



**CONTRACT DOCUMENTS
AND
SPECIFICATIONS**

DIVISION OF WATER QUALITY

FOR

WGPL STORM SEWER PROJECT

Bid No. 155-2018

Set # _____

PREPARED BY:

**Banks Engineering, Inc.
November 2018**

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Not included in this document. Refer to Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, current edition, for all Technical Specifications related to cast-in-place and precast concrete.

PART I
ADVERTISEMENT FOR BIDS

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ADVERTISEMENT FOR BIDS

1. INVITATION

Sealed proposals for the following work will be received by the Lexington-Fayette Urban County Government until **2:00 p.m.**, local time, **December 4, 2018** for furnishing all labor and/or materials and performing all work as set forth by this advertisement, conditions (general and special), specifications, and/or the drawings prepared by and for the Lexington-Fayette Urban County Government, Division of Water Quality. Immediately following the scheduled closing time for reception of bids, all proposals which have been submitted in accordance with the above will be publicly opened and read aloud.

2. DESCRIPTION OF WORK

The project includes providing all construction supervision, labor, materials, tools, test equipment necessary for the WGPL Storm Sewer Project.

3. OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Plans, Specifications, and Contract Documents may be obtained from the official bid document distributor, LYNN IMAGING, 328 Old Vine Street, Lexington, KY 40507, (859) 255-1021 or (www.lynnimaging.com) and click on plan room for a non-refundable price of reproduction for each full set of plans and documents.

Specifications, Plans, and Bid Documents may be examined at the following places:

LFUCG

Division of Central Purchasing
200 East Main Street, Third Floor, Rm 338
Lexington, Kentucky 40507
(859) 258-3320

Builders Exchange
1035 Strader Drive, Ste 100
Lexington, Kentucky, 40505

LFUCG

Division of Water Quality
125 Lisle Industrial Avenue
Lexington, Kentucky 40511
(859) 425-2400

Banks Engineering, Inc.
1211 Jessamine Station
Nicholasville, KY 40356
(859) 881-0020

Dodge Data & Analytics
2321 Fortune Drive, Ste 112-A
Lexington, Kentucky 40509

4. METHOD OF RECEIVING BIDS

Bids will be received from Prime Contracting firms on a **Line Item Unit Price Basis**, for total Project Area. Bids shall be submitted in the manner and subject to the conditions as set forth and described in the Instruction to Bidders and Special Conditions.

Sealed bids shall be clearly marked on the outside of the container as follows: Company Name and Address, Bid Invitation Number, and the Project Name. Bids are to remain sealed until official Bid closure time.

Mailed bids/proposals should be sent to the Director, Division of Central Purchasing, 200 East Main Street, Lexington, KY 40507.

5. METHOD OF AWARD

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

6. BID WITHDRAWAL

No bidder may withdraw his bid for a period of sixty (60) calendar days after the closing date for receipt of bids. Errors and omissions will not be cause for withdrawal of bid without forfeit of bid bond. Bids may be withdrawn in person prior to the closing date of receipt of bids.

7. BID SECURITY

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

8. SUBMISSION OF BIDS

CONTRACTORS shall submit their bids to the Lexington-Fayette Urban County Government, Division of Purchasing, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. Bids shall be submitted in a sealed envelope not later than 2:00 p.m., local time, December 4, 2018. Sealed proposals shall be clearly marked on the outside of the container as follows: Company Name and Address, Bid Invitation Number, and Project Name to be opened at 2:00 p.m. local time December 4, 2018. Bids received after the scheduled closing time for receipt of bids will not be considered and will be returned unopened.

9. RIGHT TO REJECT

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

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

The successful bidder must submit with their bid the following items to the Lexington-Fayette Urban County Government:

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

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

All submissions should be directed to:

Lexington-Fayette Urban County Government
Division of Purchasing
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507

11. NOTICE CONCERNING MWDBE and Veteran GOALS

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) Contract participation. Disadvantaged Business Enterprises (DBE) consists of Minority-Owned Business Enterprises (MBE), Veteran-Owned Small Businesses (VSOB) and Woman-Owned Business Enterprises (WBE).

The Lexington-Fayette Urban County Government has set a goal that not less than ten percent (10%) of the total value of this Contract be subcontracted to Disadvantaged Business Enterprises, which is made up of MBEs and WBEs. The Lexington Fayette Urban County Government also has set a goal that not less than three percent (3%) of the total value of this Contract be subcontracted to Veteran-Owned Small Businesses. The goals for the utilization of Disadvantaged Business Enterprises as well as Veteran-Owned Small Businesses as subcontractors is are recommended goals. Contractor(s) who fail to meet such goal will be expected to provide written explanations to the Director of the Division of Purchasing of efforts they have made to accomplish the recommended goal, and the extent to which they are successful in accomplishing the recommended goals will be a consideration in the procurement process. Depending on the funding source, other DBE goals may apply.

For assistance in locating Disadvantaged Business Enterprises Subcontractors and Veteran-Owned Small Businesses contact:

Sherita Miller, Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, 3rd Floor, Room 338
Lexington, Kentucky 40507
smiller@lexingtonky.gov

12. PRE-BID MEETING

A non-mandatory pre-bid meeting will be held at 9:00 a.m. local time on November 27, 2018 at the LFUCG Division of Water Quality, 125 Lisle Industrial Road, Suite 180, Lexington, Kentucky 40511.

13. CONSENT DECREE REQUIREMENTS

The work to be provided through this bid will assist the **LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT** (the “**OWNER**”) in successfully implementing the **PROJECT** and complying with any requirements which are related to the Consent Decree entered in a case styled *United States & Commonwealth of Kentucky v. Lexington Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Civil Action No. 5:06-cv-386-KSF (the “**CONSENT DECREE**”). The services provided through this bid are hereinafter referred to as the **PROJECT**. **The primary goal of the PROJECT is to provide the OWNER with the technical support and/or construction services necessary to successfully meet the obligations and deadlines of the CONSENT DECREE.**

The **BIDDER** shall familiarize itself with and shall at all times comply with the **CONSENT DECREE**, and all federal, state and local laws, ordinances, and regulations that in any manner affect the **PROJECT**. Time is of the essence in the performance of this **PROJECT**. **BIDDER** is aware that the **OWNER** is subject to penalties for non-compliance with the **CONSENT DECREE** deadlines.

If delays result solely by reason of acts of the **BIDDER**, the **BIDDER** shall be held liable for any financial penalties incurred by the **OWNER** as a result of the delay, **including but not limited to those assessed pursuant to the CONSENT DECREE**. In the event the parties cannot mutually agree upon the cause(s) associated with delays in completing project deliverables; the **BIDDER** must immediately notify the **OWNER** in the event of such delay, and provide the **OWNER** a written action plan within five (5) business days on how it will attempt to resolve the delay.

In the event that **Bidder’s** delay or other nonperformance of its obligations hereunder results in the imposition of penalties against the **OWNER** pursuant to the **CONSENT DECREE**, or the **OWNER** otherwise suffers damage as a result of such delay or nonperformance, **BIDDER** shall be solely liable to **OWNER** for any and all such damages, including any costs and attorney’s fees.

An electronic version of the Consent Decree is available on the LFUCG web page for review or to print a copy at no charge.

PART II
INFORMATION FOR BIDDERS

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PART II

INFORMATION FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS

The Lexington-Fayette Urban County Government (herein called the OWNER) invites bids from firms on the project described in the Advertisement for Bids. The OWNER will receive bids at the Division of Purchasing, at the time and in the manner set forth in the Advertisement for Bids, and the Bids will then be publicly opened and read aloud. The OWNER may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual time and date of the bid opening, but OWNER may, in its sole discretion, release any bid and return the Bid Security prior to that date.

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.

2. PREPARATION OF BID

Each bid must be submitted on the prescribed Form of Proposal. All blank spaces for the bid prices must be filled in, either in ink or typewritten, for both unit prices and extensions. Totals for each bid item must be added to show the total amount of the bid. Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, their address, the name of the project, the invitation number and time and date for which the bid is submitted. Bids must be addressed to the Director of Purchasing, Lexington-Fayette Urban County Government, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified above.

3. SUBCONTRACTS

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

4. QUALIFICATION OF BIDDER

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

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

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

- A. If the OWNER requires filling out a detailed financial statement, the bidder may provide its current certified financial statement(s) for the required time interval.
- B. Corporate firms are required to be registered and in good standing with the requirements and provisions of the Office of the Secretary of State, Commonwealth of Kentucky.
- C. ~~Good standing with Public Works Act - any CONTRACTOR and/or subcontractors in violation of any wage or work act provisions (KRS 337.510 to KRS 337.550) are prohibited by Statutory Act (KRS 337.990) from bidding on or working on any and all public works contracts, either in their name or in the name of any other company, firm or other entity in which he might be interested. No bid from a prime contractor in violation of the Act can be considered, nor will any subcontractor in violation of the Act be approved and/or accepted. The responsibility for the qualifications of the subcontractor is solely that of the prime contractor.~~
- D: Documents Required of CONTRACTOR - (1) A sworn statement signed by the President or owner of the Company regarding all current work in progress anywhere; (2) A document showing the percent of completion of each project and the total worth of each project; and (3) Documentation showing the percentage of the DBE employment levels on each project of the Bidder's current work force, and DBE participation levels for Subcontractors.

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

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

5. BID SECURITY

- A. Each bid must be accompanied by a bid bond prepared on a Form of Bid Bond and attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the OWNER, in the amount of 5% of the bid. Such bid bond will be returned to the unsuccessful bidder(s) only upon written request to the Director of Central Purchasing within seven (7) days of opening of bids. Bid bond shall be made payable to the Lexington-Fayette Urban County Government. Bid security is not required for projects under \$50,000.
- B. Bonds shall be placed with an agent licensed in Kentucky with surety authorized to do business within the state. When the premium is paid for such coverage, the full commission payable shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.

6. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

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

7. TIME OF COMPLETION AND LIQUIDATED DAMAGES

Bidder must agree to commence work on or before a date to be specified in a written "Notice to Proceed" from the OWNER and to fully complete the Project within the time as specified in the Contract. Bidder must agree also to pay \$400 per day as liquidated damages, or the sum as specified in the Contract for each consecutive calendar day thereafter as hereinafter provided in the General Conditions.

8. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

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

- B. Bidders should examine the requirements of section 4 of the General Conditions for information pertaining to subsurface conditions, underground structures, underground facilities, and availability of lands, easements, and rights-of-way. The completeness of data, presented in the Contract Documents, pertaining to subsurface conditions, underground structures, and underground facilities for the purposes of bidding or construction is not assured. The Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface and subsurface) which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price, and other terms and conditions of the Contract Documents. On request in advance, OWNER will provide access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a bid. Bidder shall fill all holes, clean up and restore the site to its former condition upon completion of such explorations.

- C. The submission of a Bid will constitute an incontrovertible representation by the Bidder that Bidder has complied with every requirement of this paragraph 8; that without exception the Bid is premised upon furnishing and performing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents; and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

9. ADDENDA AND INTERPRETATIONS

No interpretation of the meaning of the Contract Documents will be made to any bidder orally. Every request for such interpretation should be in writing addressed to the Director of Central Purchasing, who in turn will have an Addendum issued for the Lexington-Fayette Urban County Government, and to be given consideration must be received prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications. Acknowledgement of the receipt of addenda must be included with all submitted bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

10. SECURITY FOR FAITHFUL PERFORMANCE

- A. Simultaneously with his delivery of the executed Contracts, the CONTRACTOR shall furnish a surety bond or bonds as security for the faithful performance of this Contract and for payment of all persons performing labor on the Project under this Contract and furnishing materials in connection with this Contract, as specified in the General Conditions. The surety on such bond or bonds shall be a duly authorized surety company satisfactory to the OWNER and authorized to do business in the Commonwealth of Kentucky.
- B. All bonds required by this Contract and laws of this State shall be placed with agents licensed in the State of Kentucky. When the premium is paid for such coverage's, the full commission shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.
- C. **Contractor shall use standard Performance and Payment Bond forms such as documents provided with this contract book or AIA form A312-1984 (or later). Each document will be for 100% of the Contract Bid Amount.**

11. POWER OF ATTORNEY

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

12. TAXES AND WORKMEN'S COMPENSATION

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

13. LAWS AND REGULATIONS

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

14. EROSION AND SEDIMENT CONTROL AND PERMITS

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

Stream Crossing and Floodplain Encroachment Permits as described in Part 4 General Conditions Paragraph 5.17.

15. PREVAILING WAGE LAW AND MINIMUM HOURLY RATES

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

16. AFFIRMATIVE ACTION PLAN

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

1. Affirmative Action Plan of the firm
2. Current Work Force Analysis Form
3. Good Faith Effort Documentation
4. List of Disadvantaged Business Enterprise Subcontractors and the Dollar Value of each Subcontract

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

All submissions should be directed to:

Director, Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Third Floor
Lexington, KY 40507

17. CONTRACT TIME

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

18. SUBSTITUTE OR "OR-EQUAL" ITEMS

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

CONTRACTOR and consideration by the ENGINEER and OWNER is set forth in the General Conditions.

19. ALTERNATE BIDS

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

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

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

20. SIGNING OF AGREEMENT

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

21. ASSISTANCE TO BE OFFERED TO DISADVANTAGED BUSINESS ENTERPRISE (MWDBE) CONTRACTORS

A. Outreach for MWDBE(s)

The Lexington-Fayette Urban County Government (LFUCG) maintains a database of MWDBE contractors and organizations. When a LFUCG construction project is advertised for bidding, notices are sent to companies registered at <https://lexingtonky.ionwave.net>. The notices describe the project and indicate the deadline for submitting bids. If you wish to be added to the LFUCG MWDBE contractor database, please contact:

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

B. Bid Bond Assistance for MWDBE(s)

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

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

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

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

D. MWDBE and Veteran Subcontractors

The LFUCG will, upon request, assist prime contractors in the procurement of eligible DBE subcontractors in an effort to achieve 10% minimum MWDBE and 3% minimum veteran goal.

For a list of eligible subcontractors, please contact:

Sherita Miller, Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
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PART III
FORM OF PROPOSAL

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PART III

Invitation to Bid No. 155-2018

WGPL STORM SEWER PROJECT

1. FORM OF PROPOSAL

Place: Lexington, Kentucky

Date: _____

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

This Proposal Submitted by _____

(Name and Address of Bidding Contractor)

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

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

Gentlemen:

The Bidder, in compliance with your Invitation for Bids for the **WGPL STORM SEWER PROJECT** having examined the Plans and Specifications with related documents, having examined the site for proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the lump sum and/or unit prices stated hereinafter. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this proposal is a part. The OWNER will issue work orders for work to be performed under this Contract.

BIDDER hereby agrees to commence work under this contract on or before a date to be specified in the Notice to Proceed and to fully complete the project **within 180 days** of the date of the Purchase Order or Work Orders issued by the OWNER. BIDDER further agrees to pay liquidated damages, the sum of \$400 for each consecutive calendar day thereafter.

The Bidder hereby acknowledges receipt of the following addenda:

Addendum No. ____ Date _____

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

2. **LEGAL STATUS OF BIDDER**

Bidder _____

Date _____

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

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

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

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

3. BIDDERS AFFIDAVIT

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

1. His/her name is _____ and he/she is the individual submitting the bid or is the authorized representative of _____, the entity submitting the bid (hereinafter referred to as "Bidder").
2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as the "Ethics Act."
7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.
Further, Affiant sayeth naught.

(Affiant)

STATE OF _____

COUNTY OF _____

The foregoing instrument was subscribed, sworn to and acknowledged before me by
_____ on this the _____ day of _____, 20_____.

My Commission expires: _____

NOTARY PUBLIC, STATE AT LARGE

4. BID SCHEDULE – SCHEDULE OF VALUES

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

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

If a discrepancy between the unit price and the item total exists, the unit price prevails except:

If the unit price is illegible, omitted, or the same as the item total, item total prevails and the unit price is the quotient of the item total and the quantity.

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

For a lump sum based bid, the item total is the bid amount the Division uses for bid comparison.

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

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

The contract, if awarded, will be on the basis of materials and equipment specified in the specifications without consideration of possible substitute or “or equal” items.

The estimated quantities of items of unit price work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract price. Determination of the actual quantities and classification of unit price work performed by the Contractor will be made by the Engineer in accordance with the General Conditions.

WGPL Storm Sewer Project – Bid Items

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
1.	1	LS	Mobilization (5% maximum)		
			Dollars		
			Cents	\$ _____	\$ _____
			Per Lump Sum		
2.	1	LS	General Conditions		
			Dollars		
			Cents	\$ _____	\$ _____
			Per Lump Sum		

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
3.	19	EA	LFUCG Type "A" Manhole – 4' Diameter	Dollars	
				Cents	
			Per Each	\$	\$
4.	6	EA	4' Non-Circular Manhole	Dollars	
				Cents	
			Per Each	\$	\$
5.	25	EA	LFUCG Type "D" Curb Inlet	Dollars	
				Cents	
			Per Each	\$	\$
6.	2	EA	3' x 6' Double Curb Inlet	Dollars	
				Cents	
			Per Each	\$	\$
7.	2	EA	9'-4" x 2' Triple Curb Inlet	Dollars	
				Cents	
			Per Each	\$	\$
8.	1	EA	LFUCG Surface Inlet Type "B"	Dollars	
				Cents	
			Per Each	\$	\$
9.	1	EA	15" Nyloplast Drain Basin with Domed Grate	Dollars	
				Cents	
			Per Each	\$	\$
10.	1	EA	KYTC Drop Box Inlet Type 12A Modified	Dollars	
				Cents	
			Per Each	\$	\$
11.	1	LS	Diversion Structure	Dollars	
				Cents	
			Per Lump Sum	\$	\$
12.	167	LF	Storm Sewer Pipe – 12-inch	Dollars	
				Cents	
			Per Linear Foot	\$	\$

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
13.	2,488	LF	Storm Sewer Pipe – 15-inch	Dollars	
				Cents	\$ _____
			Per Linear Foot		\$ _____
14.	1,778	LF	Storm Sewer Pipe – 18-inch	Dollars	
				Cents	\$ _____
			Per Linear Foot		\$ _____
15.	373	LF	Storm Sewer Pipe – 24-inch Equiv. RCEP	Dollars	
				Cents	\$ _____
			Per Linear Foot		\$ _____
16.	55	EA	Storm Sewer Cleanout	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
17.	1,200	LF	Sump Pump Lateral – 6-inch	Dollars	
				Cents	\$ _____
			Per Linear Foot		\$ _____
18.	6	EA	Connect Existing Pipe or Structure	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
19.	4,000	LF	Remove Existing Curb	Dollars	
				Cents	\$ _____
			Per Linear Foot		\$ _____
20.	4,800	LF	Concrete Header Curb	Dollars	
				Cents	\$ _____
			Per Linear Foot		\$ _____
21.	280	SY	Concrete Sidewalk	Dollars	
				Cents	\$ _____
			Per Square Yard		\$ _____
22.	50	SY	Sidewalk Ramp	Dollars	
				Cents	\$ _____
			Per Square Yard		\$ _____

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
23.	275	SY	Concrete Entrance Pavement		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Square Yard		
24.	7	CY	Unfinished Concrete (for pipe supports, etc.)		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Cubic Yard		
25.	1.5	CY	Concrete, Class A		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Cubic Yard		
26.	180	LB	Steel Reinforcement		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Pound		
27.	2,200	TN	Pavement Milling and Texturing		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Lump Sum		
28.	1,250	TN	Class 2 Asphalt Surface, 0.38B PG64-22		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Ton		
29.	2	EA	Remove Existing Tree (5" – 12")		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Each		
30.	2	EA	Remove Existing Tree (12" – 24")		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Each		
31.	2	EA	Remove Existing Tree (24" – 36")		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Each		
32.	2	EA	Remove Existing Tree (over 36")		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Each		

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
33.	2,000	SY	Seeding and Protection		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Square Yard		
34.	2,500	SY	Sodding		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Square Yard		
35.	1	EA	Project Sign		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Each		
36.	1	LS	Construction Staking		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Lump Sum		
37.	1	LS	Maintain and Control Traffic		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Lump Sum		
38.	1	LS	Erosion Control		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Lump Sum		
39.	300	TN	No.2 Stone for Subgrade Rehabilitation		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Ton		
40.	1	LS	Demobilization (1-1/2% minimum)		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Lump Sum		

TOTAL OF ALL BID PRICES FOR WGPL Storm Sewer Project (Items 1 through 40) in words and figures. In case of discrepancy, the amount shown in words will govern.

_____ (\$ _____).

Submitted by:

Firm

Address

City, State & Zip

***Bid must be signed:
(original signature)***

Signature of Authorized Company Representative – Title

Representative/s Name (Typed or Printed)

Area Code – Phone – Extension *Fax #*

E-Mail Address

OFFICIAL ADDRESS:

_____ (Seal if Bid is by Corporation)

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

EACH BIDDER SHALL INDICATE THE PROPOSED CIRCULAR STORM SEWER PIPE MATERIALS TO BE USED ON THIS PROJECT BY CIRCLING ONE OF THE CHOICES BELOW:

Reinforced Concrete Pipe

Corrugated Plastic Pipe

5. STATEMENT OF BIDDER'S QUALIFICATIONS

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

- 1. Name of Bidder: _____
- 2. Permanent Place of Business: _____
- 3. When Organized: _____
- 4. Where Incorporated: _____
- 5. Construction Plant and Equipment Available for this Project:

(Attach Separate Sheet If Necessary)

- 6. Financial Condition:

If specifically requested by the OWNER, the apparent low Bidder is required to submit its latest three (3) years audited financial statements to the OWNER'S Division of Central Purchasing within seven (7) calendar days following the bid opening.
- 7. In the event the Contract is awarded to the undersigned, surety bonds will be furnished by:

(Surety)

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

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>

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

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>

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

<u>NAME</u>	<u>POSITION DESCRIPTION</u>	<u>NO. OF YEARS WITH BIDDER</u>

11. DBE Participation on current bonded projects under contract:

<u>SUBCONTRACTORS</u> <u>(LIST)</u>	<u>PROJECT</u> <u>(SPECIFIC TYPE)</u>	<u>DBE</u>	<u>% of WORK</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

(USE ADDITIONAL SHEETS IF NECESSARY)

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

6. LIST OF PROPOSED SUBCONTRACTORS

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

<u>BRANCH OF WORK - LIST EACH MAJOR ITEM</u> Such as: Grading, bituminous paving, concrete, seeding and protection, construction staking, etc.	<u>SUBCONTRACTOR</u>	<u>DBE</u> <u>Yes/No</u>	<u>% of Work</u>
1. _____	Name: _____ Address: _____	_____	_____
2. _____	Name: _____ Address: _____	_____	_____
3. _____	Name: _____ Address: _____	_____	_____
4. _____	Name: _____ Address: _____	_____	_____
5. _____	Name: _____ Address: _____	_____	_____
6. _____	Name: _____ Address: _____	_____	_____
7. _____	Name: _____ Address: _____	_____	_____

(Attach additional sheet(s) if necessary.)

7. **Lexington-Fayette Urban County Government**
MWDBE PARTICIPATION GOALS

A. GENERAL

- 1) The LFUCG request all potential contractors to make a concerted effort to include Minority-Owned (MBE), Woman-Owned (WBE), Disadvantaged (DBE) Business Enterprises and Veteran-Owned Small Businesses (VOSB) as subcontractors or suppliers in their bids.
- 2) Toward that end, the LFUCG has established 10% of total procurement costs as a Goal for participation of Minority-Owned, Woman-Owned and Disadvantaged Businesses on this contract.
- 3) **It is therefore a request of each Bidder to include in its bid, the same goal (10%) for MWDBE participation and other requirements as outlined in this section.**
- 4) The LFUCG has also established a 3% of total procurement costs as a Goal for participation for of Veteran-Owned Businesses.
- 5) **It is therefore a request of each Bidder to include in its bid, the same goal (3%) for Veteran-Owned participation and other requirements as outlined in this section.**

B. PROCEDURES

- 1) The successful bidder will be required to report to the LFUCG, the dollar amounts of all payments submitted to Minority-Owned, Woman-Owned or Veteran-Owned subcontractors and suppliers for work done or materials purchased for this contract. (See Subcontractor Monthly Payment Report)
- 2) Replacement of a Minority-Owned, Woman-Owned or Veteran-Owned subcontractor or supplier listed in the original submittal must be requested in writing and must be accompanied by documentation of Good Faith Efforts to replace the subcontractor / supplier with another MWDBE Firm; this is subject to approval by the LFUCG. (See LFUCG MWDBE Substitution Form)
- 3) For assistance in identifying qualified, certified businesses to solicit for potential contracting opportunities, bidders may contact:
 - a) The Lexington-Fayette Urban County Government, Division of Central Purchasing (859-258-3320)
- 4) The LFUCG will make every effort to notify interested MWDBE and Veteran-Owned subcontractors and suppliers of each Bid Package, including information on the scope of work, the pre-bid meeting time and location, the bid date, and all other pertinent information regarding the project.

C. DEFINITIONS

- 1) A Minority-Owned Business Enterprise (MBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by persons of African American, Hispanic, Asian, Pacific Islander, American Indian or Alaskan Native Heritage.
- 2) A Woman-Owned Business Enterprise (WBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by one or more women.
- 3) A Disadvantaged Business (DBE) is defined as a business which is certified as being at least 51% owned, managed and controlled by a person(s) that are economically and socially

disadvantaged.

- 4) A Veteran-Owned Small Business (VOSB) is defined as a business which is certified as being at least 51% owned, managed and controlled by a veteran and/or a service disabled veteran.
- 5) Good Faith Efforts are efforts that, given all relevant circumstances, a bidder or proposer actively and aggressively seeking to meet the goals, can reasonably be expected to make. In evaluating good faith efforts made toward achieving the goals, whether the bidder or proposer has performed the efforts outlined in the Obligations of Bidder for Good Faith Efforts outlined in this document will be considered, along with any other relevant factors.

D. OBLIGATION OF BIDDER FOR GOOD FAITH EFFORTS

- 1) **The bidder shall make a Good Faith Effort to achieve the Participation Goal for MWDBE and Veteran-Owned subcontractors/suppliers. The failure to meet the goal shall not necessarily be cause for disqualification of the bidder; however, bidders not meeting the goal are required to furnish with their bids written documentation of their Good Faith Efforts to do so.**
- 2) Award of Contract shall be conditioned upon satisfaction of the requirements set forth herein.
- 3) The Form of Proposal includes a section entitled "MWDBE Participation Form". The applicable information must be completed and submitted as outlined below.
- 4) **Failure to submit this information as requested may be cause for rejection of bid or delay in contract award.**

E. DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS

- 1) Bidders reaching the Goal are required to submit only the MWDBE Participation Form." The form must be fully completed including names and telephone number of participating MWDBE firm(s); type of work to be performed; estimated value of the contract and value expressed as a percentage of the total Lump Sum Bid Price. The form must be signed and dated, and is to be submitted with the bid.
- 2) Bidders not reaching the Goal must submit the "MWDBE Participation Form", the "Quote Summary Form" and a written statement documenting their Good Faith Effort to do so. If bid includes no MWDBE and/or Veteran participation, bidder shall enter "None" on the subcontractor / supplier form). In addition, the bidder must submit written proof of their Good Faith Efforts to meet the Participation Goal:
 - a. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.
 - b. Included documentation of advertising in the above publications with the bidders good faith efforts package
 - c. Attended LFUCG Central Purchasing Economic Inclusion Outreach event

- d. Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned businesses of subcontracting opportunities
- e. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses.
- f. Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
- g. Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.
- h. Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs and/or Veteran-Owned businesses soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
- i. Followed up initial solicitations by contacting MWDBEs and Veteran-Owned Businesses to determine their level of interest.
- j. Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.
- k. Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work items with its own workforce
- l. Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.
- m. Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
- n. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a MWDBE and/or Veteran-Owned business's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy MWDBE and Veteran goals.
- o. Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or

bonding to satisfy the work requirements of the bid proposal

p. Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

q. Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

Note: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.



MINORITY BUSINESS ENTERPRISE PROGRAM

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

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

To that end the city council adopted and implemented Resolution 484-2017 – A Certified Minority, Women and Disadvantaged Business Enterprise ten percent (10%) minimum goal and a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and Certified Service Disabled Veteran – Owned Businesses for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals (a full copy is available in Central Purchasing):

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

Certified Minority Business Enterprise (MBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. African American, Asian American/ Pacific Islander, Hispanic Islander, Native American/ Native Alaskan Indian) as defined in federal law or regulation as it may be amended from time-to-time.

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

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

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

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Purchasing as having the appropriate credentials to make a determination as to the status of the business.

We have compiled the list below to help you locate certified MBE, WBE and DBE certified businesses. Below is a listing of contacts for LFUCG Certified MWDBEs and Veteran-Owned Small Businesses in (<https://lexingtonky.ionwave.net>)

Business	Contact	Email Address	Phone
LFUCG	Sherita Miller	smiller@lexingtonky.gov	859-258-3323
Commerce Lexington – Minority Business Development	Tyrone Tyra	ttyra@commercelexington.com	859-226-1625
Tri-State Minority Supplier Diversity Council	Susan Marston	smarston@tsmsdc.com	502-365-9762
Small Business Development Council	Shawn Rogers UK SBDC	shawn.rogers@uky.edu	859-257-7666
Community Ventures Corporation	Phyllis Alcorn	palcorn@cvky.org	859-231-0054
KY Transportation Cabinet (KYTC)	Melvin Bynes	Melvin.bynes2@ky.gov	502-564-3601
KYTC Pre-Qualification	Shella Eagle	Shella.Eagle@ky.gov	502-782-4815
Ohio River Valley Women’s Business Council (WBENC)	Sheila Mixon	smixon@orvwbc.org	513-487-6537
Kentucky MWBE Certification Program	Yvette Smith, Kentucky Finance Cabinet	Yvette.Smith@ky.gov	502-564-8099
National Women Business Owner’s Council (NWBOC)	Janet Harris-Lange	janet@nwbo.org	800-675-5066
Small Business Administration	Robert Coffey	robertcoffey@sba.gov	502-582-5971
LaVoz de Kentucky	Andres Cruz	lavozdeky@yahoo.com	859-621-2106
The Key News Journal	Patrice Muhammad	production@keynewsjournal.com	859-685-8488



LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # _____

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

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

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

Company

Company Representative

Date

Title



LFUCG MWDBE SUBSTITUTION FORM

Bid/RFP/Quote Reference # _____

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

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

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

Company

Company Representative

Date

Title



MWDBE QUOTE SUMMARY FORM

Bid/RFP/Quote Reference # _____

The undersigned acknowledges that the minority and/or veteran subcontractors listed on this form did submit a quote to participate on this project. Failure to submit this form may cause rejection of the bid.

Company Name	Contact Person
Address/Phone/Email	Bid Package / Bid Date

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran

(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

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

Company

Company Representative

Date

Title



LFUCG SUBCONTRACTOR MONTHLY PAYMENT REPORT

The LFUCG has a 10% goal plan adopted by city council to increase the participation of minority and women owned businesses in the procurement process. The LFUCG also has a 3% goal plan adopted by cited council to increase the participation of veteran owned businesses in the procurement process. In order to measure that goal LFUCG will track spending with MWDDBE and Veteran contractors on a monthly basis. By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentation may result in termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims. Please submit this form monthly to the Division of Central Purchasing/ 200 East Main Street / Room 338 / Lexington, KY 40507.

Bid/RFP/Quote # _____

Total Contract Amount Awarded to Prime Contractor for this Project _____

Project Name/ Contract #	Work Period/ From: _____ To: _____
Company Name:	Address:
Federal Tax ID:	Contact Person:

Subcontractor Vendor ID (name, address, phone, email)	Description of Work	Total Subcontract Amount	% of Total Contract Awarded to Prime for this Project	Total Amount Paid for this Period	Purchase Order number for subcontractor work (please attach PO)	Scheduled Project Start Date	Scheduled Project End Date

By the signature below of an authorized company representative, you certify that the information is correct, and that each of the representations set forth below is true. Any misrepresentations may result in the termination of the contract and/or prosecution under applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # _____

By the signature below of an authorized company representative, we certify that we have utilized the following Good Faith Efforts to obtain the maximum participation by MWDBE and Veteran-Owned business enterprises on the project and can supply the appropriate documentation.

_____ Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

_____ Included documentation of advertising in the above publications with the bidders good faith efforts package

_____ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

_____ Attended pre-bid meetings that were scheduled by LFUCG to inform MWDBEs and/or Veteran-Owned Businesses of subcontracting opportunities

_____ Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and MWDBE firms and Veteran-Owned businesses

_____ Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

_____ Contacted organizations that work with MWDBE companies for assistance in finding certified MWDBE firms and Veteran-Owned businesses to work on this project. Those contacted and their responses should be a part of the bidder's good faith efforts documentation.

_____ Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

_____ Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

_____ Provided the interested MWDBE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

_____ Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation, even when the prime contractor may otherwise perform these work

items with its own workforce

_____ Negotiated in good faith with interested MWDBE firms and Veteran-Owned businesses not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection should be so noted in writing with a description as to why an agreement could not be reached.

_____ Included documentation of quotations received from interested MWDBE firms and Veteran-Owned businesses which were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.

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

_____ Made an effort to offer assistance to or refer interested MWDBE firms and Veteran-Owned businesses to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal

_____ Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

_____ Other--any other evidence that the bidder submits which may show that the bidder has made reasonable good faith efforts to include MWDBE and Veteran participation.

NOTE: Failure to submit any of the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to approval by the MBE Liaison. Documentation of Good Faith Efforts must be submitted with the Bid, if the participation Goal is not met.

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

Company

Date

Company Representative

Title

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

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

1. That I am the Bidder (if the Bidder is an individual), a partner of the Bidder (if the Bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the Bidder is a corporation);
2. That the attached bid has been arrived at by the Bidder independently, and has been submitted without collusion with, and without any agreement, understanding or planned common course of action, with any other contractor, vendor of materials, supplies, equipment or services described in the Invitation to Bid, designed to limit independent bidding or competition;
3. That the contents of the bid or bids have not been communicated by the Bidder or its employees or agents to any person not an employee or agent of the Bidder or its surety on any bond furnished, with the bid or bids, and will not be communicated to any such person, prior to the official opening of the bid or bids;
4. That the Bidder is legally entitled to enter into the contracts with the Lexington-Fayette Urban County Government, and is not in violation of any prohibited conflict of interest;
5. (Applicable to corporation only) That as a foreign corporation, we are registered with the Secretary of State, Commonwealth of Kentucky, and authorized to do business in the State _____ or, that as a domestic corporation, we are in good standing with the Secretary of State, Commonwealth of Kentucky _____. Check the statement applicable.
6. This offer is for 60 calendar days from the date this bid is opened. In submitting the above, it is expressly agreed that, upon proper acceptance by the Lexington-Fayette Urban County Government of any or all items bid above, a contract shall thereby be created with respect to the items accepted.
7. That I have fully informed myself regarding the accuracy of the statements made in this statement.
8. That I certify that Subcontractors have not and will not be awarded to any firm(s) that have been debarred from noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

9. STATEMENT OF EXPERIENCE

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

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

10. EQUAL OPPORTUNITY AGREEMENT

Standard Title VI Assurance

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

The Law

- * Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- * Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and subcontractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- * Section 503 of the Rehabilitation Act of 1973 States:
The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.
- * Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal Contracts.
- * Section 206 (A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

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

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

illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractor may be declared ineligible for future consideration.

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

Bidders

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

Signature

Name of Business

The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

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

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

- (1) *The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) *The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) *The contract will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) *The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities – Information required

- (1) *For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) *Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

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

- (1) *If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) *If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 – 45.640.*
- (3) *The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

KRS 45.630 Termination of existing employee not required, when

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

KRS 45.640 Minimum skills

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

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

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

11. EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY

It is the policy of _____

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

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

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

12. WORKFORCE ANALYSIS FORM

Name of Organization: _____

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

Prepared by: _____

(Name and Title)

Date: ____/____/____

13. EVIDENCE OF INSURABILITY

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

Names Insured: _____

Employee ID: _____

Address: _____

Phone: _____

Project to be insured: _____

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

Section Items	Coverage	Minimum Limits and Policy Requirements	Limits Provided To Insured	Name of Insurer	A.M. Best's	
					Code	Rating
SC-3, Section 2, Part 4.1 – see provisions	CGL	\$1,000,000 per occ. And \$2,000,000 aggregate	\$			
SC-3, Section 2, Part 4.1 – see provisions	AUTO	\$2,000,000/per occ.	\$			
SC-3, Section 2, Part 4.1 – see provisions	WC	Statutory w/endorsement as noted	\$			

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

Agency or Brokerage _____

Name of Authorized Representative _____

Street Address _____

Title _____

City _____ State _____ Zip _____

Authorized Signature _____

Telephone Number _____

Date _____

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

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

14. DEBARRED FIRMS

PROJECT NAME: _____

BID NUMBER: _____

**LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
LEXINGTON, KY**

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

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

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

Name of Firm Submitting Bid

Signature of Authorized Official

Title

Date

15. DEBARMENT CERTIFICATION

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

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

- 1) Are not presently debarred, suspended, proposed for debarment, declared negligible, or voluntarily excluded from covered transactions or contract by any Federal department or agency for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 as amended, Executive Order 11246 as amended or any other Federal law;
 - a) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - b) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(a) of this certification; and
 - c) Have not within a three year period preceding this bid has one or more public (Federal, State or local) transactions or contracts terminated for cause or default.
- 2) Where the contractor is unable to certify to any of the statements in this certification, such prospective contractors shall attach an explanation to this certification form.

