14031
Client Sample Identification: Store #4077
Sample Matrix: Soil
Date Sample Collected: April 23, 1991
Date Sample Received: April 26, 1991
Date Sample Analyzed: April 29, 1991 to May 7, 1991

EP-TOX METALS
ANALYTICAL RESULTS

ATEC Lab No. 9104272

Parameter (units in mg/L unless noted)	Sample I.D. Number 1	2	3	Quantitation Limit (mg/L)	SW 846 Analytical Method No.
EP-Tox Metals					
Arsenic	< 0.5	< 0.5	< 0.5	0.5	7060
Barium	< 1.0	< 1.0	< 1.0	1.0	6010
Cadmium	< 0.1	< 0.1	< 0.1	0.1	6010
Chromium	< 0.5	< 0.5	< 0.5	0.5	6010
Lead	< 0.5	< 0.5	< 0.5	0.5	6010
Mercury	<0.002	<0.002	<0.002	0.002	7470
Selenium	< 0.1	< 0.1	< 0.1	0.1	7740
Silver	< 0.5	< 0.5	< 0.5	0.5	6010

Analyst: MAM, KEB, EVS
Verified: KEB, JDD
Date Verified: May 8, 1991

Respectfully submitted,

John D. Ruemmler
Environmental/Analytical Testing Division

Date: May 9, 1991

Client: K-Mart Corporation
23008 West Higgins Road
Hoffman Estates, IL 60195

Client Project Number: 21-14031
Sample Matrix: Soil
Date Sample Collected: April 23, 1991
Date Sample Received: April 26, 1991
Date Sample Extracted: April 29, 1991

OIL AND GREASE
ANALYTICAL RESULTS

ATEC Lab No. 9104272

Sample I.D.	Concentration (mg/kg)	Detection Limit (mg/kg)
1	<10	10
2	<10	10
3	<10	10

Analytical Method: SW 846 Method 9071

Analyst: K. Kaneshiro
Verified: D. Spyker
Date Verified: May 9, 1991

Respectfully submitted,

Donna S. Spyker

Environmental/Analytical Testing Division

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME	LAB PROJ. NO.
21-14031	K-MART # 4077	9104272
	CLIENT LOUISVILLE, KY - NEW CIRCLE RD	

SAMPLERS: (Signature) Rodney J. Cable

SAMPLING METHOD: GRAB/COMPOSITE

SAMPLE I.D. NO.	DATE	TIME	COMPOSITE	GRAB	WATER	SOIL		FILTERED	ACIDIFIED	ICED		NUMBER OF CONTAINERS	LAB I.D. NUMBER	VOLATILE ORGANICS	BTX & E	TOTAL HYDROCARBONS	PCB'S	E.P. TOXIC METALS	~~TOTAL~~ METALS (8) TCLP	IGNITABILITY		SAMPLE LOCATION / REMARKS
#1	4/23	0900	/			/				/		3	1			/		/	/	/		COMPOSITE BASE
#2	↓	↓		/		/				/		12	2			/		/	/	/		WALLS
#3	↓	↓		/		/				/		3	3			/		/	/	/		PIPE TRENCH

ATEC Environmental Consultants
Division of ATEC Associates, Inc.
5150 East 65th Street
Indianapolis, Indiana 46220-4871
(317) 849-4990, FAX # (317) 849-4278

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Rodney J. Cable	4/23 10:00				
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Project Manager / Phone #:	
	4/26 8:30	B. Hudson	4-26-91 9:00		

VERITECH

Dallas • Houston • Nashville
Atlanta • Boston • Indianapolis

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Nov 5 1 44 PM '93

5949 Sherry Lane
1399 Sterling Plaza
Dallas, TX 75225
(214) 890-0702
FAX 890-0346

November 2, 1993

Linda G. Martin
Corrective Action Section
Underground Storage Tank Branch
Division of Waste Management
Commonwealth of Kentucky
14 Reilly Road
Frankfort, KY 40601

ORIGINAL

Re: Soil Remediation
Kmart #4077, Lexington, KY
Project No. 93-31-95
Facility ID #3542-034

Dear Ms. Martin:

Enclosed please find the UST Soil Remediation Report for the referenced facility. The report includes the field procedures used and other documentation supporting our final conclusions. The removal of the hydrocarbon affected soils began on August 24, 1993 and the soil was removed from the property on September 14 and 15, 1993. A total of 222 cubic yards of soil were transported to the BFI Benson Valley Landfill in Frankfort, Kentucky for disposal.

Soil samples collected from the walls and bottom of the excavation were analyzed for Total Petroleum Hydrocarbons (TPH) and Total Lead. The levels of both TPH and Total Lead detected in the samples were below or in line with the background levels established by Veritech. The results of the analyses appear to indicate soils affected by the hydrocarbon contamination from the previously removed waste oil UST have been removed from the property.

If we can provide any additional information concerning this project, please do not hesitate to contact us.

Sincerely,

VERITECH ENVIRONMENTAL SERVICES

By: William P. Adair
William P. Adair, E.I.T
Manager, Field Investigations

cc: Pete Peterson, Kmart Corporation

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UST BRANCH
NOV 5 1 44 PM '93

SOIL REMEDIATION REPORT

KMART CORPORATION
KMART STORE NUMBER 4077
130 NEW CIRCLE ROAD
LEXINGTON, KENTUCKY
FACILITY ID NO. 3542-034

PROJECT NO. 93-31-95

VERITECH ENVIRONMENTAL SERVICES

Vertically Integrated Technologies, Inc.

5949 Sherry Lane
1399 Sterling Plaza
Dallas, Texas 75225
(214) 890-0702
Fax: (214) 890-0346

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NOV 5 1 44 PM '93

SOIL REMEDIATION REPORT
KMART CORPORATION

KMART STORE NUMBER 4077
130 NEW CIRCLE ROAD
LEXINGTON, KENTUCKY

1.0 Project Overview

2.0 Soil Sampling Procedures

3.0 Soil Analyses

4.0 Conclusions

Appendix

Contractor's Proposal

Site Plan

Laboratory Reports and Chains of Custody

Photographic Documentation

Waste Manifests

(Under Separate Cover)

Contractor's Sworn Statement

Prime Contractor Conditional Final Waiver of Lien

SOIL REMEDIATION REPORT

October 25, 1993

Client:	Kmart Corporation Southern Regional Office 2901 Clairmont Road, NE Atlanta, Georgia 30329
Contact:	Mr. Joseph L. Peterson Facility Manager
Project Location:	Kmart Store Number 4077 130 New Circle Road Lexington, Kentucky

SOIL REMEDIATION REPORT

KMART CORPORATION

KMART STORE NUMBER 4077

130 NEW CIRCLE ROAD

LEXINGTON, KENTUCKY

1.0 PROJECT OVERVIEW

Veritech Environmental Services was contracted by Kmart Corporation to supervise the removal and disposal of approximately 146 cubic yards of contaminated soil from the referenced property. The soils were removed from the area surrounding the location of a previously removed underground waste oil tank. On August 24 and 25, 1993, Peter J. Butterfield, R.G. supervised the removal activities and collected soil samples for analyses.

One sample from each wall of the cavity was collected and submitted for analysis. Five background samples were also collected per Commonwealth of Kentucky Regulations to establish background contaminant levels. The background and wall samples were analyzed for Total Petroleum Hydrocarbons (TPH, EPA Method 9071) and Total Lead (EPA Method 7420). Two composite samples from the stockpiled soils were also collected at this time for disposal profiling. These samples were analyzed for TCLP 8 RCRA Metals, TPH (9071), and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX, EPA Method 8020). No samples were collected from the bottom of the excavation since bedrock was encountered.

The excavated soils were transported to the BFI Benson Valley Area Landfill in Frankfort Kentucky on September 14 and 15, 1993. The loading of the soil was supervised by Chris Mitchell, R.E.A. Copies of the waste manifests are included in the Appendix to this report. The final volume of soil transported to the landfill for disposal was 222 cubic yards.

2.0 SOIL SAMPLING PROCEDURES

One sample from each of the cavity walls was collected after the target volume of soil was removed. The backhoe operator was instructed to scrape some of the undisturbed soil into the bucket. A sample of this soil was then packed in a laboratory prepared glass jar using latex gloves, labeled, and placed on ice prior to submission to the laboratory.

Five background samples were collected at the same time. These samples were collected from an up gradient area northwest of the excavation. The samples were collected from approximately three feet below the surface, as per the requirements of the Commonwealth of Kentucky. These samples were also packed in laboratory prepared sample jars using latex gloves, labeled, and placed on ice prior to submission to the laboratory.

The volume of soil excavated was limited primarily to the former tank cavity. The bedrock is located very near the surface and limited the excavation depth in the areas not located in the former cavity. The excavation depth outside the cavity ranged from 1.5 feet to 3.5 feet. The depth of the cavity was 9 feet. The variations in depth of the excavated soils left excavation walls that were not well defined. The sample identifications reflect this lack of symmetry.

3.0 SOIL ANALYSES

The sample from each wall of the cavity and the background samples were analyzed for the presence of TPH (EPA Method 9071) and Total Lead (EPA Method 7420). The samples collected from the stockpiled soils were analyzed for TCLP 8 RCRA Metals, TPH (9071), and BTEX (EPA Method 8020) as required for disposal into the approved landfill. All samples were placed on ice and transported to Analytical Services Laboratory, Inc. of Louisville, Kentucky for analysis. The results of the tests are summarized in Table 1 and Table 2. Copies of the laboratory results and chains of custody are included in the Appendix.

TABLE 1
LABORATORY RESULTS

SAMPLE ID	TPH	TOTAL LEAD
E & SE Wall	35	7.32
S & SW Wall	<10	6.21
W & N Wall	45	6.98
N Wall E End	<10	8.46
BKG-1	<10	6.55
BKG-2	160	8.44
BKG-3	10	7.36
BKG-4	<10	4.03
BKG-5	60	7.47

All results are listed in parts per million

TABLE 2
STOCKPILE RESULTS

Sample Result	Stockpile 1	Stockpile 2
BTEX	<1.0	<1.0
Arsenic	<0.053	<0.053
Cadmium	<0.004	<0.004
Lead	0.3	0.3
Selenium	<0.075	<0.075
Barium	5.9	8.6
Chromium	0.2	0.3
Mercury	<0.0002	<0.0002
Silver	0.014	0.014
TPH	675	2205

All results are listed in parts per million

4.0 CONCLUSIONS

A small amount of residual hydrocarbon contamination was detected in two of the soil samples after the excavation was completed, the samples from the east & southeast wall and the west and north wall. The levels detected ranged from 35 ppm (E & SE) to 45 ppm (W & N). The range of detectable hydrocarbons in the five background samples varied from less than 10 ppm to 160 ppm. The results of the analyses of the background samples appear to identify some level of naturally occurring hydrocarbon based substances.

Levels of Total Lead above the detection levels of the test method were present in all samples

analyzed. The levels in the excavation walls ranged from 6.2 to 8.5 ppm. The levels of Total Lead detected in the background samples ranged from 4 ppm to 8.4 ppm. The levels of lead detected in the walls of the excavation appear to be in line with the natural occurring levels detected in the background samples.

After the laboratory analyses were reviewed, clean backfill consisting of washed gravel was added to the excavation to prepare the area for paving. The area was then paved with four inches of asphalt.

Based on the information collected during this project, it appears the soil contaminated during the presence of the underground storage tank on this property have been removed from the site and no further remedial action should be necessary.

VERITECH ENVIRONMENTAL SERVICES

By: William P. Adair

William P. Adair, E.I.T.
Manager, Field Investigations

M.E. Hatt, P.E.
Vice President, Engineering

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services
5949 Sherry Lane, Suite 1399
Dallas, TX 75225

ATT: PETER BUTTERFIELD

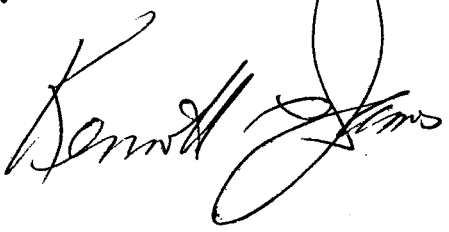
Reference:
Project # : LEXINGTON KMART
Location : KENTUCKY
Samples Recv'd : Aug 25, 1993
Qty of Samples : 11

Enclosed are the results of the tests requested. The samples were analyzed utilizing the appropriate EPA approved methods. Where EPA allows alternate methods, the Best Available Technology was used.

ASLI performs their services with reasonable care and diligence normal to the analytical testing laboratory industry. QA/QC results met the necessary EPA parameters before your testing began. In the unlikely event of an error, ASLI's sole responsibility is to re-perform the testing at its own expense. All associated Quality Control information will be maintained at ASLI. A copy of this data can be forwarded upon request.

It has been a pleasure serving you. If there are any questions concerning the results or ASLI's policies, please feel free to contact me.

Sincerely;



Analytical Services Laboratory, Inc.

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services PAGE : 2
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: BKG-1
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016A Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93
9071 OIL & GREASE < 10 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93
TOTAL LEAD --- 6.55 ppm

****** Tested : 8/27/93 ******

Reviewed By: _____

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: BKG-2
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016B Date sample received: Aug 25, 1993

---

nalyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93

9071 OIL & GREASE --- 160 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93

OTAL LEAD --- 8.44 ppm

****** Tested : 8/27/93 ******

Reviewed By: KZ

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services PAGE : 4
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: BKG-3
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016C Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93
9071 OIL & GREASE --- 10 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93
TOTAL LEAD --- 7.36 ppm

****** Tested : 8/27/93 ******

Reviewed By: _____

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services PAGE : 5
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: BKG-4
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016D Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93

9071 OIL & GREASE < 10 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93

TOTAL LEAD --- 4.03 ppm

****** Tested : 8/27/93 ******

Reviewed By: _____

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services PAGE : 6
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: BKG-5
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016E Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93
9071 OIL & GREASE --- 60 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93
TOTAL LEAD --- 7.47 ppm

****** Tested : 8/27/93 ******

Reviewed By: _____

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services PAGE : 7
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: E & SE WALL
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016F Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93
9071 OIL & GREASE --- 35 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93
TOTAL LEAD --- 7.32 ppm

****** Tested : 8/27/93 ******

Reviewed By: _____

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: S & SW WALL
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016G Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93

9071 OIL & GREASE < 10 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93

TOTAL LEAD --- 6.21 ppm

****** Tested : 8/27/93 ******

Reviewed By: KD

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: W & N CORNER
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016H Date sample received: Aug 25, 1993