Firm Name: _____

Project: _____

Printed Name and Title of Authorized Representative: _____

Signature: _____

Date: _____

END OF SECTION

PART IV
GENERAL CONDITIONS
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PART IV
GENERAL CONDITIONS

1. DEFINITIONS

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

1.1 Addenda

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

1.2 Agreement

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

1.3 Application for Payment

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

1.4 Bid

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

1.5 Bidder

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

1.6 Bonds

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

1.7 Calendar Day

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

1.8 Change Order

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

1.9 Contract Documents

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

1.10 Contract Unit Price

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

1.11 Contract Time

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

1.12 CONTRACTOR

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

1.13 Defective

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

1.14 Drawings

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

1.15 Effective Date of the Agreement

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

1.16 ENGINEER

The Lexington-Fayette Urban County Government Division of Water Quality or its authorized representative.

1.17 Field Order

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

- 1.18 Giving Notice**
Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.
- 1.19 Laws and Regulations**
Laws, rules, regulations, ordinances, codes and/or orders.
- 1.20 Notice of Award**
The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.
- 1.21 Notice to Proceed**
A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.
- 1.22 OWNER**
The Lexington-Fayette Urban County Government.
- 1.23 Partial Utilization**
Placing a portion of the Work in service for the purpose for which it is intended (or related purpose) before reaching Completion for all the Work.
- 1.24 Project**
The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.
- 1.25 Inspector**
The authorized representative of the ENGINEER who is assigned to the site or any part thereof.
- 1.26 Shop Drawings**
All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.
- 1.27 Specifications**
Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and

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

1.28 Standard Specifications

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

1.29 Subcontractor

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

1.30 Special Conditions

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

1.31 Supplier

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

1.32 Underground Facilities

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

1.33 Unit Price Work

Not applicable

1.34 Work

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

1.35 Time Period

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

2. PRELIMINARY MATTERS

2.1 Delivery of Bonds

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

2.2 Copies of Documents

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

2.3 Commencement of Contract Time; Notice to Proceed

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

2.4 Starting the Project

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

2.5 Before Starting Construction

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

2.6 Submittal of Schedules

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

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

2.6.2 a preliminary schedule of Shop Drawing submissions; and

2.6.3 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the

basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Preconstruction Conference

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

2.8 Finalizing Schedules

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

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

3.1 General

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

3.2 Intent

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

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

3.3 Conflicts

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

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

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

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

3.4 Amending and Supplementing Contract Documents

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

3.5 Reuse of Documents

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

4. AVAILABILITY OF LANDS; PHYSICAL CONDITIONS, REFERENCE POINTS

4.1 Availability of Lands

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

4.2 Physical Conditions

4.2.1 Explorations and Reports

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

4.2.2 Existing Structures

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

4.2.3 Report of Differing Conditions

If CONTRACTOR believes that:

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

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

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

4.2.4 ENGINEER'S Review

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

4.2.5 Possible Document Change

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

4.2.6 Possible Price and Time Adjustments

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

4.3 Physical Conditions-Underground Facilities

4.3.1 Shown or Indicated

The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such underground facilities or by others. Unless it is otherwise expressly provided in the Special Conditions:

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

4.3.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data; for locating all underground

facilities shown or indicated in the Contract Documents; for coordination of the Work with the owners of such underground facilities during construction; and for the safety and protection thereof and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2 Not Shown or Indicated

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

4.4 Reference Points

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

5. CONTRACTOR'S RESPONSIBILITIES

5.1 Supervision

CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall assure that all CONTRACTOR personnel (including subcontractors, etc.) conduct themselves in a courteous and respectful manner toward the ENGINEER and the general public. Failure to comply with this condition of the Contract will result in immediate suspension of the Work. Following a review by the Commissioner of Public Works, the Contract may be

terminated (see GC section 14). CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

5.2 Superintendence

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

5.3 Labor

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

5.4 Start-Up and Completion of Work

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

5.5 Materials and Equipment

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

Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

5.5.1 Not Clearly Specified or Indicated

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

5.5.2 Coordination of Work

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

5.6 Adjusting Progress Schedule

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

5.7 Substitutes or "Or-Equal" Items

5.7.1 General

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by OWNER/ENGINEER if sufficient information is submitted by CONTRACTOR to allow OWNER/ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by OWNER/ENGINEER will include the following. Requests for review of substitute items of material and equipment will not be accepted by OWNER/ENGINEER from anyone, other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to OWNER/ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results

called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by OWNER/ENGINEER in evaluating the proposed substitute. OWNER/ENGINEER may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

5.7.2 Substitutes

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to OWNER/ENGINEER, if CONTRACTOR submits sufficient information to allow OWNER/ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by OWNER/ENGINEER will be similar to that provided in paragraph 5.7.1 as applied by OWNER/ENGINEER.

5.7.3 OWNER/ENGINEER'S Approval

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

5.8 Subcontractors, Suppliers, and Others

5.8.1 Acceptable to ENGINEER

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

5.8.2 Objection After Due Investigation

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

5.8.3 Contractor Responsible for Acts of Subcontractors

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

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

CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or

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

5.8.4 Division of Specifications

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

5.8.5 Agreement Between Contractor and Subcontractors

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

5.8.6 Statements and Comments by CONTRACTOR

Neither the CONTRACTOR, his employees, nor his subcontractors shall at any time make any statement or comment as to the project scope, nature, intention, design, or construction method to any third party or parties without the explicit written consent of the OWNER.

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

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

5.9 Patent Fees and Royalties

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

5.10 Permits

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

5.11 Laws and Regulations

5.11.1 CONTRACTOR to Comply

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

5.11.2 Specifications and Drawings at Variance

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

5.12 Taxes

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

proposal is submitted, and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

5.13 Use of Premises

5.13.1 Project Site

CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the staging areas or work site areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of CONTRACTOR'S performance of the Work.

5.13.2 Clean UP

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

5.13.1 Loading of Structures

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

5.14 Record Drawings

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

5.15 Shop Drawings and Samples

5.15.1 Shop Drawing Submittals

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

5.15.2 Sample Submittals

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

5.15.3 Review by CONTRACTOR

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

5.15.4 Notice of Variation

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

5.15.5 ENGINEER'S Approval

ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, but ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit, as required, new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

5.15.6 Responsibility for Errors and Omissions

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

5.15.7 Cost of Related Work

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

5.16 Continuing the Work

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

5.17 Erosion and Sediment Control

5.17.1 General Environmental Requirements

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

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

5.17.2 Stormwater Pollution Prevention

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

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

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

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

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

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

6. OTHER WORK

6.1 Related Work at Site

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

6.2 Other Contractors or Utility Owners

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

6.3 Delays Caused by Others

If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any

delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR'S Work except for latent or non-apparent defects and deficiencies in the other work.

6.4 Coordination

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

7. OWNER'S RESPONSIBILITIES

7.1 Communications

OWNER shall issue all communications to CONTRACTOR through ENGINEER.

7.2 Data and Payments

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

7.3 Lands, Easements, and Surveys

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

7.4 Change Orders

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

7.5 Inspections, Tests and Approvals

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

7.6 Stop or Suspend Work

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

8. ENGINEER'S STATUS DURING CONSTRUCTION

8.1 OWNER'S Representative

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

8.2 Visits to Site

ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

8.3 Project Representation

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

8.4 Clarifications and Interpretations

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

8.5 Authorized Variations in Work

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

8.6 Rejecting Defective Work

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

8.7 Shop Drawings

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

8.8 Change Orders

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

8.9 Payments

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

8.10 Determinations for Unit Prices

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

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

8.11 Decision on Disputes

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

8.12 Limitations on Engineer's Responsibilities

8.12.1 CONTRACTOR, Supplier, or Surety

Neither ENGINEER'S authority to act under this Article 8 or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or

responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

8.12.2 To Evaluate the Work

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

8.12.3 CONTRACTOR'S Means, Methods, Etc.

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

8.12.4 Acts of Omissions of CONTRACTOR

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

9. **CHANGES IN THE WORK**

9.1 **OWNER May Order Change**

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

9.2 **Claims**

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

9.3 Work Not in Contract Documents

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

9.4 Change Orders

OWNER and CONTRACTOR shall execute appropriate Change Orders covering:

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

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

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

9.5 Notice of Change

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

10. CHANGE OF CONTRACT PRICE

10.1 Total Compensation

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

10.2 Claim for Increase or Decrease in Price

The Contract Price may only be changed by a Change Order. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than

thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by CONTRACTOR'S written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of the occurrence of said event.

10.3 Value of Work

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

10.3.1 Unit Prices

Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraphs 10.9.1. through 10.9.3, inclusive).

10.3.2 Lump Sum

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

10.3.3 Cost Plus Fee

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

10.4 Cost of the Work

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

10.4.1 Payroll Costs

Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall

include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

10.4.2 Materials and Equipment Costs

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

10.4.3 Subcontractor Costs

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

10.4.4 Special Consultant Costs

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

10.4.5 Supplemental Costs

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

10.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less

market value of such items used but not consumed which remain the property of CONTRACTOR.

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

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

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

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

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

10.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site,

expressage and similar petty cash items in connection with the Work.

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

10.5 Not to Be Included in Cost of the Work

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

10.5.1 Costs of Officers and Executives

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

10.5.2 Principal Office

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

10.5.3 Capital Expense

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

10.5.4 Bonds and Insurance

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

10.5.5 Costs Due to Negligence

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

10.5.6 Other Costs

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

10.6 Contractor's Fee

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

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

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

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

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

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

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

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

10.7 Itemized Cost Breakdown

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

10.8 Cash Allowances -

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

10.8.1 Materials and Equipment

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

10.8.2 Other Costs

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

10.8.3 Change Order

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

10.9 Unit Price Work

10.9.1 General

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

10.9.2 Overhead and Profit

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

10.9.3 Claim for Increase in Unit Price

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

11. CHANGE OF CONTRACT TIME

11.1 Change Order

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

11.2 Justification for Time Extensions

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

11.3 Time Limits

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

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

12.1 Warranty and Guarantee

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

12.2 Access to Work

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

12.3 Tests and Inspections

12.3.1 Timely Notice

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

12.3.2 Requirements and Responsibilities

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

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

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

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

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

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

12.3.3 On-Site Construction Test and Other Testing

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

12.3.4 Covered Work

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

12.3.5 CONTRACTOR'S Obligation

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

12.4 OWNER May Stop the Work

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

12.5 Correction or Removal of Defective Work

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

12.6 One Year Correction Period

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

other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Change Order.

12.7 Acceptance of Defective Work

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

12.8 OWNER May Correct Defective Work

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

13. PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values

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

13.2 Application for Progress Payment

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

13.3 CONTRACTOR'S Warranty of Title

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

13.4 Review of Applications for Progress Payment

13.4.1 Submission of Application for Payment

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

13.4.2 ENGINEER'S Recommendation

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

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

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

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

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

13.5 Partial Utilization

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

13.6 Final Inspection

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

13.7 Final Application for Payment

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

13.8 Final Payment and Acceptance

13.8.1 ENGINEER'S Approval

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

13.8.2 Delay in Completion of Work

If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is

less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 10 of Part II, Information for Bidders, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

13.9 CONTRACTOR'S Continuing Obligation

CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 13.10).

13.10 Waiver of Claims

The making and acceptance of final payment will constitute:

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

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

14. SUSPENSION OF WORK AND TERMINATION

14.1 OWNER May Suspend Work

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

14.2 OWNER May Terminate

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

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

14.2.2 if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

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

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

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

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

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

14.2.8 if CONTRACTOR disregards the authority of ENGINEER, or

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

OWNER may, after giving CONTRACTOR (and the surety) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from

the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

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

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

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

14.3 CONTRACTOR'S Services Terminated

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

14.4 Payment After Termination

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

but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs).

14.5 CONTRACTOR May Stop Work or Terminate

If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within sixty days after it is submitted, or OWNER fails for sixty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 5.16 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

15. MISCELLANEOUS

15.1 Claims for Injury or Damage

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

15.2 Non-Discrimination in Employment

The CONTRACTOR shall comply with the following requirements prohibiting discrimination:

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

15.2.2 That it is an unlawful practice for an employer:

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

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

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

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

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

15.3 Temporary Street Closing or Blockage

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

15.4 Percentage of Work Performed by prime CONTRACTOR

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

15.5 Clean-up

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

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

15.6 General

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

15.7 Debris Disposal

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

END OF SECTION

PART V
SPECIAL CONDITIONS
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1. BLASTING

Blasting shall not be allowed on this project.

2.

**RISK MANAGEMENT PROVISIONS
INSURANCE AND INDEMNIFICATION**

INDEMNIFICATION AND HOLD HARMLESS PROVISION

- (1) It is understood and agreed by the parties that Contractor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (2) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.

- (5) The work and services performed hereunder involve a CONSENT DECREE as further explained in Part 1-Advertisement for Bids, provision 13. These provisions are incorporated herein by reference as if expressly stated.
- (6) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.

FINANCIAL RESPONSIBILITY

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

INSURANCE REQUIREMENTS

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

Required Insurance Coverage

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

<u>Coverage</u>	<u>Limits</u>
General Liability aggregate (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million or \$2 million combined single limit
Commercial Automobile Liability occurrence (Insurance Services Office Form CA 0001)	combined single, \$1 million per
Worker's Compensation	Statutory

Employer's Liability

\$500,000.00

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement unless it is deemed not to apply by LFUCG.
- d. The General Liability Policy shall include an Explosion-Collapse Underground (XCU) endorsement.
- e. The General Liability Policy shall include a Pollution liability and/or Environmental Casualty endorsement unless it is deemed not to apply by LFUCG.
- f. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- g. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.
- h. Owner requests that the Bidder obtain an Umbrella Liability endorsement to the CGL policy for a limit of liability of \$1 million and that this CGL policy endorsement be renewed for one (1) year after completion of this project.

Renewals

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

Deductibles and Self-Insured Programs

IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE.

Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of BIDDER/CONTRACTOR's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If BIDDER/CONTRACTOR satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, BIDDER/CONTRACTOR agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

- a. Latest audited financial statement, including auditor's notes.
- b. Any records of any self-insured trust fund plan or policy and related accounting statements.
- c. Actuarial funding reports or retained losses.
- d. Risk Management Manual or a description of the self-insurance and risk management program.
- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

Safety and Loss Control

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

Verification of Coverage

BIDDER/CONTRACTOR agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final

award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

Right to Review, Audit and Inspect

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

DEFAULT

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

3. **WAGE SCALES** – do not apply to this project.

4. **CONSTRUCTION SEQUENCE** – Contractor shall submit a Construction Sequence Plan to the Owner for review and approval. Since adequate curb heights must be established prior to storm sewer installation, it is assumed that pavement milling and texturing for the entire work area will be completed in the initial construction operations. The Contractor shall limit storm sewer installations to one street at any one time, unless otherwise approved by the Owner, and each street shall be fully re-opened to traffic before work proceeds on other streets.

5. **PLAN NOTES vs. TECHNICAL SPECIFICATIONS** - The Owner has specific construction notes on Plan Sheets 2 and 2A that include technical work requirements and specifications for some construction items such as paving and revegetation. These plan notes shall overrule any conflicting information in the Technical Specifications.

END OF SECTION

PART VI
CONTRACT AGREEMENT
INDEX

1. SCOPE OF WORK
2. TIME OF COMPLETION AND LIQUIDATED DAMAGES
3. ISSUANCE OF WORK ORDERS
4. THE CONTRACT SUM
5. PROGRESS PAYMENTS
6. ACCEPTANCE AND FINAL PAYMENT
7. THE CONTRACT DOCUMENTS
8. EXTRA WORK
9. CONSENT DECREE REQUIREMENTS
10. ENUMERATION OF SPECIFICATIONS AND DRAWINGS

PART VI

CONTRACT AGREEMENT

THIS AGREEMENT, made on the 31st day of January, 2019, by and between Lexington-Fayette Urban County Government, acting herein called "OWNER" and WRC 1, LLC dba W. Rogers Company, doing business as * (a Limited Liability Company) (~~an individual~~) (~~a partnership~~) (~~a corporation~~) located in the City of Lexington, County of Fayette, and State of Kentucky, hereinafter called "CONTRACTOR."

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of One Million One Hundred Sixty Nine Thousand Nine Hundred Fifty Nine Dollars and Zero Cents (\$1,169,959.00) quoted in the proposal by the CONTRACTOR, dated December 11, 2018, hereby agree to commence and complete the construction described as follows:

1. SCOPE OF WORK

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, and the Special Conditions of the Contract, the Specifications and Contract Documents therefore as prepared by Banks Engineering, Inc. (the Engineer) for the **WGPL STORM SEWER PROJECT**.

2. TIME OF COMPLETION AND LIQUIDATED DAMAGES

The time period estimated and authorized by the OWNER for the proper execution of the Work by the Contract, in full, is hereby fixed as **One hundred eighty (180) calendar days**. The time shall begin ten (10) days after the CONTRACTOR is given the Notice to Proceed with the Work. **TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS AGREEMENT AND CONTRACTOR SHALL BE LIABLE AND RESPONSIBLE FOR DAMAGES SUFFERED BY OWNER AS A RESULT OF THE DELAY CAUSED BY CONTRACTOR.**

Should the contractor fail or refuse to complete the work within the time specified in his Proposal and/or Contract (or extension of time granted by the owner), the Contractor shall pay liquidated damages in an amount of **\$400 per day**. The amount of liquidated damages shall in no event be considered as a penalty, nor other than an amount agreed upon by the Contractor and the Owner for damages, loses, additional engineering, additional resident representation and other cost that will be sustained by the owner, if the Contractor fails to complete the work within the specified time. Liquidated damages will be applied on a rate per day for each and every calendar day (Sundays and holidays included) beyond the Contract expiration date stipulated in the Contract Documents, considering all time extension granted. **These Liquidated Damages are in addition to any other damages/fees/penalties that are incurred as a result of Consent Decree requirements.**

3. ISSUANCE OF WORK ORDERS

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

4. THE CONTRACT SUM

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

5. PROGRESS PAYMENTS

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

6. ACCEPTANCE AND FINAL PAYMENT

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

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

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

7. THE CONTRACT DOCUMENTS

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

8. EXTRA WORK

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

9. CONSENT DECREE REQUIREMENTS

9.1 OWNER, the United States Environmental Protection Agency, and the Commonwealth of Kentucky have entered into a Consent Decree in a case styled *United States, et al. v. Lexington-Fayette Urban County Government*, United States District Court for the Eastern District of Kentucky, Case No. 5:06-CV-00386 ("CONSENT DECREE"), that requires OWNER to complete numerous projects related to its sanitary sewer system and stormwater management program within specific periods of time.

9.2 **TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS AGREEMENT.** CONTRACTOR is aware that the OWNER is subject to penalties for non-compliance with the CONSENT DECREE deadlines. The CONTRACTOR shall be specifically liable and responsible for payment of any and all penalties, fines, or fees assessed against or incurred by the OWNER as a result of any delay in, or non-performance of, any of the CONTRACTOR's obligations or responsibilities under this Contract, or for any other damages suffered by OWNER as a result of such delay or non-performance. This shall specifically include, but shall not be limited to, any penalty, fine, fee, or assessment against the OWNER by the U.S. Department of Justice, U.S. Environmental Protection Agency, and/or the Kentucky Energy and Environment Cabinet related to the Consent Decree.

9.3 The provisions of this Section and the various rates of compensation for CONTRACTOR's services provided for elsewhere in this Agreement have been agreed to in anticipation of the orderly and continuous progress of the PROJECT through completion.

9.4 If delays result by reason of acts of the OWNER or approving agencies, which are beyond the control of the CONTRACTOR, an extension of time for such delay will be considered. If delays occur, the CONTRACTOR shall immediately notify the OWNER, and within five (5) business days from the date of the delay apply in writing to the OWNER for an extension of time for such reasonable period as may be mutually agreed upon between the parties, and if approved, the PROJECT schedule shall be revised to reflect the extension. Such extension of time to the completion date shall in no way be construed to operate as a waiver on the part of the OWNER of any of its rights in the Agreement. Section 9.6 of this Agreement (Disputes) shall apply in the event the parties cannot agree upon an extension of time.

In the event that the overall delay resulting from the above-described causes is sufficient to prevent complete performance of the Agreement within six (6) months of the time specified

herein, the fees to be paid to CONTRACTOR shall be subject to adjustment as agreed upon by the parties. Section 9.6 of this Agreement shall apply in the event the parties cannot agree upon an adjustment of fee.

9.5 If delays result solely by reason of acts of the CONTRACTOR, the CONTRACTOR shall be held liable for any financial penalties incurred by the OWNER as a result of the delay, including but not limited to those assessed pursuant to the CONSENT DECREE as provided in Section 9.2, above. Section 9.6 of this Agreement (Disputes), shall apply in the event the parties cannot mutually agree upon the cause(s) associated with delays in completing project deliverables. The CONTRACTOR must immediately notify the OWNER in the event of such delay, and provide the OWNER a written action plan within five (5) business days on how it will attempt to resolve the delay.

9.6 DISPUTES

Except as otherwise provided in this Agreement, any dispute hereunder may be resolved by agreement of the OWNER’s Agent (Charles H. Martin, P.E., Director of Water Quality) and the CONTRACTOR. In the absence of such an agreement, the dispute shall be submitted to the OWNER’s Commissioner, Department of Environmental Quality, whose decision shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, capricious, arbitrary, or so grossly erroneous as necessarily to imply bad faith. Pending a final decision of a dispute hereunder, the CONTRACTOR shall proceed diligently with the performance of the Agreement in accordance with the directions of the OWNER.

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

CONSTRUCTION DRAWINGS titled **WGPL STORM SEWER PROJECT** and dated November 2018.

Section	<u>SPECIFICATIONS</u>		PAGES
	TITLE		
I	Advertisement for Bids	AB	1 thru 5
II	Information for Bidders	IB	1 thru 9
III	Form of Proposal	P	1 thru 38
IV	General Conditions	GC	1 thru 50
V	Special Conditions	SC	1 thru 6
VI	Contract Agreement	CA	1 thru 6
VII	Performance and Payment Bonds	PB	1 thru 18
VIII	Addenda	A	1 thru 1
IX	Technical Specifications Appendices		

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

(Seal)

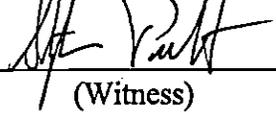
Lexington-Fayette Urban County Government.
Lexington, Kentucky

(Owner)

ATTEST:


Clerk of the Urban County Council

BY: 
MAYOR

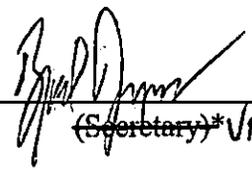

(Witness)

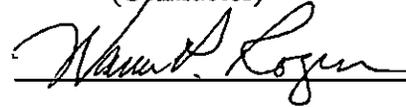
(Title)

(Seal)

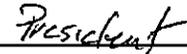
WRCL, LLC dba W. Rogers Company

(Contractor)


(Secretary)* Vice President

BY: 

(Witness)


(Title)

649 Bizzell Drive, Lexington, Kentucky 40510
(Address and Zip Code)

IMPORTANT: *Strike out any non-applicable terms.

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

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

WRC1, LLC DBA W. ROGERS COMPANY

(Name of CONTRACTOR)

649 BIZZELL DRIVE - LEXINGTON, KY 40510

(Address of CONTRACTOR)

a CORPORATION

(Corporation, Partnership, or Individual)

hereinafter

called Principal, and TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

(Name of Surety)

ONE TOWER SQUARE - HARTFORD, CT 06183

(Address of Surety)

hereinto called Surety, are held and firmly bound unto

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

Obligee, hereinafter called "OWNER" in the penal sum of:

ONE MILLION ONE HUNDRED SIXTY NINE THOUSAND dollars (\$1,169,959.00),
for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for the **WGPL STORM SEWER PROJECT, LFUCG Bid No. 155-2018** in accordance with Contract Documents prepared by Banks Engineering, Inc. and dated November 2018, which Agreement (Contract) is by reference made a part hereof, and is hereinafter referred to as the Agreement (Contract).

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

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

*NINE HUNDRED FIFTY NINE AND 00/100

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

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

Any suit under this bond must be instituted before the expiration of one (1) year from the date on which final payment under the Contract falls due.

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

IN WITNESS WHEREOF, this instrument is executed in 4 counterparts, each one of (number)

which shall be deemed an original, this the 31st day of JANUARY, 2019.

ATTEST:

[Signature]
(Principal) Secretary ~~Vice President~~

WRC1, LLC DBA W. ROGERS COMPANY
Principal

By: [Signature] (s)

649 BIZZELL DRIVE
Address

LEXINGTON, KY 40510

Robin L. Ingate
Witness as to Principal

649 Bizzell Drive
Address

Lexington, KY 40510

ATTEST:

(Surety) Secretary

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

Surety
By: [Signature]
Attorney-in-Fact

PAULETTE M. AERNI
ONE TOWER SQUARE
Address

HARTFORD, CT 06183

(SEAL)

[Signature]
Witness to Surety
USI INSURANCE SERVICES LLC
312 ELM STREET, SUITE 2300
Address

CINCINNATI, OH 45202

Title: WITNESS

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

[Handwritten mark]

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that

WRC1, LLC DBA W. ROGERS COMPANY
(Name of CONTRACTOR)

649 BIZZELL DRIVE - LEXINGTON, KY 40510
(Address of CONTRACTOR)

a CORPORATION, hereinafter
(Corporation, Partnership, or Individual)

called Principal, and TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
(Name of Surety)

ONE TOWER SQUARE - HARTFORD, CT 06183
(Address of Surety)

hereinto called Surety, are held and firmly bound unto

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

Obligee, hereinafter called "OWNER" in the penal sum of:
ONE MILLION ONE HUNDRED SIXTY NINE THOUSAND
NINE HUNDRED FIFTY NINE AND 00/100 dollars (\$1,169,959.00),
for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for the
WGPL STORM SEWER PROJECT, LFUCG Bid No. 155-2018 in accordance with Contract Documents
prepared by Banks Engineering, Inc. and dated November 2018, which Agreement (Contract) is by
reference made a part hereof, and is hereinafter referred to as the Agreement (Contract).

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

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



2. The above named Principal and Surety hereby jointly and severally agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant and have execution thereon. The OWNER shall not be liable for the payment of any costs or expenses of any such suit.
3. No suit or action shall be commenced hereunder by any claimant:
 - (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the OWNER, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the Work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the Work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, OWNER, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
 - (b) After the expiration of one (1) year following the date on which Principal ceased Work on said Agreement (Contract), it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
 - (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.



IN WITNESS WHEREOF, this instrument is executed in 4 counterparts, each one of (number)

which shall be deemed an original, this the 31st day of JANUARY, 2019.

ATTEST:

[Signature]
(Principal) Secretary Vice President

WRC1, LLC DBA W. ROGERS COMPANY
Principal

By: [Signature] (s)

649 BIZZELL DRIVE
Address

LEXINGTON, KY 40510

Robin L. Fugate
Witness as to Principal

649 Bizzell Drive
Address

Lexington, KY 40510

ATTEST:

(Surety) Secretary

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

By: [Signature] Surety

PAULETTE M. AERNI Attorney-in-Fact
ONE TOWER SQUARE
Address

HARTFORD, CT 06183

(SEAL) [Signature]
Witness to Surety

USI INSURANCE SERVICES LLC
312 ELM STREET, SUITE 2300
Address

CINCINNATI, OH 45202

Title: WITNESS

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

WCA

1.03 EROSION AND SEDIMENT CONTROL PERFORMANCE BOND

EROSION AND SEDIMENT CONTROL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

WRC1, LLC DBA W. ROGERS COMPANY

(Name of CONTRACTOR)

649 BIZZELL DRIVE - LEXINGTON, KY 40510

(Address of CONTRACTOR)

a CORPORATION, hereinafter
(Corporation, Partnership, or Individual)

called Principal, and TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
(Name of Surety)

ONE TOWER SQUARE - HARTFORD, CT 06183

(Address of Surety)

hereinto called Surety, are held and firmly bound unto

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

Obligee, hereinafter called "OWNER" in the penal sum of:

[3% of Total Bid Price] dollars (\$1,000,000), for the
payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for the
WGPL STORM SEWER PROJECT, LFUCG Bid No. 155-2018 in accordance with Contract Documents
prepared by Banks Engineering, Inc. and dated November 2018, which Agreement (Contract) is by
reference made a part hereof, and is hereinafter referred to as the Agreement (Contract).

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

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

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

1. Complete the installation, maintenance, and removal of the soil erosion and sediment controls and
final stabilization of the site during the full period of land disturbance in accordance with the
Agreement (Contract), the LFUCG Land Disturbance Permit, Chapter 16 Article X Division 5 of the
LFUCG Code of Ordinances, Chapter 11 of the LFUCG Stormwater Manual, and the KPDES General
Permit for Stormwater Discharges Associated with Construction Activities (KYR10).



2. Obtain a Bid or Bids for completing the installation, maintenance, and removal of the soil erosion and sediment controls and final stabilization of the site in accordance with the Agreement's (Contract's) terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for an Agreement (Contract) between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Agreement (Contract) or Agreements (Contracts) of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Agreement (Contract) Amount; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Agreement (Contract) Amount", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Agreement (Contract) and any amendments hereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration one (1) year from the date on which final payment under the Agreement (Contract) falls due.

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

IN WITNESS WHEREOF, this instrument is executed in 4 counterparts, each one of (number)

which shall be deemed an original, this the 31st day of JANUARY, 2019.

ATTEST:

[Signature]
(Principal) Secretary ~~Vice President~~

WRC1, LLC DBA W. ROGERS COMPANY
Principal

By: [Signature] (s)

649 BIZZELL DRIVE
Address

LEXINGTON, KY 40510

[Signature]
Witness as to Principal

649 BIZZELL DRIVE
Address

LEXINGTON, KY 40510

ATTEST:

(Surety) Secretary

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

Surety
By: [Signature]

Attorney-in-Fact
PAULETTE M. AERNI
ONE TOWER SQUARE
Address

HARTFORD, CT 06183

(SEAL)

[Signature]
Witness to Surety
USI INSURANCE SERVICES LLC
312 ELM STREET, SUITE 2300
Address

CINCINNATI, OH 45202

Title: WITNESS

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

[Handwritten mark]

WARRANTY BOND

KNOW ALL MEN BY THESE PRESENTS, that

WRC1, LLC DBA W. ROGERS COMPANY

(Name of CONTRACTOR)

649 BIZZELL DRIVE - LEXINGTON, KY 40510

(Address of CONTRACTOR)

a CORPORATION

(Corporation, Partnership, or Individual)

, hereinafter

called Principal, and TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

(Name of Surety)

ONE TOWER SQUARE - HARTFORD, CT 06183

(Address of Surety)

hereinto called Surety, are held and firmly bound unto

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

Obligee, hereinafter called "OWNER" in the penal sum of: _____

dollars (\$ _____),

for the payment of whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents. The warranty bond shall be in the amount of five percent (5%) of the final construction cost amount (based on contractor's final pay request).

WHEREAS, Principal by written agreement is entering into an Agreement (Contract) with OWNER for the **WGPL STORM SEWER PROJECT, LFUCG Bid No. 155-2018** in accordance with Contract Documents prepared by Banks Engineering, Inc. and dated November 2018, which Agreement (Contract) is by reference made a part hereof, and is hereinafter referred to as the Agreement (Contract).

NOW, THEREFORE, THE CONDITION OF THE ABOVE OBLIGATION IS SUCH that, if the Principal shall well and faithfully do and perform the required maintenance and shall indemnify and save harmless the OWNER against all claims, loss or damage, and expenses of reconstruction or additional work required to restore the Project to its acceptable condition within a period of one (1) year from the date of acceptance by OWNER of the Project, then this obligation shall be void; otherwise, it shall remain in full force and effect.

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

Any suit under this bond must be instituted before the expiration of one (1) year from the date on which final payment under the Contract falls due.

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

IN WITNESS WHEREOF, this instrument is executed in 4 counterparts, each one of (number)

which shall be deemed an original, this the 31st day of JANUARY, 2019.

ATTEST:

[Signature]
(Principal) Secretary Vice President

WRC1, LLC DBA W. ROGERS COMPANY
Principal

By: [Signature] (s)

649 BIZZELL DRIVE
Address

LEXINGTON, KY 40510

Robin R. Fugate
Witness as to Principal

649 Bizzell Drive
Address

LEXINGTON, KY 40510

ATTEST:

(Surety) Secretary

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

Surety
By: [Signature]

Attorney-in-Fact
PAULETTE M. AERNI
ONE TOWER SQUARE
Address

HARTFORD, CT 06183

(SEAL)

[Signature]
Witness to Surety

USI INSURANCE SERVICES LLC
312 ELM STREET, SUITE 2300
Address

CINCINNATI, OH 45202

Title: WITNESS

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

[Handwritten mark]

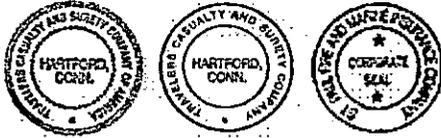


**Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Thomas W. Chatham, Richard A. Davis, Paulette M. Aerni, Thomas D. Cassidy, Anne Tierney, and Paul J. Schueler Jr.,** of Cincinnati, Ohio their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this 3rd day of February, 2017.



State of Connecticut

City of Hartford ss.

By: *Robert L. Raney*
Robert L. Raney, Senior Vice President

On this the 3rd day of February, 2017, before me personally appeared Robert L. Raney, who acknowledged himself to be the Senior Vice President of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.

My Commission expires the 30th day of June, 2021



Marie C. Tetreault
Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is:

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is:

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is:

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes,** the undersigned, Assistant Secretary of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this 3rd day of JAN 2017



Kevin E. Hughes
Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney-in-Fact and the details of the bond to which the power is attached.**

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
1/09/2019

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER USI Insurance Services LLC 312 Elm Street, 24th Floor Cincinnati, OH 45202 513 852-6300	CONTACT NAME: Beth Malone	
	PHONE (A/C, No, Ext): 513-852-6404	FAX (A/C, No): 610-537-4375
E-MAIL ADDRESS: beth.malone@usi.com		
INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A : National Fire Insurance Co. of Hartford		20478
INSURER B : Continental Insurance Company		35289
INSURER C : Liberty Insurance Underwriters, Inc.		19917
INSURER D : American Casualty Company of Reading PA		20427
INSURER E : Valley Forge Insurance Company		20508
INSURER F : Continental Casualty Company		20443

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			6045798834	09/30/2018	09/30/2019	EACH OCCURRENCE \$1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$100,000 MED EXP (Any one person) \$15,000 PERSONAL & ADV INJURY \$1,000,000 GENERAL AGGREGATE \$2,000,000 PRODUCTS - COMP/OP AGG \$2,000,000 Stop Gap \$1,000,000
E	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY			6045783072	09/30/2018	09/30/2019	COMBINED SINGLE LIMIT (Ea accident) \$1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
B	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE			CUE5094596468	09/30/2018	09/30/2019	EACH OCCURRENCE \$5,000,000 AGGREGATE \$5,000,000
C	<input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$10,000			100005919306	09/30/2018	09/30/2019	Excess Liab. \$20,000,000
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		Y/N N/A	6045798848 xcluding: AK, ND, OH, WA & WY	09/30/2018	09/30/2019	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$1,000,000 E.L. DISEASE - EA EMPLOYEE \$1,000,000 E.L. DISEASE - POLICY LIMIT \$1,000,000
F	Rented Equipment			C2097397653	09/30/2018	09/30/2019	\$1,700,000 Limit

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
A Blanket Waiver of Subrogation is included on the Workers Compensation policy where required by written contract, except in the excluded States above and KY, MO, NH & NJ.
Stop Gap coverage includes the States of OH, ND, WA & WY.
The General Liability, Automobile Liability, Umbrella/Excess Liability and Workers' Compensation policies indicated above have been endorsed to provide thirty (30) days cancellation notice to the Certificate (See Attached Descriptions)

CERTIFICATE HOLDER Lexington-Fayette Urban County Government 200 East Main Street, Third Floor Lexington, KY 40507	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 

DESCRIPTIONS (Continued from Page 1)

Holder - except for non-payment cancellation or when cancellation is requested by the named insured.

RE: Project: WGPL Storm Sewer Project, Bid No. 155-2018; Lexington, Kentucky.

The General Liability and Automobile Liability policies include automatic Additional Insured endorsements that provide Additional Insured status (ongoing & completed operations) to the Certificate Holder, only when the Named Insured has a written contract that requires such status, and only with regard to work performed by or on behalf of the named insured. Additional insured provision per forms CNA75079XX 1016 (GL) and CA2048 1013 (Auto) attached. The General Liability coverage applies on a primary and noncontributory basis when required by written contract with the named insured subject to policy terms and conditions. The General Liability policy includes Explosion, Collapse, Underground (XCU) coverage subject to policy terms and conditions.



Blanket Additional Insured - Owners, Lessees or Contractors - with Products-Completed Operations Coverage Endorsement

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

It is understood and agreed as follows:

- I. **WHO IS AN INSURED** is amended to include as an **Insured** any person or organization whom you are required by **written contract** to add as an additional insured on this **coverage part**, but only with respect to liability for **bodily injury, property damage or personal and advertising injury** caused in whole or in part by your acts or omissions, or the acts or omissions of those acting on your behalf:
 - A. in the performance of your ongoing operations subject to such **written contract**; or
 - B. in the performance of **your work** subject to such **written contract**, but only with respect to **bodily injury or property damage** included in the **products-completed operations hazard**, and only if:
 - 1. the **written contract** requires you to provide the additional insured such coverage; and
 - 2. this **coverage part** provides such coverage.
- II. But if the **written contract** requires:
 - A. additional insured coverage under the 11-85 edition, 10-93 edition, or 10-01 edition of CG2010, or under the 10-01 edition of CG2037; or
 - B. additional insured coverage with "arising out of" language; or
 - C. additional insured coverage to the greatest extent permissible by law;
 then paragraph I. above is deleted in its entirety and replaced by the following:
WHO IS AN INSURED is amended to include as an **Insured** any person or organization whom you are required by **written contract** to add as an additional insured on this **coverage part**, but only with respect to liability for **bodily injury, property damage or personal and advertising injury** arising out of **your work** that is subject to such **written contract**.
- III. Subject always to the terms and conditions of this policy, including the limits of insurance, the Insurer will not provide such additional insured with:
 - A. coverage broader than required by the **written contract**; or
 - B. a higher limit of insurance than required by the **written contract**.
- IV. The insurance granted by this endorsement to the additional insured does not apply to **bodily injury, property damage, or personal and advertising injury** arising out of:
 - A. the rendering of, or the failure to render, any professional architectural, engineering, or surveying services, including:
 - 1. the preparing, approving, or failing to prepare or approve maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; and
 - 2. supervisory, inspection, architectural or engineering activities; or
 - B. any premises or work for which the additional insured is specifically listed as an additional insured on another endorsement attached to this **coverage part**.
- V. Under **COMMERCIAL GENERAL LIABILITY CONDITIONS**, the Condition entitled **Other Insurance** is amended to add the following, which supersedes any provision to the contrary in this Condition or elsewhere in this **coverage part**:

30020003460457988349890



**Blanket Additional Insured - Owners, Lessees or
Contractors - with Products-Completed
Operations Coverage Endorsement****Primary and Noncontributory Insurance**

With respect to other insurance available to the additional insured under which the additional insured is a named insured, this insurance is primary to and will not seek contribution from such other insurance, provided that a **written contract** requires the insurance provided by this policy to be:

1. primary and non-contributing with other insurance available to the additional insured; or
2. primary and to not seek contribution from any other insurance available to the additional insured.

But except as specified above, this insurance will be excess of all other insurance available to the additional insured.

VI. Solely with respect to the insurance granted by this endorsement, the section entitled **COMMERCIAL GENERAL LIABILITY CONDITIONS** is amended as follows:

The Condition entitled **Duties In The Event of Occurrence, Offense, Claim or Suit** is amended with the addition of the following:

Any additional insured pursuant to this endorsement will as soon as practicable:

1. give the Insurer written notice of any **claim**, or any **occurrence** or offense which may result in a **claim**;
2. send the Insurer copies of all legal papers received, and otherwise cooperate with the Insurer in the investigation, defense, or settlement of the **claim**; and
3. make available any other insurance, and tender the defense and indemnity of any **claim** to any other insurer or self-insurer, whose policy or program applies to a loss that the Insurer covers under this **coverage part**. However, if the **written contract** requires this insurance to be primary and non-contributory, this paragraph 3. does not apply to insurance on which the additional insured is a named insured.

The Insurer has no duty to defend or indemnify an additional insured under this endorsement until the Insurer receives written notice of a **claim** from the additional insured.

VII. Solely with respect to the insurance granted by this endorsement, the section entitled **DEFINITIONS** is amended to add the following definition:

Written contract means a written contract or written agreement that requires you to make a person or organization an additional insured on this **coverage part**, provided the contract or agreement:

- A. is currently in effect or becomes effective during the term of this policy; and
- B. was executed prior to:
 1. the **bodily injury** or **property damage**; or
 2. the offense that caused the **personal and advertising injury**;for which the additional insured seeks coverage.

Any coverage granted by this endorsement shall apply solely to the extent permissible by law.

All other terms and conditions of the Policy remain unchanged.

This endorsement, which forms a part of and is for attachment to the Policy issued by the designated Insurers, takes effect on the effective date of said Policy at the hour stated in said Policy, unless another effective date is shown below, and expires concurrently with said Policy.

CNA75079XX (10-16)

Page 2 of 2

Nat'l Fire Ins Co of Hartford

Insured Name: WDJ HOLDINGS, LLC

Policy No: 6045798834

Endorsement No: 9

Effective Date: 09/30/2018



DESIGNATED INSURED FOR COVERED AUTOS LIABILITY COVERAGE

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the following:

- AUTO DEALERS COVERAGE FORM
- BUSINESS AUTO COVERAGE FORM
- MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

This endorsement identifies person(s) or organization(s) who are "insureds" for Covered Autos Liability Coverage under the Who Is An Insured provision of the Coverage Form. This endorsement does not alter coverage provided in the Coverage Form.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

<p>Named Insured: WDJ HOLDINGS, LLC</p> <p>Endorsement Effective Date: 09/30/2018</p>

SCHEDULE

Name Of Person(s) Or Organization(s):

Any person or organization for whom you have agreed in a written contract or written agreement to add as an additional insured on this coverage part, provided the written contract or written agreement was executed prior to

the "bodily injury" or "property damage" for which the additional insured seeks coverage under this coverage part

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Each person or organization shown in the Schedule is an "insured" for Covered Autos Liability Coverage, but only to the extent that person or organization qualifies as an "insured" under the Who Is An Insured provision contained in Paragraph A.1. of Section II - Covered Autos Liability Coverage in the Business Auto and Motor Carrier Coverage Forms and Paragraph D.2. of Section I - Covered Autos Coverages of the Auto Dealers Coverage Form.

Form No: CA 20 48 10 13	Endorsement Expiration Date:	Policy No: BUA 6045783072
Endorsement Effective Date:		Policy Effective Date: 09/30/2018
Endorsement No: 5; Page: 1 of 1		Policy Page: 40 of 84
Underwriting Company: Valley Forge Insurance Company, 151 N Franklin St, Chicago, IL 60606		

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MAYOR JIM GRAY



LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

ADDENDUM #1

Bid Number: #155-2018

Date: November 29, 2018

Subject: WGPL Storm Sewer Project

Inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarification/attachments to the above referenced Bid:

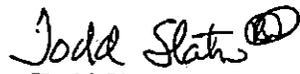
Bid Opening date has been extended until Friday December 7, 2018 at 2:00 PM EST.

Addendum Items

Pre-bid Meeting Minutes

Pre-bid sign in sheet.

Revised Bid Items to be used with bid form.


Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: _____

ADDRESS: _____

SIGNATURE OF BIDDER: _____

ADDENDUM NO. 1
WGPL Storm Sewer Project
Bid No. 155-2018

To: All Planholders
Project: WGPL Storm Sewer Project
Date: November 29, 2018
Subject: Revisions to Contract Documents

All Planholders shall incorporate the following into the Contract Documents for the referenced project:

1. A pre-bid meeting was held on November 27, 2018 at the LFUCG Division of Water Quality. The minutes of the meeting and list of attendees are included below as Attachment No. 1.
2. Construction staking was deleted as a pay item, and compensation for that work is to be included in the pay item for General Conditions. The relocation of existing sanitary sewers that are physically in conflict with the proposed storm sewers has been added as a pay item. The revised Bid Schedule is included below as Attachment No. 2. Bidders shall replace the relevant pages in the contract documents with these five (5) pages.
3. Methods of payment for various items have been revised, and a complete replacement of Section 01025 of the Technical Specifications is included below as Attachment No. 3. The changes have been highlighted.
4. Regarding any underground exploration to determine existing elevations of utility crossings (gas/water/sanitary), the Owner has no knowledge of explorations made by private utilities. Regarding the sanitary sewers, elevations of sanitary sewer collector lines are shown on the plans. CCTV information is available for all or part of the sanitary sewers which show lateral connections to the main but does not contain information about locations or elevations of sewer laterals between the main sewer and the properties.
5. Contrary to Note 1 under "PERMITS" on Sheet 2 of the Plans, the Contractor shall obtain and pay for the LFUCG Right-of-Way and Street Cut Permits.
6. All storm sewer trenches shall be backfilled and restored in accordance with LFUCG Standard Drawing 201-3, with flowable fill backfill regardless of trench depth. Trenches for storm sewer laterals and sanitary sewer laterals shall be backfilled with flowable fill to the top of the milled pavement surface. All

bedding, backfill, and concrete cap for storm sewers and laterals are incidental to pipe installations.

7. Technical Specification Section 02510, paragraph 3.03 shall be modified to include the following: Pavement milling equipment must be a self-contained piece of equipment whose sole purpose is milling pavement. It cannot be an attachment to another piece of equipment. It must be able to mill a path at least 6 feet wide and 12 inches deep.
8. Technical Specification Section 02930, paragraph 3.01 shall be modified to include the following: The Contractor shall maintain, repair, and water sodding for a minimum of two (2) weeks after installation and obtain the Owner's written acceptance of the condition of the sodding before discontinuing the maintenance and watering.
9. The Contractor will be trenching parallel to and across existing utility trenches and should anticipate some amount of material (stone or soil backfill) falling into the new trench. The contractor should make every effort to keep this to a minimum. The excavation and removal of this material and additional backfill, saw cutting and concrete cap as a result of this fall-in will be incidental to the installation of the new pipe, structures and laterals.
10. On Sheet 3 of the Plans, the removal of the existing concrete flume and 1' x 2' box culvert between the diversion structure and Manhole B2-1 shall be incidental to the installation of the proposed elliptical pipe.
11. There is no change to the bid submittal deadline at this time.

Attachments

1. Pre-bid meeting agenda and minutes
2. Revised Bid Schedule – Schedule of Values (pages P-6 through P-10 of the Contract Documents)
3. Revised Section 01025 of the Technical Specifications

END OF ADDENDUM NO. 1

WGPL Storm Sewer Project

Lexington-Fayette Urban County Government

SUBJECT: Pre-bid Conference Minutes
LOCATION: LFUCG Division of Water Quality
DATE & TIME: November 27, 2018, 9:00 a.m.
ATTENDANCE: See attached sign-in sheets

Bidding

1. Mr. Brian Marcum of LFUCG Central Purchasing summarized the bidding requirements included in the contract documents, including the deadline for questions and answers.
2. Ms. Sherita Miller of LFUCG Central Purchasing summarized the Minority Business program requirements in the contract documents and emphasized the documents that are required to be included in the bid submissions.
3. Bids will be received at the LFUCG Division of Central Purchasing, 3rd floor of the Government Center, until 2:00 p.m. on December 4, 2018. Bids will be opened and read aloud at that time.
4. Bids must include all of the required forms and documents contained in the bid package.

Utilities

5. Water and gas utilities shown on the plans that are in conflict with the proposed construction will be relocated by others during the project. The Contractor shall coordinate with Columbia Gas and Kentucky American Water to accommodate their work, and with the Division of Water Quality for sanitary sewer service line relocations to be performed by the Contractor. *[In response to a question, the Contractor may work on other streets if temporarily delayed by utility relocations, although only one street may be closed to through traffic at any time. If work is suspended the trench must be protected by a plate or other means.]*
6. Sanitary sewer service lines in conflict with the proposed storm sewer shall be relocated by the Contractor from the collector sewer to the right-of-way line, with a cleanout installed and a connection to the existing sewer lateral at that location. A pay item will be added to the bid proposal for this work.

Construction

7. The general project purpose is to install a storm drainage system to reduce local flooding and provide discharge conduits for sump pump redirections.
8. A field office is not required for this project. The Contractor is responsible for all staging areas and borrow/waste sites. The anticipated staging area shown on the plans is within the regulatory floodplain, and the Contractor shall protect the materials and equipment

accordingly. *[In response to a question, if the Contractor uses the designated area for construction operations the area may be cleared with the exception of the trees marked to be protected. As per the contract documents, the Contractor must receive approval from the Owner before removing any trees.]*

9. Contractor shall maintain access to private properties to the extent practicable. All trenches shall be covered and protected during non-work hours. Maintenance of traffic to be closely coordinated with Division of Traffic Engineering.
10. All streets within the work area are to be resurfaced (full-width) to the limits shown on the plans. To establish / re-establish adequate curb heights for curb inlet installations, a variable-depth milling operation will be required. See milling & overlay details and notes on Sheet 2A.
11. In this project the storm sewer lateral work (see details and notes on Sheet 2A) will end with the installation of the cleanouts. Lateral locations shown on the plans are approximate, and field adjustments may be necessary as directed by the Owner. After construction is complete, property owners will coordinate the sump pump redirections by other contractors.
12. The Contractor shall adjust proposed rim and grate elevations shown on the plans based on the variable-depth milling referenced above and the 1.5-inch overlay.
13. Rock soundings were obtained throughout the project area in grassed areas adjacent to the streets; approximate depths are shown on the plans.
14. The general notes on Sheet 2 supersede any discrepancies in the remainder of the contract documents.
15. The future green infrastructure basin shown on sheets 2C and 3 will be constructed by others. At this time the basin construction is anticipated to commence in the spring or early summer of 2019 and the storm sewer contractor will need to accommodate the presence of the basin contractor.
16. Construction of the storm sewer project begins with the proposed diversion structure shown on Sheet 3 and detailed on Sheet 14, with a surface discharge to the existing concrete channel and an opening in the structure to be covered with a removable plate. The future basin contractor will remove the plate and connect a new pipe to the diversion structure.
17. Special structures detailed on Sheet 14 may be precast.

Permits

18. Permit approvals from the Kentucky Division of Water for Floodplain Construction has been acquired by the Owner.
19. The Owner has acquired all right of way, permanent easements, and temporary easements that are shown on the plans. All other easements, permitting, and/or notifications associated with the work on this project to include all costs, testing, notices of intents, storm water pollution prevention plans, etc., for this project shall be the responsibility of the Contractor.

Erosion and Sediment Control

20. Mr. Richard Walker of Tetra Tech summarized the erosion and sediment control and Stormwater Pollution Prevention Plan (SWPPP) policies described in sections 02371, 02372, and 02374 of the contract documents with an emphasis that the Contractor will take ownership of the SWPPP (included in the contract documents or as they develop, with LFUCG approval). The SWPPP is the Contractor's plan. Bidders are advised that only the ESC measures for the west end of Goodrich Avenue are shown on the plans. All other inlets in the project area are to be protected and plans are to be "red-lined" to indicate such.
21. Since the anticipated soil disturbance does not exceed one acre, a KYR10 permit is not required. However, a LFUCG Land Disturbance Permit is required.
22. All erosion control features must be inspected after a 0.5-inch rainfall or a 4-inch snowfall.
23. Payment for erosion control activities shall be as described on Item 1 on page 02374-4 of the contract documents.



WGFL STORM SEWER PROJECT
 Pre-bid Meeting - November 27, 2018
 SIGN IN SHEET



NAME	ORGANIZATION	ADDRESS	PHONE	EMAIL
1 JOHN STEINMETZ	BANKS ENGR.	NICHOLAVILLE, KY 879 W. 1504 KUNN RD	881-0020	JSTEINMETZ@BANKSENGR.COM
2 Homer Hurst Jr	ComHurst LLC	879 W. 1504 KUNN RD Wallingford, Ky. 41093 P.O. Box 455	606.742.2979	homerhurstjr@gmail.com
3 TERRY BRYAN	Hoework, LLC	576 PHEASANTS LANE, KY 40165	502-492-1877	Hoework@HOTMAIL.COM
4 Greg Libeck	LFUGG. DWA		859 258 3446	glibeck@lexingtonky.gov
5 Jeremy Johnson	Talk Johnson Contr.	997 DILLON ST. DANVILLE, KY 40442	859-326-0335	jeremy@talkjohnsoncontracting.com
6 STEVEN VOARL	STRAND	1525 BULL LEA RD LEXINGTON, KY 40509	859-351-2912	STEVEN.VOARL@STRAND.COM
7 Richard Waller, Tetra Tech				richard.waller@tetratech.com
8 DUCK W. DEWITT	W. ROGERS CONCRETE	649 BEECH DRIVE LEXINGTON KY 40510	851-231-0210	ESTIMATE@WROGERS.COM
9 LIZ SEBREN	LFULL - DWA		859-425-2087	ESBREN@LEXINGTONKY.GOV
10 Brian Rutz	Core & Main	2141 CHRISTIAN RD LEXINGTON, KY 40503	859-619-6119	brian.rutz@coreandmain.com
11 Richard Hall	DWA		859-425-244	rhall2@lexingtonky.gov
12 Ray Summers	Woodbury & Sons		812-246-1459	
13 Dylan Murphy	ATS Construction	3009 ATKINSON AVE, ST. YVES LEXINGTON, KY 40509	859-223-7001	dmurphy@atsconstruction.com
14 R.L. Day	LFULLS - DWA			

	NAME	ORGANIZATION	ADDRESS	PHONE	EMAIL
15	SHERRA MILLER	LEADS PERCEPTIONS	200 E. MAIN ST.	859-258-3323	smiller@lexingtonky.gov
16	BRIAN MARSH	LEADS -	200 E. MAIN ST.	859 258-3320	brianm@lexingtonky.gov
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4. BID SCHEDULE – SCHEDULE OF VALUES

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

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

If a discrepancy between the unit price and the item total exists, the unit price prevails except:

If the unit price is illegible, omitted, or the same as the item total, item total prevails and the unit price is the quotient of the item total and the quantity.

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

For a lump sum based bid, the item total is the bid amount the Division uses for bid comparison.

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

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

The contract, if awarded, will be on the basis of materials and equipment specified in the specifications without consideration of possible substitute or “or equal” items.

The estimated quantities of items of unit price work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract price. Determination of the actual quantities and classification of unit price work performed by the Contractor will be made by the Engineer in accordance with the General Conditions.

WGPL Storm Sewer Project – Bid Items

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
1.	1	LS	Mobilization (5% maximum)		
			Dollars		
			Cents	\$ _____	\$ _____
			Per Lump Sum		
2.	1	LS	General Conditions		
			Dollars		
			Cents	\$ _____	\$ _____
			Per Lump Sum		

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
3.	19	EA	LFUCG Type "A" Manhole – 4' Diameter	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
4.	6	EA	4' Non-Circular Manhole	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
5.	25	EA	LFUCG Type "D" Curb Inlet	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
6.	2	EA	3' x 6' Double Curb Inlet	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
7.	2	EA	9'-4" x 2' Triple Curb Inlet	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
8.	1	EA	LFUCG Surface Inlet Type "B"	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
9.	1	EA	15" Nyloplast Drain Basin with Domed Grate	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
10.	1	EA	KYTC Drop Box Inlet Type 12A Modified	Dollars	
				Cents	\$ _____
			Per Each		\$ _____
11.	1	LS	Diversion Structure	Dollars	
				Cents	\$ _____
			Per Lump Sum		\$ _____
12.	167	LF	Storm Sewer Pipe – 12-inch (up to 8 feet deep)	Dollars	
				Cents	\$ _____
			Per Linear Foot		\$ _____

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
13.	2,488	LF	Storm Sewer Pipe – 15-inch (up to 8 feet deep)		
			Dollars	_____	
			Cents	_____	
			Per Linear Foot	\$ _____	\$ _____
14.	1,778	LF	Storm Sewer Pipe – 18-inch (up to 8 feet deep)		
			Dollars	_____	
			Cents	_____	
			Per Linear Foot	\$ _____	\$ _____
15.	373	LF	Storm Sewer Pipe – 24-inch Equiv. RCEP		
			Dollars	_____	
			Cents	_____	
			Per Linear Foot	\$ _____	\$ _____
16.	55	EA	Storm Sewer Cleanout		
			Dollars	_____	
			Cents	_____	
			Per Each	\$ _____	\$ _____
17.	1,200	LF	Sump Pump Lateral – 6-inch		
			Dollars	_____	
			Cents	_____	
			Per Linear Foot	\$ _____	\$ _____
18.	1,000	LF	Relocate Existing Sanitary Sewer Lateral – 4-inch		
			Dollars	_____	
			Cents	_____	
			Per Linear Foot	\$ _____	\$ _____
19.	6	EA	Connect Existing Pipe or Structure		
			Dollars	_____	
			Cents	_____	
			Per Each	\$ _____	\$ _____
20.	4,000	LF	Remove Existing Curb		
			Dollars	_____	
			Cents	_____	
			Per Linear Foot	\$ _____	\$ _____
21.	4,800	LF	Concrete Header Curb		
			Dollars	_____	
			Cents	_____	
			Per Linear Foot	\$ _____	\$ _____
22.	280	SY	Concrete Sidewalk		
			Dollars	_____	
			Cents	_____	
			Per Square Yard	\$ _____	\$ _____

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid	
23.	50	SY	Sidewalk Ramp	Dollars	\$ _____	\$ _____
				Cents		
			Per Square Yard			
24.	275	SY	Concrete Entrance Pavement	Dollars	\$ _____	\$ _____
				Cents		
			Per Square Yard			
25.	7	CY	Unfinished Concrete (for pipe supports, etc.)	Dollars	\$ _____	\$ _____
				Cents		
			Per Cubic Yard			
26.	1.5	CY	Concrete, Class A	Dollars	\$ _____	\$ _____
				Cents		
			Per Cubic Yard			
27.	180	LB	Steel Reinforcement	Dollars	\$ _____	\$ _____
				Cents		
			Per Pound			
28.	2,200	TN	Pavement Milling and Texturing	Dollars	\$ _____	\$ _____
				Cents		
			Per Lump Sum			
29.	1,250	TN	Class 2 Asphalt Surface, 0.38B PG64-22	Dollars	\$ _____	\$ _____
				Cents		
			Per Ton			
30.	2	EA	Remove Existing Tree (5" – 12")	Dollars	\$ _____	\$ _____
				Cents		
			Per Each			
31.	2	EA	Remove Existing Tree (12" – 24")	Dollars	\$ _____	\$ _____
				Cents		
			Per Each			
32.	2	EA	Remove Existing Tree (24" – 36")	Dollars	\$ _____	\$ _____
				Cents		
			Per Each			

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price Written in words	Unit Price	Total Amount Bid
33.	2	EA	Remove Existing Tree (over 36")		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Each		
34.	2,000	SY	Seeding and Protection		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Square Yard		
35.	2,500	SY	Sodding		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Square Yard		
36.	1	EA	Project Sign		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Each		
37.	1	LS	Maintain and Control Traffic		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Lump Sum		
38.	1	LS	Erosion Control		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Lump Sum		
39.	300	TN	No.2 Stone for Subgrade Rehabilitation		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Ton		
40.	1	LS	Demobilization (1-1/2% minimum)		
			Dollars	\$ _____	\$ _____
			Cents		
			Per Lump Sum		

TOTAL OF ALL BID PRICES FOR WGPL Storm Sewer Project (Items 1 through 40) in words and figures. In case of discrepancy, the amount shown in words will govern.

_____ (\$ _____).

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall furnish all necessary labor, machinery, tools, apparatus, equipment, materials, services and other necessary supplies and perform all work shown on the Drawings and/or described in the Specifications and Contract Documents at the lump sum price or unit prices provided in the Agreement. Should it become necessary to adjust the project scope, the unit prices provided in the Contractor's Bid shall be used as appropriate. The methodology used to calculate adjustments shall be as provided in this section and as approved by the Engineer.

1.02 COMPUTATION OF QUANTITIES

- A. Measurement of areas for pay quantities shall generally be based on polygons in digital drawings derived from field surveys or proposed designs. For estimating quantities in which the computation of areas by geometric methods would be comparatively laborious, it is agreed that the planimeter shall be considered an acceptable instrument of precision for the measurement of such areas.
- B. It is further agreed that the computation of the volume of prisms shall be by the method of average end area or the comparison of differing surfaces using digital terrain modeling.

1.03 PROGRESS AND PAYMENT SCHEDULES (see General Conditions)

- A. Within fifteen (15) days after the date of formal execution of the Agreement, the Contractor shall prepare and submit to the Engineer, for approval, a construction schedule which depicts the Contractor's plan for completing the Contract requirements and show work placement in dollars versus Contract time. The Engineer must approve the Contractor's construction schedule before any payments will be made on this Contract.
- B. Within fifteen (15) days after the date of formal execution of the Agreement, the Contractor shall prepare and submit to the Engineer, for approval, a periodic estimate which depicts the Contractor's cost for completing the Contract requirements and shows by major unit of the project work the Contractor's dollar value for the material and the labor (two separate amounts) to be used as a basis for the periodic payments. The Engineer must approve the Contractor's periodic estimate before any payments will be made on this Contract.

- C. The Engineer's decision as to sufficiency and completeness of the Contractor's construction schedule and periodic estimate will be final.
- D. The Contractor must make current, to the satisfaction of the Engineer, the construction schedule and periodic estimate each time he requests a payment on this Contract.
- E. The Contractor's construction schedule and periodic estimate must be maintained at the construction site available for inspection and shall be revised to incorporate approved change orders as they occur.
- F. When the Contractor requests a payment on this Contract, it must be on the approved periodic estimate and be current. Further, the current periodic estimate and construction schedule (both updated and revised) shall be submitted for review and approval by the Engineer before monthly payments will be made by the Owner. The Contractor shall submit five (5) current copies of each (periodic estimate and construction schedule) when requesting payment.

1.04 CONDITIONS FOR PAYMENT (see General Conditions)

- A. The Owner will make payments for acceptable work in place and materials properly stored on-site. The value of payment shall be as established on the approved construction schedule and periodic estimate, EXCEPT the Owner will retain ten percent (10%) of the work in place and a percentage as hereinafter listed for items properly stored or untested.
- B. No payment will be made for stored materials unless a proper invoice from the supplier is attached to the pay request. Furthermore, no item whose value is less than \$1,000.00 will be considered as stored materials for pay purposes.
- C. No payment will be made for the labor portion of items until items have been tested and accepted by the Engineer.
- D. Payment for equipment items shall be limited to ninety percent (90%) of their scheduled value (materials portion only) until they are set in place. Ninety percent (90%) payment for stored materials and equipment shall be contingent on proper on-site storage as recommended by the manufacturer or required by the Engineer.
- E. Payment for equipment items set in-place shall be limited to ninety percent (90%) of their scheduled value until they are ready for operation and have been certified by the manufacturer. Ninety percent (90%) payment for installed equipment shall be contingent on proper routine maintenance of the equipment in accordance with the manufacturer's recommendations.

- F. Payment for the labor portion of equipment items will be subject only to the degree of completeness and the appropriate retainage as described in the General Conditions.
- G. The Owner shall reduce the percent of retainage once the Project has achieved satisfactory progress and is at the fifty percent (50%) construction status. The dollar amount of retainage for work-in-place will not be reduced but will remain constant following the fifty percent (50%) constructed status. The retainage on the equipment items shall be determined as defined hereinbefore.

1.05 CLAIMS FOR EXTRA WORK (see General Conditions)

- A. If the Contractor claims that any instructions by Drawings or otherwise involve extra cost, he shall give the Engineer written notice of said claim within ten (10) days after the receipt of such instructions, and in any event before proceeding to execute the work, stating clearly and in detail the basis of his claim or claims. No such claim shall be valid unless so made.
- B. Claims for additional compensation for extra work, due to alleged errors in spot elevations, contour lines or bench marks, will not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material or performing more work than would be reasonably estimated from the Drawings and topographical maps issued.
- C. Any discrepancies which may be discovered between actual conditions and those represented by the topographical maps and Drawings shall at once be reported to the Engineer, and work shall not proceed, except at the Contractor's risk, until written instructions have been received by him from the Engineer.
- D. If, on the basis of the available evidence, the Engineer determines that an adjustment of the Contract Price or time is justifiable, the procedure shall then be as provided herein for "Changes in Work".
- E. By execution of this Contract, the Contractor warrants that he has visited the site of the proposed work and fully acquainted himself with the conditions there existing relating to construction and labor, and that he fully understands the facilities, difficulties and restrictions attending the execution of the work under this Contract. The Contractor further warrants that he has thoroughly examined and is familiar with the Drawings, Specifications and all other documents comprising the Contract. The Contractor further warrants that by execution of this Contract his failure when he was bidding on this Contract to receive or examine any form, instrument or document or to visit the site and acquaint himself with conditions there existing, in

no way relieves him from any obligation under the Contract, and the Contractor based on facts regarding which he should have been on notice as a result thereof.

1.06 DETERMINATION OF THE VALUE OF EXTRA (ADDITIONAL) OR OMITTED WORK (see General Conditions)

- A. The value of extra (additional) or omitted work shall be determined in one or more of the following ways:
 - 1. On the basis of the actual cost of all the items of labor (including on-the-job supervision), materials and use of equipment plus a maximum of fifteen percent (15%) which shall cover the Contractor's general supervision, overhead and profit. In case of subcontracts, the fifteen percent (15%) is interpreted to mean the subcontractor's supervision, overhead and profit, and an additional five percent (5%) may then be added to such costs to cover the General Contractor's supervision, overhead and profit. The cost of labor shall include required insurance, taxes and fringe benefits. Equipment costs shall be based on current rental rates in the areas where the work is being performed, but in no case shall such costs be greater than the current rates published by the Associated Equipment Distributors, Chicago, Illinois.
 - 2. By estimate and acceptance in a lump sum.
 - 3. By unit prices named in the Contract or subsequently agreed upon.
- B. The cost or estimated cost of all extra (additional) work shall be determined in advance of authorization by the Engineer and approved by the Owner.
- C. All extra (additional) work shall be executed under the conditions of the original Contract. Any claim for extension of time shall be adjusted according to the proportionate increase or decrease in the final total cost of the work unless negotiated on another basis.
- D. Except for over-runs in Contract unit price items, no extra (additional) work shall be done except upon a written Change Order from the Engineer, and no claim on the part of the Contractor for pay for extra (additional) work shall be recognized unless so ordered in writing by the Engineer.

PART 2 - PRODUCTS

2.01 MOBILIZATION AND DEMOBILIZATION

Payment for the Contractor's mobilization and demobilization will be made at the Contract lump sum price and shall include all cost incurred for moving equipment to and from the Project area and any pertinent costs related thereto. The lump sum price for mobilization and demobilization shall not exceed five (5) percent of the total

contract amount. Payment for the mobilization portion will be made in the first partial payment to the Contractor and shall not exceed 75 percent of the lump sum cost for mobilization and demobilization. Payment for the demobilization (remaining) portion shall be made in the final payment to the Contractor.

2.02 GENERAL CONDITIONS

Payment for General Conditions will be made at the Contract lump sum price and shall include compensation for insurance, performance and payment bonds, construction staking, and any other items required under bidding requirements, Contract forms and conditions of the Contract that are not included in other pay items. Up to forty (40) percent of the total lump sum price for General Conditions will be paid in the first pay request, with the remainder prorated throughout the duration of the Contract.

2.03 STORMWATER STRUCTURES

Stormwater structures shall include headwalls, junction boxes, stormwater manholes, drop box inlets, curb box inlets, flumes, and other transitional structures used in the construction of storm sewers or culverts. Payment will be based on the Contract unit price each and shall include the furnishing and installation of the concrete structure and all materials or equipment incidental to the structure. The unit price shall include, but not necessarily be limited to, the base, barrels, eccentric cone top section, top slab, stops, flexible pipe to manhole gasket, cast iron frame and covers, safety grates, and orifice plates. Also included are excavation (including rock excavation), earth backfill, and all other materials not specifically delineated herein, but necessary to complete the construction of the storm water structures as shown on the Drawings.

For manholes greater than 8 feet in depth, the additional manhole barrel will be paid for at the Contract unit price per vertical foot of additional depth, in place, if a separate line item is included in the Contract Bid Form. No separate payment will be made for additional steps that may be required.

2.04 STORM SEWER PIPES

Work under this Section shall include all labor, excavation, materials, equipment, bedding and backfilling in accordance to the Contract Documents or KDOH Standard Drawings, and all incidentals necessary to construct Storm Sewer of the type and the sizes indicated on the Drawings. RCP (Reinforced Concrete Pipe) shall be Class III and shall meet the requirements of KDOH Section 810. HDPE is permitted, as listed in the Contract Documents.

Accepted quantities under this Section will be paid for at the respective Contract Unit Price per linear foot as measured to the interior wall of structures and/or headwalls. Surface restoration (seeding, sod, pavement, etc.) will be paid separately under the appropriate Bid Items and the pay limits for surface restoration shall be in accordance with the appropriate Standard Drawings. All trenching, bedding, backfill (including trench cap), and testing of storm sewers shall be incidental to the payment for linear feet of installed pipe.

Payment for 6-inch Sump Pump Service Laterals shall be made at the Contract unit price per linear foot, which shall include all excavation, installation, connections to storm sewers, flowable fill backfill, and piping, fittings, connections, etc. necessary for a complete installation. Cleanouts are a separate pay item.

2.05 CLEANOUTS

Payment for cleanouts will be made at the Contract unit price each, complete in place, including all excavation, material, fittings, riser piping, concrete pad, lid, backfilling, and labor necessary to complete the installation. Removal of existing sidewalks necessary to install cleanouts shall be incidental. Surface restoration including curb, sidewalks, sodding, etc. shall be separate pay item(s). Cleanout covers for stormwater sump pump laterals shall be marked "STORM C.O." as per East Jordan Iron Works Product #00156633, or equal. Cleanout covers for sanitary sewer laterals shall comply with the LFUCG Sanitary Sewer and Pump Station Manual.

2.06 RELOCATE EXISTING SANITARY SEWER LATERAL

Payment for the relocation of existing sanitary sewer laterals that are in physical conflict with proposed storm sewers shall be made at the Contract unit price per linear foot, which shall include all excavation, maintenance of sewer flows, removal of existing sewer lateral sections, installation, connections to the existing sanitary sewer and the existing sewer lateral at the right-of-way line, flowable fill backfill, and piping, fittings, connections, etc. necessary for a complete installation. Cleanouts are a separate pay item.

Replacement of existing sanitary sewer laterals which are not in physical conflict with proposed storm sewers, but are damaged by the Contractor, shall be repaired by the Contractor at no additional cost. These repairs may be made as spot repairs using appropriate couplings and fittings.

2.07 CONNECT TO EXISTING PIPE OR STRUCTURE

Work for this Section shall include all labor, excavation, materials, equipment, and incidentals to make connections to existing pipes, manholes or curb box inlets where

required. For structure connections the existing manhole and/or curb box inlet shall be drilled and/or sawed in a neat manner to allow for the smoothest connection possible. Once the connection is made, the annulus between the pipe and the structure shall be filled with non-shrink grout and the entire area around the connection shall be filled with cement concrete. No fill shall be placed on the concrete before hardening has occurred. For connections to existing pipes, this item shall include any sleeves and/or short sections of pipe necessary for a firm connection.

2.08 DEMOLITION – REMOVE EXISTING CURB

Work for this Section shall conform to the Contract Documents or Kentucky Department of Highways Standard Specifications, Section 203, current edition and shall include all labor, materials, equipment, excavation, disposal, and incidentals necessary to complete Work.

Payment for the accepted quantity of "Remove Existing Curb", if specified, will be made at the Contract Unit Price per linear foot, which payment shall be full compensation for all Work required by this Section. Demolition of other items to be replaced in this project shall be incidental to the installation of those items.

2.09 CURB AND GUTTER AND HEADER CURB

Payment for various types of curb and gutter and/or header curb will be made at the Contract unit price per linear foot. Payment shall include all work, materials and labor necessary to complete the construction, including the placement of aggregate base if so shown on the Plans.

Accepted quantities for Curb and Gutter and/or Header Curb will be paid at the Contract Unit Price as quoted (which shall be full compensation for all Work under this Section) and paid per linear foot satisfactorily installed. All labor, materials, equipment, and excavation shall be incidental to this work or other pay items.

2.10 CONCRETE PAVEMENT, SIDEWALKS, ENTRANCES, AND SIDEWALK RAMPS

This Work consists of the construction of concrete pavement, sidewalks, entrances, and/or sidewalk ramps on thoroughly compacted subgrades in accordance with the Plans, Contract Documents, and Specifications and KDOH Standard Drawings, current edition. Work in this section shall also conform to Sections 207, 601, 505, 801, 802, 803, 804, 805, and 823 of the Kentucky Department of Highways (KDOH) Standard Specifications, current edition.

Accepted quantities for Concrete Pavement, Sidewalks, Entrances, and/or Sidewalk Ramps (including tactile warning tile) will be paid for at the individual Contract Unit

Price per square yard as quoted and shall be full compensation for all Work required under this Section including subgrade preparation and base material. All required labor, materials, excavation, fill, equipment, and incidentals shall be included in payment for the work. Removal of existing concrete entrances to be replaced, and pavement/sidewalks to be replaced with sidewalk ramps, is incidental and no additional payment shall be made for this work.

2.11 FORMED CLASS A CONCRETE, UNFINISHED CONCRETE, and STEEL REINFORCEMENT

Formed Class A Concrete and Unfinished Concrete for encasement, capping trenches, fill for cavities or voids and mass footings shall conform to the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, Section 601, Current Edition, and shall include all labor, materials, equipment and incidentals necessary to complete the Work.

Accepted quantities for Concrete, Class A or Unfinished Concrete will be paid for at the Contract Unit Price as quoted (which shall be full compensation for all Work required under this Section) and paid per cubic yard of specified concrete satisfactorily placed and accepted. Steel reinforcement shall be paid for separately at the Contract Unit Price per pound as quoted (which shall be full compensation for all Work required under this Section). All labor, materials, and equipment shall be incidental to the placement of Concrete, Class A, Unfinished Concrete, and Steel Reinforcement.