---

nalyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93

9071 OIL & GREASE --- 45 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93

OTAL LEAD --- 6.98 ppm

****** Tested : 8/27/93 ******

Reviewed By: KD

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services PAGE : 10
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: N WALL - E END
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016I Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/25/93
9071 OIL & GREASE < 10 ppm

****** Tested : 8/26/93 ******

Analyst: AS Method: 7420 / TOTAL LEAD Ext/Digest : 8/26/93
TOTAL LEAD --- 8.46 ppm

****** Tested : 8/27/93 ******

Reviewed By: KD

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis

Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: STOCK PILE 1
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016J Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/26/93

9071 OIL & GREASE --- 675 ppm

****** Tested : 8/27/93 ******

Analyst: JDT Method: 8020 / BTEX BY GC Ext/Digest : 8/26/93

Compound		Amount (mg/Kg)	Compound		Amount (mg/Kg)
BENZENE	<	1.0	TOLUENE	<	1.0
ETHYLBENZENE	<	1.0	XYLENE (TOTAL)	<	1.0

****** Tested : 8/26/93 DILUTION FACTOR IS 1.00 ******

Analyst: AS Method: 7000T / TCLP - 8 P/METALS W/EXTRACTION Ext/Digest : 9/01/93

Compound		Amount (mg/L)	Compound		Amount (mg/L)
ARSENIC	<	0.053	BARIUM	==	5.9
CADMIUM	<	0.004	CHROMIUM	==	0.2
LEAD	==	0.3	MERCURY	<	0.0002
SELENIUM	<	0.075	SILVER	==	0.014

****** Tested : 9/01/93 DILUTION FACTOR IS 1.00 ******

Reviewed By: _____

Analytical Services Laboratory Inc.
College Industrial Park, Bldg 4-420
P.O. Box 14228
Louisville, KY 40214
PHONE: (502) 635-1324 FAX: (502) 636-3192

Veritech Environmental Services
5949 Sherry Lane, Suite 1399
Dallas, TX 75225
ATT: PETER BUTTERFIELD
Ref: results of requested analysis
Sample information:
Received from: Veritech Environmental Services
Project #: LEXINGTON KMART
Site Location: KENTUCKY
Taken on : Aug 25, 1993 Time: 00:00
Type: SOLID Customer ID #: STOCK PILE 2
Preservation: ICE Container: CLEAR JAR
ASLI ID #: VER0016K Date sample received: Aug 25, 1993

Analyst: MKG Method: 9071 / TPH/OIL-GREASE SOIL Ext/Digest : 8/27/93

9071 OIL & GREASE --- 2205 ppm

****** Tested : 8/27/93 ******

Analyst: JDT Method: 8020 / BTEX BY GC Ext/Digest : 8/26/93

Compound		Amount (mg/Kg)	Compound		Amount (mg/Kg)
BENZENE	<	1.0	TOLUENE	<	1.0
ETHYLBENZENE	<	1.0	XYLENE (TOTAL)	<	1.0

****** Tested : 8/26/93 DILUTION FACTOR IS 1.00 ******

Analyst: CHA Method: 7000T / TCLP - 8 P/METALS W/EXTRACTION Ext/Digest : 8/27/93

Compound		Amount (mg/L)	Compound		Amount (mg/L)
ARSENIC	<	0.053	BARIUM	=	8.6
CADMIUM	<	0.004	CHROMIUM	=	0.3
LEAD	=	0.3	MERCURY	<	0.0002
SELENIUM	<	0.075	SILVER	=	0.014

****** Tested : 9/01/93 DILUTION FACTOR IS 1.00 ******

Reviewed By: KD

Analytical Services Laboratory, Inc.

Chain of Custody

ASLI #: VER 16
Due Date: 8/ 1

Site Name: Lexington Kmart
State: KY
Sampler: Pete Butterfield
Company: Ventech Envi. Svcs
Phone #: 214 890-0702
Bill to: Sheila - Ventech
PO #: 93-31-27

Sample ID #	Sample Site Description	Date/Time Collected	ASLI ID	Qty of Jars	Sol Liq Air	Preserved Y/N	BTEX VOCS	PAH SEMI	900 901 418.1 8015	Lead	Flash Ignit.	TCLP Modified	TPH	BTEX 8020	9071	TCLP metals	Total Lead				
A	Bkg - 1	8/25											✓			✓	8/26/93				
B	Bkg - 2												✓			✓	8/26/93				
C	Bkg - 3												✓			✓	8/26/93				
D	Bkg - 4												✓			✓	8/26/93				
E	Bkg - 5												✓			✓	8/26/93				
F	E + SE wall												✓			✓	8/26/93				
G	S + SW wall												✓			✓	8/26/93				
H	W + N corner												✓			✓	8/26/93				
I	N wall E end												✓			✓	8/26/93				
J	Stockpile 1												✓	✓	✓		9/1/93				
K	Stockpile 2												✓	✓	✓		9/1/93				

Relinquished By: [signature]
Date/Time: 8/25/93 4 pm
Remarks: Composite Single Jars, each so that a representative sample comes from each jar. Also, combine stockpile Jars take composite sample

Received By:
Date/Time:

Recv'd at Lab By: Bertha Lane
Date/Time: 8/25/93 4:05 PM

2300 S 4th, Bldg 4-420, Louisville, Ky 40208 Phone (502) 635-1324 FAX: (502) 636-3192

Rush A-I TPH, total lead
- 24HRS -

PHOTO 1. WESTERN END OF EXCAVATION

PHOTO 2. TANK CAVITY PORTION OF EXCAVATION

PHOTO 3. SOIL STOCKPILE

PHOTO 4. FINAL PAVING

BFI®

LMS TICKET NO. Atl 827

107701

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY210 940 907-209245 OR NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta GA

GENERATING LOCATION
Kmart #4047
130 New Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME French Excavating
ADDRESS 995 Hinton Rd, Irvine, KY 40336 PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

PHYSICAL SITE LOCATION
SAME

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT	TYPE	UNITS
Hydrocarbon-affected Soil	1	T	24 Y³	DM—METAL DRUM DP—PLASTIC DRUM BA — 6 MIL PLASTIC BAGS/WRAP (T) — TRUCK O — OTHER	P — POUND Y — YARDS M³ — CUBIC METER Y³ — CUBIC YARDS (O) — OTHER
			22.68		

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chris T. Mitchell, Agent for Kmart — 9/14/93
Print/Type Name & Title — Shipment Date
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title — Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavation
ADDRESS 995 Hinton Rd Irvine, KY
DRIVER Kevin Horn (Driver)
Print / Type Name / Title
TRUCK NO. F-21 PHONE NO. 606-723-3384
Acknowledgement of receipt of materials.
Kevin Horn — 9-14-93
Signature — Shipment Date

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature — Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601
SITE AND ADDRESS

DISPOSAL COORDINATES
(Landfill use only)
Signature/Date

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Ethridge — 9-14-93
SIGNATURE OF AUTHORIZED AGENT — Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
✓	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

BFI®

LMS TICKET NO. A101828

107702

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY2109409072092 45 027 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta Ga

GENERATING LOCATION
Kmart 4077
130 New Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME French Excavating
ADDRESS 995 Hinton Rd, Irvine, KY 40336 PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

PHYSICAL SITE LOCATION
SAME

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT
Hydrocarbon Affected Soil	1	T	15 YD 15.37