2.12 BITUMINOUS PAVEMENT MILLING AND TEXTURING

Payment for the Contractor's mechanical removal of the upper portions of existing bituminous pavement will be made at the Contract unit price per ton as shown on weight tickets provided by the Contractor to the Engineer during the performance of the work. If agreed upon in writing by the Owner, the quantity may be estimated from field measurements of volume, at a unit weight of 150 lbs/cubic foot. Compensation shall include all cost incurred for milling and texturing existing pavement to proper grades, and proper disposal of excavated materials. Sawcutting and edge keys shall be incidental to this work or other pay items.

2.13 BITUMINOUS PAVING

Work for this Section shall consist of the construction of Bituminous Base, Leveling Course, Surface, and/or Tack Coat in conformance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, Sections 402 and 403, current edition.

Accepted quantities of Bituminous Paving items will be paid for at the Contract Unit Price per ton as quoted and shall be full compensation for all Work required under this Section.

2.14 CLEARING AND GRUBBING – REMOVE EXISTING TREES

This item includes the clearing and grubbing of vegetation, trees, stumps, brush, bushes, cement concrete and/or stone masonry, steps, fences, walls, and structures within the construction limits not otherwise removed by the excavation and grading operations or included in the summary items. Also included is the proper removal and disposal of such materials in accordance with all local, state, and federal requirements and in a manner not detrimental to the inhabitants of the area. All removals shall be to a minimum of one (1) foot below existing grade with the remaining voids filled with topsoil or materials similar to existing surface materials, in accordance with other sections of the Contract Documents. The CONTRACTOR will be responsible for determining and complying with local ordinances regarding disposal of such materials. Trees, shrubbery, fences, retaining walls, and other such items not specifically noted on the plans to be removed or saved in place, or not shown on the plans, but suspected of being within the project construction limits shall not be disturbed until so directed by the ENGINEER. Clearing and grubbing shall not commence without approval of the ENGINEER.

Work shall not be performed outside the construction limits and existing vegetation outside the construction limits shall not be disturbed unless authorized by the ENGINEER. Protection of existing trees that are not to be disturbed, whether shown on the Plans or not, is included in and incidental to this pay item.

The CONTRACTOR shall reset any street and traffic signs disturbed by the work as near the original locations as practical or as otherwise directed by the ENGINEER. The CONTRACTOR shall carefully remove and stockpile for pickup by the OWNER all signs, grates, manhole frames and covers and other such salvageable and reusable items, not intended to be reset on the job.

Vegetated areas on which excavation or fill operations are to be performed shall be stripped of all vegetation, topsoil, and other organic material as directed by the ENGINEER.

Stockpiling of topsoil-type material will be required, and no topsoil shall be removed from the site, unless otherwise specifically designated on the Drawings or in the Specifications. After grading work has been completed, topsoil shall be evenly spread in areas to be revegetated. Stripped material may not be placed beneath proposed paving areas or in stormwater management areas.

To the extent that it does not conflict with the content of the Plans and Contract Documents and Specifications, Section 202 of KDOH Standard Specifications, current edition, is incorporated into this Technical Specification.

Payment for Remove Existing Tree shall be paid for at the Contract Unit Price based on tree diameter as defined below. No separate payment will be made for trees less than 5 inches in diameter. **All other work described in this section shall be incidental to other work items.** Tree measurements shall be based on the diameter breast high (DBH). DBH is measured outside bark, 4.5 feet above ground on the uphill side of the tree. If there is some irregularity about the tree, such as a protruding knot or ring of knots, swelling, forking or other deformity, DBH must be taken at another point. Generally, the point of measurement is moved higher on the tree trunk, to a point where the deformity is no longer affecting the measurement.

2.15 SEEDING AND SODDING

Work under this Section shall be in conformance to the Contract Documents or the Kentucky Department of Highways Standard Specifications Section 212, current edition, and shall include all labor, materials, equipment, and incidentals necessary to complete the Work. Unless otherwise specified, fertilizer and agricultural lime will be applied at 28 lbs./1,000 sq. ft. and 150 lbs./1,000 sq. ft., respectively. Seeding shall be applied to all non-paved disturbed areas that are not designated to receive sodding by the Engineer. Sodding shall be done with Kentucky Bluegrass or other approved grass.

Accepted quantities of Seeding and Protection and/or Sodding shall be paid for at the Contract Unit Price per square yard as measured and shall be full compensation for all Work under this Section. All labor, materials, and equipment shall be incidental to the installation of Seeding and/or Sodding. Up to fifty (50) percent of the total lump sum price for this work will be paid after the initial installation, with the remainder paid upon final acceptance of the established vegetation.

2.16 PROJECT SIGN

Payment for Project Signs in accordance with the plan details will be made at the Contract unit price and shall include compensation for labor and materials required to install and maintain project identification signage at locations directed by the Owner and/or Engineer.

2.17 CONSTRUCTION STAKING

The CONTRACTOR will furnish and be responsible for all staking, including the initial staking. The CONTRACTOR shall bear the cost of all staking necessary to control and complete the Work according to the specifications to the lines and grades shown on the

plans. Digital files and survey control information shall be available to the CONTRACTOR.

It will be the CONTRACTOR's responsibility to establish all office projection centerlines shown on the plans. Should, during the course of construction of this project, any construction stakes be destroyed by others, it will be the CONTRACTOR's responsibility to reset the stakes at no additional cost to the OWNER.

The CONTRACTOR's staking party shall be under the general supervision of a Registered Land Surveyor. It shall be understood that supervision of the resetting of construction staking is solely the responsibility of the CONTRACTOR and any errors or inaccuracies resulting from the operations of the construction staking party shall be corrected at no cost to the OWNER.

It will be the OWNER's responsibility to make all measurements for determining final quantities to be used for basis of final payment on items of Work.

Payment for Construction Staking shall be by lump sum if it is a separate pay item in the Bid Form. If it is not a separate item in the Bid Form, compensation shall be included in the payment for General Conditions.

2.18 MAINTENANCE OF TRAFFIC

Payment for Maintain and Control Traffic will be made at the Contract lump sum price and shall include compensation for labor, materials, local permits, etc. as required to maintain traffic in and around the work site as described in the Contract Documents. Payment shall be prorated, and up to thirty (30) percent of the total lump sum price will be paid in the first pay request, with the remainder prorated throughout the construction period.

2.19 EROSION CONTROL

The Work consists of installing barriers such as Silt Checks and Inlet Protection and/or the installation of temporary Silt Fence to control erosion and siltation. Silt Checks shall be installed in open channels at locations shown on the drawings, and Inlet Protection shall be installed at drainage structures. Work for this Section shall be in accordance to the Contract Documents and shall include all labor, excavation, materials, equipment, and incidentals necessary to complete the work.

Payment for Erosion Control will be paid for at the Contract Lump Sum Price and shall be full compensation for all Work required under this Section. Payment shall be prorated as described in Section 02374 of the Technical Specifications. Each facility must be properly maintained throughout the duration of the project and removed at

the completion of construction, with no additional compensation for maintenance or replacement.

2.20 NO. 2 STONE FOR SUBGRADE REHABILITATION

Work for this Section shall consist of furnishing and placing No. 2 Stone in locations as approved by the Engineer and shall include all labor, materials (including geotextile fabric if required), equipment, excavation, and incidentals necessary to complete the Work in place, ready for use and constructed in conformance with KDOH Standard Specifications. No. 2 Stone meeting the requirements of KDOH Section 805 can be used for stabilizing sub-grade and pavement base areas, etc.

Where soft, undesirable soil material is encountered at or below the desired subgrade elevation, undesirable material will be removed and/or bridged using No. 2 Stone to develop a sufficient platform to support compaction of DGA, pipe bedding, or other base material. The depth and extent of this work shall be determined based on conditions observed and performance of compaction equipment on the subgrade. Work shall be as directed by the Engineer. Stone will be dumped or pushed into place and walked in until support is developed for heavy equipment. The ultimate test will be the ability to provide an adequate compaction platform for the supported base material.

Payment for this Section will be at the Contact Unit Price per ton of No. 2 Stone as quoted and shall be full compensation for all Work required under this section. No direct measurement shall be made. Payment shall be based on weight tickets for stone delivered and accepted for the work. All labor, materials, equipment, excavation, proof testing, and disposal of excavated material shall be incidental to the placement of No. 2 Stone.

2.21 SAWCUT EXISTING PAVEMENT AND CONCRETE

Work for this Section shall consist of the cutting of existing pavement and/or concrete as necessary to construct the work as shown on the plans. Payment for sawcutting existing pavement and concrete shall be included in the payment for all other work items that require this Work. There will be no separate payment for Sawcut Existing Pavement and Concrete.

PART 3 - EXECUTION

3.01 PAY ITEMS

Any and all items of Work listed in the Specifications or shown on the Drawings for this Contract shall be considered part of the project and, therefore, are assumed to be included in the lump sum figure or unit prices provided in the Agreement.

3.02 QUANTITIES OF ESTIMATE

Wherever the estimated quantities of work to be done and materials to be furnished under this Contract are shown in any of the documents, including the Bid Proposal, they are given for use in comparing bids and the right is especially reserved except as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the Work contemplated by this Contract, and such increase or diminution shall not give cause for claims or liability for damages. The Engineer will not be financially responsible for any omissions from the Contract Documents and therefore not included by the Contractor in his proposal.

END OF SECTION 01025



ADDENDUM #2

Bid Number: #155-2018

Date: December 3, 2018

Subject: WGPL Storm Sewer Project

Inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarification/attachments to the above referenced Bid:

All Planholders shall incorporate the following into the Contract Documents for the referenced project:

1. Item No. 6 in Addendum No. 1 is hereby rescinded. Storm sewer trenches shall be backfilled in accordance with Standard Drawing 201-1. Storm and sanitary sewer laterals shall be backfilled with flowable fill, as noted on the Plans.
2. In response to submitted questions, the sump pump lateral connections to the proposed storm sewers do NOT have to connect to the storm sewer inverts, and any backflow prevention devices to be installed on the sump pump laterals will be the responsibility of the private property owners, not included in this Contract.
3. The bid submittal deadline is hereby changed to December 11, 2018 at 2:00 p.m.

Todd Slatin 
Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: _____

ADDRESS: _____

SIGNATURE OF BIDDER: _____

PART VIII

ADDENDA

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

<u>Addendum Number</u>	<u>Title</u>	<u>Date</u>
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____

SECTION 01010 - SUMMARY OF WORK

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Installation of new storm sewers, concrete and asphalt paving, concrete sidewalks, and related appurtenances for the Lexington Fayette Urban County Government.
- B. The Contractor shall include all materials, labor and equipment necessary for completion of the Project. The Contract Documents are intended to provide the basis for proper completion of the work suitable for the intended use of the Owner. Anything not expressly set forth but which is reasonably implied or necessary for proper performance of the Project shall be included.
- C. Continuous Operations: The existing systems must be maintained in continuous operation in such a manner that it meets all local, state, and federal requirements. The Contractor is responsible not to deactivate, demolish, or interfere with any system required for the continuous operation until a temporary or new permanent-like system has been installed and is operational. The Contractor is responsible for payment of all fines resulting from any action or inaction on his part or the part of his subcontractors during performance of the Work that is illegal.
- D. The following major Work items are included in the Contract:
 - 1. Storm sewer piping and structures
 - 2. Installation of storm sewer service lines and cleanouts for sump pump redirections
 - 3. Site paving – asphalt milling and overlay, and concrete entrances
 - 4. Replacement and installation of new header curbs
 - 5. Installation of new sidewalks and sidewalk ramps
 - 6. Site restoration

1.02 PERMITS

Obtain any local business and/or grading permits related or required by the Work in this Contract.

1.03 CODES

Comply with applicable codes and regulations of authorities having jurisdiction. Submit copies of inspection reports, notices, citations and similar communication to the Owner.

1.04 EXISTING CONDITIONS AND DIMENSIONS

- A. The Work in this Contract will primarily be performed in or around existing facilities of which a portion must remain functional. This Contractor must maintain the required items and/or systems functional without additional effort by the Owner's personnel and at no extra costs to the Owner.
- B. The Contractor is responsible for verifying all existing conditions, elevations, dimensions, etc., and providing his finished work to facilitate existing conditions.

END OF SECTION 01010

SECTION 01015 - WORK SEQUENCE

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall conform to all miscellaneous requirements as contained in the Contract.

1.02 RELATED REQUIREMENTS

- A. Part IV - General Conditions.
- B. Section 01010 - Summary of Work.
- C. Section 01040 - Coordination.

PART 2 - PRODUCTS

2.01 MATERIALS

The Contractor shall comply with the Specifications for type of work to be done.

PART 3 - EXECUTION

3.01 SEQUENCE OF CONSTRUCTION OPERATIONS

The Contractor shall submit to the Engineer for review and acceptance a complete schedule (progress chart) of his proposed sequence of construction operations prior to commencement of work. However, the Engineer shall not accept a construction schedule that fails to utilize the entire time allocated for the construction of the Project. The Contractor shall schedule the various construction activities to complete the Project throughout the entire allotted time period. This schedule requirement in no way prevents the Contractor from completing the Project in a shorter time frame than scheduled. The construction schedule along with a cost breakdown schedule shall be submitted and approved by the Owner prior to the submittal of the first partial payment request in accordance with the Contract Documents. A revised construction schedule shall be submitted to the Owner with each pay request. This revised schedule must be approved by the Owner prior to payment.

END OF SECTION 01015

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall furnish all necessary labor, machinery, tools, apparatus, equipment, materials, services and other necessary supplies and perform all work shown on the Drawings and/or described in the Specifications and Contract Documents at the lump sum price or unit prices provided in the Agreement. Should it become necessary to adjust the project scope, the unit prices provided in the Contractor's Bid shall be used as appropriate. The methodology used to calculate adjustments shall be as provided in this section and as approved by the Engineer.

1.02 COMPUTATION OF QUANTITIES

- A. Measurement of areas for pay quantities shall generally be based on polygons in digital drawings derived from field surveys or proposed designs. For estimating quantities in which the computation of areas by geometric methods would be comparatively laborious, it is agreed that the planimeter shall be considered an acceptable instrument of precision for the measurement of such areas.
- B. It is further agreed that the computation of the volume of prisms shall be by the method of average end area or the comparison of differing surfaces using digital terrain modeling.

1.03 PROGRESS AND PAYMENT SCHEDULES (see General Conditions)

- A. Within fifteen (15) days after the date of formal execution of the Agreement, the Contractor shall prepare and submit to the Engineer, for approval, a construction schedule which depicts the Contractor's plan for completing the Contract requirements and show work placement in dollars versus Contract time. The Engineer must approve the Contractor's construction schedule before any payments will be made on this Contract.
- B. Within fifteen (15) days after the date of formal execution of the Agreement, the Contractor shall prepare and submit to the Engineer, for approval, a periodic estimate which depicts the Contractor's cost for completing the Contract requirements and shows by major unit of the project work the Contractor's dollar value for the material and the labor (two separate amounts) to be used as a basis for the periodic payments. The Engineer must approve the Contractor's periodic estimate before any payments will be made on this Contract.

- C. The Engineer's decision as to sufficiency and completeness of the Contractor's construction schedule and periodic estimate will be final.
- D. The Contractor must make current, to the satisfaction of the Engineer, the construction schedule and periodic estimate each time he requests a payment on this Contract.
- E. The Contractor's construction schedule and periodic estimate must be maintained at the construction site available for inspection and shall be revised to incorporate approved change orders as they occur.
- F. When the Contractor requests a payment on this Contract, it must be on the approved periodic estimate and be current. Further, the current periodic estimate and construction schedule (both updated and revised) shall be submitted for review and approval by the Engineer before monthly payments will be made by the Owner. The Contractor shall submit five (5) current copies of each (periodic estimate and construction schedule) when requesting payment.

1.04 CONDITIONS FOR PAYMENT (see General Conditions)

- A. The Owner will make payments for acceptable work in place and materials properly stored on-site. The value of payment shall be as established on the approved construction schedule and periodic estimate, EXCEPT the Owner will retain ten percent (10%) of the work in place and a percentage as hereinafter listed for items properly stored or untested.
- B. No payment will be made for stored materials unless a proper invoice from the supplier is attached to the pay request. Furthermore, no item whose value is less than \$1,000.00 will be considered as stored materials for pay purposes.
- C. No payment will be made for the labor portion of items until items have been tested and accepted by the Engineer.
- D. Payment for equipment items shall be limited to ninety percent (90%) of their scheduled value (materials portion only) until they are set in place. Ninety percent (90%) payment for stored materials and equipment shall be contingent on proper on-site storage as recommended by the manufacturer or required by the Engineer.
- E. Payment for equipment items set in-place shall be limited to ninety percent (90%) of their scheduled value until they are ready for operation and have been certified by the manufacturer. Ninety percent (90%) payment for installed equipment shall be contingent on proper routine maintenance of the equipment in accordance with the manufacturer's recommendations.

- F. Payment for the labor portion of equipment items will be subject only to the degree of completeness and the appropriate retainage as described in the General Conditions.
- G. The Owner shall reduce the percent of retainage once the Project has achieved satisfactory progress and is at the fifty percent (50%) construction status. The dollar amount of retainage for work-in-place will not be reduced but will remain constant following the fifty percent (50%) constructed status. The retainage on the equipment items shall be determined as defined hereinbefore.

1.05 CLAIMS FOR EXTRA WORK (see General Conditions)

- A. If the Contractor claims that any instructions by Drawings or otherwise involve extra cost, he shall give the Engineer written notice of said claim within ten (10) days after the receipt of such instructions, and in any event before proceeding to execute the work, stating clearly and in detail the basis of his claim or claims. No such claim shall be valid unless so made.
- B. Claims for additional compensation for extra work, due to alleged errors in spot elevations, contour lines or bench marks, will not be recognized unless accompanied by certified survey data, made prior to the time the original ground was disturbed, clearly showing that errors exist which resulted, or would result, in handling more material or performing more work than would be reasonably estimated from the Drawings and topographical maps issued.
- C. Any discrepancies which may be discovered between actual conditions and those represented by the topographical maps and Drawings shall at once be reported to the Engineer, and work shall not proceed, except at the Contractor's risk, until written instructions have been received by him from the Engineer.
- D. If, on the basis of the available evidence, the Engineer determines that an adjustment of the Contract Price or time is justifiable, the procedure shall then be as provided herein for "Changes in Work".
- E. By execution of this Contract, the Contractor warrants that he has visited the site of the proposed work and fully acquainted himself with the conditions there existing relating to construction and labor, and that he fully understands the facilities, difficulties and restrictions attending the execution of the work under this Contract. The Contractor further warrants that he has thoroughly examined and is familiar with the Drawings, Specifications and all other documents comprising the Contract. The Contractor further warrants that by execution of this Contract his failure when he was bidding on this Contract to receive or examine any form, instrument or document or to visit the site and acquaint himself with conditions there existing, in

no way relieves him from any obligation under the Contract, and the Contractor based on facts regarding which he should have been on notice as a result thereof.

1.06 DETERMINATION OF THE VALUE OF EXTRA (ADDITIONAL) OR OMITTED WORK (see General Conditions)

- A. The value of extra (additional) or omitted work shall be determined in one or more of the following ways:
 - 1. On the basis of the actual cost of all the items of labor (including on-the-job supervision), materials and use of equipment plus a maximum of fifteen percent (15%) which shall cover the Contractor's general supervision, overhead and profit. In case of subcontracts, the fifteen percent (15%) is interpreted to mean the subcontractor's supervision, overhead and profit, and an additional five percent (5%) may then be added to such costs to cover the General Contractor's supervision, overhead and profit. The cost of labor shall include required insurance, taxes and fringe benefits. Equipment costs shall be based on current rental rates in the areas where the work is being performed, but in no case shall such costs be greater than the current rates published by the Associated Equipment Distributors, Chicago, Illinois.
 - 2. By estimate and acceptance in a lump sum.
 - 3. By unit prices named in the Contract or subsequently agreed upon.
- B. The cost or estimated cost of all extra (additional) work shall be determined in advance of authorization by the Engineer and approved by the Owner.
- C. All extra (additional) work shall be executed under the conditions of the original Contract. Any claim for extension of time shall be adjusted according to the proportionate increase or decrease in the final total cost of the work unless negotiated on another basis.
- D. Except for over-runs in Contract unit price items, no extra (additional) work shall be done except upon a written Change Order from the Engineer, and no claim on the part of the Contractor for pay for extra (additional) work shall be recognized unless so ordered in writing by the Engineer.

PART 2 - PRODUCTS

2.01 MOBILIZATION AND DEMOBILIZATION

Payment for the Contractor's mobilization and demobilization will be made at the Contract lump sum price and shall include all cost incurred for moving equipment to and from the Project area and any pertinent costs related thereto. The lump sum price for mobilization and demobilization shall not exceed five (5) percent of the total

contract amount. Payment for the mobilization portion will be made in the first partial payment to the Contractor and shall not exceed 75 percent of the lump sum cost for mobilization and demobilization. Payment for the demobilization (remaining) portion shall be made in the final payment to the Contractor.

2.02 GENERAL CONDITIONS

Payment for General Conditions will be made at the Contract lump sum price and shall include compensation for insurance, performance and payment bonds, and any other items required under bidding requirements, Contract forms and conditions of the Contract that are not included in other pay items.

2.03 STORMWATER STRUCTURES

Stormwater structures shall include headwalls, junction boxes, stormwater manholes, drop box inlets, curb box inlets, flumes, and other transitional structures used in the construction of storm sewers or culverts. Payment will be based on the Contract unit price each and shall include the furnishing and installation of the concrete structure and all materials or equipment incidental to the structure. The unit price shall include, but not necessarily be limited to, the base, barrels, eccentric cone top section, top slab, stops, flexible pipe to manhole gasket, cast iron frame and covers, safety grates, and orifice plates. Also included are excavation (including rock excavation), earth backfill, and all other materials not specifically delineated herein, but necessary to complete the construction of the storm water structures as shown on the Drawings.

For manholes greater than 8 feet in depth, the additional manhole barrel will be paid for at the Contract unit price per vertical foot of additional depth, in place, if a separate line item is included in the Contract Bid Form. No separate payment will be made for additional steps that may be required.

2.04 STORM SEWER PIPES

Work under this Section shall include all labor, excavation, materials, equipment, bedding and backfilling in accordance to the Contract Documents or KDOH Standard Drawings, and all incidentals necessary to construct Storm Sewer of the type and the sizes indicated on the Drawings. RCP (Reinforced Concrete Pipe) shall be Class III and shall meet the requirements of KDOH Section 810. HDPE is permitted, as listed in the Contract Documents.

Accepted quantities under this Section will be paid for at the respective Contract Unit Price per linear foot as quoted for the various sizes. Surface restoration (seeding, sod, pavement, etc.) will be paid separately under the appropriate Bid Items and the pay limits for surface restoration shall be in accordance with the appropriate Standard

Drawings. All trenching, bedding, backfill (including trench cap), and testing of storm sewers shall be incidental to the payment for linear feet of installed pipe.

Payment for 6-inch Sump Pump Service Laterals shall be made at the Contract unit price per linear foot, which shall include all excavation, installation, connections to storm sewers, flowable fill backfill, and piping, fittings, connections, etc. necessary for a complete installation. Cleanouts are a separate pay item.

2.05 CLEANOUTS

Payment for cleanouts will be made at the Contract unit price each, complete in place, including all excavation, material, fittings, riser piping, concrete pad, lid, backfilling, and labor necessary to complete the installation. Removal of existing sidewalks necessary to install cleanouts shall be incidental. Surface restoration including curb, sidewalks, sodding, etc. shall be separate pay item(s). Cleanout covers shall be marked "STORM C.O." as per East Jordan Iron Works Product #00156633, or equal.

2.06 CONNECT TO EXISTING PIPE OR STRUCTURE

Work for this Section shall include all labor, excavation, materials, equipment, and incidentals to make connections to existing pipes, manholes or curb box inlets where required. For structure connections the existing manhole and/or curb box inlet shall be drilled and/or sawed in a neat manner to allow for the smoothest connection possible. Once the connection is made, the annulus between the pipe and the structure shall be filled with non-shrink grout and the entire area around the connection shall be filled with cement concrete. No fill shall be placed on the concrete before hardening has occurred. For connections to existing pipes, this item shall include any sleeves and/or short sections of pipe necessary for a firm connection.

2.07 DEMOLITION – REMOVE EXISTING CURB

Work for this Section shall conform to the Contract Documents or Kentucky Department of Highways Standard Specifications, Section 203, current edition and shall include all labor, materials, equipment, excavation, disposal, and incidentals necessary to complete Work.

Payment for the accepted quantity of "Remove Existing Curb", if specified, will be made at the Contract Unit Price per linear foot, which payment shall be full compensation for all Work required by this Section. Demolition of other items to be replaced in this project shall be incidental to the installation of those items.

2.08 CURB AND GUTTER AND HEADER CURB

Payment for various types of curb and gutter and/or header curb will be made at the Contract unit price per linear foot. Payment shall include all work, materials and labor necessary to complete the construction, including the placement of aggregate base if so shown on the Plans.

Accepted quantities for Connect to Existing Pipe or Structure will be paid at the Contract Unit Price as quoted (which shall be full compensation for all Work under this Section) and paid per connection satisfactorily placed. All labor, materials, equipment, and excavation shall be incidental to the connection.

2.09 CONCRETE PAVEMENT, SIDEWALKS, ENTRANCES, AND SIDEWALK RAMPS

This Work consists of the construction of concrete pavement, sidewalks, entrances, and/or sidewalk ramps on thoroughly compacted subgrades in accordance with the Plans, Contract Documents, and Specifications and KDOH Standard Drawings, current edition. Work in this section shall also conform to Sections 207, 601, 505, 801, 802, 803, 804, 805, and 823 of the Kentucky Department of Highways (KDOH) Standard Specifications, current edition.

Accepted quantities for Concrete Pavement, Sidewalks, Entrances, and/or Sidewalk Ramps (including tactile warning tile) will be paid for at the individual Contract Unit Price per square yard as quoted and shall be full compensation for all Work required under this Section including subgrade preparation and base material. All required labor, materials, excavation, fill, equipment, and incidentals shall be included in payment for the work. Removal of existing concrete entrances to be replaced, and pavement/sidewalks to be replaced with sidewalk ramps, is incidental and no additional payment shall be made for this work.

2.10 FORMED CLASS A CONCRETE, UNFINISHED CONCRETE, and STEEL REINFORCEMENT

Formed Class A Concrete and Unfinished Concrete for encasement, capping trenches, fill for cavities or voids and mass footings shall conform to the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, Section 601, Current Edition, and shall include all labor, materials, equipment and incidentals necessary to complete the Work.

Accepted quantities for Concrete, Class A or Unfinished Concrete will be paid for at the Contract Unit Price as quoted (which shall be full compensation for all Work required under this Section) and paid per cubic yard of specified concrete satisfactorily placed and accepted. Steel reinforcement shall be paid for separately at the Contract Unit Price per pound as quoted (which shall be full compensation for all Work required under this Section). All labor, materials, and equipment shall be

incidental to the placement of Concrete, Class A, Unfinished Concrete, and Steel Reinforcement.

2.11 BITUMINOUS PAVEMENT MILLING AND TEXTURING

Payment for the Contractor's mechanical removal of the upper portions of existing bituminous pavement will be made at the Contract unit price per ton as shown on weight tickets provided by the Contractor to the Engineer during the performance of the work. If agreed upon in writing by the Owner, the quantity may be estimated from field measurements of volume, at a unit weight of 150 lbs/cubic foot. Compensation shall include all cost incurred for milling and texturing existing pavement to proper grades, and proper disposal of excavated materials. Sawcutting and edge keys shall be incidental to this work or other pay items.

2.12 BITUMINOUS PAVING

Work for this Section shall consist of the construction of Bituminous Base, Leveling Course, Surface, and/or Tack Coat in conformance with the Kentucky Department of Highways Standard Specifications for Road and Bridge Construction, Sections 402 and 403, current edition.

Accepted quantities of Bituminous Paving items will be paid for at the Contract Unit Price per ton as quoted and shall be full compensation for all Work required under this Section.

2.13 CLEARING AND GRUBBING – REMOVE EXISTING TREES

This item includes the clearing and grubbing of vegetation, trees, stumps, brush, bushes, cement concrete and/or stone masonry, steps, fences, walls, and structures within the construction limits not otherwise removed by the excavation and grading operations or included in the summary items. Also, included is the proper removal and disposal of such materials in accordance with all local, state, and federal requirements and in a manner not detrimental to the inhabitants of the area. The CONTRACTOR will be responsible for determining and complying with local ordinances regarding disposal of such materials. Trees, shrubbery, fences, retaining walls, and other such items not specifically noted on the plans to be removed or saved in place, or not shown on the plans, but suspected of being within the project construction limits shall not be disturbed until so directed by the ENGINEER. Clearing and grubbing shall not commence without approval of the ENGINEER.

Work shall not be performed outside the construction limits and existing vegetation outside the construction limits shall not be disturbed unless authorized by the ENGINEER. Protection of existing trees that are not to be disturbed, whether shown on the Plans or not, is included in and incidental to this pay item.

The CONTRACTOR shall reset any street and traffic signs disturbed by the work as near the original locations as practical or as otherwise directed by the ENGINEER. The CONTRACTOR shall carefully remove and stockpile for pickup by the OWNER all signs, grates, manhole frames and covers and other such salvageable and reusable items, not intended to be reset on the job.

Vegetated areas on which excavation or fill operations are to be performed shall be stripped of all vegetation, topsoil, and other organic material as directed by the ENGINEER.

Stockpiling of topsoil-type material will be required, and no topsoil shall be removed from the site, unless otherwise specifically designated on the Drawings or in the Specifications. After grading work has been completed, topsoil shall be evenly spread in areas to be revegetated. Stripped material may not be placed beneath proposed paving areas or in stormwater management areas.

To the extent that it does not conflict with the content of the Plans and Contract Documents and Specifications, Section 202 of KDOH Standard Specifications, current edition, is incorporated into this Technical Specification.

Payment for Remove Existing Tree shall be paid for at the Contract Unit Price based on tree diameter as defined below. No separate payment will be made for trees less than 5 inches in diameter. **All other work described in this section shall be incidental to other work items.** Tree measurements shall be based on the diameter breast high (DBH). DBH is measured outside bark, 4.5 feet above ground on the uphill side of the tree. If there is some irregularity about the tree, such as a protruding knot or ring of knots, swelling, forking or other deformity, DBH must be taken at another point. Generally, the point of measurement is moved higher on the tree trunk, to a point where the deformity is no longer affecting the measurement.

2.14 SEEDING AND SODDING

Work under this Section shall be in conformance to the Contract Documents or the Kentucky Department of Highways Standard Specifications Section 212, current edition, and shall include all labor, materials, equipment, and incidentals necessary to complete the Work. Unless otherwise specified, fertilizer and agricultural lime will be applied at 28 lbs./1,000 sq. ft. and 150 lbs./1,000 sq. ft., respectively. Seeding shall be applied to all non-paved disturbed areas that are not designated to receive sodding by the Engineer. Sodding shall be done with Kentucky Bluegrass or other approved grass.

Accepted quantities of Seeding and Protection and/or Sodding shall be paid for at the Contract Unit Price per square yard as measured and shall be full compensation for all

Work under this Section. All labor, materials, and equipment shall be incidental to the installation of Seeding and/or Sodding.

2.15 PROJECT SIGN

Payment for Project Signs in accordance with the plan details will be made at the Contract unit price and shall include compensation for labor and materials required to install and maintain project identification signage at locations directed by the Owner and/or Engineer.

2.16 CONSTRUCTION STAKING

The CONTRACTOR will furnish and be responsible for all staking, including the initial staking. The CONTRACTOR shall bear the cost of all staking necessary to control and complete the Work according to the specifications to the lines and grades shown on the plans. Digital files and survey control information shall be available to the CONTRACTOR.

It will be the CONTRACTOR's responsibility to establish all office projection centerlines shown on the plans. Should, during the course of construction of this project, any construction stakes be destroyed by others, it will be the CONTRACTOR's responsibility to reset the stakes at no additional cost to the OWNER.

The CONTRACTOR's staking party shall be under the general supervision of a Registered Land Surveyor. It shall be understood that supervision of the resetting of construction staking is solely the responsibility of the CONTRACTOR and any errors or inaccuracies resulting from the operations of the construction staking party shall be corrected at no cost to the OWNER.

It will be the OWNER's responsibility to make all measurements for determining final quantities to be used for basis of final payment on items of Work.

Payment for Construction Staking shall be by lump sum if it is a separate pay item in the Bid Form.

2.17 MAINTENANCE OF TRAFFIC

Payment for Maintain and Control Traffic will be made at the Contract lump sum price and shall include compensation for labor, materials, local permits, etc. as required to maintain traffic in and around the work site as described in the Contract Documents.

2.18 EROSION CONTROL

The Work consists of installing barriers such as Silt Checks and Inlet Protection and/or the installation of temporary Silt Fence to control erosion and siltation. Silt Checks shall be installed in open channels at locations shown on the drawings, and Inlet Protection shall be installed at drainage structures. Work for this Section shall be in accordance to the Contract Documents or Kentucky Department of Highways Standard Specifications Sections 213, current edition, and the KDOH Standard Drawings, and shall include all labor, excavation, materials, equipment, and incidentals necessary to complete the work.

Payment for Erosion Control will be paid for at the Contract Lump Sum Price and shall be full compensation for all Work required under this Section. Each facility must be properly maintained throughout the duration of the project and removed at the completion of construction, with no additional compensation for maintenance or replacement.

2.19 NO. 2 STONE FOR SUBGRADE REHABILITATION

Work for this Section shall consist of furnishing and placing No. 2 Stone in locations as approved by the Engineer and shall include all labor, materials (including geotextile fabric if required), equipment, excavation, and incidentals necessary to complete the Work in place, ready for use and constructed in conformance with KDOH Standard Specifications. No. 2 Stone meeting the requirements of KDOH Section 805 can be used for stabilizing sub-grade and pavement base areas, etc.

Where soft, undesirable soil material is encountered at or below the desired subgrade elevation, undesirable material will be removed and/or bridged using No. 2 Stone to develop a sufficient platform to support compaction of DGA, pipe bedding, or other base material. The depth and extent of this work shall be determined based on conditions observed and performance of compaction equipment on the subgrade. Work shall be as directed by the Engineer. Stone will be dumped or pushed into place and walked in until support is developed for heavy equipment. The ultimate test will be the ability to provide an adequate compaction platform for the supported base material.

Payment for this Section will be at the Contact Unit Price per ton of No. 2 Stone as quoted and shall be full compensation for all Work required under this section. No direct measurement shall be made. Payment shall be based on weight tickets for stone delivered and accepted for the work. All labor, materials, equipment, excavation, proof testing, and disposal of excavated material shall be incidental to the placement of No. 2 Stone.

2.20 SAWCUT EXISTING PAVEMENT AND CONCRETE

Work for this Section shall consist of the cutting of existing pavement and/or concrete as necessary to construct the work as shown on the plans. Payment for sawcutting existing pavement and concrete shall be included in the payment for all other work items that require this Work. There will be no separate payment for Sawcut Existing Pavement and Concrete.

PART 3 - EXECUTION

3.01 PAY ITEMS

Any and all items of Work listed in the Specifications or shown on the Drawings for this Contract shall be considered part of the project and, therefore, are assumed to be included in the lump sum figure or unit prices provided in the Agreement.

3.02 QUANTITIES OF ESTIMATE

Wherever the estimated quantities of work to be done and materials to be furnished under this Contract are shown in any of the documents, including the Bid Proposal, they are given for use in comparing bids and the right is especially reserved except as herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the Work contemplated by this Contract, and such increase or diminution shall not give cause for claims or liability for damages. The Engineer will not be financially responsible for any omissions from the Contract Documents and therefore not included by the Contractor in his proposal.

END OF SECTION 01025

SECTION 01030 - LABOR PROVISIONS

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall conform to all provisions of the Kentucky Department of Labor, Latest Revisions, relative to wages and hours as they may apply to the work to be accomplished under these Specifications.

In addition to the above, certain Federal laws and regulations shall govern the work and shall supplement or supplant the Kentucky Department of Labor Wage Decisions cited above, as the case may be.

1.02 WAGE RATES

Federal and state wage rates do not apply to this project.

END OF SECTION 01030

SECTION 01040 - COORDINATION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall coordinate the Work of all crafts, trades and subcontractors engaged on the Work, and he shall have final responsibility in regards to the schedule, workmanship and completeness of each and all parts of the Work. The Contractor shall also coordinate and cooperate with utility providers whose facilities are impacted by or in proximity of the Work.
- B. All crafts, trades and subcontractors shall be made to cooperate with each other and with others as they may be involved in the installation of work which adjoins, incorporates, precedes or follows the work of another. It shall be the Contractor's responsibility to point out areas of cooperation prior to execution of subcontract agreements and the assignment of the parts of the Work. Each craft, trade and subcontractor shall be made responsible to the Owner, for furnishing embedded items, giving directions for doing all cutting and fitting, making all provisions for accommodating the Work, and for protecting, patching, repairing and cleaning as required to satisfactorily perform the Work.
- C. The Contractor shall be responsible for all cutting, digging and other action of his subcontractors and workmen. Where such action impairs the safety or function of any structure or component of the Project, the Contractor shall make such repairs, alterations and additions as will, in the opinion of the Engineer, bring said structure or component back to its original design condition at no additional cost to the Owner.
- D. Each subcontractor is expected to be familiar with the General Requirements and all Sections of the Detailed Specifications for all other trades and to study all Drawings applicable to his work to the end that complete coordination between the trades will be affected. Each Contractor shall consult with the Engineer if conflicts exist on the Drawings.
- E. No extra compensation will be allowed to cover the cost of removing piping, conduits, etc., or equipment found encroaching on space required by others.

END OF SECTION 01040

SECTION 01045 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide cutting and patching work to properly complete the work of the project, complying with requirements for:
 - 1. Connection to existing storm drainage and sanitary sewer lines and structures.
 - 2. Connection to existing sidewalks and paving
- B. Do not cut and patch in a manner that would result in a failure of the work to perform as intended, decreased energy performance, increased maintenance, decreased-operational life, or decreased safety.

PART 2 - PRODUCTS

- 2.01 MATERIALS - Match existing materials for cutting and patching work with new materials conforming to project requirements.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Inspect conditions prior to work to identify scope and type of work required. Protect adjacent work. Notify Owner of work requiring interruption to building services or Owner's operations.
- B. Perform work with workmen skilled in the trades involved. Prepare sample area of each type of work for approval.
- C. Cutting: Use cutting tools, not chopping tools. Make neat holes. Minimize damage to adjacent work. Check for concealed utilities and structure before cutting.
- D. Patching: Make patches, seams, and joints durable and inconspicuous. Comply with tolerances for new work.
- E. Clean work area and areas affected by cutting and patching operations.

END OF SECTION 01045

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

1.01 WORK INCLUDED

Shop drawing, descriptive literature, project data and samples (when samples are specifically requested) for all manufactured or fabricated items shall be submitted by the Contractor to the Engineer for examination and review in the form and in the manner required by the Engineer. All submittals shall be furnished in at least three (3) copies to be retained by the Engineer and shall be checked and reviewed by the Contractor before submission to the Engineer. The review of the submittal by the Engineer shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. Review of such submittal will not relieve the Contractor of the responsibility for any errors which may exist as the Contractor shall be responsible for the dimensions and design of adequate connections, details, and satisfactory construction of all work.

1.02 RELATED REQUIREMENTS

- A. Part IV - General Conditions.
- B. Section 01720 - Project Record Documents (As-Builts).

1.03 DEFINITIONS

The term "submittals" shall mean shop drawings, manufacturer's drawings, catalog sheets, brochures, descriptive literature, diagrams, schedules, calculations, material lists, performance charts, test reports, office and field samples, and items of similar nature which are normally submitted for the Engineer's review for conformance with the design concept and compliance with the Contract Documents.

1.04 GENERAL CONDITIONS

Review by the Engineer of shop drawings or submittals of material and equipment shall not relieve the Contractor from the responsibilities of furnishing same of proper dimension, size, quantity, materials and all performance characteristics to efficiently perform the requirements and intent of the Contract Documents. Review shall not relieve the Contractor from responsibility for errors of any kind on the shop drawings. Review is intended only to assure conformance with the design concept of the Project and compliance with the information given in the Contract Documents. Review of shop drawings shall not be construed as releasing the Contractor from the responsibility of complying with the Specifications.

1.05 GENERAL REQUIREMENTS FOR SUBMITTALS

- A. Shop drawings shall be prepared by a qualified detailer. Details shall be identified by reference to sheet and detail numbers shown on Contract Documents. Where applicable, show fabrication, layout, setting and erection details. Shop drawings are defined as original drawings prepared by the Contractor, subcontractors, suppliers, or distributors performing work under this Contract. Shop drawings illustrate some portion of the work and show fabrication, layout, setting or erection details of equipment, materials and components. The Contractor shall, except as otherwise noted, have prepared the number of reviewed copies required for his distribution plus three (3) which will be retained by the Engineer and Owner. Shop drawings shall be folded to an approximate size of 8-1/2 inch x 11 inch and in such manner that the title block will be located in the lower righthand corner of the exposed surface.
- B. Project data shall include manufacturer's standard schematic drawings modified to delete information which is not applicable to the Project, and shall be supplemented to provide additional information applicable to the Project. Each copy of descriptive literature shall be clearly marked to identify pertinent information as it applies to the Project.
- C. Where samples are required, they shall be adequate to illustrate materials, equipment or workmanship, and to establish standards by which completed work is judged. Provide sufficient size and quantity to clearly illustrate functional characteristics of product and material, with integrally related parts and attachment devices, along with a full range of color samples.
- D. All submittals shall be referenced to the applicable item, section and division of the Specifications, and to the applicable Drawing(s) or Drawing schedule(s) and shall be with transmittal forms and format provided by the Engineer.
- E. The Contractor shall review and check submittals, and indicate his review by initials and date.
- F. If the submittals deviate from the Contract Drawings and/or Specifications, the Contractor shall advise the Engineer, in letter of transmittal of the deviation and the reasons therefor. All changes shall be clearly marked on the submittal with a bold mark other than red. Any additional costs for modifications shall be borne by the Contractor.
- G. In the event the Engineer does not specifically reject the use of material or equipment at variance to that which is shown on the Drawings or specified, the Contractor shall, at no additional expense to the Owner, and using methods reviewed by the Engineer, make any changes to structures, piping, controls, electrical work,

mechanical work, etc., that may be necessary to accommodate this equipment or material. Should equipment other than that on which design drawings are based be accepted by the Engineer, shop drawings shall be submitted detailing all modification work and equipment changes made necessary by the substituted item.

- H. Additional information on particular items, such as special drawings, schedules, calculations, performance curves, and material details, shall be provided when specifically requested in the technical Specifications.
- I. Submittals for all electrically operated items (including instrumentation and controls) shall include complete wiring diagrams showing lead, runs, number of wires, wire size, color coding, all terminations and connections, and coordination with related equipment.
- J. Equipment shop drawings shall indicate all factory or shop paint coatings applied by suppliers, manufacturers and fabricators; the Contractor shall be responsible for insuring the compatibility of such coatings with the field-applied paint products and systems.
- K. Fastener specifications of manufacturer shall be indicated on equipment shop drawings.
- L. Where manufacturer's brand names are given in the Specifications for building and construction materials and products, such as grout, bonding compounds, curing compounds, masonry cleaners, waterproofing solutions and similar products, the Contractor shall submit names and descriptive literature of such materials and products he proposes to use in this Contract.
- M. No material shall be fabricated or shipped unless the applicable drawings or submittals have been reviewed by the Engineer and returned to the Contractor.
- N. All bulletins, brochures, instructions, parts lists, and warranties packaged with and accompanying materials and products delivered to and installed in the Project shall be saved and transmitted to the Owner through the Engineer.
- O. All submittals shall be made by the use of a multi-copy transmittal form supplied by the Engineer. All applicable blanks on the form shall be filled in with the appropriate data.

1.06 CONTRACTOR RESPONSIBILITIES

- A. Verify field measurements, field construction criteria, catalog numbers and similar data.

- B. Coordinate each submittal with requirements of Work and Contract Documents.
- C. Notify Engineer, in writing at time of submission, of deviations in submittals from requirements of Contract Documents.
- D. Begin no work, and have no material or products fabricated or shipped which required submittals until return of submittals with Engineer's stamp and initials or signature indicating review.

END OF SECTION 01300

SECTION 01380 - CONSTRUCTION PHOTOGRAPHS

PART 1 - GENERAL

1.01 WORK INCLUDED

Provide monthly photographs of the construction throughout the progress of the Work.

1.02 RELATED WORK

- A. Part IV - General Conditions.
- B. Section 01700 - Project Closeout.

1.03 PHOTOGRAPHY

- A. Provide monthly photographs (two sets) of the construction throughout progress of the Work. Provide twenty-four (24) views of Work each month or more as may be necessary to clearly show any new work.
- B. Take the photographs as close as possible to the cutoff date for each Application for Payment.
- C. Take photographs at the beginning, during, and completion of each element of construction listed below:
 - 1. Preconstruction conditions.
 - 2. Storm sewer installation.
 - 3. Connections to existing systems.
 - 3. Clearances to other utilities.

1.04 DIGITAL FILES

Digital files shall be provided to the Owner of all views on common digital media. Identify each print by filename or with an index in WORD format. List name of Project, orientation of view (if appropriate), date and time of view, and photographer's name.

1.06 TECHNIQUE

- A. All views shall provide factual presentation of the Work progress.
- B. All photos shall provide correct exposure and focus, high resolution and sharpness,

maximum depth of field and minimum distortion.

1.07 VIEWS

The photographs shall be from varied views which show the most representative sample of the Work progress.

1.08 SUBMITTALS

Submit digital files at or near the time of each Application for Payment but no longer than seven (7) days after exposure.

END OF SECTION 01380

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Work of all crafts and trades shall be laid out to lines and elevations as established by the Contractor from the Drawings or from instructions by the Engineer.
- B. Unless otherwise shown, all work shall be plumb and level, in straight lines and true planes, parallel or square to the established lines and levels. The Work shall be accurately measured and fitted to tolerance as established by the best practices of the crafts and trades involved, and shall be as required to fit all parts of the Work carefully and neatly together.
- C. All equipment, materials and articles incorporated into the Work shall be new and of comparable quality as specified. All workmanship shall be first-class and shall be performed by mechanics skilled and regularly employed in their respective trades.
- D. The Contractor shall determine that the equipment he proposes to furnish can be brought into the facility and installed in the space available. Equipment shall be installed so that all parts are readily accessible for inspection and maintenance.

1.02 WORKMANSHIP

Comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

1.03 MANUFACTURERS' INSTRUCTION

Comply with manufacturer's instructions in full detail as to shipping, handling, storing, installing, start-up and operation.

1.04 MANUFACTURERS' FIELD SERVICES

- A. The Contractor shall arrange for the services of qualified service representatives from the companies manufacturing or supplying each type of equipment required in the Specification sections and/or in Section 01450.
- B. The manufacturer or supplier shall provide sufficient engineering and technician manhours to satisfactorily complete Supervision of Installation, Equipment Check-out, Field Acceptance Tests, Pre-startup Operator Training, and Post-startup Services (see Section 01450).

1.05 TESTING SERVICES

- A. Tests, inspections and certifications of materials, equipment, subcontractors or completed work, as required by the various sections of the Specifications shall be provided by the Contractor and all costs shall be included in the Contract Price.
- B. The Contractor shall submit to the Owner the name of testing laboratory to be employed.
- C. Contractor shall deliver written notice to the Engineer at least two (2) work days in advance of any inspections or tests to be made at the Project site. All inspections or tests to be conducted in the field shall be done in the presence of the Owner or his representative.
- D. Certifications by independent testing laboratories may be by properly attested copies of the data including scientific procedures and results of tests.

END OF SECTION 01400

SECTION 01510 - TEMPORARY UTILITIES

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall maintain strict supervision of use of temporary utility services:
 - 1. Enforce compliance with applicable standards.
 - 2. Enforce safety practices.
 - 3. Prevent abuse of services.

1.02 RELATED REQUIREMENTS

Section 01525 PROTECTION OF INSTALLED WORK
Section 01540 SECURITY

1.03 REQUIREMENTS OF REGULATORY AGENCIES

- A. Obtain and pay for all permits as required by governing authorities.
- B. Obtain and pay for temporary easements required across property other than that of Owner.
- C. Comply with applicable codes.

1.04 REMOVAL

- A. Completely remove temporary materials, equipment, and miscellaneous items upon completion of construction and approval of the Engineer.
- B. Repair damage caused by installation and restore to specified or original condition.

1.05 TEMPORARY ELECTRICITY

Electrical services for construction needs and for lighting and heating the work area will be provided by the Contractor.

1.06 TEMPORARY LIGHTING

- A. Furnish and install temporary lighting required for:
 - 1. Construction needs.

2. Safe and adequate working conditions.
 3. Public safety.
 4. Security lighting.
 5. Temporary office and storage area lighting.
- B. Service periods:
1. Security lighting: All hours of darkness.
 2. Safety lighting:
 - a. Within construction area: All times that authorized personnel are present.
 - b. Public areas: At all times.
- C. Costs of Installation and Preparation: Contractor shall pay all installation, maintenance and removal costs of temporary lighting.
- D. Maintenance of temporary lighting service (replacement of bulbs, etc.) shall be the sole responsibility of the Contractor.

1.07 TEMPORARY HEATING AND VENTILATING

- A. Furnish and install temporary heat and ventilation in work areas throughout construction period to provide proper conditions required to:
1. Facilitate progress of work.
 2. Protect work and products against dampness and cold.
 3. Prevent moisture condensation on surfaces.
 4. Provide adequate ventilation to meet health regulations for safe working environment.
- B. Ventilation required:
1. General: Prevent hazardous accumulations of dusts, fumes, mists, vapors or gases occupied during construction.
 - a. Provide local exhaust ventilation to prevent harmful dispersal of hazardous substances into atmosphere of occupied areas.
 - b. Dispose of exhaust materials in manner that will not result in harmful exposure to persons.
 - c. Ventilate storage spaces containing hazardous or volatile materials.
 2. Provide adequate ventilation for:
 - a. Curing installed materials.

- b. Dispersal of humidity.
- c. Ventilation of temporary sanitary facilities.

3. Duration of operation:

a. For personnel:

- (1) At all times personnel occupies an area subject to hazardous accumulations of harmful elements.
- (2) Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful elements.

b. For curing installed materials: as required by Specification section for respective materials.

c. For humidity dispersal: As needed to provide suitable ambient conditions for work.

C. Pay costs of installation, operation, maintenance and removal of temporary heat and ventilation.

1.08 TEMPORARY WATER

The Contractor will provide the water necessary for construction and testing.

END OF SECTION 01510

SECTION 01530 - BARRIERS

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall provide all temporary barriers in conformance with local, state, and federal codes.

END OF SECTION 01530

SECTION 01535 - PROTECTION OF INSTALLED WORK

PART 1 - GENERAL

1.01 WORK INCLUDED

Protection for products, including Owner-provided products, after installation.

1.02 RELATED REQUIREMENTS

Division 1 - General Requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 PROTECTION AFTER INSTALLATION

- A. Protect installed products and control traffic in immediate area to prevent damage from subsequent operations.
- B. Restrict traffic of any kind across planted lawn and landscape areas.

END OF SECTION 01535

SECTION 01540 - SECURITY

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. The Project area has to remain safely accessible to Owner's personnel; however, the Contractor will provide any non-interfering security deemed necessary to protect their work, equipment, etc.
- B. Provide an adequate system to secure the Project area at all times, especially during non-construction periods; the Contractor shall be solely responsible for taking proper security measures.

1.02 COSTS

Contractor shall pay for all costs for protection and security systems.

END OF SECTION 01540

SECTION 01550 - ACCESS ROADS AND PARKING AREAS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Access roads.
- B. Temporary parking.
- C. Existing pavements and parking areas.
- D. Permanent pavements and parking areas.
- E. Maintenance.
- F. Removal and repair.

1.02 RELATED REQUIREMENTS

- A. Section 01045 - Cutting and Patching.
- B. Section 01510 - Temporary Utilities.
- C. Section 02372 – Erosion and Sediment Control.

PART 2 - PRODUCTS

2.01 MATERIALS

For temporary construction: Contractor's option but must be approved by the Owner.

PART 3 - EXECUTION

3.01 PREPARATION

Clear areas, provide proper surface and storm drainage of premises and adjacent areas. Install erosion protection.

3.02 ACCESS ROADS

- A. Construct temporary all-weather access roads from public thoroughfares to serve construction area, of a width and load-bearing capacity to provide unimpeded traffic for construction purposes.
- B. Construct temporary bridges and/or culverts to span low areas and allow unimpeded drainage.
- C. Extend and relocate as work progress requires, and provide detours as necessary for unimpeded traffic flow.
- D. Locate temporary access roads as approved by the Owner and/or the Engineer.
- E. Provide and maintain access to all Owner facilities.

3.03 TEMPORARY PARKING

Construct temporary parking areas to accommodate use of construction personnel in an area acceptable to the Owner and/or the Engineer. Pay all costs relating to temporary parking.

3.04 MAINTENANCE

- A. Maintain traffic and parking areas in a sound condition, free of excavated material, construction equipment, products, mud, snow and ice. Use whatever dust control measures required to prevent airborne particles.
- B. Maintain existing paved areas used for construction; promptly repair breaks, potholes, low areas, standing water and other deficiencies to maintain paving and drainage in original and/or specified condition.

3.05 REMOVAL AND REPAIR

- A. Remove temporary materials and construction when permanent facilities are usable as directed by the Engineer.
- B. Remove underground work and compacted materials to a depth of two (2) feet; fill and grade site as specified.
- C. Repair existing permanent facilities damaged by usage to original and/or specified condition.

END OF SECTION 01550

SECTION 01570 - TRAFFIC REGULATION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Construction parking control.
- B. Flagmen.
- C. Flares and lights.
- D. Haul routes.
- E. Removal.

1.02 RELATED REQUIREMENTS

- A. Section 01530 - Barriers.
- B. Section 01580 - Project Identification and Signs.

PART 2 - PRODUCTS

2.01 SIGNS AND DEVICES

- A. Traffic Cones and Drums, Flares and Lights: As approved by local jurisdictions.
- B. Flagman Equipment: As required by local jurisdictions.

PART 3 - EXECUTION

3.01 CONSTRUCTION PARKING CONTROL

- A. Control vehicular parking to prevent interference with public traffic and parking, access by emergency vehicles and Owner's operations.
- B. Monitor parking of construction personnel's vehicles in existing facilities. Maintain vehicular access to and through parking areas.
- C. Prevent parking on or adjacent to access roads or in non-designated areas.

3.02 TRAFFIC CONTROL

- A. Whenever and wherever, in the Engineer's opinion, traffic is sufficiently congested or public safety is endangered, Contractor shall furnish uniformed officers to direct traffic and to keep traffic off the highway area affected by construction operations.
- B. Contractor shall abide by county and state regulations governing utility construction work. Lane blockages or closures require permits from the LFUCG Division of Traffic Engineering; Contractor shall submit a traffic control plan and provide all signs, barriers, markings, etc. in conformance with the permit.
- C. Traffic control shall be provided according to the Kentucky Department of Highways Manual on Uniform Traffic Control Devices for Streets and Highways.

3.03 FLAGMEN

Provide trained and equipped flagmen to regulate traffic when construction operations or traffic encroach on public traffic lanes.

3.04 FLARES AND LIGHTS

Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

3.05 HAUL ROUTES

- A. Consult with authorities, establish public thoroughfares to be used for haul routes and site access.
- B. Confine construction traffic to designated haul routes.
- C. Provide traffic control at critical areas of haul routes to regulate traffic and minimize interference with public traffic.

3.06 REMOVAL

Remove equipment and devices when no longer required.

END OF SECTION 01570

SECTION 01580 - PROJECT IDENTIFICATION AND SIGNS

PART 1 – GENERAL

1.01 WORK INCLUDED

- A. The Contractor shall provide all signs required by these specifications at location(s) near the site of the work specified by the Owner.
- B. The Contractor shall furnish and install sign(s) for the Project in quantities and locations as directed by the Owner. The format of the sign is shown on the LFUCG Standard Drawing included in the Contract Documents.

PART 2 - PRODUCT

2.01 SIGN

The sign shall be approximately 8' long and 4' wide and constructed of 3/4" thick APA A-B Exterior grade or marine plywood. Posts shall be 4" x 4" of fencing type material. Prime all wood with white primer.

PART 3 - EXECUTION

3.01 MAINTENANCE

The sign shall be maintained in good condition until completion of the Project. The sign shall be removed by the Contractor at the completion of the project, as directed by the Owner or Engineer, and the surrounding ground restored to preconstruction conditions.

3.02 LOCATION

The locations of the project sign shall be determined at the pre-construction conference by the owner.

END OF SECTION 01580

SECTION 01600 - MATERIAL AND EQUIPMENT

PART 1 - GENERAL

1.01 STORAGE OF MATERIALS AND EQUIPMENT

All excavated materials and equipment to be incorporated in the Work shall be placed so as not to injure any part of the Work or existing facilities and so that free access can be had at all times to all parts of the Work and to all public utility installations in the vicinity of the Work. Materials and equipment shall be kept neatly piled and compactly stored in such locations as will cause a minimum of inconvenience to public travel and adjoining owners, tenants and occupants.

1.02 HANDLING AND DISTRIBUTION

- A. The Contractor shall handle, haul, and distribute all materials and all surplus materials on the different portions of the Work, as necessary or required; shall provide suitable and adequate storage room for materials and equipment during the progress of the Work, and be responsible for the protection, loss of, or damage to materials and equipment furnished by him, until final completion and acceptance of the Work.
- B. Storage and demurrage charges by transportation companies and vendors shall be borne by the Contractor.

1.03 MATERIALS, SAMPLES, INSPECTION

- A. Unless otherwise expressly provided on the Drawings or in any of the other Contract Documents, only new materials and equipment shall be incorporated in the Work. All materials and equipment furnished by the Contractor to be incorporated in the Work shall be subject to the inspection of the Engineer. No material shall be processed or fabricated for the Work or delivered to the Work site without prior concurrence of the Engineer.
- B. As soon as possible after execution of the Agreement, the Contractor shall submit to the Engineer the names and addresses of the manufacturers and suppliers of all materials and equipment he proposes to incorporate into the Work. When shop and working drawings are required as specified below, the Contractor shall submit prior to the submission of such drawings, data in sufficient detail to enable the Engineer to determine whether the manufacturer and/or the supplier have the ability to furnish a product meeting the Specifications. As requested, the Contractor shall also submit data relating to the materials and equipment he proposes to incorporate into the Work in sufficient detail to enable the Engineer to identify and evaluate the

particular product and to determine whether it conforms to the Contract requirements. Such data shall be submitted in a manner similar to that specified for submission of shop and working drawings.

- C. Facilities and labor for the storage, handling, and inspection of all materials and equipment shall be furnished by the Contractor. Defective materials and equipment shall be removed immediately from the site of the Work.
- D. If the Engineer so requires, either prior to or after commencement of the Work, the Contractor shall submit samples of materials for such special tests as the Engineer deems necessary to demonstrate that they conform to the Specifications. Such samples, including concrete test cylinders, shall be furnished, taken, stored, packed, and shipped by the Contractor as directed. The Contractor shall furnish suitable molds for and make the concrete test cylinders. Except as otherwise expressly specified, the Contractor shall make arrangements for, and pay for, the tests.
- E. All samples shall be packed so as to reach their destination in good condition, and shall be labeled to indicate the material represented, the name of the building or work and location for which the material is intended, and the name of the Contractor submitting the sample. To ensure consideration of samples, the Contractor shall notify the Engineer by letter that the samples have been shipped and shall properly describe the samples in the letter. The letter of notification shall be sent separate from and should not be enclosed with the samples.
- F. The Contractor shall submit data and samples, or place his orders, sufficiently early to permit consideration, inspection and testing before the materials and equipment are needed for incorporation in the Work. The consequences of his failure to do so shall be the Contractor's sole responsibility.
- G. In order to demonstrate the proficiency of workmen, or to facilitate the choice among several textures, types, finishes, surfaces, etc., the Contractor shall provide such samples of workmanship of wall, floor, finish, etc., as may be required.
- H. When required, the Contractor shall furnish to the Engineer triplicate sworn copies of manufacturer's shop or mill tests (or reports from independent testing laboratories) relative to materials, equipment performance ratings, and concrete data.
- I. After review of the samples, data, etc., the materials and equipment used on the Work shall in all respects conform therewith.

END OF SECTION 01600

SECTION 01620 - STORAGE AND PROTECTION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. General storage.
- B. Enclosed storage.
- C. Exterior storage.
- D. Maintenance of storage.

1.02 RELATED REQUIREMENTS

Division 1 - General Requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL STORAGE

- A. Store products, immediately on delivery, in accordance with manufacturer's instructions, with seals and labels intact. Protect until installed.
- B. Arrange storage in a manner to provide access for maintenance of stored items and for inspection.

3.02 ENCLOSED STORAGE

- A. Store products, subject to damage by the elements, in substantial weathertight enclosures.
- B. Maintain temperature and humidity within ranges stated in manufacturer's instructions.
- C. Provide humidity control and ventilation for sensitive products as required by manufacturer's instructions.

- D. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

3.03 EXTERIOR STORAGE

- A. Provide substantial platforms, blocking, or skids, to support fabricated products above ground; slope to provide drainage. Protect products from soiling and staining.
- B. For products subject to discoloration or deterioration from exposure to the elements, cover with impervious sheet material. Provide ventilation to avoid condensation.
- C. Store loose granular materials on clean, solid surfaces such pavement, or on rigid sheet materials, to prevent mixing with foreign matter.
- D. Provide surface drainage to prevent erosion and ponding of water.
- E. Prevent mixing of refuse or chemically injurious materials.

3.04 MAINTENANCE OF STORAGE

- A. Periodically, inspect stored products on a scheduled basis. Maintain a log of inspections, make available to Engineer on request.
- B. Verify that storage facilities comply with manufacturer's product storage requirements.
- C. Verify that manufacturer required environmental conditions are maintained continually.
- D. Verify that surfaces of products exposed to the elements are not adversely affected; that any weathering of finishes is acceptable under requirements of Contract Documents.

3.05 MAINTENANCE OF EQUIPMENT STORAGE

- A. For mechanical and electrical equipment in long-term storage, provide manufacturer's service instructions to accompany each item, with notice of enclosed instructions shown on exterior of package.
- B. Service equipment on a regularly scheduled basis, in accordance with the manufacturer's recommendations, maintaining a log of services; submit as a record document.

END OF SECTION 01620

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS

- A. Part IV - General Conditions.
- B. Section 01710 - Final Cleaning.
- C. Section 01720 - Project Record Documents.

1.02 SUBSTANTIAL COMPLETION

- A. Contractor:
 - 1. Submit written certification to Engineer that project is substantially complete.
 - 2. Submit list of major items to be completed or corrected.
- B. Engineer will make an inspection within seven days after receipt of certification, together with the Owner's representative.
- C. Should Engineer consider that work is substantially complete:
 - 1. Contractor shall prepare, and submit to Engineer, a list of the items to be completed or corrected, as determined by on-site observation.
 - 2. Engineer will prepare and issue a Certificate of Substantial Completion, containing:
 - a. Date of Substantial Completion.
 - b. Contractor's list of items to be completed or corrected, verified and amended by Engineer.
 - c. The time within which Contractor shall complete or correct work of listed items.
 - d. Time and date Owner will assume possession of work or designated portion thereof.
 - e. Responsibilities of Owner and Contractor for:
 - (1) Insurance.
 - (2) Utilities.
 - (3) Operation of mechanical, electrical and other systems.
 - (4) Maintenance and cleaning.
 - (5) Security.

- f. Signatures of:
 - (1) Engineer.
 - (2) Contractor.
 - (3) Owner.

3. Contractor: Complete work listed for completion or correction, within designated time.

- D. Should Engineer consider that work is not substantially complete:
 - 1. He shall immediately notify Contractor, in writing, stating reasons.
 - 2. Contractor: Complete work, and send second written notice to Engineer, certifying that Project, or designated portion of project is substantially complete.
 - 3. Engineer will re-review work.

1.03 FINAL INSPECTION

- A. Contractor shall submit written certification that:
 - 1. Contract Documents have been reviewed.
 - 2. Project has been inspected for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in presence of Owner's representative and are operational.
 - 5. Project is completed and ready for final inspection.
- B. Engineer will make final on-site observation/review within seven (7) days after receipt of certification.
- C. Should Engineer consider that work is finally complete in accordance with requirements of Contract Documents, he shall request Contractor to make Project Closeout submittals.
- D. Should Engineer consider that work is not finally complete:
 - 1. He shall notify Contractor, in writing, stating reasons.
 - 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send second written notice to Engineer certifying that work is complete.
 - 3. Engineer will re-review the work.

1.04 FINAL CLEANING UP

The work will not be considered as completed and final payment made until all final cleaning up has been done by the Contractor in a manner satisfactory to the Engineer. See Section 01710 for detailed requirements.

1.05 CLOSEOUT SUBMITTALS

- A. Project Record Documents: to requirements of Section 01720.
- B. Operation and Maintenance Data (if applicable): to requirements of particular technical specifications and Section 01730.
- C. Warranties and Bonds: to requirements of particular technical specifications and Section 01740.

1.06 INSTRUCTION

Instruct Owner's personnel in operation of all systems, mechanical, electrical and other equipment.

1.07 FINAL APPLICATION FOR PAYMENT

Contractor shall submit final applications in accordance with requirements of General Conditions.

1.08 FINAL CERTIFICATE FOR PAYMENT

- A. Engineer will issue final certificate in accordance with provisions of General Conditions.
- B. Should final completion be materially delayed through no fault of Contractor, Engineer may issue a Semi-final Certificate for payment.

END OF SECTION 01700

SECTION 01710 - CLEANING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. On a continuous basis, maintain premises free from accumulations of waste, debris, and rubbish, caused by operations.
- B. At completion of Work, remove waste materials, rubbish, tools, equipment, machinery and surplus materials, and clean all sight-exposed surfaces; leave Project clean and ready for occupancy.

1.02 RELATED REQUIREMENTS

- A. Section 01045 - Cutting and Patching.
- B. Section 01700 - Project Closeout.
- C. Cleaning for Specific Products or Work: Specification Section for that work.

1.03 SAFETY REQUIREMENTS

- A. Hazards control:
 - 1. Store volatile wastes in covered metal containers, and remove from premises daily.
 - 2. Prevent accumulation of wastes which create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.
- B. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - 1. Do not burn or bury rubbish and waste materials on Project site without written permission from the Owner.
 - 2. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Do not dispose of wastes into streams or waterways.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Use only cleaning materials recommended by manufacturer of surface to be cleaned.
- B. Use cleaning materials only on surfaces recommended by cleaning material manufacturer.

PART 3 - EXECUTION

3.01 DURING CONSTRUCTION

- A. Execute cleaning to ensure that building, grounds and public properties are maintained free from accumulations of waste materials and rubbish.
- B. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- C. At reasonable intervals during progress of Work, clean site and public properties, and dispose of waste materials, debris and rubbish.
- D. Provide on-site containers for collection of waste materials, debris and rubbish.
- E. Remove waste materials, debris and rubbish from site and legally dispose of at public or private dumping areas off Owner's property.
- F. Handle materials in a controlled manner with as few handlings as possible; do not drop or throw materials from heights.
- G. The Contractor shall thoroughly clean all materials and equipment installed.

3.02 FINAL CLEANING

- A. Employ experienced workmen, or professional cleaners, for final cleaning.
- B. In preparation for substantial completion, conduct final inspection of sight-exposed interior and exterior surface, and of concealed spaces.
- C. Repair, patch and touch up marred surfaces to specified finish, to match adjacent surfaces.
- D. Broom clean paved surfaces; rake clean other surfaces of grounds.

- E. Maintain cleaning until Project, or portion thereof, is occupied by Owner.
- F. The Contractor shall restore or replace existing property or structures as promptly and practicable as work progresses.

END OF SECTION 01710

SECTION 01720 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.01 RELATED REQUIREMENTS

- A. Part IV - General Conditions.
- B. Section 01300 - Submittals.

1.02 MAINTENANCE OF DOCUMENTS

- A. Maintain at job site, one copy of:
 - 1. Contract Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Reviewed Shop Drawings.
 - 5. Change Orders.
 - 6. Other Modifications to Contract.
- B. Store documents in approved location, apart from documents used for construction.
- C. Provide files and racks for storage of documents.
- D. Maintain documents in clean, dry legible condition.
- E. Do not use record documents for construction purposes.
- F. Make documents available at all times for inspection by Engineer and Owner.

1.03 MARKING DEVICES

Provide colored pencil or felt-tip marking pen for all marking.

1.04 RECORDING

- A. Label each document "RECORD DRAWING" in 2-inch high printed letters.
- B. Keep record documents current.
- C. Do not permanently conceal any work until required information has been recorded.

- D. Contract Drawings: Legibly mark to record actual construction:
 - 1. Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements.
 - 2. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
 - 3. Field changes of dimension and detail.
 - 4. Changes made by Change Order or Field Order.
 - 5. Details not on original Contract Drawings.

- E. Specifications and Addenda: Legibly mark up each Section to record:
 - 1. Manufacturer, trade name, catalog number, and Supplier of each product and item of equipment actually installed.
 - 2. Changes made by Change Order or Field Order.
 - 3. Other matters not originally specified.

- F. Shop Drawings: Maintain as record documents; legibly annotate Shop Drawings to record changes made after review.

- G. Pipe Inspection Logs: Submit inspection reports including closed circuit television (CCTV) recordings and logs of defects, as required by the Owner.

1.05 SUBMITTAL

- A. At completion of project, deliver record documents to Engineer.

- B. Accompany submittal with transmittal letter, in duplicate, containing:
 - 1. Date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Title and number of each record document.
 - 5. CCTV videos and logs of pipe inspections.
 - 5. Certification that each document as submitted is complete and accurate.
 - 6. Signature of Contractor or his authorized representative.

END OF SECTION 01720

SECTION 01740 - WARRANTIES AND BONDS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Compile specified warranties and bonds.
- B. Compile specified service and maintenance contracts.
- C. Co-execute submittals when required.
- D. Review submittals to verify compliance with Contract Documents.

1.02 RELATED REQUIREMENTS

- A. Bid Bond.
- B. Performance and Payment Bonds.
- C. Guaranty.
- D. General Warranty of Construction.
- E. Warranties and Bonds required for specific products: As listed in other Specification sections.

1.03 WARRANTY BONDS OR CORPORATE GUARANTEES IN LIEU OF EXPERIENCE RECORD

- A. When specifically requested in the products and installation general provisions of a Specification section for a particular piece of equipment or product, a record of five (5) years of successful full-scale operation shall be required from the equipment manufacturer. This record of full-scale operation shall be from existing facilities utilizing the equipment or product specified, in an application similar to the application intended for this Project.
- B. The manufacturer shall certify in writing to the Contractor that it has the required record of successful full-scale operation. This certification shall be submitted by the Contractor with his construction materials and/or equipment data list. In the event the manufacturer cannot provide the five (5) year certification of experience to the Contractor, the Contractor shall furnish within thirty (30) days after the Notice of Award, a Warranty Bond or Corporation Guarantee from the equipment manufacturer written in the name of the Contractor and acceptable to the Owner.

The Warranty Bond or Corporate Guarantee shall be kept in force for five (5) years from the Date of Substantial Completion of the Contract less the number of years of experience the manufacturer may be able to certify to the Engineer. As a minimum, the Bond or Guarantee shall be in force for one (1) year after the Date of Substantial Completion of the Contract. The Warranty Bond shall be written in an amount equivalent to the manufacturer's quotation, the Contractor's installation cost plus 100 percent (100%). The Warranty Bond or Corporate Guarantee will assure the Owner that, if in the judgement of the Engineer, the equipment does not perform its specified function, the Contractor shall remove the equipment and install equipment that will perform the specified function and the work by the Contractor shall be paid for by the Warranty Bond or Corporate Guarantee.

1.04 SUBMITTALS REQUIREMENTS

- A. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturers, suppliers and subcontractors.
- B. Furnish two (2) original signed copies.
- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product, equipment or work item.
 - 2. Firm name, address and telephone number.
 - 3. Scope.
 - 4. Date of beginning of warranty, bond or service and maintenance contract.
 - 5. Duration of warranty, bond or service and maintenance contract.
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty or bond.
 - 7. Contractor name, address and telephone number.

1.05 FORM OF SUBMITTALS

- A. Prepare in duplicate packets.
- B. Format:
 - 1. Size 8 1/2-inch x 11 inches, punch sheets for 3-ring binder: Fold larger sheets to fit into binders.

2. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS". List:

- a. Title of Project.
- b. Name of Contractor.

C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.06 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during progress of construction: Submit documents within ten (10) days after inspection and acceptance.
- B. Otherwise, make submittals within ten (10) days after date of substantial completion, prior to final request for payment.
- C. For items of work, where acceptance is delayed materially beyond the Date of Substantial Completion, provide updated submittal within 10 days after acceptance, listing the date of acceptance as the start of the warranty period.

1.07 SUBMITTALS REQUIRED

Submit warranties, bonds, service and maintenance contracts as specified in the respective sections of the Specifications. Additionally, the Contractor shall warrant the entire contract, including all concrete, paving, building, plumbing, HVAC, mechanical and electrical equipment to be free from defects in design and installation for one (1) year from the date of startup. In the event a component fails to perform as specified or is proven defective in service during the warranty period, the Contractor shall repair the defect without cost to the Owner.

END OF SECTION 01740

SECTION 02050 - DEMOLITION

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Demolition work shall be included in the Contract.
- B. Prior to demolition of structures the following procedures shall be accomplished.
 - 1. Owner release of such structure.
 - 2. All electrical and mechanical services rerouted or shut off outside the area of demolition.
 - 3. Coordinate sequencing with Subcontractors.
 - 4. Survey and record the condition of existing facilities to remain in place that may be affected by the demolition operations. After demolition operations are completed, survey the conditions again and restore existing facilities to the pre-demolition condition, at no additional cost to the Owner.

1.02 SCHEDULE

- A. Perform demolition and removal work at such a time and in such a manner, so as not to interfere with the Owner's operations, the work of other trades and other Contracts. Follow the Progress Schedule as agreed to and worked out with the Owner.
- B. Coordinate demolition and removal work with the work of other Contractors, so that the new construction work installed before, during and after the work of this Section may commence without undue delay.

1.03 PROTECTION

- A. Do not close or obstruct streets, walks, and other facilities occupied and used by the Owner and the public, without prior written permission from the Owner and local authorities having jurisdiction.
- B. The structural stability of structures adjacent to, or affected by the work of this Contract will be the responsibility of the Contractor. Provide temporary shoring, and bracing where required.
- C. Provide all necessary shielding of existing materials and equipment, which are to remain within or adjacent to work areas.
- D. Maintain in service and protect from damage the existing utilities that are indicated

to remain.