TYPE: DM—METAL DRUM; DP—PLASTIC DRUM; BA — 6 MIL PLASTIC BAGS/WRAP; (T) — TRUCK; O — OTHER

UNITS: P — POUND; Y — YARDS; M³ — CUBIC METER; Y³ — CUBIC YARDS; (O) — OTHER

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Print/Type Name & Title — Shipment Date 9/14/93

Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title — Shipment Date

Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS Irvine, KY
DRIVER
Print / Type Name / Title
TRUCK NO. H730 PHONE NO. 606-723-4963
Acknowledgement of receipt of materials.
Signature Danny Munson Shipment Date 9/14

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

DISPOSAL COORDINATES
(Landfill use only)

BENSON VALLEY AREA LANDFILL
Print/Type Name — Signature/Date
2157 Hwy 151, Frankfort, KY 40601

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Ethridge 9-14-93
SIGNATURE OF AUTHORIZED AGENT — Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
✓	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

LMS TICKET NO. H6/8608 107703

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY2109409072092 45 027 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta GA

GENERATING LOCATION
Kmart 4077
130 New Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME French Excavating
ADDRESS 995 Hinton Rd Irvine, KY 40336 PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
PHYSICAL SITE LOCATION SAME
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE: Hydrocarbon-Affected Soils

CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT
1	T	23 Y³
		27.9

TYPE: DM—METAL DRUM; DP—PLASTIC DRUM; BA — 6 MIL PLASTIC BAGS/WRAP; (T) — TRUCK; O — OTHER
UNITS: P — POUND; Y — YARDS; M³ — CUBIC METER; Y³ — CUBIC YARDS; (O) OTHER

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chas. Mitchell Assistant 9/14/93
Print/Type Name & Title Shipment Date
Chas. Mitchell
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS 995 Hinton Rd Irvine, KY
DRIVER Kevin Horn
Print / Type Name / Title
TRUCK NO. F21 PHONE NO. 606-723-3389
Acknowledgement of receipt of materials.
Karen Horn 9-14-93
Signature Shipment Date

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

DISPOSAL COORDINATES (Landfill use only)

BENSON VALLEY AREA LANDFILL
Print/Type Name Signature/Date
2157 Hwy 151, Frankfort, KY 40601

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Ethridge 9-14-93
SIGNATURE OF AUTHORIZED AGENT Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
✓	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

BFI®

LMS TICKET NO. H61898

107704

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY-210940907209245 027 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta, Ga

GENERATING LOCATION
Kmart #4077
130 New Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME French Excavating
ADDRESS 995 Hinton Rd Irvine, KY 45336 PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

PHYSICAL SITE LOCATION
SAME

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT	TYPE	UNITS
Hydrocarbon-Affected Soil	1	T	18 Y³	DM—METAL DRUM DP—PLASTIC DRUM BA — 6 MIL PLASTIC BAGS/WRAP (T) — TRUCK O — OTHER	P — POUND Y — YARDS M³ — CUBIC METER Y³ — CUBIC YARDS (O) — OTHER
			19.44		

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chris Mitchell Agent for Kmart 9/15/93
Print/Type Name & Title Shipment Date
Chris Mitchell
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS 995 Hinton Rd
DRIVER Joe Watson
Print / Type Name / Title
TRUCK NO. 7 PHONE NO.
Acknowledgement of receipt of materials.
Joe Watson 9-15-93
Signature Shipment Date

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601

DISPOSAL COORDINATES
(Landfill use only)
Signature/Date

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Ellington 9-15-93
SIGNATURE OF AUTHORIZED AGENT Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
J	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

BFI®

LMS TICKET NO. A61912

107705

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY210 940907209245 027 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta, Ga

GENERATING LOCATION
Kmart Corp 4077
130 Circle West Rd
Lexington, Ky

SECTION III OPERATOR / CONTRACTOR
NAME French Excavating
ADDRESS 995 Hinton Rd Irvine, KY 45336 PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

PHYSICAL SITE LOCATION
SAME

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT	TYPE	UNITS
Soil	1	T	15 Y³	DM—METAL DRUM DP—PLASTIC DRUM BA — 6 MIL PLASTIC BAGS/WRAP (T) TRUCK O — OTHER	P — POUND Y — YARDS M³ — CUBIC METER Y³ — CUBIC YARDS (O) OTHER
			17.92		

ASBESTOS WASTE
FRIABLE NON FRIABLE BOTH % FRIABLE % NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION
I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chris Mitchell Agent for Kmart 9/15/93
Print/Type Name & Title Shipment Date
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)
I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS 995 Hinton Rd Irvine, KY
DRIVER Print / Type Name / Title
TRUCK NO. 15 PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date 9/15/93

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601

DISPOSAL COORDINATES
(Landfill use only)
Signature/Date

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
SIGNATURE OF AUTHORIZED AGENT 9-15-93
Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

BFI®

LMS TICKET NO. A61900

107706

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY210940907209245 02 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta, GA

GENERATING LOCATION
Kmart #071
130 New Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME French Excavating
ADDRESS 995 Hinton Rd Irvine, KY 40336 PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

PHYSICAL SITE LOCATION
SAME

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT	TYPE	UNITS
Soil	1	T	15 Y^3	DM—METAL DRUM DP—PLASTIC DRUM BA — 6 MIL PLASTIC BAGS/WRAP (T) — TRUCK O — OTHER	P — POUND Y — YARDS M^3 — CUBIC METER Y^3 — CUBIC YARDS (O) — OTHER
			14.31		

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chris Mitchell Agent/Assistant 9/15/93
Print/Type Name & Title Shipment Date

Chris Mitchell
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title Shipment Date

Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS 995 Hinton Rd. Irvine, KY
DRIVER Bill Dooley
Print / Type Name / Title
TRUCK NO. F-20 PHONE NO.
Acknowledgement of receipt of materials.
Bill Dooley 9-15-93
Signature Shipment Date

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601

DISPOSAL COORDINATES
(Landfill use only)

Signature/Date

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Ethington 9-15-93
SIGNATURE OF AUTHORIZED AGENT Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
J	Mix with Refuse		

LMS TICKET NO. 461911 107707

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY 21094090720924S D7 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta

GENERATING LOCATION
Kmart 4077
130 New Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME French Excavating
ADDRESS 995 Hinton Rd Irvine, KY 45336 PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

PHYSICAL SITE LOCATION
SAME

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT.	TYPE	UNITS
Soil	1	T	22 Y^3	DM—METAL DRUM DP—PLASTIC DRUM BA — 6 MIL PLASTIC BAGS/WRAP T — TRUCK O — OTHER	P — POUND Y — YARDS M^3 — CUBIC METER Y^3 — CUBIC YARDS O — OTHER
			27.76 (T)		

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chris Mitchell Agent for Kmart 9/15/93
Print/Type Name & Title Shipment Date
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS 995 Hinton Rd
DRIVER Kevin Horn
Print / Type Name / Title
TRUCK NO. 21 PHONE NO. 606 723 3584
Acknowledgement of receipt of materials.
Kevin Horn 9-14-93
Signature Shipment Date

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

DISPOSAL COORDINATES (Landfill use only)

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601

Signature/Date

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Ethridge 9-14-93
SIGNATURE OF AUTHORIZED AGENT Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
(D)	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GO[illegible]

LMS TICKET NO. 461921 107708

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY 21 69 40 90 7 20 9245 02 7 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta GA