1.04 UTILITIES

Notify all utilities in sufficient time prior to razing operations to permit them to disconnect and remove and/or relocate the respective utility.

1.05 SEWER SEALING

Plug and seal, using concrete, piping as shown on the drawings or as directed by the Engineer.

1.06 SALVAGEABLE MATERIALS

- A. The Owner shall have first right to salvage material. Salvage material and equipment to be retained by the Owner shall be located as directed by the Engineer.

1.07 DEMOLITION OPERATIONS

- A. Existing structures shall be removed to a minimum of 36 inches below the finished grade or 36 inches below the location of a new structure or as shown on the Contract Drawings.
- B. Remove existing concrete using an abrasive saw to make initial cuts not less than 2 inches deep, between areas to be removed and areas to remain, providing a smooth, straight joint or cut line. Make cut lines in floor slabs parallel with walls.
- C. If existing abandoned utility lines extend into the area of construction being removed, remove abandoned lines to elevations shown on the drawings, or as directed by the Engineer outside of demolition area and plug permanently with steel cap or concrete.
- D. Adequate drainage of all structures demolished shall be provided by providing openings in the floors and walls of the portion of the structures remaining in place. The Contractor shall notify the Engineer, prior to backfilling the structures remaining in place, in order for him to inspect the drainage provision provided.
- E. Provide all temporary shoring and bracing as required to transfer loads of existing construction to remain from construction being removed. Remove and dispose of temporary support measures when new construction has been installed by other contractors.

END OF SECTION 02050

SECTION 02100 - CLEARING, GRUBBING, AND SITE PREPARATION

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. Includes all labor, material, equipment and appliances required for the complete execution of any additions, modifications, or alterations to existing building(s) and new construction work as shown on the Drawings and specified herein.
- B. Principal items of work include:
 - 1. Notifying all authorities owning utility lines running to or on the property. Protecting and maintaining all utility lines to remain and capping those that are not required in accordance with instructions of the Utility Companies, and all other authorities having jurisdiction.
 - 2. Clearing the site within the Contract Limit Lines, including removal of grass, brush, shrubs, trees, loose debris and other encumbrances except for trees marked to remain.
 - 3. Boxing and protecting all trees, shrubs, lawns and the like within areas to be preserved. Relocating trees and shrubs, so indicated on the Drawings, to designated areas.
 - 4. Repairing all injury to trees, shrubs, and other plants caused by site preparation operations shall be repaired immediately. Work shall be done by qualified personnel in accordance with standard horticultural practice and as approved by the Engineer.
 - 5. Removing topsoil to its full depth from designated areas and stockpiling on site where directed by the Engineer for future use.
 - 6. Disposing from the site all debris resulting from work under this Section.

1.02 STREET AND ROAD BLOCKAGE

- A. Closing of streets and roads during progress of the work shall be in compliance with the requirements of the Owner and other authorities having jurisdiction. Access shall be provided to all facilities remaining in operation.

1.03 PROTECTION OF PERSONS AND PROPERTY

- A. All work shall be performed in such a manner to protect all personnel, workmen, pedestrians and adjacent property and structures from possible injury and damage.
- B. All conduits, wires, cables and appurtenances above or below ground shall be protected from damage.
- C. Provide warning and barrier fence where shown on the Drawings and as specified herein.

PART 2 -- EXECUTION

2.01 CLEARING OF SITE

- A. Before removal of topsoil, and start of excavation and grading operations, the areas within the clearing limits shall be cleared and grubbed.
- B. Clearing shall consist of cutting, removal, and satisfactory disposal of all trees, fallen timber, brush, bushes, rubbish, sanitary landfill material, fencing, and other perishable and objectionable material within the areas to be excavated or other designated areas. Prior to the start of construction, the Contractor shall survey the entire Contract site and shall prepare a plan which defines the areas to be cleared and grubbed, trees to be pruned, extent of tree pruning, and/or areas which are to be cleared but not grubbed. This plan shall be submitted to the Engineer for approval. Should it become necessary to remove a tree, bush, brush or other plants adjacent to the area to be excavated, the Contractor shall do so only after permission has been granted by the Engineer.
- C. Excavation resulting from the removal of trees, roots and the like shall be filled with suitable material, as approved by the Engineer, and thoroughly compacted per the requirements contained in Section 02200, Earthwork.
- D. Unless otherwise shown or specified, the Contractor shall clear and grub a strip at least 15 ft. wide along all permanent fence lines installed under this Contract.
- E. In temporary construction easement locations, only those trees and shrubs shall be removed which are in actual interference with excavation or grading work under this Contract, and removal shall be subject to approval by the Engineer. However, the Engineer reserves the right to order additional trees and shrubs removed at no additional cost to the Owner, if such, in his opinion, are too close to the work to be maintained or have become damaged due to the Contractor's operations.

2.02 STRIPPING AND STOCKPILING EXISTING TOPSOIL

- A. Existing topsoil and sod on the site within areas designated on the Drawings shall be stripped to whatever depth it may occur, and stored in locations directed by the Engineer.
- B. The topsoil shall be free of stones, roots, brush, rubbish, or other unsuitable materials before stockpiling the topsoil.
- C. Care shall be taken not to contaminate the stockpiled topsoil with any unsuitable materials.

2.03 GRUBBING

- A. Grubbing shall consist of the removal and disposal of all stumps, roots, logs, sticks and other perishable materials to a depth of at least 6-inches below ground surfaces.
- B. Large stumps located in areas to be excavated may be removed during grading operations, subject to the approval of the Engineer.

2.04 DISPOSAL OF MATERIAL

- A. All debris resulting from the clearing and grubbing work shall be disposed of by the Contractor as part of the work of this Contract. Material designated by the Engineer to be salvaged shall be stored on the construction site as directed by the Engineer for reuse in this Project or removal by others.
- B. Burning of any debris resulting from the clearing and grubbing work will not be permitted at the site.

2.05 WARNING AND BARRIER FENCE

- A. The fence shall be made of a visible, lightweight, flexible, high strength polyethylene material. The fence shall be MIRASAFE as manufactured by Mirafi, Inc., or equal.
- B. Physical Properties

Fence:

Color:	International Orange
Roll Size:	4' x 164'
Roll weight:	34 lbs.
Mesh opening:	1-1/2" x 3"

Posts:

ASTM Designation:	ASTM 702
Length:	5 feet long (T-Type)
Weight:	1.25 #/Foot (min)
Area of Anchor Plate:	14 Sq. In.

- C. Drive posts 12 to 18 inches into ground every 10' to 12'. Wrap fence material around first terminal post allowing overlap of one material opening. Use metal tie wire or plastic tie wrap to fasten material to itself at top, middle and bottom. At final post, cut with utility knife or scissors at a point halfway across an opening. Wrap around and tie at final post in the same way as the first post.
- D. Use tie wire or tie wrap at intermediate posts and splices as well. Thread ties around a vertical member of the fence material and the post, and bind tightly against the post. For the most secure fastening, tie at top, middle and bottom. Overlap splices a minimum of four fence openings, tie as above, fastening both edges of the fence material splice overlap.

END OF SECTION 02100

02110 - SITE CLEARING

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Clear site within construction limits of plant life and grass.
- B. Remove root system of trees and shrubs.
- C. Remove surface debris.

1.02 REGULATORY REQUIREMENTS

Conform to applicable local codes and ordinances for disposal of debris.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 EXISTING TREES AND OTHER VEGETATION

- A. The Contractor shall not cut or injure any trees or other vegetation outside right-of-way or easement lines and outside areas to be cleared, as indicated on the Drawings, without written permission from the Engineer. The Contractor shall be responsible for all damage done outside these lines.
- B. The Engineer shall designate which trees are to be removed within permanent and temporary easement lines or right-of-way lines.

3.02 CLEARING

- A. From areas to be cleared, the Contractor shall cut or otherwise remove all trees, brush, and other vegetable matter such as snags, bark and refuse. The ground shall be cleared to the width of the permanent easement or right-of-way unless otherwise directed by the Engineer.
- B. Except where clearing is done by uprooting with machinery, trees, stumps, and stubs to be cleared shall be cut as close to the ground surface as practicable, but no more than 6 inches above the ground surface for small trees and 12 inches for larger trees.

- C. Elm bark shall be either buried at least 1 foot deep or burned in suitable incinerators off site with satisfactory antipollution controls and fire prevention controls, to prevent the spread of Dutch Elm disease and as required by applicable laws.

3.03 GRUBBING

From areas to be grubbed, the Contractor shall remove completely all stumps, remove to a depth of 12 inches all roots larger than 3-inch diameter, and remove to a depth of 6 inches all roots larger than 1/2-inch diameter. Such depths shall be measured from the existing ground surface or the proposed finished grade, whichever is lower.

3.04 STRIPPING OF TOPSOIL

Prior to starting general excavation, strip topsoil to a depth of 6 inches or to depths required by the Engineer. Do not strip topsoil in a muddy condition and avoid mixture of subsoil. Stockpile the stripped topsoil within easement or right-of-way lines for use in finish grading and site restoration. Topsoil stockpiled shall be free from trash, brush, stones over 2 inches in diameter and other extraneous material.

3.05 PROTECTION

- A. Protect plant growth and features remaining as final landscaping.
- B. Protect bench marks and existing work from damage or displacement.
- C. Maintain designated site access for vehicle and pedestrian traffic.

3.06 REMOVAL

- A. All material resulting from clearing and grubbing and not scheduled for reuse shall become the property of the Contractor and shall be suitably disposed of off-site, unless otherwise directed by the Engineer, in accordance with all applicable laws, ordinances, rules and regulations.
- B. Such disposal shall be performed as soon as possible after removal of the material and shall not be left until the final period of cleaning up.
- C. All topsoil shall be reused on-site unless specifically authorized in writing by the Engineer.

END OF SECTION 02110

SECTION 02150 - SHORING AND BRACING

PART 1 - GENERAL

1.01 SUMMARY

- A. Shore and brace sidewalls in deep excavations with steel sheet, soldier piles or timber lagging as required to protect existing buildings, utilities, roadways, and improvements. Prevent cave-ins, loss of ground, or damage to people and property.
- B. Maintain shoring and bracing during construction activities, and remove shoring and bracing if practical when construction and filling is complete.

1.02 SUBMITTALS

Submit for approval shop drawings and information on methods proposed for use.

1.03 QUALITY ASSURANCE

Comply with governing codes and regulations. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Sheet Steel: Heavy-gauge steel sheet suitable for service.
- B. Soldier Piles: Steel H-beams in serviceable condition.
- C. Timber Lagging: Heavy timber pressure treated with wood preservative.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install in proper relation with adjacent construction. Coordinate with work of other sections.
- B. Locate shoring and bracing to avoid permanent construction. Anchor and brace to prevent collapse.

END OF SECTION 02150

SECTION 02225 - EXCAVATING, BACKFILLING, AND
COMPACTING FOR UTILITIES

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall make excavations in such widths and depths as will give suitable room for below grade vaults, pump stations, etc., laying pipe to the lines, grades and elevations, furnish, place and compact all backfill materials specified herein or denoted on the Drawings. The materials, equipment, labor, etc., required herein are to be considered as part of the requirements and costs for installing the various pipes, structures and other items they are incidental to.

1.02 RELATED WORK

- A. Section 02500 – Storm Drainage.
- B. Section 02735 - Manholes.
- C. Section 02731 - Gravity Sewers.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Crushed stone material shall conform with the requirements of the applicable sections of the Kentucky Bureau of Highways Standard Specifications and shall consist of clean, hard, and durable particles or fragments, free from dirt, vegetation or objectionable materials.
- B. Two classes of crushed stone material are used in this Section. The type of material in each class is as follows:
 - 1. Class I - No. 9 Aggregate.
 - 2. Class II - Dense Graded Aggregate (DGA).

PART 3 - EXECUTION

3.01 EXCAVATION OF TRENCHES

- A. Unless otherwise directed by the Engineer, trenches are to be excavated in open cuts.
 - 1. Where pipe is to be laid in gravel bedding or concrete cradle, the trench may be excavated by machinery to, or just below, the designated subgrade, provided that the material remaining at the bottom of the trench is no more than slightly disturbed.
 - 2. Where pipe is to be laid directly on the trench bottom, the lower part of trenches in earth shall not be excavated to subgrade by machinery. However, just before the pipe is to be placed, the last of the material to be excavated shall be removed by means of hand tools to form a flat or shaped bottom, true to grade, so that the pipe will have a uniform and continuous bearing and support on firm and undisturbed material between joints except for limited areas where the use of pipe slings may have disturbed the bottom.
- B. Trenches shall be sufficient width to provide working space on each side of the pipe and to permit proper backfilling around the pipe.
 - 1. The Contractor shall remove only as much of any existing pavement as is necessary for the prosecution of the Work. The pavement shall be cut with pneumatic tools, without extra compensation to the Contractor, to prevent damage to the remaining road surface. Where pavement is removed in large pieces, it shall be disposed of before proceeding with the excavation.
- C. All excavated materials shall be placed a safe distance back from the edge of the trench.
- D. Unless specifically directed otherwise by the Engineer, not more than 500 feet of trench shall be opened ahead of the pipe laying work of any one crew, and not more than 500 feet of open ditch shall be left behind the pipe laying work of any one crew. Watchmen or barricades, lanterns and other such signs and signals as may be necessary to warn the public of the dangers in connection with open trenches, excavations and other obstructions, shall be provided by and at the expense of the Contractor.
- E. When so required, or when directed by the Engineer, only one-half of street crossings and road crossings shall be excavated before placing temporary bridges over the side excavated, for the convenience of the traveling public. All backfilled ditches shall be maintained in such manner that they will offer no hazard to the passage of traffic. The convenience of the traveling public and the property owners

abutting the improvements shall be taken into consideration. All public or private drives shall be promptly backfilled or bridged at the direction of the Engineer.

- F. Trench excavation shall include the removal of earth, rock, pavement, or other materials encountered in the excavating to the depth and extent shown or indicated on the Drawings.

3.02 WATER PIPE BEDDING

- A. Piping for water mains shall be supported as follows:
 - 1. The trench bottom for water main piping shall be stable, continuous, relatively smooth and free of frozen material, clodded dirt, foreign material and rock or granular material larger than 1/2 inch in diameter. The foundation for water main piping shall be prepared so that the entire load of the backfill on top of the pipe will be carried uniformly on the barrel of the pipe. Any uneven areas in the trench bottom shall be shaved-off or filled-in with Class I granular bedding. When the trench is made through rock, the bottom shall be lowered to provide 6 inches of clearance around the pipe. Class I granular bedding shall be used to bring the trench bottom to grade.
- B. After each pipe has been brought to grade, aligned, and placed in final position, earth material for water main piping shall be deposited and densified under the pipe haunches and on each side of the pipe up to the spring line of the pipe to prevent lateral displacement and hold the pipe in proper position during subsequent pipe jointing, bedding, and backfilling operations.
- C. In wet, yielding and mucky locations where pipe is in danger of sinking below grade or floating out of grade or line, or where backfill materials are of such a fluid nature that such movements of pipe might take place during the placing of the backfill, the pipe must be weighted or secured permanently in place by such means as will prove effective.
- D. Where an unstable (i.e., water, mud, etc.) trench bottom is encountered, stabilization of the trench bottom is required. This is to be accomplished by undercutting the trench depth and replacing to grade with a foundation of crushed stone aggregate.
- E. The depth of the foundation is dependent upon the severity of the trench bottom. The size of stone aggregate used in the foundation will be determined by the condition of the unstable material. Once the trench bottom has been stabilized, the required Class I bedding material can be placed.
- F. It should be noted that no pipe shall be laid on solid or blasted rock.

- G Pipe bedding as required in Paragraphs A, B, and D of this Section is **not** considered a separate pay item.

3.03 GRAVITY STORM AND SANITARY SEWER PIPE BEDDING

- A. Piping shall be supported as follows:
 - 1. All gravity sewer piping shall be laid on a bed of granular material except when a concrete encasement situation occurs. All pipe bedding material shall be Class I (No. 9 crushed stone aggregate) and shall be placed to a depth of 4 inches in an earth trench and 6 inches in a rock trench. Aggregate bedding shall be graded to provide for a uniform and continuous support beneath the pipe at all points.
- B. After each pipe has been brought to grade, aligned, and placed in final position, Class I material for gravity sewer piping shall be deposited and densified under the pipe haunches and on each side of the pipe up to the spring line of the pipe to prevent lateral displacement and hold the pipe in proper position during subsequent pipe jointing, bedding, and backfilling operations.
- C. In wet, yielding and mucky locations where pipe is in danger of sinking below grade or floating out of grade or line, or where backfill materials are of such a fluid nature that such movements of pipe might take place during the placing of the backfill, the pipe must be weighted or secured permanently in place by such means as will prove effective.
- D. Where an unstable (i.e., water, mud, etc.) trench bottom is encountered, stabilization of the trench bottom is required. This is to be accomplished by undercutting the trench depth and replacing to grade with a foundation of crushed stone aggregate.
- E. The depth of the foundation is dependent upon the severity of the trench bottom. The size of stone aggregate used in the foundation will be determined by the condition of the unstable material. Once the trench bottom has been stabilized, the required Class I bedding material can be placed.
- F. It should be noted that no pipe shall be laid on solid or blasted rock.
- G. Pipe bedding as required in Paragraphs A and B of this Section is **not** considered a separate pay item. Subgrade stabilization as required in Paragraph D shall be a separate pay item as described in Section 01025, only if included as a pay item in the Bid Form.

3.04 GRAVITY SEWER BACKFILL

A. Initial Backfill:

1. This backfill is defined as that material which is placed over the pipe from the spring line to a point 6 inches above the top of the pipe. For gravity sewer piping the material shall be Class I (No. 9 crushed stone aggregate) and may be machine placed without compaction. Uneven places in the backfill shall be leveled by hand.
2. Material used, whether earth or Class I, in the initial backfilling is **not** a separate pay item. Payment for the material is included in the unit price per linear foot of gravity sewer or force main.
3. In areas where large quantities of rock are excavated and the available excavated earth in the immediate vicinity is insufficient for placing the required amount of backfill over the top of the pipe as set forth in Paragraph A.1, the Contractor shall either haul in earth or order Class I material for backfilling over the pipe. Neither the hauling and placement of earth nor the ordering and placement of Class I material to fulfill the backfill requirements set forth herein is considered a separate pay item.

B. Final Backfill:

1. There are two cases where the method of final backfilling varies. The various cases and their trench situations are as follows:
 - a. Case I - Areas not subject to vehicular traffic.
 - b. Case II - Paved areas including streets, drives, parking areas, and walks.
2. In all cases, walking or working on the completed pipelines, except as may be necessary in backfilling, will not be permitted until the trench has been backfilled to a point 6 inches above the top of the pipe. The method of final backfilling for each of the above cases is as follows:
 - a. Case I - The trench shall be backfilled from a point 6 inches above the top of the pipe to a point 8 inches below the surface of the ground with earth material free from large rock (over one-half cubic foot in volume), acceptable to the Engineer. The remainder of the trench shall be backfilled with earth material reasonably free of any rocks.
 - b. Case IIa - The trench shall be backfilled from a point 6 inches above the top of the pipe to a point 14 inches below the existing pavement surface with Class I (No. 9 crushed stone aggregate) material. The backfill shall be mechanically tamped in approximately 6-inch layers to obtain a compaction of 95 percent density as measured by the modified Procter Test. The remaining backfill shall be 6 inches of Class II (dense graded

aggregate) material mechanically tamped to the compaction as required above for Class I material. The trench may be left with a slight mound if permitted by the Engineer. The remaining 8 inches shall consist of a 6-inch concrete cap (extending a minimum of 12-inches each side of the trench width) and 2-inches of bituminous surface, or as otherwise required by state or local regulations.

- b. Case IIb - The trench shall be backfilled from a point 6 inches above the top of the pipe to the bottom of the existing pavement structure with flowable fill (a minimum of 6-inches below surface grade), with the pavement restored to the existing pavement surface by matching the existing pavement structure with concrete pavement or a minimum of 6-inches of bituminous surface, compacted in separate 2-inch lifts.
3. Earth and Class I material used in final backfill is not a separate pay item. Payment shall be included in the price of gravity sewer.
 4. Class II material used in final backfill shall be included in the unit price for gravity sewer.
- C. A sufficient amount of Class II material shall be stockpiled to insure immediate replacement by the Contractor of any settled areas. No extra payment will be made for the filling in of settled or washed areas by the Contractor.
 - D. Excavated materials from trenches, in excess of quantity required for trench backfill, shall be disposed of by the Contractor. It shall be the responsibility of the Contractor to obtain location or permits for its disposal, unless specific waste areas have been designated on the Drawings or noted in these Specifications. The cost of disposal of excess excavated materials, as set forth herein, no additional compensation being allowed for hauling or overhaul.

3.05 PLACEMENT OF IDENTIFICATION TAPE

- A. The placement of detectable underground marking tape shall be installed over all utility lines. Care shall be taken to insure that the buried marking tape is not broken when installed and shall be Lineguard brand encased aluminum foil, Type III or equal.
- B. The identification tape shall bear the printed identification of the utility line below it, such as "Caution - Buried Below". Tape shall be reverse printed; surface printing will not be acceptable. The tape shall be visible in all types and colors of soil and provide maximum color contrast to the soil. The tape shall meet the APWA color code, and shall be 2 inches in width. Colors are: yellow - gas, green - sewer, red - electric, blue - water, orange - telephone, brown - force main.

- C. The tape shall be the last equipment installed in the trench so as to be first out. The tape shall be buried 4 to 6 inches below top of grade. After trench backfilling, the tape shall be placed in the backfill and allowed to settle into place with the backfill. The tape may be plowed in after final settlement, installed with a tool during the trench backfilling process, unrolled before final restoration or installed in any other way acceptable to the Owner or Engineer.

END OF SECTION 02225

SECTION 02240 - DEWATERING

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor and equipment required to dewater all excavations.
- B. Dewatering of all excavations shall be the responsibility of the Contractor, and no additional compensation will be allowed for same.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 GENERAL

- A. Dewatering equipment shall be of adequate size and quantity to assure maintaining proper conditions for installing pipe, concrete, backfill or other material or structure in the excavation.
- B. Dewatering shall include proper removal of any and all liquid, regardless of its source, from the excavation.
- C. The site shall be kept free of surface water at all times. The Contractor shall install stabilized drainage ditches, dikes, and shall perform all pumping and other work necessary to divert or remove rainfall and/or all other accumulations of water from the excavations. The diversion and removal of surface water shall be performed in a manner that will prevent flooding and/or damage to other locations within or beyond the construction limits where it may be detrimental.
- D. The Contractor shall provide, install, and operate sufficient trenches, sumps, pumps, hose piping, well points, deep wells, etc., necessary to depress and maintain the groundwater level below the base of the excavation during all stages of construction operations.
- E. No groundwater from the excavated area shall be discharged into the sanitary sewer system, and no dewatering flows shall be discharged directly to streams or other waterbodies without authorization from the Kentucky Division of Water and notification to the LFUCG Division of Water Quality.
- F. Dewatering shall be in accordance with Chapter 11 of the LFUCG Stormwater Manual and all other state and local regulations/permits/plans.
- G. Trench shall be dewatered as required and never shall the trench accumulate groundwater to a depth that will cause pipe to float.

SECTION 02371 – STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

PART 1 - GENERAL

1.01 GENERAL

- A. The Contract Documents include an Erosion and Sediment Control (ESC) Plan and/or a SWPPP that has been accepted by LFUCG Division of Water Quality. This ESC Plan/SWPPP may be used for establishing quantities and a lump sum price for providing the Erosion and Sediment Control Measures.
- B. The Contractor may use this ESC Plan/SWPPP to obtain the required permits, e.g., Land Disturbance Permit. If Contractor chooses to use this ESC Plan/SWPPP, the Contractor takes sole responsibility for the content of the ESC Plan/SWPPP and the implementation of the ESC Plan/SWPPP during construction. The Contractor acknowledges that this ESC Plan/SWPPP may not fully address any and all Erosion and Sediment Control Measures needed to comply with state and local requirements during construction, and must be updated by the Contractor as appropriate. The Contractor acknowledges that he/she is responsible for addressing any Notices of Violation of the ESC Plan/SWPPP issued by any regulating authority. The Contractor shall be responsible for paying any fines or civil penalties for failure to comply with the ESC Plan/SWPPP or correcting deficiencies noted in Notice(s) of Violation.
- C. Contractor may also choose to prepare its own ESC Plan/SWPPP and submit it to LFUCG Division of Water Quality for approval. No additional payment will be allowed for the ESC Plan/SWPPP development and conformance with said ESC Plan /SWPPP pay item.
- D. Contractor is advised that compliance with LFUCG planning, permitting, and construction requirements does not imply compliance with Kentucky Division of Water requirements, which is also a condition of the Contract.



Construction Site Stormwater Pollution Prevention and Erosion and Sediment Control Plan

This Erosion and Sediment Control / Stormwater Pollution Prevention Plan (ESC/SWPPP) narrative and the attached plan sheets address requirements of the Kentucky Division of Water’s KPDES Construction General Permit and the Lexington-Fayette Urban County Government’s Erosion and Sediment Control (ESC) Plan, which is required by ordinance for certain projects and required to obtain an LFUCG Grading Permit.

Plan Preparer: Jennifer Shelby, PE, CPESC, Third Rock Consultants, LLC, 859.977.2000, jshelby@thirdrockconsultants.com

Date: October 17, 2018

LFUCG Checklist Attached: Yes X No ___ (Appendix A)
KY DOW NOI Attached: Yes ___ No X

1. CONTACT INFORMATION AND SITE DESCRIPTION

Project Name and Location

WGPL Neighborhood Storm Sewer Project
Wabash Dr., Lackawana Rd., Pensocola Dr., and Goodrich Ave.
Lexington, KY 40503

Site Owner Name and Contact Information

Lexington-Fayette Urban County Government (LFUCG)
Gregory Lubeck, Division of Water Quality
215 Lisle Industrial Avenue
Lexington, KY 40511
859.425.2400
glubeck@lexingtonky.gov

Construction Site ESC/SWPPP Plan Manager and Contact Information

Contractor Name:

Address:

Phone:

Email:

Project Start and End Dates

Start: January 1, 2019

End: June 30, 2019

Description – Existing Site Conditions, Purpose, and Types of Soil Disturbing Activities

The project consists of construction of stormwater infrastructure and improvements to mitigate street flooding in the WGPL neighborhood (streets include Wabash Dr., Lackawana Rd., Pensocola Dr., and Goodrich Ave.) in Lexington. The neighborhood consists of single family residences. Infrastructure being installed includes new storm sewer pipes, new storm sewer inlets, connection points for home sump pump discharges, sections of sidewalks, sections of curb, and street milling/paving.

The outlet location(s) for the stormwater will be within “Pensacola Park”, property owned by LFUCG that is adjacent to the intersection of Goodrich Avenue and Pensacola Drive; this is the same general location stormwater runoff is currently routed. Green infrastructure will be installed during a subsequent phase of this project within “Pensacola Park” to provide water quality benefits to a portion of the stormwater once all other infrastructure and improvements within the WGPL neighborhood are completed and the impacted areas are stabilized. The green infrastructure portion of the project will have separate ESC/SWPPP documents.

Earth disturbance and excavation required to install storm sewer infrastructure and related project components will be limited to the boundaries identified on the project Drawings. Typically, the new stormwater pipes will be installed within existing roadways and trench excavation will be minimized.

The WGPL neighborhood generally drains south and west to Wolf Run Creek. Following the project, most stormwater will flow through a storm sewer system and outlet into green infrastructure (bioswales and bioretention area to be constructed as a separate effort following this storm sewer project), then enter Wolf Run Creek within "Pensacola Park".

The dominant soil at the site is Bluegrass-Maury silt loam (2 to 6 percent slopes). This soil is generally well drained and is non-hydric. According to the Kentucky Division of Water, Wolf Run is impaired downstream of the project site for primary and secondary contact recreation (nonsupport due to pathogens) and warmwater aquatic habitat (nonsupport due to specific conductance and nutrient/eutrophication biological indicators). No threatened or endangered species or historical sites were found within the areas proposed for disturbance.

Potential soil disturbing activities will include construction/installation of: stabilized construction entrance, staging/stockpiling area, downgradient silt fence and other erosion and sediment controls, new storm sewer pipes, new storm sewer inlets, connection points for home sump pump discharges, sections of sidewalks, sections of curb, street milling/paving, and preparation for final seeding of disturbed areas.

Runoff Coefficient

Current Runoff Coefficient = 0.4; Final Runoff Coefficient = 0.4

Site Area and Disturbed Acreage

The site is approximately 11 acres, of which 0.9 acres will be disturbed by construction activities.

Sequence of Major Activities

Construction Activity	Schedule Considerations
Work crew orientation	Pre-project briefing to review permits, plans, schedule, and staffing.
Site protection	This is the first land-disturbing activity. Minimal clearing/grading will be done to stabilized construction entrance, staging/stockpile area, and concrete washout. Downgradient silt fences will be installed below areas to be cleared or disturbed. Do-not-disturb areas, including tree protection and riparian area of Wolf Run Creek, will be marked off. Initial construction routes and initial areas designated for vehicle parking shall be identified.
Silt fences	Identify locations and install silt fences as necessary prior to upgradient work and prevent clean water from running across construction entrance, staging/stockpile area, and concrete wash pit. Maintain as necessary. Silt fence shall be adjusted as necessary to prevent sediment from leaving the site until the site is finally stabilized
Runoff and run-on controls – diversion ditches or berms, perimeter dikes	Install controls as needed to divert clean flows around or through site, particularly around material staging and stockpile areas. Additional runoff control measures may be installed during project.
Clearing and tree protection	Clearing and tree removal shall be the minimum necessary for infrastructure installation. Tree removal requires written approval from the Engineer or RPR. Any clearing or grading will begin after installation of principal sediment and runoff control measures, and additional control measures will be installed as grading continues.
Runoff conveyance system – storm drains	Three (3) existing stormwater inlets must be protected prior to project disturbances. Inlet protection measures will be installed as needed as construction of project infrastructure progresses to protect every storm drain inlet, curb inlet, or similar drainage structure that may receive sediment-laden runoff.

Sequence of Major Activities, *continued*

<p>Surface stabilization— temporary and permanent seeding, mulching, sodding</p>	<p>All disturbed areas will be graded and stabilized as soon as possible. Stabilization will begin within 14 days on areas of the site where construction has permanently or temporarily ceased. Temporary and permanent stabilization will comply with the Stormwater Manual. Erosion control blankets and turf reinforcement mats will be used on slopes in accordance with the Stormwater Manual.</p>
<p>Building construction— infrastructure installation and milling/paving</p>	<p>During construction, erosion and sedimentation control measures will be installed as needed, such as downgradient silt fences or other silt barriers. Areas at final grade will be seeded/mulched as soon as possible.</p> <p>No excavation material from pipe trenches shall be placed between the trench and conveyances of runoff. Place material on the upgradient side of the excavation trench such that any sediment or excavated material is caught by the trench.</p> <p>If trench dewatering is required, water pumped from trenches shall be run through an appropriate, properly sized sediment treatment device, such as a filter bag, prior to discharge from the site.</p>
<p>Final stabilization— permanent seeding, mulching, sodding.</p>	<p>Permanent stabilization shall occur as the project progresses. At project completion, all remaining disturbed areas will be stabilized, including staging/stockpiling areas. Temporary control structures, including construction entrance, will be removed and the area will be seeded and mulched.</p>

2. SITE DESCRIPTION, MAPS, AND DRAWINGS

A site overview map is included, below. See also project Drawings for Pre/Post Construction Topography, Construction, Drainage Features, and BMPs.



Legend

- Wolf Run Creek
- Proposed Storm Sewer and Related Infrastructure
- Bioswales and Bioretention
- EPSC Features
- - - Project Area

Green Infrastructure (Bioswales and Bioretention) to be completed by others in a subsequent project.

Construction entrance, concrete washout, staging/stockpiling, downgradient silt fences, and other EPSC features.

During construction/installation of new storm sewer pipes, new storm sewer inlets, connection points for home sump pump discharges, sections of sidewalks, sections of curb, street milling/paving inlet control and localized erosion and sediment control measures shall be implemented.

Prepared for:
Lexington-Fayette
Urban County Government
On behalf of Banks Engineering, LLC

**Site Overview Map
Storm Sewer Project
WGPL Neighborhood, Lexington**

Prepared by:
Third Rock Consultants, LLC
2526 Regency Road, Suite 180
Lexington, Kentucky 40503

Name of Receiving Waters

The site will drain into Wolf Run Creek, within "Pensacola Park" adjacent to the site.

TMDLs and Pollutants of Concern in Receiving Waters

Wolf Run Creek, downstream of the project site, is listed on the Kentucky impaired waters (303d) list for primary and secondary contact recreation (nonsupport due to pathogens) and warmwater aquatic habitat (nonsupport due to specific conductance and nutrient/eutrophication biological indicators). There is a pathogen TMDL for Wolf Run Creek's impaired segments. Pathogens are not a pollutant of concern expected from this project. No threatened and endangered species are present in Wolf Run Creek downstream from the project.

Potential Pollutants of Concern

Sediment from disturbance within residential streets and yards; concrete washout water; oil/fuel/grease from equipment; trash/debris.

3. EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

All erosion, sediment, stormwater, and housekeeping practices will be consistent with the LFUCG Stormwater Manual and KY Division of Water field and technical guidance, at a minimum.

Limits of Disturbance and Project Phasing

Land disturbance activities will be phased to minimize the amount of soil exposed and the length of exposure time. The overall objective will be to achieve final grades as quickly as possible, and to stabilize all areas with seed, mulch or blankets/mats within 14 days after final grade is achieved, or after grading work is suspended on that portion of the site.

Wolf Run Creek, within the site will be protected (50 ft buffer) and remain undisturbed by the project.

Staging/stockpiling areas and construction entrance as shown on Drawings shall be used to minimize erosion, sediment transport, and disturbance to existing vegetation. All areas outside of the disturbance limits shall be protected from disturbance.

Stabilization Practices

Temporary Stabilization – Soil stockpiles and disturbed portions of the site where construction activity stops for 14 days or more will be stabilized with temporary seed or straw mulch no later than 14 days from the last construction activity in that area (portion) of the site. Seeding rates will be consistent with the KY EPSC Field Guide. Lime and fertilizer will be applied only when indicated by a soil test. After seeding, each area shall be covered by erosion blanket or mulched with at least two tons/acre of blown or hand-scattered straw. The straw will be netted down or crimped into place by a disk harrow with the blades set straight. Slopes will be covered with blankets or mats consistent with the LFUCG Stormwater Manual. Areas of the site which are to be paved will be temporarily stabilized by applying geotextile and stone sub-base until bituminous pavement can be applied. Dust will be controlled as needed in dry weather.

Permanent Stabilization – Disturbed portions of the site where construction activities are completed will be stabilized with permanent seed no later than 14 days after completion of grading in that area. Seed and mulch will be applied consistent with the KY EPSC Field Guide. Lime and fertilizer will be applied only if needed. After seeding, each area will be mulched with 2 tons per acre of straw. The straw mulch will be netted down or crimped into place by a disk harrow with blades set straight. Slopes will be covered with erosion control blankets or turf reinforcement mats consistent with the LFUCG Stormwater Manual. Ditches will be triple-seeded and lined with erosion control blanket or turf reinforcement matting.

Structural Practices

Construction Entrance – Sediment shall be retained on-site through the use of stone-stabilized construction entrance at a location of ingress/egress to site (specifically to staging/stockpiling and concrete wash pit areas). The entrances will be constructed prior to any site disturbance. The construction entrance will be maintained in a condition that will prevent tracking or flow of soil, mud, or rock into public right-of-way, including periodic top dressing with fresh stone. The Contractor shall take necessary action to minimize the tracking of soil, mud, or rock onto all paved roadways leaving the site. The Contractor shall remove soil, mud, or rock from pavement at the end of each work day.

Silt Fence – Silt fence shall be placed on contours prior to clearing, excavation, excess material placement, and any other earth-disturbing activities. Silt fence shall be adjusted as necessary to prevent sediment from leaving the site until the site is finally stabilized.

Inlet Protection Measures – Temporary storm drain inlet protection shall be placed on every storm drain inlet, curb inlet, or similar drainage structure that may receive sediment-laden runoff (phased as project progresses). Inlet protection structures will consist of rock bags, #2 rock berms, trenched in silt fence on framing, or commercial devices. Caution shall be used to not install inlet protection where ponding could result and cause impacts to roads, streets, driveways, etc.

Outlet Protection Measures – will be used where stormwater conveyances discharge to ditches or channels, and consist of turf reinforcement matting over triple seeding, erosion control blanket over triple seeding, or channel lining, depending on the scour flows and consistent with the Kentucky Division of Water's BMP Technical Specifications Manual.

Construction Dewatering – will be used to remove stormwater or groundwater from excavated trenches required for pipe installation. This water will be pumped to an appropriate, properly sized sediment treatment device, such as a filter bag, prior to discharge from the site.

Site Runoff Management

Sediment will be prevented from leaving the site to the maximum extent practicable.

Minimal clearing/grading will be done to stabilized construction entrance, staging/stockpile area, and concrete washout. Downgradient silt fences will be installed below areas to be cleared or disturbed. Do-not-disturb areas, including tree protection and riparian area of Wolf Run Creek, will be marked off., protected, and left undisturbed.

Clearing and tree removal shall be the minimum necessary for infrastructure installation. Tree removal requires written approval from the Engineer or RPR.