GENERATING LOCATION

SECTION III OPERATOR / CONTRACTOR
NAME French Excavating
ADDRESS 995 Hinton Rd Irvine, KY 40336 PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
PHYSICAL SITE LOCATION SAME
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT	TYPE	UNITS
Soil	1	T	Y³ 15 14.63	DM—METAL DRUM DP—PLASTIC DRUM BA — 6 MIL PLASTIC BAGS/WRAP (T) — TRUCK O — OTHER	P — POUND Y — YARDS M³ — CUBIC METER Y³ — CUBIC YARDS (O) OTHER

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION
I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chris Mitchell Agent/Foreman 9/15/93
Print/Type Name & Title Shipment Date
Chris Mitchell
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)
I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS 995 Hinton Rd Irvine, KY
DRIVER J. L. Watson
Print / Type Name / Title
TRUCK NO. 47 PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date 9-15-93

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

DISPOSAL COORDINATES (Landfill use only)

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601
Signature/Date

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Ethridge 9-15-93
SIGNATURE OF AUTHORIZED AGENT Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

BFI®

LMS TICKET NO. A61968 107712

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY210 940907209245 02 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta, GA

GENERATING LOCATION
Kmart #4071
130 Dem Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME
ADDRESS PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601

PHYSICAL SITE LOCATION
SAME
PHONE NO. (502) 227-7257

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT
Soil	1	T	28, T

TYPE: DM—METAL DRUM; DP—PLASTIC DRUM; BA — 6 MIL PLASTIC BAGS/WRAP; T — TRUCK; O — OTHER

UNITS: P — POUND; Y — YARDS; M³ — CUBIC METER; Y³ — CUBIC YARDS; O — OTHER

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chris Mitchell Agent/Contract 9/15/93
Print/Type Name & Title Shipment Date
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS 995 Hinton Rd Irvine, KY
DRIVER Kevin Horn
Print / Type Name / Title
TRUCK NO. F-21 PHONE NO. 606-723-3384
Acknowledgement of receipt of materials.
Kevin Horn 9-15-93
Signature Shipment Date

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601

DISPOSAL COORDINATES
(Landfill use only)
Signature/Date

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Edwards 9-15-93
SIGNATURE OF AUTHORIZED AGENT Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
✓	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

BFI®

LMS TICKET NO. A61960

107713

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY210940907 209245 027 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2401 Clairmont RD NE Atlanta, GA

GENERATING LOCATION
Kmart 4077
130 New Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME
ADDRESS PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601

PHYSICAL SITE LOCATION
SAME
PHONE NO. (502) 227-7257

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT	TYPE	UNITS
Soil	1	T	16.15	DM—METAL DRUM DP—PLASTIC DRUM BA — 6 MIL PLASTIC BAGS/WRAP T — TRUCK O — OTHER	P — POUND Y — YARDS M³ — CUBIC METER Y³ — CUBIC YARDS O — OTHER

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

I hereby certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.1 or any applicable state law, is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Chris Mitchell Agent 9/15/93
Print/Type Name & Title Shipment Date
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Print/Type Name & Title Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. French Excavating
ADDRESS 995 Hinton Rd Irvine, KY
DRIVER Bud Doty
Print / Type Name / Title
TRUCK NO. F-22 PHONE NO.
Acknowledgement of receipt of materials.
Bud Doty
Signature Shipment Date

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

DISPOSAL COORDINATES
(Landfill use only)

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601
Signature/Date

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
SIGNATURE OF AUTHORIZED AGENT 9-15-93
Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
	Mix with Refuse		

DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

BFI®

LMS TICKET NO. A618609 107800

NON-HAZARDOUS SPECIAL AND ASBESTOS WASTE MANIFEST

GENERATOR

GENERATOR INSTRUCTIONS — SPECIAL WASTE — COMPLETE SECTIONS: I., II., V., VII., VIII., IX., XI
ASBESTOS WASTE — COMPLETE SECTIONS: I thru XII (Section 1, if required to analyze for hazardous waste characteristics)

SECTION I BFI WASTE CODE KY2109409072092450 27 NOTE: If more than one waste code, see Section VII.

SECTION II GENERATOR
NAME Kmart Corporation PHONE NO.
MAILING ADDRESS 2901 Clairmont Rd NE Atlanta Ga

GENERATING LOCATION
Kmart 4077
130 New Circle Rd
Lexington, KY

SECTION III OPERATOR / CONTRACTOR
NAME Franck Excavating
ADDRESS 995 Hinton Rd Irvine, KY PHONE NO.

SECTION IV OWNER
NAME PHONE NO.

SECTION V WASTE DISPOSAL SITE
NAME Benson Valley Area Landfill
MAILING ADDRESS 2157 Hwy. 151 Frankfort, KY 40601 PHONE NO. (502) 227-7257

PHYSICAL SITE LOCATION
SAME

SECTION VI RESPONSIBLE AGENCY (LOCAL, STATE, EPA)
NAME
ADDRESS PHONE NO.

SECTION VII DESCRIPTION OF WASTE	CONTAINERS NO.	CONTAINERS TYPE	TOTAL QTY. UNIT	TYPE	UNITS
Hydrocarbon-Affected Soil	1	T	15 Y³	DM—METAL DRUM DP—PLASTIC DRUM BA — 6 MIL PLASTIC BAGS/WRAP (T) TRUCK O — OTHER	P — POUND Y — YARDS M³ — CUBIC METER Y³ — CUBIC YARDS (O) OTHER
			17.65		

ASBESTOS WASTE
_____FRIABLE _____NON FRIABLE _____BOTH _____% FRIABLE _____% NON FRIABLE

SECTION VIII SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION

SECTION IX GENERATOR CERTIFICATION

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Chris Mitchell Agent for Kmart 9/14/93
Print/Type Name & Title Shipment Date
Signature

SECTION X OPERATOR CERTIFICATION (ASBESTOS)

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Print/Type Name & Title Shipment Date
Operators Signature

TRANSPORTER

SECTION XI TRANSPORTER 1
NAME OF CO. Franck Excavating
ADDRESS 995 Hinton Rd Irvine, KY
DRIVER Daily Newman
Print / Type Name / Title
TRUCK NO. H 5 PHONE NO.
Acknowledgement of receipt of materials.
Signature Daily Newman Shipment Date 9-14-93

SECTION XII TRANSPORTER 2
NAME OF CO.
ADDRESS
DRIVER
Print / Type Name / Title
TRUCK NO. PHONE NO.
Acknowledgement of receipt of materials.
Signature Shipment Date

DISPOSAL SITE

DISCREPANCY INDICATION SPACE

BENSON VALLEY AREA LANDFILL
Print/Type Name
2157 Hwy 151, Frankfort, KY 40601

DISPOSAL COORDINATES
(Landfill use only)
Signature/Date

SITE AND ADDRESS

I hereby certify that the above material has been accepted and to the best of my knowledge the foregoing is true and accurate.

AUTHORIZED AGENT (PLEASE PRINT)
David Ethridge 9-14-93
SIGNATURE OF AUTHORIZED AGENT Receipt Date

DISPOSAL INSTRUCTIONS

	Asbestos Cell	Crush Container	
	Bury at Base	NIOSH Mask	
	Dig a Trench	Protective Clothing	
✓	Mix with Refuse		

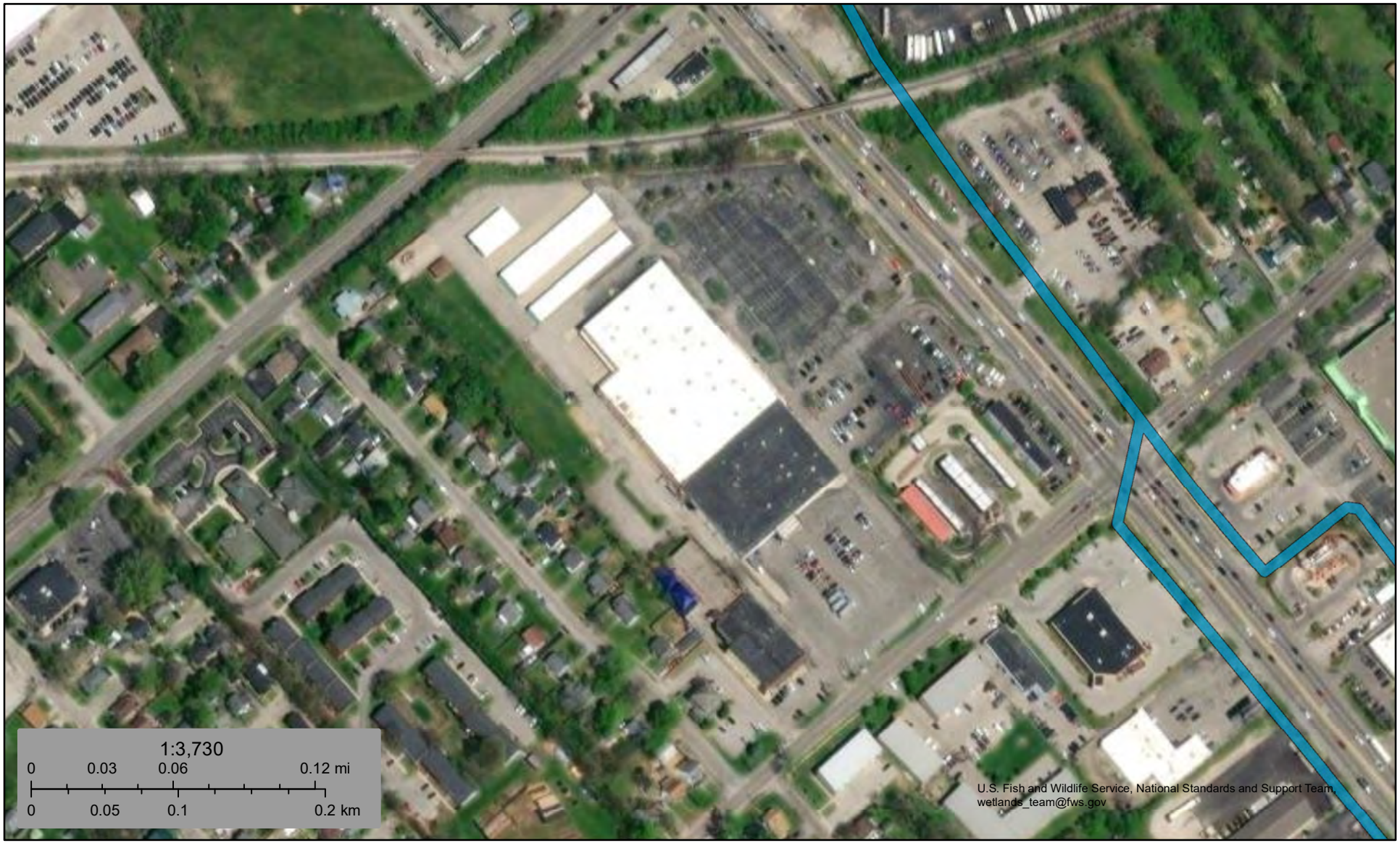
DESTINATION — WHITE • GENERATOR FILE — GREEN • TRANSPORTER — YELLOW • OPERATOR — PINK • GENERATOR — GOLDENROD

APPENDIX F

U.S. Fish and Wildlife Service

National Wetlands Inventory

130 & 134 W. New Circle Road



November 13, 2023

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Soil Map—Fayette County Area, Part of Fayette County, Kentucky
(130 & 134 W. New Circle Road)

Map Scale: 1:1,620 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Fayette County Area, Part of Fayette County, Kentucky
Survey Area Data: Version 20, Sep 10, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 4, 2019—Aug 8, 2019

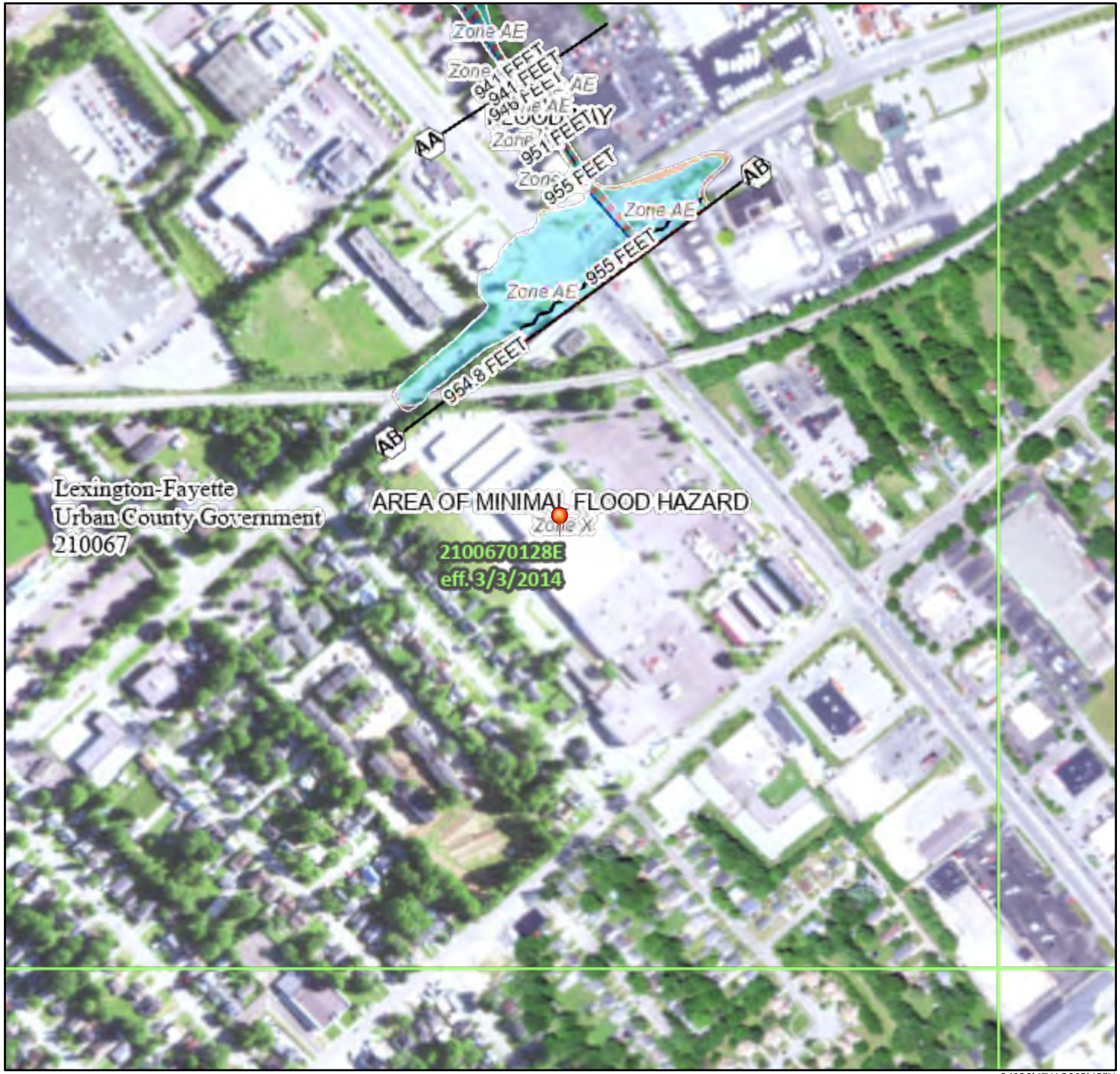
The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
uBlmB	Bluegrass-Maury silt loams, 2 to 6 percent slopes	5.9	75.4%
uMlmC	Maury-Bluegrass silt loams, 6 to 12 percent slopes	1.9	24.6%
Totals for Area of Interest		**7.8**	**100.0%**