Three (3) existing stormwater inlets must be protected prior to project disturbances. Inlet protection measures will be installed as needed as construction of project infrastructure progresses. Inlet protection measures will be installed as needed as construction of project infrastructure progresses to protect every storm drain inlet, curb inlet, or similar drainage structure that may receive sediment-laden runoff.

If needed, outlet protection measures will be used where stormwater conveyances discharge to ditches or channels within the project area.

Install controls as needed to divert clean flows around or through site, particularly around material staging and stockpile areas.

No excavation material from pipe trenches shall be placed between the trench and conveyances of runoff. Place material on the upgradient side of the excavation trench such that any sediment or excavated material is caught by the trench. If trench dewatering is required, water pumped from trenches shall be run through a sediment filter bag or other approved device prior to release.

Landscaped areas (i.e. residential yards) will be brought to grade and planted/seeded/mulched within 14 days. Permanent stabilization shall occur as the project progresses.

Upon project completion, temporary erosion and sediment control measures will be removed and all remaining areas of disturbance will be permanently stabilized.

4. OTHER CONTROL MEASURES

Offsite Vehicle Tracking

A stabilized construction entrance with KYTC No. 2 rock and geotextile underliner will be installed to help reduce vehicle tracking of sediments at connections to paved roads. The stabilized entrance will be 100 ft where possible, and at least 50 ft in length. The paved street adjacent to the site entrance will be swept/cleaned daily if necessary to remove any excess mud, dirt, or rock tracked from the site. The rock will be grubbed lightly or

otherwise maintained as needed to clear (shake down) dry mud. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

Streams and Wetlands

A 50 ft natural vegetated buffer will be maintained adjacent to the top-of-bank of Wolf Run Creek. Any work within the buffer will be completed as soon as possible and stabilized within 24 hours.

Waste Disposal

Waste Materials – All waste materials that may leach pollutants (paint and paint containers, caulk tubes, oil/grease containers, liquids of any kind, soluble materials, etc.) will be collected and stored in a covered metal dumpster. The dumpster will meet all Lexington and state solid waste management regulations. Construction debris and other wastes that do not leach pollutants will be recycled or deposited in a covered or open-topped dumpster. The dumpster will be emptied when full, and the contents will be hauled to an approved site. No construction waste materials will be buried or burned onsite. All personnel will be instructed regarding the correct procedure for waste disposal. Notices stating these practices will be posted and the individual who manages the day-to-day site operations will be responsible for seeing that these procedures are followed.

Hazardous Waste – All waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. Site personnel will be instructed in these practices and the individual who manages day-to-day site operations, will be responsible for seeing that these practices are followed

Sanitary Waste – Portable toilets will be used on site for sanitary wastes. All sanitary waste will be collected from the portable units as needed to prevent excessive odors and overflows a licensed Lexington sanitary waste management contractor, as required by local regulation. Portable units will be placed away from storm drain inlets, ditches, creeks, and other water bodies

Timing of Control Measures

As indicated in the Sequence of Major Activities, the stabilized construction entrance, staging/stockpiling area, concrete wash pit, and downgradient silt fences, and clean water diversions will be constructed prior to other infrastructure construction/installation.

Clearing and tree removal shall be the minimum necessary for infrastructure installation. Tree removal requires written approval from the Engineer or RPR. Any clearing or grading will begin after installation of principal sediment and runoff control measures, and additional control measures will be installed as grading continues.

Three (3) existing stormwater inlets must be protected prior to project disturbances. Inlet protection measures will be installed as needed as construction of project infrastructure progresses.

No excavation material from pipe trenches shall be placed between the trench and conveyances of runoff. Place material on the upgradient side of the excavation trench such that any sediment or excavated material is caught by the trench.

If trench dewatering is required, the water will be pumped to an appropriate, properly sized sediment treatment device, such as a filter bag, prior to discharge from the site.

Disturbed areas where construction activity temporarily ceases for more than 14 days will be stabilized with temporary seed and/or mulch within 14 days of the last disturbance. Once construction activity ceases permanently in an area, that area will be seeded and mulched within 14 days. Temporary controls in permanently stabilized areas, such as silt fences, other sediment barriers, or inlet protection will be removed. Controls will remain in place until all vegetation is established and stable.

5. OTHER STATE AND LOCAL PLANS

Certification of Compliance with Federal, State, and Local Regulations

This Stormwater Pollution Prevention Plan reflects Kentucky Division of Water and LFUCG requirements for stormwater management and erosion and sediment control, as established in LFUCG ordinances. To ensure compliance, this plan was prepared in accordance with the Kentucky BMP Planning and Technical Specifications Manual published by KY DOW and KY DOC and the LFUCG Stormwater Manual. There are no other local, state, or federal permits (e.g., Clean Water Act Section 404 dredge/fill permit, KY DOW Section 401 Water Quality Certification, KY DOW Floodplain Permit, etc.) needed for this project.

6. MAINTENANCE PROCEDURES

Stormwater, Erosion, and Sediment Control Maintenance Practices

Maintenance of all BMPs at the site will be overseen by an individual who has been trained on construction site BMPs at a workshop sponsored by the Kentucky Erosion Protection and Sediment Control (KEPSC) Program or other approved training program. Other workers on-site will be trained in BMP installation, maintenance, and good housekeeping. These are the inspection and maintenance practices that will be used to maintain erosion and sediment controls:

- Stormwater infrastructure construction/installation shall be phased to minimize the amount of site disturbance at any one time; areas at final grade (i.e. within residential yards) will be seeded and mulched within 14 days.
- All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of being reported. This information will be logged on the ESC/SWPPP Plan.
- Silt fences will be inspected for bypassing, overtopping, undercutting, depth of sediment, tears, and to ensure attachment to secure posts. Bypasses will be repaired immediately. Torn silt fences will be repaired or replaced.
- Built-up sediment will be removed from behind the silt fence when the sediment equals or exceeds 1/3 of the silt fence height.
- Actions shall be taken to reduce the risk for concrete waste to contaminate stormwater runoff. The designated concrete wash pit shall be inspected and will be properly dewatered and sediment disposed of as needed.
- Inlet protection filters shall be inspected and built-up sediment that equals or exceeds 1/2 of the height of the filter or has reached a level in which sediment clogs the filter and inhibits proper operation will be removed.
- If trench dewatering is required, the water will be pumped to an appropriate, properly sized sediment treatment device, such as a filter bag, prior to discharge from the site. The area shall be inspected frequently to ensure that the capacity of the treatment device/filter bag is not exceeded. If the device is failing or has reach capacity it will be repaired, replaced, or maintained appropriately. Outflow from the treatment device/filter bag shall be inspected frequently to ensure that sediment-laden water is not leaving the site.
- Any installed clean water diversions will be inspected, and any breaches promptly repaired. Areas that are eroding or scouring will be repaired and re-seeded / mulched as needed.
- Any installed outlet protection measures where stormwater conveyances discharge to ditches or channels within the project area will be inspected, and any areas of erosion/scour promptly repaired.
- Temporary and permanent seeding and mulching will be inspected for bare spots, washouts, and healthy growth. Bare or eroded areas will be repaired as needed.

7. INSPECTION PROCEDURES

Stormwater, Erosion, and Sediment Control Inspection Practices

Inspection of all BMPs at the site will be performed by certified inspector, trained through the KEPSC Program or other approved training program.

- All erosion prevention and sediment control measures will be inspected BMPs shall be inspected weekly (at a minimum) and after any significant rain event (0.5" or more).

- Inspections will include all disturbed areas, material storage areas, locations where vehicles enter or exit the site, outfall points, and protected natural features.
- If any maintenance is required, corrective action shall occur within 24 hours and before the next rain event if possible, but no later than seven (7) days after the need is identified.
- During the project, the Contractor shall keep a copy of all inspection forms, as well as an Inspection and Maintenance Log on site. The log shall be in a 3-ring binder and contain the date and intensity of significant rain events, how each BMP responded to each event, and the method used to maintain, clean out, repair, and/or replace impacted BMPs.
- An example inspection form is included as **Appendix B**.

8. NON-STORMWATER DISCHARGES

The following non-storm water discharges could occur from the site during the construction period:

- Uncontaminated groundwater and rain water from dewatering of pipe trenches.
- Uncontaminated landscape water from establishing temporary or permanent vegetation.
- Uncontaminated pavement or equipment wash water.
- Uncontaminated groundwater or rain water from foundation drains.

All non-storm water discharges will be directed to sediment treatment device, such as a filter bag, prior to discharge from the site, to remove sediment and other contaminants.

The materials or substances listed below are expected to be present onsite during construction:

- Pipe
- Concrete
- Pipe / Joint Compounds
- Petroleum Based Products

Spill Prevention and Material Management Practices

The following material management practices will be used to reduce the risk of spills or other accidental exposure of materials and substances to exposure to the weather and/or runoff.

Good Housekeeping

The following good housekeeping practices will be followed onsite during the construction project.

- An effort will be made to store only enough product required to do the job.
- Products and materials will be stored away from the surface drainage system.
- All materials stored onsite will be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products will be kept in their original containers with the original manufacturer's label.
- Substances will not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of the product will be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal will be followed.
- The site superintendent will inspect daily to ensure proper used and disposal of materials onsite.
- Dust will be controlled by spraying water as needed during dry weather.

Hazardous Products

These practices will be used to reduce the risks associated with any and all hazardous materials.

- Products will be kept in original containers unless they are not resealable.
- Original labels and material safety data sheets (MSDS) will be reviewed and retained.
- If surplus product must be disposed of, manufacturers' or state/local recommended methods for proper disposal will be followed.

Petroleum Products

All onsite vehicles will be fueled and maintained off-site, if possible. If vehicles must be fueled on-site, portable fuel tanks shall be located as far away from drainage features, surface water bodies, or inlets/outfalls as possible with all fuel tanks situated in a secondary containment vessel to prevent spillage associated with accidental leaks. If vehicle and equipment maintenance must occur on-site, it shall be performed in an area as far away from surface water bodies or inlets/outfalls as possible.

All on-site equipment shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products stored shall be stored in clearly labeled tightly sealed containers. Any asphalt substances used onsite will be applied according to the manufacturer's recommendations.

Fertilizers

If used, fertilizers will only be applied in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to prevent and limit stormwater runoff. All fertilizer will be stored in a covered container.

Concrete Truck Washout

Concrete truck mixers and chutes will not be washed on pavement, near storm drain inlets, or within 75 feet of any ditch, stream, wetland, lake, or sinkhole. Where possible, excess concrete and wash water will be discharged to areas prepared for pouring new concrete, flat areas to be paved that are away from ditches or drainage system features, or other locations that will not drain off site. Where this approach is not possible, a constructed wash pit lined with plastic sheeting will be installed away from ditches to receive the wash water. Washout location is indicated on the attached Drawings. Washouts will be constructed and maintained in accordance with the LFUCG Stormwater Manual.

Spill Control Practices

In addition to the good housekeeping and material management practices discussed in the previous sections of this plan, the following practices will be followed for spill prevention and cleanup:

- Manufacturers' recommended methods for spill cleanup will be clearly posted. All personnel will be made aware of procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup associated with vehicle and equipment maintenance (including fueling) shall be stored on-site.
- All spills will be cleaned up immediately after discovery.
- Dry methods shall be used to clean up spills; spills shall not be hosed down with water or buried.
- Personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- The spill prevention plan will be adjusted as needed to prevent spills from reoccurring and improve spill response and cleanup.
- Spills of toxic or hazardous material will be reported to the appropriate state/local agency as follows:
 - i. Any release of a hazardous substance that may be a threat to human health must be reported first to emergency personnel at 911.

- ii. Any spill of gasoline greater than 25 gallons in a 24-hour period, or spill of diesel fuel greater than 75 gallons in a 24-hour period, must be reported to the Kentucky Environmental Response Team at (800) 928-2380.
- iii. Any spill of oil that a) violates water quality standards, b) produces a "sheen" on a water surface, or c) causes a sludge or emulsion must be reported to the Kentucky Environmental Response Team at (800) 928-2380.
- iv. Any spill of oil or hazardous substances into the waters of the Commonwealth must be reported to the Kentucky Environmental Response Team at (800) 928-2380.

9. CONTRACTOR AND SUBCONTRACTOR CERTIFICATIONS

ESC/SWPPP Files, Updates, and Amendments

This ESC/SWPPP Plan and related documents (e.g. inspection reports) will be kept on file at the construction site. The ESC/SWPPP will be updated by the Owner and/or Contractor or site manager to reflect any and all significant changes in site conditions, selection of BMPs, the presence of any unlisted potential pollutants on site, or changes in the site manager, contractor, subcontractors, or other key information. Updates and amendments will be made in writing within 7 days and will be appended to the original plan and available for review.

All personnel actively involved in this project shall be notified of this SWPPP and shall be given the opportunity to review the SWPPP. The Contractor, before beginning work, shall formally review the SWPPP with site management staff, including the site manager, key foremen, safety officers, designated workmen, etc., as well as with any subsequent replacements. Failure to understand the details of the SWPPP will not be accepted as an excuse for violations.

Stormwater Pollution Prevention Plan Certification

"I certify under penalty of law that I understand the terms and conditions of the general Kentucky Pollution Discharge Elimination System (KPDES) permit that authorizes the storm water discharges associated with the construction site activity identified as part of this certification."

Contractor Name and Title

Signature

Company Name

Name

Address

Title

Phone

Subcontractor Name and Title

Signature

Company Name

Name

Address

Title

Phone

Subcontractor Name and Title

Signature

Company Name

Name

Address

Title

Phone

APPENDIX A

**LFUCG Land Disturbance
Permit Application & Erosion and
Sediment Control Plan Checklist**

LFUCG Land Disturbance Permit Application & Erosion and Sediment Control Plan Checklist

v23Feb2018

Permittee (Owner or Contractor):		Date:
Contact Person:	Contact Phone:	
Site Address: WGPL Neighborhood, Lexington		Zone:
Contractor Name:	Reg #:	Contractor Phone:
Mailing Address:		Email:

Permitting Information and ESC Plan Narrative	Yes	No	N/A	Page#	Notes
KY DOW Construction NOI / KYR10 Permit			✓		Required for disturbance ≥ 1 acre
US ACE Section 404 Permit			✓		Required for stream crossings, wetland fills
KY DOW Stream Construction Permit / WQ Certif.			✓		Required for stream crossings / encroachment
FEMA LOMR or CLOMR			✓		If applicable
Project description and purpose	✓			SWPPP 1	Brief summary
Land cover, soils, percent impervious area	✓			SWPPP 1-2	Pre and post construction
Land cover / land use of adjacent property	✓			SWPPP 1-2	Can designate on plan sheets
Work schedule with start/end dates	✓			SWPPP 1	Sequencing, clearing, grading, revegetation
Phasing plan for large projects	✓			SWPPP 5	25 acre limit on total disturbed area
BMP installation schedule	✓			SWPPP 2-3; 7	Can be included on plan sheets (see below)
Inspection and BMP maintenance schedule	✓			SWPPP 8	Every 7 days, or every 14 days and after ½" rain
Material storage, waste & litter pollution prevention	✓			SWPPP 7	Covered, away from drainage system, etc.
Fueling / vehicle maintenance pollution prevention	✓			SWPPP 10	Conducted away from drainage system, etc.
Spill prevention, control, and countermeasures	✓			SWPPP 10-	If reportable quantities present at the site
Dust control plan	✓			SWPPP 11	Consider if neighbors are present
Stabilized site exit inspection plan	✓			SWPPP 9	For keeping offsite pavement clear of soil/debris
Stabilization plan and schedule for site areas	✓			SWPPP 6	Seed/mulch/etc. within 14 days of inactivity

ESC Plan Site Map and Drawing Detail (See LFUCG Stormwater Manual for BMP Design and Installation Information)					
Plans stamped by a licensed professional	✓				Required for engineered plan components
Location of the project; property lines	✓				Include small locational map; street address
Limits of construction, disturbed area location/size	✓				Flag off "no disturbance" areas
Topography and drainage patterns (pre and post)	✓				1" = 50 ft; 2 ft contours
Buildings, utilities, paved areas, ditches, culverts	✓				Show stormwater inlets within 100 ft of site
Retention ponds, detention basins, sediment traps			✓		Stabilize immediately after construction
Access and haul roads	✓				Consider dust control where neighbors present
Stabilized exit (50 ft #2 rock pad, shaker rack, etc.)	✓				Must drain to a sediment control BMP
Silt fence or etc. at downslope perimeters	✓				Super silt fence along critical areas
Diversion ditches/berms above disturbed areas	✓				Stabilize immediately after construction
Protection for post-construction BMPs			✓		Keep sediment out of post-construction BMPs
Slope stabilization (seed with mulch/blanket/mat)	✓				See Figure 11-1 in Stormwater Manual
Inlet protection measures	✓				Specify type(s) and location(s)
Outlet erosion protection measures			✓		Specify type(s) and location(s)
Ditch stabilization (sod, or seed with blanket/mat)			✓		Stabilize immediately after construction
Sediment basins (> 5 ac) and traps (< 5 ac)			✓		Stabilize immediately after construction
Dewatering sites and methods	✓				Must use sediment controls
50 ft natural vegetated buffer for all critical areas	✓				Applies to streams, wetlands, sinkholes
Stream crossings			✓		Crossing type, detail; USACE 404 permit req'd
Stockpile areas, equipment storage/fueling areas	✓				Keep away from drainage system if possible
Waste and concrete wash water storage/disposal	✓				Show initial area; can be moved as needed

LFUCG Use Only: Review Date:	Status – In Compliance: Yes No		Additional Info Needed: Yes No		
Reviewed By:	Department: DOE DWQ DES				
Comments / Missing Items:					

APPENDIX B
Sample Construction
Site Inspection Report

Construction Site Inspection Report

Company:	Site & Location: WGPL Storm Sewer Project; WGPL Neighborhood, Lexington, Fayette County, KY	Inspection Date:
Site Operator:		
Receiving Water: Wolf Run Creek	Total Site Area (acres):	# Disturbed Acres:
Inspector Name:	Inspector Qualifications:	
Inspection Type: Weekly or ½ Inch Rain	Days Since Last Rainfall:	Last Rainfall (in):

Field Inspection Observations

BMP Category	Compliance Poor Fair Good	Field Indicators for Compliance
Project Operations		<ul style="list-style-type: none"> Applicable permits, such as Notice of Intent (KPDES permit) and other local/state permits on file. ESC/SWPPP on site and available for review; project activities compliant with plan. Weekly inspection and rain-event reports on BMPs available for review. No vegetation removal or operations in stream buffer area (Wolf Run Creek). Rock pad with underliner in place on construction site entrance/exit leading to paved roads. No sediment, mud, or rock on paved public roads in project area. Dust control if needed during dry conditions. Concrete wash pit appears functioning and not discharging.
Key Notes/ Observations:		
Drainage Management		<ul style="list-style-type: none"> Upland runoff diverted around bare soil areas, including staging/stockpiling area as needed. Areas free of erosion/scour. Drainage channels exiting the site are stable and show no visible signs of erosion/scour. Discharges from dewatering operations being pumped to sediment treatment device/filter bag and filter discharge appears to not be sediment-laden. No muddy runoff leaving site after rainfall.
Key Notes/ Observations:		
Erosion Protection		<ul style="list-style-type: none"> Exposed soil seeded/mulched after 2 weeks if no work is planned for the next 7 days Soils on steep slopes seeded/mulched/blanketed as needed to prevent washing. No unmanaged rills or gulying present. No excavation material from pipe trenches placed between the trench and conveyances of runoff. Material located on the upgradient side of the excavation trench such as any sediment or excavated material is caught by the trench.
Key Notes/ Observations:		
Silt Fence/ Sediment Barriers		<ul style="list-style-type: none"> Silt fence or other sediment barrier below all bare soil areas, including staging/storage areas and on slopes. Silt fence installed across slope on the contour, trenched in, posts on downhill side. No visible undercutting or bypassing or blowout of sediment barrier. Accumulated sediment is less 1/3 to the top of sediment barrier. No muddy runoff leaving site after rainfall.
Key Notes/ Observations:		

Slope Protection	<ul style="list-style-type: none"> • Slopes seeded, mulched, or blanketed within 14 days, no unmanaged rills or gullying. • No muddy runoff leaving site after rainfall.
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Key Notes/
Observations:

Inlet Protection	<ul style="list-style-type: none"> • Inlet protection placed at all inlets with potential to receive runoff. • No visible undercutting, bypassing, or blowout of inlet protection. • Accumulated sediment is less than 1/3 to the top of the inlet protection device.
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Key Notes/
Observations:

Maintenance of EPSC Management Practices	<ul style="list-style-type: none"> • Sediment behind silt fence, inlet protection, and other filters does not reach 1/3 to top of device. • Written documentation of controls installed, inspection results, and repairs performed since last inspection. • All controls removed, and areas graded, seeded, and stabilized for portions of the site where activities are completed.
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Key Notes/
Observations:

Materials Storage, Handling, and Cleanup	<ul style="list-style-type: none"> • Materials that may leach pollutants are stored under cover. • Fuel tanks, if present, are in protected area with double containment system. • Fuel and/or other spills cleaned up promptly; no evidence of unmanaged spills. • No evidence of paint, concrete, or other material washouts. • No storage of hazardous or toxic materials near ditches, stormwater inlets/conveyances, or Wolf Run Creek.
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Key Notes/
Observations:

Waste Disposal	<ul style="list-style-type: none"> • Trash, litter, and other debris in proper containers or properly managed. • No litter or trash scattered around on the construction site. • Provisions made for restroom facilities and/or other sanitary waste management. • Sanitary waste facilities, if present, are clean and serviced accordingly. • No disposal of any wastes into ditches, stormwater inlets/conveyances, or Wolf Run Creek.
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Key Notes/
Observations:

Other Inspection Notes and Observations

Notes or Observations:
Maintenance or Corrective Actions Needed and/or Proposed Revisions to ESC/SWPPP Plan:

I certify under penalty of law that I understand the terms and conditions of the general National Pollutant Discharge Elimination System (NPDES) permit that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

Signature of Inspector: _____ **Date:** _____

SECTION 02372 - EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, and equipment required for installing, maintaining, amending, and removing temporary soil erosion, sediment, and pollutant controls as shown in the Erosion and Sediment Control Plan or Stormwater Pollution Prevention Plan (hereinafter referred to generally as the SWPPP) and as specified herein and as required by the LFUCG Land Disturbance Permit, Chapter 16-Article X, Division 5 of the LFUCG Code of Ordinances, Chapter 11 of the LFUCG Stormwater Manual, and the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR10).
- B. The Contractor shall take all site management measures necessary to minimize erosion and contain sediment, construction materials (including excavation and backfill), and pollutants (such as chemicals, fuels, lubricants, bitumen, raw sewage, and other harmful waste) on the site, and prevent them from being discharged offsite or into or alongside any body of water or into natural or man-made conveyances leading thereto.
- C. The Contractor shall at all times minimize land disturbance and the period of time that the disturbed area is exposed without stabilization practices. In "critical areas" (within 50 feet of a perennial or intermittent stream, a wetland, or other waterbody) erosion prevention measures such as working during dry periods, use of sediment controls, and use of erosion control mats/blankets, mulch, or straw blown in and stabilized with tackifiers or by treading, etc. shall be implemented on disturbed areas within 24 hours or "as soon as practical" after completion of disturbance/grading or following cessation of activities.
- D. Temporary erosion controls include, but are not limited to sodding, mulching, seeding, providing erosion control blankets and turf reinforcement mats on all disturbed surfaces including waste area surfaces and stockpile and borrow area surfaces; covering small disturbed areas with tarps or other materials; scheduling work to minimize erosion; and providing diversion or interceptor ditches to minimize the discharge of sediment to the maximum extent practicable.
- E. Temporary sedimentation controls include, but are not limited to, silt fences, rock check dams, berms, traps, barriers, fiber logs, storm drain inlet filters, and appurtenances on sloped surfaces to minimize the discharge of sediment to the maximum extent practicable.
- F. Contractor is responsible for providing and maintaining effective temporary erosion and sediment control measures prior to and during construction or until final

controls become effective and the site is stabilized in accordance with state and local requirements.

- G. Prior to construction, the Contractor shall obtain an LFUCG Land Disturbance Permit and shall obtain coverage under the KPDES General Permit for Stormwater Discharges Associated with Construction Activities (KYR10) (see Article 3.24 in this Section) if required. The Contractor shall be responsible for placement of pollutant, erosion, and sedimentation controls as shown in the Stormwater Pollution Prevention Plan (SWPPP) and consistent with Chapter 11 of the LFUCG Stormwater Manual prior to excavation, fill, or grade work. If during the course of construction, the state and/or LFUCG determine additional controls are required, the Contractor shall furnish, install, and maintain additional seeding, mulch, blankets, sediment barriers, diversion or other ditches, and/or other controls as necessary to control pollution, erosion, and sedimentation to the satisfaction of the regulatory agency.
- H. The Contractor shall inspect and repair all erosion and sedimentation controls as follows:
 - 1. At least once every seven (7) calendar days, and
 - 2. Within 24 hours after any storm event of 0.5 inch or greater.
- I. Final stabilization practices on those portions of the project where land disturbance activities have permanently ceased shall be initiated within fourteen (14) days of the date of cessation of land disturbance activities. Temporary stabilization for those portions of the project where land disturbance has temporarily ceased (e.g., temporary seeding, mulching, etc.) shall be initiated within fourteen (14) days of the date of cessation of land disturbance activities on those portions of the site.
- J. **Erosion and Sediment Control prevention measures shall be installed prior to removal of vegetation, grading, and/or stripping of topsoil.** The Contractor is responsible for preparing and submitting the Kentucky Division of Water Notice of Intent and attachments and obtaining state permit approval, if applicable, prior to the beginning of any construction activities.

1.02 PERMITS AND NOTIFICATION REQUIREMENTS

- A. The Contractor is responsible to submit a Stormwater Pollution Prevention Plan (SWPPP) for inclusion with permit applications. The Contractor may elect one of the following options to meet this requirement:
 - 1. Utilize the SWPPP (which includes the Erosion and Sediment Control Plan) provided in the Construction Drawings and prepared by the Owner's Engineer as a basis for an updated SWPPP, and take sole responsibility for updating and implementing the SWPPP, or

2. Provide a SWPPP, including an Erosion and Sediment Control Plan, prepared by a professional engineer licensed in the Commonwealth of Kentucky, meeting all of the requirements of KYR10, Chapter 11 of the LFUCG Stormwater Manual, and Chapter 16-Article X, Division 5 of the LFUCG Code of Ordinances.
- B. If applicable (i.e., for projects with a disturbed area of one acre or more), the Contractor shall submit a KPDES Notice of Intent specifically for Construction Activities (NOI-SWCA) and receive notification of coverage before beginning any site disturbance, and shall implement erosion, sediment, and pollution control measures as may be required by state, local and federal agencies. Contractor shall submit a signed Notice of Intent form and required attachments to the Division of Water at least seven (7) days prior to beginning of construction activity. **See Article 3.24 in this Section for detailed requirements.**
 - C. A Land Disturbance Permit shall be obtained from the Lexington-Fayette Urban County Government Division of Engineering. **See Article 3.25 in this Section for detailed requirements.**
 - D. The Contractor shall comply with all additional requirements of LFUCG. It is the Contractor's responsibility to provide evidence to the Owner that all permits, including those associated with construction across or along a stream channel, if applicable, have been obtained prior to initiation of construction. Some permits are obtained during the design phase of the project. Typically, they should be included in the contract documents.

1.03 RELATED WORK

- A. Section 02371 – Stormwater Pollution Prevention Plan (SWPPP)
- B. Section 02374 – ESC Permitting, Inspection, and Permitting Procedures
- C. Applicable LFUCG Stormwater Manual Standard Drawings are included at the end of this Section 02372.

PART 2 – PRODUCTS

2.01 MULCH

- A. Mulch or erosion control blankets / turf reinforcement mats (see Section 2.08) shall be used as a soil stabilization measure for any disturbed area inactive (i.e., not undergoing grading or excavation) for 14 days or longer. Areas requiring stabilization during December through February shall receive only mulch held in place with bituminous material. Mulching, blankets, or mats shall be used whenever permanent or temporary seeding is used. The anchoring of mulch, blankets, and mats shall be in accordance with the Construction Drawings except all mulch placed in December through February shall be anchored with bituminous materials

regardless of the slope. Permanent mulches or mats shall be used in conjunction with planting trees, shrubs, and other ground covers that do not provide adequate soil stabilization.

- B. Straw shall come from wheat, rye, or barley and may be spread by hand or machine. Straw shall be anchored. Straw shall be applied at two tons per acre or 90 pounds per 1,000 square feet. Straw shall be free from weeds and coarse matter.
- C. Wood chips are appropriate for areas with less than five percent slopes, and do not require tacking. Wood chips shall be applied at 270 cubic yards per acre or 6 cubic yards per 1,000 square feet and approximately 2 inches deep. Wood chips shall be treated with 20 pounds of nitrogen per acre or shall be treated with 12 pounds slow-release nitrogen per ton to prevent nutrient deficiency in plants.
- D. Bark chips or shredded bark are appropriate for areas with less than five percent slopes, and shall be applied at 70 cubic yards per acre or 1.5 to 2 cubic yards per 1,000 square feet and about one-half inch thick. Bark does not require additional nitrogen fertilizer.
- E. Manufacturer's recommendations shall be followed during application of manufactured wood fiber and recycled paper sold as mulch materials applied in a hydroseeder slurry with binders/tackifiers. Recycled paper (newsprint) or wood fiber shall be mixed at 50 pounds per 100 gallons of water and applied according to manufacturer's recommendations and model of hydroseeder in use.
- F. Liquid mulch binders/tackifiers shall be applied according to manufacturer's recommendations. Chemical soil stabilizers or soil binders/tackifiers/emulsions shall not be used alone. Recommended buffer distances between applied products and waterbodies shall be strictly followed.
- G. Gravel or stone mulch may be used in relatively small areas when incorporated into an overall landscaping plan. Before the gravel or crushed stone is applied, it shall be washed.

2.02 TEMPORARY SEED

- A. Temporary seeding shall be used for soil stabilization when grades are not ready for permanent seeding, except during December through February. The seed shall be applied within 14 days after grading has stopped. Only rye grain or annual rye grass seed shall be used for temporary seeding.

2.03 PERMANENT SEED

- A. Permanent seeding shall be applied within 14 days after final grade has been reached, except during December through February. Permanent seeding shall also be applied on any areas that will not be disturbed again for a year even if final

grades have not been reached. The use of mulch and erosion control blanket or turf reinforcement matting with permanent seeding shall be in accordance with applicable sections of this Specification. "Seed mats" may be used for permanent seeding in accordance with manufacturers' recommendations.

- B. Permanent seeding shall be used on disturbed areas where permanent, long-lived vegetative cover is needed to stabilize the soil and on rough graded areas that will not be brought to final grade for one year or more.
- C. The area to be seeded shall be protected from excess run-on and runoff as necessary with diversions, grassed waterways, terraces, or sediment ponds.
- D. Contractor shall use the following Permanent Seed Mix, with the following exceptions:
 - a. If a property owner landscaping agreement differs from this specification, the property owner landscaping agreement shall be followed on that property, or
 - b. The area to be seeded is within 25 feet of a stream bank, in which case Contractor shall follow the seed mix provided in Section 02373, or
 - c. The Construction Drawings identify a different seed mix.

The Permanent Seed Mix shall consist of the following mix spread at a rate of 12.5 pounds/1,000 square feet:

Common Name	%	lbs per 1,000 sq. ft.
Bluegrass	24%	3
Perennial ryegrass (turf)	16%	2
+ bluegrass	20%	2.5
Tall fescue (turf type)	32%	4
+ bluegrass	8%	1
TOTAL	100%	12.5

- E. Vegetative cover alone shall not be used to provide erosion control cover and prevent soil slippage on a soil that is not stable due to its structure, water movement, or excessive slope.
- F. Permanent seeding may not be done between December 1 through February 28.
- G. Soil material shall be capable of supporting permanent vegetation and have at least 25 percent silt and clay to provide an adequate amount of moisture holding capacity. An excessive amount of sand will not consistently provide sufficient moisture for good growth regardless of other soil factors.

- H. Fertilizer shall be applied at a rate determined by a soil test obtained by the Contractor. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Lime shall be applied at a rate of 100 pounds per 1,000 square feet or two tons per acre of agricultural ground limestone, unless soil test results indicate differently.

2.04 SOD

- A. Sod shall be used for disturbed areas that require immediate vegetative cover, *e.g.*, the area surrounding a drop inlet in a grassed waterway, the design flow perimeter of a grassed waterway that will convey flow before vegetation can be established, and the inlet of a culvert. Sod may be installed throughout the year. "Seed mats" and seed with geotextiles may be used in place of sod when done in accordance with manufacturers' recommendations.
- B. Contractor shall use tall fescue sod, unless another species is specified in the Construction Drawings or unless the property owner landscaping agreement differs from this specification.
- C. Sod shall not be used to provide erosion control and prevent soil slippage on a soil that is not stable due to its structure, water movement, or excessive slope.
- D. Sod shall be installed within 48 hours of digging and removal from the field. Sod should not be used on slopes steeper than 2H:1V. If it is to be mowed, installation should be on slopes no greater than 3H:1V.
- E. Soil material shall be capable of supporting permanent vegetation and shall consist of at least 25 percent silt and clay to provide an adequate amount of moisture holding capacity. An excessive amount of sand will not consistently provide sufficient moisture for the sod regardless of other soil factors.
- F. Fertilizer shall be applied at a rate determined by a soil test obtained by the Contractor. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Lime shall be applied at a rate of 100 pounds per 1,000 square feet or two tons per acre of agricultural ground limestone, unless soil test results indicate differently.
- G. The sod shall consist of strips of live, vigorously growing grasses. The sod shall be free of noxious and secondary noxious weeds and shall be obtained from good, solid, thick-growing stands. The sod shall be cut and transferred to the job in the largest continuous pieces that will hold together and are practical to handle.
- H. The sod shall be cut with smooth clean edges and square ends to facilitate laying and fitting. The sod shall be cut to a uniform thickness of not less than three-fourth inch measured from the crown of the plants to the bottom of the sod strips for all

grasses except bluegrass. Bluegrass sod shall be cut to a uniform thickness of not less than one and one-half inches.

- I. The sod shall be mowed to a height of not less than two inches and no more than four inches prior to cutting.
- J. The sod shall be kept moist and covered during hauling and preparation for placement on the sod bed.
- K. Sod shall be kept watered after installation until the project is considered substantially complete.

2.05 ROAD/PARKING STABILIZATION

- A. Gravel or paved material shall be used to stabilize permanent roads or parking areas or roads or parking areas used repeatedly by construction traffic. Stabilization shall be accomplished within 14 days of grading or initiation of use for construction traffic. Unstabilized roads are not acceptable except in instances where the road will be used less than one month.
- B. Road/parking stabilization shall be used wherever roads or parking areas are constructed, whether permanent or temporary, for use by construction traffic.
- C. Stabilization shall be accomplished with a minimum depth of six inches of crushed stone. Stabilized construction roadbeds shall be at least 14 feet wide for one-way traffic and at least 20 feet wide for two-way traffic.
- D. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes shall not exceed 10 percent.
- E. Temporary parking areas shall be located on naturally flat areas to minimize grading. Grades shall be sufficient to provide drainage but shall not exceed 4 percent.
- F. All cuts and fills shall be 2H:1V or flatter.
- G. Drainage ditches shall be provided as needed.
- H. Crushed stone shall be KYTC aggregate No. 2 (1.5 to 3 inches in diameter), or equivalent.

2.06 CONSTRUCTION ENTRANCE

- A. A stabilized construction entrance shall be constructed wherever vehicles are leaving a construction site to enter a public road or at any unpaved entrance/exit location where there is a risk of transporting mud or sediment onto paved roads. A

construction entrance shall be constructed at the beginning of the project before construction traffic begins to enter and exit the site.

- B. A stabilized construction entrance shall be constructed of crushed stone a minimum of 6 inches thick laid over geotextile (filter fabric).
- C. The width shall be at least 20 feet. At sites where traffic volume is high, the entrance shall be wide enough for two vehicles to pass safely. The length shall be at least 50 feet, and where practical, shall be extended to 100 feet. The entrance shall be flared where it meets the existing road to provide a turning radius.
- D. Stormwater and wash water runoff from a stabilized construction entrance shall drain to a sediment trap or barrier. If conditions on the site are such that the majority of the mud is not removed by the vehicles traveling over the gravel, then the tires of the vehicles shall be washed before entering a public road.
- E. Pipe placed under the entrance to handle runoff shall be protected with a mountable berm.
- F. Dust control shall be provided in accordance with the applicable sections of this Specification.
- G. Crushed stone shall be KYTC aggregate No. 2 (1.5 to 3 inches in diameter), or equivalent.
- H. Geotextile filter fabric shall be KYTC Type III.

2.07 DUST CONTROL

- A. Dust control measures shall be implemented on the site.
- B. Construction activities shall be phased to minimize the total area unstabilized at any given time, thereby reducing erosion due to air and water movement.
- C. Construction roads shall be watered as needed to minimize dust.
- D. Existing trees, shrubs, and ground cover shall be retained as long as possible during the construction. Initial land clearing should be conducted only in those areas to be regraded or where construction is to occur. Areas to be cleared only for new vegetation or landscaping shall be stabilized with seed and mulch immediately following clearing.
- E. Vegetative cover is the most effective means of dust and erosion control, when appropriate. See sections on Temporary Seed, Permanent Seed, Mulch, and Sod of this Specification.