National Flood Hazard Layer FIRMette

84°28'41"W 38°4'11"N



84°28'4"W 38°3'42"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/13/2023 at 4:15 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Kentucky Groundwater Data Repository
Water Well and Spring Location Map

Map Info | Configuration | Tools

Search Criteria
search radius: .10 mile(s)
coords (lat,lon): 38° 03' 57.85, -84° 28' 23.34
county: Fayette
7.5' quadrangle: Lexington East

Map Configuration
Base Layer: Topographic Map
Basemap (roads, rivers, etc) Transparency
Index Maps (quadrangle grids)
Water Layers:
Water Wells
transparency
label: AKGWA Number
Other
Domestic
Industrial
Agriculture
Monitoring
Public

Map Functionality:
- For best results, use the latest version of Internet Explorer, Firefox, or Google Chrome browsers.
- Click on a well or spring to identify feature.
- Double-click on a map location to identify coordinates.

Map Printing:
- For best results, use the latest version of Internet Explorer, Firefox, or Google Chrome browsers.
- Use the map printing tools (under the "Tools" menu on the right) to print the map to a printer or a pdf.
- This page is formatted to fit the map and the tables below on one page - use your browser functionality (or click the "Print This Page" button below) to print this page and the tables below.
  NOTE: In older versions of Internet Explorer (8.0 and below), the topography or imagery may not print. You will need to either upgrade your browser, use a different browser (Firefox or Chrome), use the "print to pdf" tool, or use your computer's screen capture functionality.

Print This Page

Information about wells labeled on map above:
- Tabular data of WATER WELLS in this view
- Tabular data of SPRINGS in this view

For information about the KY Groundwater Data Repository:
Sarah Arpin (Kentucky Geological Survey)
Sarah.Arpin@uky.edu

Water wells and springs in the current view:

Well Table:
note: wells may overlap on the map. Some wells listed below may not be visible unless highly zoomed in.
**click AKGWA number for more info about a well
**depths and elevations are given in FEET
**shaded AKGWA numbers indicate wells that fall outside the specified radius

minimize table below to show records in pages

Symbol	AKGWA #	Status	Primary Use	Elevation	Depth	Bedrock Depth	H_20 Depth	Distance from Circle Center	Zoom
	80009757	Plugged	Monitoring Well - Ambient Monitoring	950	31.2	12.2	5	626 ft | 191 m	zoom to well
	80009758	Plugged	Monitoring Well - Ambient Monitoring	950	18.8	13.3	6	626 ft | 191 m	zoom to well
	80009759	Plugged	Monitoring Well - Ambient Monitoring	950	14.1	9.1	5	626 ft | 191 m	zoom to well
	80009760	Lost / Destroyed	Monitoring Well - Ambient Monitoring	950	12.5	12.5	5	626 ft | 191 m	zoom to well
	80009761	Lost / Destroyed	Monitoring Well - Ambient Monitoring	950	8	0	3	626 ft | 191 m	zoom to well

Page 1/3

Symbol	AKGWA #	Status	Primary Use	Elevation	Depth	Bedrock Depth	H_20 Depth	Distance from Circle Center	Zoom
	80012108	Plugged	Monitoring Well - Ambient Monitoring	950	14	14	5.5	626 ft | 191 m	zoom to well
	80012111	Plugged	Monitoring Well - Ambient Monitoring	950	15.5	13.6	7.5	626 ft | 191 m	zoom to well
	80012112	Lost / Destroyed	Monitoring Well - Ambient Monitoring	950	13.5	13.5	9.6	626 ft | 191 m	zoom to well
	80030462	Lost / Destroyed	Monitoring Well - Ambient Monitoring	950	11	9.5	8	553 ft | 169 m	zoom to well
	80054061	Active	Monitoring Well - Ambient Monitoring	953.9	10	10	5.37	902 ft | 275 m	zoom to well

Page 2/3

Symbol	AKGWA #	Status	Primary Use	Elevation	Depth	Bedrock Depth	H_20 Depth	Distance from Circle Center	Zoom
	80062920	Active	Remediation	960	9.5	9	8	893 ft | 272 m	zoom to well

Page 3/3

Spring Table:
note: springs may overlap on the map. Some springs listed below may not be visible unless highly zoomed in.
**click AKGWA number for more info about a spring

Symbol	AKGWA #	Primary Use	Spring Name	Spring Type	Flow Type	Distance from Circle Center	Zoom
	90001290	n/a	n/a	Gravity (Falling)	Perennial	373 ft | 114 m	zoom to spring

KENTUCKY SPRING INVENTORY FORM

MAY 14 1998

(1) AKGWA NUMBER: ☐☐☐☐-☐☐☐☐-☐☐

Kentucky Spring Tag 7 J.C.

9000-1290

ce.

(2) GENERAL INFORMATION:

Spring Owner's Name: ( ) unknown

Mailing Address: N. BROADWAY / BROADVIEW DR. ( ) unknown

City: LEXINGTON State: KY Zip:

Phone: ( ) ( ) no phone ( ) unknown

(4) SPRING LOCATION:

Spring Name: ( ) unnamed

USGS Quadrangle Name: LEXINGTON EAST

County: FAYETTE

Elevation: 970 ft. ( ) map ( ) altimeter ( ) Abney level ( ) other

Latitude: 38 03 58 Longitude: 84 28 28

Physiographic or Hydrologic Region:

(X) Blue Grass ( ) Ohio River Alluvium ( ) E. Coal Field

( ) Miss. Plateau ( ) Jackson Purchase ( ) W. Coal Field

(5) SPRING CHARACTERISTICS:

Spring type: ( ) seep (X) gravity ( ) bluehole (artesian) ( ) other ( ) unknown

Is the spring the headwaters of a surface stream? ( ) yes ( ) no

Which side of the stream is the spring (when facing upstream)?

( ) left ( ) center ( ) right ( ) not applicable

Type of flow: (X) perennial ( ) seasonal ( ) intermittent

Spring discharges from: ( ) cave (X) rock ( ) fracture ( ) soil ( ) alluvium ( ) mine adit ( ) unknown ( ) other

Spring discharges into: ( ) stream ( ) soil ( ) swamp ( ) pond or lake ( ) sinkhole (X) other CONCRETE TANK

Name of water body spring discharges into: ( ) unknown (X) unnamed UT CANE RUN

Spring discharge: ( ) no flow (X) < 0.1 cfs ( ) 0.1-1.0 cfs ( ) 1.0-10 cfs ( ) 10-100 cfs ( ) > 100 cfs ( ) gpm

Discharge was: ( ) measured (X) estimated ( ) not determined

Spring modifications: ( ) dam ( ) pump (X) spring box ( ) gravity fed pipe or trough ( ) spring house ( ) none ( ) other

(6) WATER (DYE) TRACE INFORMATION:

Have any water (dye) traces been run to/from this site? ( ) yes ( ) no ( ) unknown

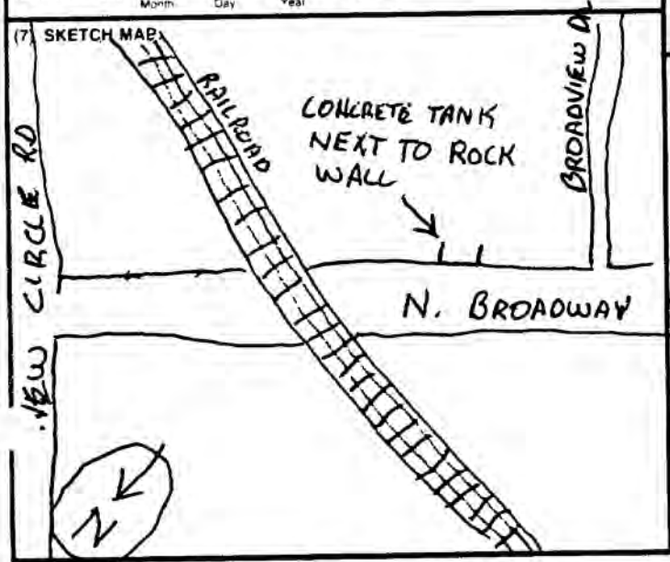
If yes, who conducted the trace? ( ) unknown

Address: ( ) unknown

City: State: Zip:

Date of trace: Month Day Year Trace #:

(7) SKETCH MAP



(8) SPRING USE:

( ) domestic ( ) public supply ( ) irrigation

( ) industrial ( ) livestock ( ) monitoring

( ) unregulated public access (X) unused

( ) other

PWSID #:

Water Withdrawal Permit #:

(9) SPRING SERVICE:

Number of people served:

Number of service connections:

Any quantity problems? ( ) yes ( ) no ( ) unknown

Any quality problems? ( ) yes ( ) no ( ) unknown

Describe

(10) TYPE OF TREATMENT SYSTEM:

(X) none

( ) water softener

( ) ultraviolet

( ) chlorination

( ) aeration

( ) charcoal filter

( ) sand filter

( ) iron inhibitor

( ) settling tank

( ) other

Is a treatment bypass available? ( ) yes ( ) no

Describe water quality problem requiring treatment:

(11) INSPECTION INFORMATION:

Date of Inspection: 7 (Month) 29 (Day) 90 (Year)

Check one: (X) original inspection ( ) re-inspection

Was a water quality sample taken as part of this inspection? ( ) yes ( ) no

Reason for inspection (check all that are applicable):

( ) general water quality analysis requested

( ) specific complaint investigation

(X) general survey

( ) ambient groundwater monitoring

( ) other

Specify:

Permit Program Name

Other ID #: 253

Other ID #:

Spring Inventory #:

(12) OPTIONAL USE:

Will spring owner allow state monitoring? ( ) yes ( ) no ( ) unknown

Extent of monitoring allowed: ( ) collect sample ( ) modify spring ( ) measure discharge ( ) access to spring or spring house ( ) other

Monitoring feasibility:

(13) COMMENTS:

SPRING COMING OUT ROCK WALL NEXT TO NORTH BROADWAY - WATER DRAINS INTO CONCRETE TANK. TANK IS IN DITCH NEXT TO ROAD.

ACCESS - FAIR

(14) INVESTIGATOR IDENTIFICATION:

Name: PIDGEON (Last) KEN (First) (MI) (Inspector ID #)

Agency: ( ) CHR (X) DOW ( ) DWM ( ) KGS ( ) SOAP ( ) Other

Signature of Inspector: Kenneth A Pidgeon

Date: 7 (Month) 29 (Day) 90 (Year)

Number of Attached pages: 1

Distribution: White copy to DOW, Pink Copy to Inspecting Agency, Yellow Copy to Owner

Printed with State Funds

DEP-5021
Revised 12-15-87

MAYOR LINDA GORTON

LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

ADDENDUM #2
+

Bid Number: **70-2025**

Date: September 19, 2025

Subject: **Division of Water Quality Facility Renovation**

Address inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

There will be one final site visit opportunity on Monday September 22, 2025, from 10:00 AM until 12:00 PM EST.

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: _____

ADDRESS: _____

SIGNATURE OF BIDDER: _____

MAYOR LINDA GORTON

LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

ADDENDUM #3

Bid Number: **70-2025**

Date: September 23, 2025

Subject: **Division of Water Quality Facility Renovation**

Address inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

See attached information from the final site visit and requested equals.

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: _____

ADDRESS: _____

SIGNATURE OF BIDDER: _____

DOCUMENT 009113 - ADDENDA

1.1 ADDENDUM

A. Addendum No. Three.

1.2 PROJECT INFORMATION

A. Project Name: LFUCG DWQ Headquarters & Operations Facility

B. Owner: Lexington Fayette Urban County Government.

C. Owner Project Number: RFB #70-2025.

D. Architect: GRW Engineering Architecture Geospatial.

E. Architect Project Number: 5247-01.

F. Date of Addendum: September 22, 2025.

1.3 NOTICE TO BIDDERS

A. This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

B. The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

C. The date for receipt of bids is unchanged by this Addendum, at same time and location.

1. Bid Date: **September 25th, 2025.**

1.4 ATTACHMENTS

A. This Addendum includes the following attached Documents and Specification Sections:

1. Document: Bidding Questions and Responses, dated September 22, 2025, (new).

END OF DOCUMENT 009113

1. Please review a manufacturer substitution request for specification section 096813 Tile Carpeting as manufactured by J and J Flooring to be approved for use as an equal to Square D Fractal Fluency Collection as manufactured by Mohawk Group, Inc. per specification section 096813 2.1 A. Product data was emailed to the Architect for review.

    a. Upon review of the proposed substitution request Reverie Demi-Plank 7684 as manufactured by J and J Flooring is found to be acceptable per specification section 096813 2.1 A.

    b. Architects' approval of substitute during bidding does not relieve Contractor of the responsibility to submit required Shop Drawings and to comply with all other requirements of the Contract Documents per specification section 002600 1.4 C.

2. Please review a manufacturer substitution request for specification section 102113.19 Plastic Toilet Compartments manufactured by Hadrian to be approved for use as an equal to ASI. per specification section 102113.19 2.3 A. Product data was emailed to the Architect for review.

    a. Upon review of the proposed substitution request plastic toilet compartments as manufactured by Hadrian is found to be acceptable per specification section 102113.19 2.3 A.

    b. Architects' approval of substitute during bidding does not relieve Contractor of the responsibility to submit required Shop Drawings and to comply with all other requirements of the Contract Documents per specification section 002600 1.4 C.