- F. When areas have been regraded and brought to final grade, they shall be stabilized using temporary or permanent seed and mulch or other measures.
- G. Mulch with mulch binders may be used as an interim dust control measure in areas where vegetation may not be appropriate.
- H. See sections on Temporary Seed, Permanent Seed, Sod, Mulch, Road/Parking Stabilization, and Construction Entrance of this Specification.

2.08 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS

- A. Mulch netting, erosion control blankets (ECBs), or turf reinforcement matting (TRM) shall be used on sloping areas as indicated in the Construction Drawings. Mats or nets and permanent seeding may be used as an alternate to sod for culvert entrances and grassed waterways when selected and installed in accordance with manufacturer's recommendations. TRMs shall be used at the water line to control toe erosion along stream banks and wave action in wet ponds. Erosion control blankets may be used to stabilize small ditches and swales and on recently planted slopes to protect seedlings until they become established.
- B. Effective ECB and TRM installation shall require firm, continuous contact between the materials and the soil. If there is no contact, the material will not hold the soil and erosion will occur underneath the material.
- C. ECBs or TRMs shall be used in critical areas such as banks along waterways where concentrated flows are expected. Manufacturer's specifications shall be followed.
- D. ECBs, TRMs, and netting shall be suitable for their intended purpose and shall be used as indicated in the Construction Drawings and Figure 11-1.

2.09 CONSTRUCTED WATERWAY

- A. A constructed waterways / diversion may be used to divert stormwater runoff from upland undisturbed areas around or away from areas to be disturbed during construction. A waterway expected to be in place for at least one year shall be considered permanent. Permanent waterways shall be lined with sod or permanent seeding and nets, ECBs, or TRMs.
- B. Filter strips (10 ft minimum width) shall be used on each side of permanent constructed channels.
 - A. Existing grass or grass/legume mixtures used as filter strips shall be dense and well established, with no bare spots. When establishing new seeding, consideration shall be given to wildlife needs and soil conditions on the site. The following chart provides a list of alternative grass and grass/legume mixtures:

SEEDING MIXTURE AND SITE SUITABILITY CHART

Seeding Mixture	Rate lbs/acre	Soil Suitability
Alfalfa <i>Or</i> Red Clover <i>Plus</i> Timothy <i>Or</i> Orchardgrass <i>Or</i> Bromegrass	10 10 4 6 6	Well-Drained
Ladino <i>Plus</i> Timothy <i>Or</i> Orchardgrass <i>Or</i> Bromegrass	0.5 4 6 8	Wet or Well-Drained

Notes:

1. All seeding shall be in accordance with the seeding sections of this Specification.
2. Well-drained sites include sites that are drained with tile as well as naturally well-drained and droughty sites. Wet sites include sites that are excessively wet only a portion of the growing season.

2.10 SILT FENCE

- A. Silt fence shall be installed down-slope of areas to be disturbed prior to clearing and grading. Silt fence shall be situated such that the total area draining to the fence is not greater than one-fourth acre per 100 feet of fence. Silt fence shall be used for storm drain drop inlet protection and around soil stockpiles.
- B. Under no circumstances shall silt fences be constructed in streams or in swales or ditch lines or any area of concentrated flow.
- C. Synthetic filter fabric shall be a pervious sheet of propylene, nylon, and polyester or ethylene yarn and shall be certified by the manufacturer or supplier as conforming

to the following requirements:

<u>PHYSICAL PROPERTY</u>	<u>REQUIREMENTS</u>
Filtering Efficiency	80% (minimum)
Tensile Strength at 20%	50 pounds/linear inch (minimum)
Flow Rate	0.3 gallons/square foot/minute (minimum)

- D. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months of expected usable construction life at a temperature range of 0°F to 120°F.
- E. Posts for synthetic fabric silt fences shall be either 2-inch by 2-inch wood or 1.33 pounds per linear foot steel with a minimum length of 5 feet. Steel posts shall have projections for fastening wire to them. Posts shall be no more than 6 feet apart.
- F. Wire fence reinforcement for silt fences shall be a minimum of 36 inches in height, a minimum of 14 gauge and shall have a mesh spacing of no greater than 6 inches.

2.11 STORM DRAIN INLET PROTECTION

- A. Storm drain inlet protection shall be utilized on drop inlets and curb inlets that receive sediment-laden runoff from disturbed areas.
- B. Storm drain inlet protection shall only be used around drop inlets when the up-slope area draining to the inlet has no other or inadequate sediment control.
- C. The drainage area shall be no greater than 1 acre.
- D. The inlet protection device shall be constructed in a manner that will facilitate cleanout and disposal of trapped sediment and minimize interference with construction activities.
- E. Inlet protection devices shall be constructed in such a manner that any resultant ponding of stormwater will not cause flooding or excessive inconvenience or damage to adjacent areas, roadways, properties, or structures.
- F. Inlet protection devices are low flow filter devices, and as such shall be constructed in such a manner as to allow for higher flows to bypass into the storm drain system to prevent flooding of the roadway or downstream properties.

2.12 STREAM CROSSING

- A. No stream crossings are authorized for this project.

2.13 CONSTRUCTION DEWATERING

- A. Sediment-laden water shall be pumped to a properly sized sediment treatment device, such as a filter bag, prior to discharge from the site.
- B. Water discharged from the treatment device / filter bag must be clear.

2.14 CONCRETE WASH PIT

- A. A concrete wash pit shall be constructed and utilized to reduce the risk for concrete waste to contaminate stormwater runoff.
- B. The wash pit shall be constructed using bales of straw and metal or wood stakes with an impermeable plastic liner.
- C. The liner shall be anchored to the straw bales with wire stakes / staples.

PART 3 – EXECUTION

3.01 GENERAL

- A. Erosion and sediment control practices shall be consistent with the requirements of Chapter 11 of the LFUCG Stormwater Manual and other state and local regulatory agencies and in any case shall be adequate to prevent erosion of disturbed and/or regraded areas and discharge of sediment from the site.
- B. If required, Contractor is responsible for notifying and obtaining coverage from the Kentucky Division of Water concerning inclusion under the KPDES General Permit for Stormwater Discharges Associated with Construction Activities.
- C. Water pumped from the excavation / pipe trenches shall be contained and allowed to settle prior to discharge or pumped to a properly sized sediment treatment device, such as a filter bag, prior to discharge from the site. No excavation equipment or vehicles shall operate within a 50 ft buffer of Wolf Run Creek. Spoil material from any excavation shall not be allowed to enter Wolf Run Creek.
- D. No stream crossings or other stream impacts are authorized for this project. However, when applicable, Clean Water Act Section 401 and 402 requirements enforced by the US Army Corps of Engineers and the Kentucky Division of Water and the provisions of this condition apply to all types of stream crossings.
- E. Removal of riparian vegetation in the utility line right-of-way shall be limited to that necessary for equipment access and project infrastructure installation. Effective erosion and sedimentation control measures shall be employed at all times during

the project to prevent degradation of Waters of the Commonwealth. Site regrading and reseeding shall be accomplished with 14 days after disturbance.

3.02 MULCH

- A. Seed shall be applied prior to mulching except where seed is to be applied as part of a hydroseeder slurry containing mulch.
- B. Lime and fertilizer (only where needed and confirmed with soil testing) shall be incorporated and surface roughening accomplished as needed prior to mulching in accordance with applicable sections of this Specification.
- C. Mulch materials shall be spread uniformly by hand or mechanically so the soil surface is covered. During or immediately following application, the mulch shall be anchored or otherwise secured to the ground according to one of the following methods:
 - 1. Mechanical – Use a disk, crimper, or similar type tool set straight to punch or anchor the mulch material into the soil.
 - 2. Mulch Tackifiers/Nettings/Emulsions – Use according to the manufacturer’s recommendations. This is a superior method in areas of water concentration to hold mulch in place.
 - 3. Wood Fiber – Wood fiber hydroseeder slurries may be used to tack straw mulch. This combination treatment is well suited to steep slopes and critical areas, and severe climate conditions.
- D. Mulch shall be anchored using a mulch anchoring tool, a liquid binder/tackifier, or mulch nettings. Nets and mats shall be installed to obtain firm, continuous contact between the material and the soil. Without such contact, the material is useless and erosion occurs.
- E. A mulch anchoring tool is a tractor-drawn implement that is typically used for anchoring straw and is designed to punch mulch approximately two inches into the soil surface. Machinery shall be operated on the contour and shall not be used on slopes steeper than 3H:1V.
- F. When using liquid mulch binders and tackifiers, application shall be heaviest around edges of areas and at crests of ridges and banks to prevent wind blow. Remainder of area shall have binders/tackifiers spread uniformly in accordance with manufacturer’s recommendations.
- G. When using a mulch net, it shall be used in conjunction with an organic mulch and shall be installed immediately after the application and spreading of the mulch

- H. Erosion control blankets and turf reinforcement mats are considered protective mulches and may be used alone on erodible soils and during all times of year. Blankets and mats shall be installed in accordance with manufacturer's recommendations.
- I. Mulched areas shall be inspected at least weekly and after each rainfall of one-half inch or more. When mulch material is found to be loosened or removed, the mulch cover shall be replaced within 48 hours.

3.03 TEMPORARY SEED

- A. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and anchoring.
- B. The needed erosion control practices, such as diversions, temporary waterways for diversion outlets, and sediment ponds, shall be installed prior to seeding.
- C. Prior to seeding, lime and fertilizer (if needed) shall be worked into the soil with a disk harrow, springtooth harrow, or similar tools to a depth of two inches. On sloping areas, the final operation shall be on the contour.
- D. The seed shall be applied uniformly with a cyclone seeder, drill, cultipacker, seeder, or hydroseeder (slurry may include seed and fertilizer) preferably on a firm, moist seedbed. Seed shall be sown no deeper than one-fourth inch to one-half inch.
- E. The seedbed shall be firmed following seeding operations with a cultipacker, roller, or light drag.
- F. On sloping land, seeding operations shall be on the contour wherever possible.
- G. Mulch shall be applied, in the amounts described in the mulch section of this Specification, to protect the soil and provide a better environment for plant growth.
- H. New seed shall have adequate water for growth, through either natural means or irrigation, until plants are firmly established.
- I. Seeded areas shall be inspected at least weekly after planting and after each rainfall of one-half inch or more. Areas requiring additional seed and mulch shall be repaired within 48 hours.
- J. If vegetative cover is not established within 21 days, the area shall be reseeded.

3.04 PERMANENT SEED

- A. During site preparation, topsoil shall be stockpiled for use in establishing permanent vegetation.

- B. The site shall be graded as needed to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and anchoring.
- C. The needed erosion control practices, such as diversions, temporary waterways for diversion outlets, and sediment ponds, shall be installed prior to seeding.
- D. Prior to seeding, lime and fertilizer shall be worked into the soil with a disk harrow, springtooth harrow, or similar tools to a depth of four inches. On sloping areas, the final operation shall be on the contour.
- E. Where compacted soils occur, they shall be broken up sufficiently to create a favorable rooting depth of six to eight inches.
- F. The seed shall be applied uniformly with a cyclone seeder, drill, cultipacker, seeder, or hydroseeder (slurry may include seed and fertilizer) preferably on a firm, moist seedbed. Seed shall be sown no deeper than one-fourth inch to one-half inch.
- G. The seedbed shall be firmed following seeding operations with a cultipacker, roller, or light drag.
- H. On sloping land, seeding operations shall be on the contour wherever possible.
- I. Mulch shall be applied, in the amounts described in the mulch section of this Specification, to protect the soil and provide a better environment for plant growth.
- J. New seed shall have adequate water for growth, through either natural means or irrigation, until plants are firmly established.
- K. Seeded areas shall be inspected at least weekly after planting and after each rainfall of 0.5 inches or more. Areas requiring additional seed and mulch shall be repaired within 48 hours.
- L. If vegetative cover is not established (>70%) within 21 days, the area shall be reseeded. If 40 to 70 percent groundcover is established, overseed and fertilize, using half of rates originally applied, and mulch. If less than 40 percent groundcover is established, follow original seedbed preparation methods, seeding and mulching specifications, and apply lime and fertilizer if needed according to soil tests.

3.05 SOD

- A. The area to be sodded shall be protected from excess runoff, as necessary, with appropriate BMPs.

- B. Prior to sodding, the soil surface shall be cleared of all trash, debris, and stones larger than one inch in diameter, and of all roots, brush, wire, and other objects that would interfere with the placing of the sod.
- C. Compacted soils shall be broken up sufficiently to create a favorable rooting depth of six to eight inches.
- D. Lime and fertilizer (if needed) shall be worked into the soil with a disk harrow, springtooth harrow, or other suitable field equipment to a depth of four inches.
- E. After the lime and fertilizer have been applied and just prior to the laying of the sod, the soil in the area to be sodded shall be loosened to a depth of one inch. The soil shall be thoroughly dampened immediately after the sod is laid if it is not already in a moist condition.
- F. No sod shall be placed when the temperature is below 32°F. No frozen sod shall be placed nor shall any sod be placed on frozen soil.
- G. When sod is placed during the periods of June 15 to September 1 or October 15 to March 1, it shall be covered immediately with a uniform layer of straw mulch approximately one-half inch thick or so the green sod is barely visible through the mulch.
- H. Sod shall be carefully placed and pressed together so it will be continuous without any voids between the pieces. Joints between the ends of strips shall be staggered.
- I. On gutter and channel sodding, the sod should be carefully placed on rows or strips at right angles to the centerline of the channel (*i.e.*, at right angles to the direction of flow). The edge of the sod at the outer edges of all gutters shall be sufficiently deep so that surface water will flow over onto the top of the sod.
- J. On steep graded channels, each strip of sod shall be staked with at least two stakes not more than 18 inches apart.
- K. On slopes 3H:1V or steeper, or where drainage into a sod gutter or channel is one-half acre or larger, the sod shall be rolled or tamped and then chicken wire, jute, or other netting shall be pegged over the sod for protection in the critical areas. The netting and sod shall be staked with at least two stakes not more than 18 inches apart. The netting shall be stapled on the side of each stake within two inches of the top of the stake. The stake should then be driven flush with the top of the sod.
- L. When stakes are required, the stakes shall be wood and shall be approximately ½ inch by ¾ inch by 12 inches. They shall be driven flush with the top of the sod with the flat side against the slope and on an angle toward the slope.

- M. Sod shall be tamped or rolled after placing and then watered. Watering shall consist of a thorough soaking of the sod and of the sod bed to a depth of at least 4 inches. The sod should be maintained in a moist condition by watering for a period of 30 days.
- N. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week to maintain moist soil to a depth of 4 inches. Watering shall be done during the heat of the day to prevent wilting. After the first week, sod shall be watered as necessary to maintain adequate moisture content.
- O. The first mowing of sod shall not be attempted until the sod is firmly rooted. No more than one-third of the grass leaf shall be removed by the initial and subsequent cuttings. Grass height shall be maintained between 2 inches and 3 inches.
- P. Where sod does not establish properly, the sod should be replaced immediately. Areas requiring resodding should be prepared in the same manner as the original installation.

3.06 ROAD/PARKING STABILIZATION

- A. The roadbed or parking surface shall be cleared of all vegetation, roots, and other objectionable material.
- B. All roadside ditches, cuts, fills, and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable sections of this Specification.
- C. Geotextile filter fabric shall be applied beneath the stone for additional stability in accordance with fabric manufacturer's specifications.
- D. Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas shall be checked regularly to ensure that a vigorous stand of vegetation is maintained. Roadside ditches and other drainage structures shall be checked once each week to ensure that they do not have silt or other debris that reduces their effectiveness.

3.07 CONSTRUCTION ENTRANCE

- A. Vegetation, roots, and all other obstructions shall be cleared in preparation for grading. Prior to placing geotextile (filter fabric), the entrance shall be graded and compacted to 80% of standard proctor density.
- B. To reduce maintenance and loss of aggregate, the geotextile shall be placed over the existing ground before placing the stone for the entrance. Stone shall be placed to

depth of 6 inches or greater for the entire width and length of the stabilized construction entrance.

- C. If wash racks are used, they shall be installed according to manufacturer's specifications.
- D. The stabilized construction entrance shall be inspected once each week and after there has been a high volume of traffic or a storm event greater than 0.2 inches.
- E. The entrance shall be maintained in a condition that will prevent tracking or flow of sediments onto public rights-of-way. This may require periodic top dressing with additional stone, as conditions demand, and repair and/or cleanout of any structures used to trap sediment.
- F. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains shall be removed immediately.

3.08 DUST CONTROL

- A. See Articles on Temporary Seed, Permanent Seed, Sod, Mulch, Road/Parking Stabilization, and Construction Entrance of this Specification Section.
- B. When construction is active on the site, dust control shall be implemented as needed.
- C. The site shall be observed daily for evidence of windblown dust and reasonable steps shall be taken to reduce dust whenever possible. When construction on a site is inactive for a period, the site shall be inspected at least weekly for evidence of dust emissions or previously windblown sediments. Dust control measures shall be implemented or upgraded if the site inspection shows evidence of wind erosion.

3.09 EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATS

- A. Blankets and mats shall be installed according to the manufacturer's recommendations. In the event that the manufacturer's recommendations conflict with any requirement of this Specification, the most conservative requirement, in terms of protection of public health and the environment, shall govern.

3.10 CONSTRUCTED WATERWAY

- A. The earth materials used to construct the earth fill portions of the channel shall be obtained from the excavated portion of the channel or other approved source.
- B. The earth fill materials used to construct the channel shall be compacted by running the construction equipment over the fill in such a manner that the entire surface of the fill will be traversed by at least one tread track of the equipment.

- C. Channels shall be inspected regularly to check for points of scour or bank failure; rubbish or channel obstruction; rodent holes; breaching; and excessive wear from pedestrian or construction traffic.
- D. Channels shall be repaired at the time damage is detected. Sediment deposits shall be removed from adjoining vegetative filter strips when they are visible.
- E. Channels shall be seeded and mulched as needed to establish vegetative cover. Blankets or mats may be used instead of mulch, according to manufacturer's specifications.
- F. When planting filter strips adjacent to constructed waterways, Contractor shall prepare seedbed, incorporate fertilizer based on a soil test, and apply mulch consistent with the seeding sections of this Specification. Fertilizer shall not be applied within 50 feet of a stream or other waterbody. Filter strips using areas of existing vegetation shall be over seeded, as necessary, with the specified mixtures to obtain an equivalent density of vegetation. The over seeding shall be accomplished prior to any land disturbing activities.
- G. Filter strips shall be inspected regularly to ensure that a healthy vegetative growth is maintained. Any bare spots or spots where sediment deposition could lead to the destruction of vegetation shall be repaired.
- H. Construction traffic shall not be driven on or over filter strips.

3.11 SILT FENCE

- A. This Article provides construction specifications for silt fences using synthetic fabric. See the Construction Drawings for additional detail.
- B. Posts shall be spaced a maximum of 6 feet apart at the barrier location and driven securely into the ground (minimum of 12 inches). When necessary because of rapid runoff, post spacing shall not exceed 6 feet.
- C. A trench shall be excavated at least 6 inches wide and 6 inches deep along the line of posts and upslope from the barrier.
- D. Where used, the wire mesh support fence shall be fastened securely to the upslope side of the posts using heavy-duty wire staples at least 1 inch long, tie wires or hog rings. The wire shall extend into the trench a minimum of 2 inches and shall not extend more than 36 inches above the original ground surface.
- E. The filter fabric shall be stapled or wired to the fence, and 12 inches of the fabric shall be extended into the trench. The fabric shall not extend more than 30 inches above the original ground surface. Filter fabric shall not be stapled to existing trees.

- F. At joints, filter fabric shall be lapped with terminating posts with a minimum overlap of 3 feet.
- G. The trench shall be backfilled and soil compacted over the filter fabric.
- H. Silt fences shall be removed when they have served their useful purpose, but not before the upslope area has been permanently stabilized.
- I. Silt fences and filter barriers shall be inspected immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs shall be made immediately. Knocked down fences shall be repaired at the end of each day.
- J. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and if the barrier is still necessary, the fabric shall be replaced promptly.
- K. Sediment deposits shall be removed after each storm event or when deposits reach approximately one-third the height of the barrier.
- L. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform to the existing grade, prepared, and seeded.
- M. Silt fences shall be replaced every 6 months.
- N. Silt fence shall terminate in a "J" hook to prevent bypassing at the end of a row.

3.12 STORM DRAIN INLET PROTECTION

- A. All storm drains receiving sediment-laden flows from disturbed areas shall be protected. Approved inlet protection methods include net or sand bags filled 2/3 with rock, geotextile filtration products, and Contractor-fabricated structures.
- B. For a silt fence drop inlet protection structure, the following specifications apply:
 1. For stakes, Contractor shall use 2 x 4-inch wood (preferred) or equivalent metal with a minimum length of 3 feet.
 2. Stakes shall be evenly spaced around the perimeter of the inlet a maximum of 3 feet apart and securely driven into the ground, approximately 18 inches deep.
 3. To provide needed stability to the installation, Contractor shall frame with 2 x 4-inch wood strips around the crest of the overflow area at a maximum of 1.5 feet above the drop inlet crest and shall brace diagonally.

4. Contractor shall place the bottom 12 inches of the fabric in a trench and backfill the trench with at least 4 inches of crushed stone or 12 inches of compacted soil.
 5. Contractor shall fasten fabric securely to the stakes and frame. Joints shall be overlapped to the next stake.
- C. For sod drop inlet protection, sod shall be placed to form a turf mat covering the soil for a distance of 4 feet from each side of the inlet structure. Soil preparation and sod placement shall be in accordance with the section entitled Sod.
- D. For gravel curb inlet protection, the following specifications apply:
1. Wire mesh with ½-inch openings shall be placed over the curb inlet opening so that at least 12 inches of wire extends across the concrete gutter from the inlet opening.
 2. KYTC No. 2 Coarse Aggregate shall be piled against the wire so as to anchor it against the gutter and inlet cover and to cover the inlet opening completely.
 3. This type of device shall never be used where overflow may endanger an exposed fill slope. Consideration shall also be given to the possible effects of ponding on traffic movement, nearby structures, working areas, and adjacent property.
- E. For block and gravel curb inlet protection, the following specifications apply:
1. Two concrete blocks shall be placed on their sides abutting the curb at either side of the inlet opening to act as spacer blocks.
 2. A 2-inch by 4-inch stud shall be cut and placed through the outer holes of each spacer block to help keep the front blocks in place.
 3. Concrete blocks shall be placed on their sides across the front of the inlet and abutting the spacer blocks.
 4. Wire mesh shall be placed over the outside of the concrete blocks to prevent stone from being washed through the holes in the blocks. Wire with ½-inch openings shall be used.
 5. KYTC No. 2 Coarse Aggregate shall be piled against the wire to the top of the barrier.
- F. For stone-filled corrugated pipe curb inlet protection, the following specifications apply:
1. Two concrete "L" blocks shall be placed on their sides, with one leg fitting into

the mouth of the curb opening.

2. A 6-inch corrugated pipe shall be filled with stone and covered with a filter sock.
 3. The stone-filled pipe will be placed in front of the two concrete "L" blocks, and extend a minimum of the width of the curb inlet opening on either side. The total length of the stone filled pipe shall be three times the width of the curb inlet opening.
- G. The inlet protection structure shall be inspected after each rain, and repairs made as needed.
 - H. Sediment shall be removed and the device restored to its original dimensions when sediment has accumulated to one-third the design depth of the filter. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
 - I. If a stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone shall be pulled away from the blocks, cleaned, and replaced.
 - J. Structures shall be removed after the area draining to the inlet protection structure has been properly stabilized.

3.13 STREAM CROSSING

- A. No stream crossings are authorized for this project. No disturbance shall occur within a 50 ft buffer of Wolf Run Creek within the project site.

3.14 CONSTRUCTION DEWATERING

- A. All dewatering discharges shall pass through a sediment removal device, such as a filter bag. The manufacturer's recommendations shall be followed for commercial products.
- B. The dewatering structure shall be inspected frequently to ensure it is functioning properly and that only clean water is discharged from the site. Accumulated sediment shall be spread out on site and stabilized or disposed of offsite.

3.15 CONCRETE WASH PIT

- A. The wash pit shall be of sufficient volume to contain wash water and solids and maintain at least 4 inches of freeboard. Typical dimensions are 10 ft X 10 ft X 3 ft deep.
- B. The wash pit shall be installed on a prepared base that is free of rocks or debris that

could puncture the plastic liner.

- C. Keep concrete wash pit water tight, replace liner if damaged (e.g. ripped or punctured).
- D. Empty or replace washout structure that is 75 percent full, and dispose of accumulated material properly. Do not reuse liner. Wet-vacuum stored liquids that have not evaporated and dispose of in an approved manner.
- E. Prior to forecasted rains, remove liquids or cover structure to prevent overflows.
- F. Remove hardened solids, whole or broken up, for disposal or recycling.
- G. Do not allow runoff to flow over/through the structure.

3.16 KPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES

- A. If required, the Contractor is responsible for electronically filing the appropriate state Notice of Intent (NOI-SWCA) letter at least seven (7) days prior to start of construction activity. The Notice of Intent (NOI) is a Kentucky Pollution Discharge Elimination System (KPDES) permit application as provided by the Kentucky Revised Statutes, Chapter 224. This application is required to be submitted for construction projects that disturb one or more acres of land.
- B. The NOI requires the inclusion of the descriptions of (but is not limited to) the following items:
 - 1. Names and designated uses of any receiving waters
 - 2. Anticipated number and locations of discharge points
 - 3. Identification of planned construction in or along a waterbody
- C. A topographic map showing project boundaries, areas to be disturbed, locations of anticipated discharge points and receiving waters is also required to be submitted with the NOI.
- D. If the construction site is near a designated "High Quality/Impaired Waters" or a "Cold Water Aquatic Habitat Waters, Exceptional Waters, Outstanding National/State Resource Waters," additional items and/or individual permits will be required.
- E. The NOI form requires an SIC code. The link to the SIC codes is <http://www.osha.gov/pls/imis/sicsearch.html>. The following is the typical construction SIC code applicable to this project.

1623 – Water Main Construction, Sewer Construction

- F. The Contractor is responsible for implementing the approved Stormwater Pollution Prevention Plan (SWPPP) prior to commencement of site disturbance. The SWPPP shall include erosion prevention measures and sediment and pollutant control measures which are installed and maintained to minimize discharges of sediments and other pollutants from a 2-year, 24-hour storm event. The SWPPP shall be kept at the site and available for review by LFUCG and state officials.
- G. The Contractor is responsible for the description of procedures to maintain erosion and sediment control measures during the period of construction.
- H. The Contractor is responsible for identifying each Contractor and Subcontractor who will install each SWPPP erosion and sediment control measure.
- I. Each Contractor and Subcontractor shall sign a statement certifying the awareness of the requirements of the SWPPP-related documents. Certification is attached at the end of the SWPPP, included in Section 02371.
- J. The Contractor shall not start land disturbing activities until written permit coverage is obtained from the Kentucky Division of Water, if required.
- K. The inspection by qualified personnel, **provided by the Contractor**, of the site as follows:
 - 1. at least once every seven (7) calendar days, and
 - 2. within 24 hours after any storm event of 0.5 inch or greater
- L. The Contractor is responsible for completing and maintaining the required Construction Site Inspection Report forms. A sample is included in the SWPPP, included in Section 02371.
- M. Amendments to the approved SWPPP shall be made and implemented as necessary through the course of the construction project if inspections or investigations by the Contractor's inspector, site staff, or by local, state, or federal officials determine that the existing sediment control measures, erosion control measures, or other site management practices are ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the construction site. All plan amendments shall be noted on the copy of the SWPPP maintained at the project site. Plan amendments that involve engineering design shall be prepared by an engineer licensed in Kentucky.
- N. The Contractor shall submit the Notice of Termination (NOT) form to the Kentucky Division of Water (if required), the LFUCG Division of Water Quality, and the LFUCG

Division of Engineering when final stabilization has been achieved on all portions of the site and the erosion/sediment controls have been removed.

O. All subcontractors shall be required to comply with the requirements of the state permit and the Stormwater Pollution Prevention Plan (SWPPP).

P. Where to submit:

1. If required, complete KPDES FORM NOI-SW at the following website:
<https://dep.gateway.ky.gov/eForms/default.aspx?FormID=7>
2. Do not initiate work until receiving approval from the Kentucky Division of Water if it is required.
3. A complete copy of the NOI submittal (if required) shall also be provided to the following for approval/coverage verification:

Division of Water Quality
125 Lisle Industrial Avenue, Suite 180
Lexington, KY 40511

Division of Engineering
Lexington-Fayette Urban County Government
101 E. Vine St.
4th Floor
Lexington, KY 40507

3.17 LFUCG Land Disturbance Permit

- A. The Contractor shall obtain a Land Disturbance Permit from the LFUCG Division of Engineering, after the LFUCG Division of Water Quality inspects the installation of the best management practices as required by the Stormwater Pollution Prevention Plan (SWPPP). The site grading plan shall show the original and finish grade contours. The grading plan shall be in conformance with the SWPPP and shall clearly show the initial phase of best management practices to be installed.
- B. The Land Disturbance Permit checklist appears on the following page. It can be obtained from:

Division of Engineering
Lexington-Fayette Urban County Government
101 E. Vine St.
4th Floor
Lexington, KY 40507
(859) 258-3410
Attn: Land Disturbance Permit Section
<https://www.lexingtonky.gov/new-development>

- C. All excess earthen/rock materials hauled off the site to a location in Fayette County shall be hauled to a site permitted by the Kentucky Division of Water and the LFUCG. The haul site shall be permitted in accordance with these specifications.

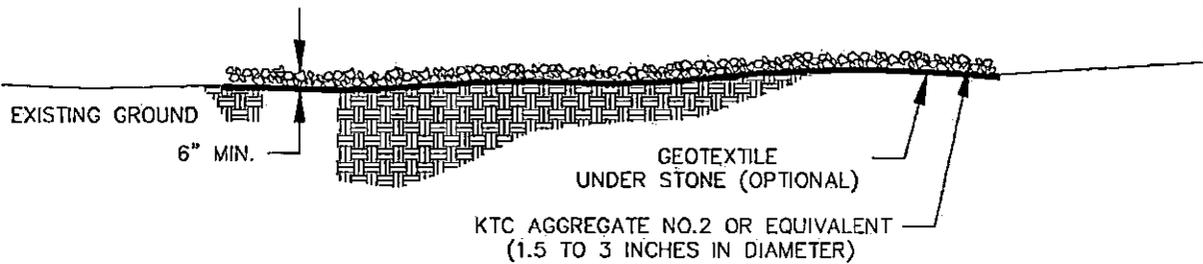


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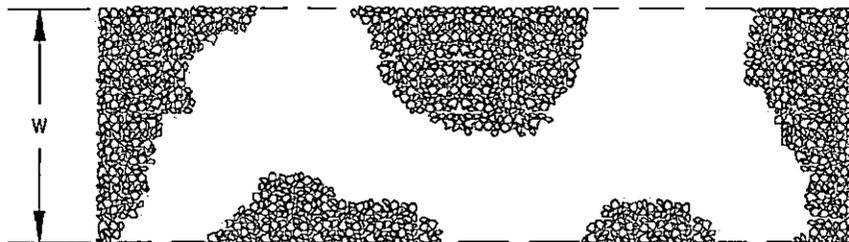
FIGURE 11-2 ROAD/PARKING STABILIZATION

(OCTOBER 1, 2016)

NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



CROSS SECTION



PLAN VIEW

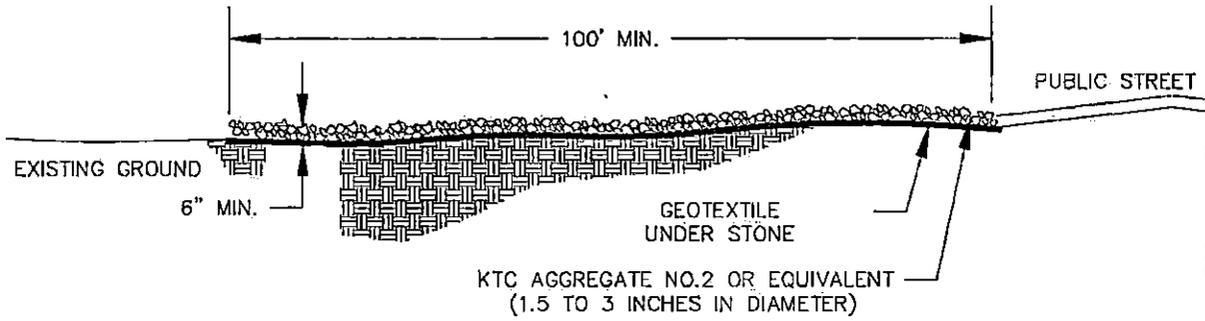
W = 14' MIN. FOR ONE WAY TRAFFIC
20' MIN. FOR TWO WAY TRAFFIC



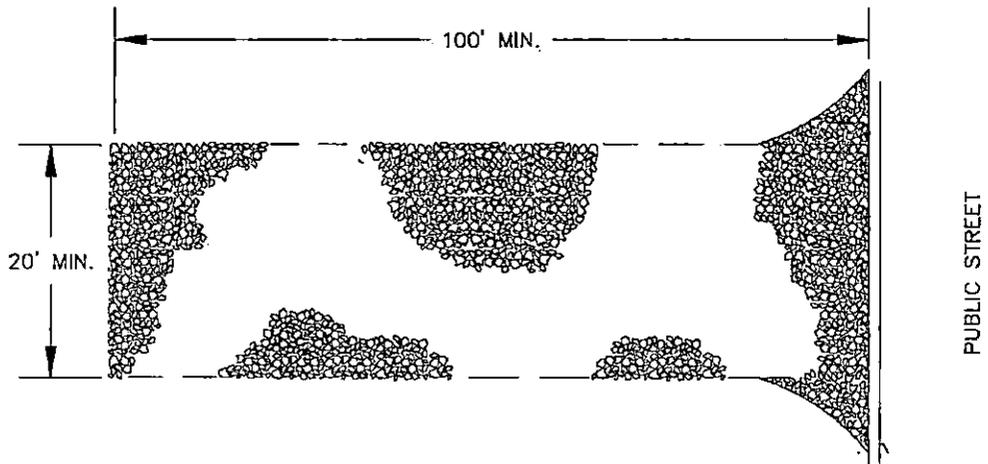
STORMWATER MANUAL

FIGURE 11-3
CONSTRUCTION ENTRANCE
(OCTOBER 1, 2016)

NOTE: IF 100' LENGTH IS NOT POSSIBLE, THE CONSTRUCTION ENTRANCE SHALL BE 50 F IN LENGTH



CROSS SECTION



PLAN VIEW



STORMWATER MANUAL

FIGURE 11-4 CONSTRUCTION ENTRANCE NOTES AND SPECIFICATIONS (OCTOBER 1, 2016)

SPECIFICATIONS FOR GEOTEXTILE FABRIC

GRAB TENSILE STRENGTH	220 LBS. (MIN.) (ASTM D1682)
ELONGATION FAILURE	60% (MIN.) (ASTM D1682)
MULLEN BURST STRENGTH	430 LBS. (MIN.) (ASTM D3768)
PUNCTURE STRENGTH	125 LBS. (MIN.) (ASTM D751) (MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (US STD SIEVE) (CW-02215)

NOTES

1. A STABILIZED ENTRANCE PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. SOIL STABILIZATION FABRIC SHALL BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT AND REPAIR OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
5. WHEN APPROPRIATE, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.

NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.

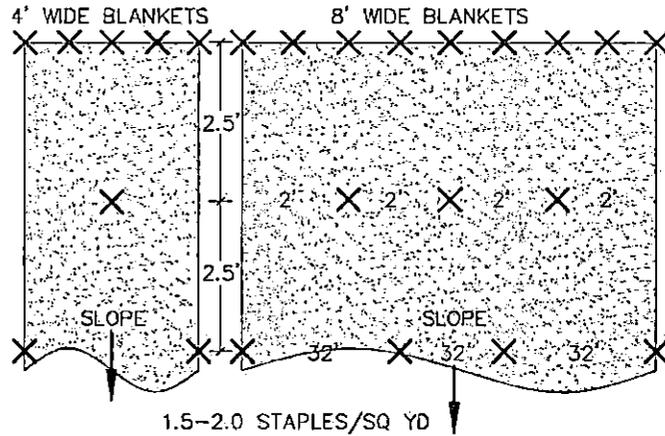


STORMWATER MANUAL

FIGURE 11-5
STAPLE PATTERN FOR STRAW
OR EXCELSIOR MATS
(OCTOBER 1, 2016)

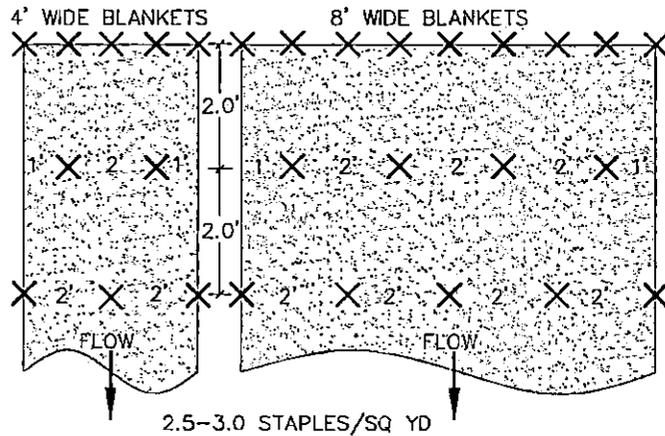
SLOPES UP TO 1.5H:1V

- INSTALL BLANKET VERTICALLY OR HORIZONTALLY
 - USE 12" STAPLE SPACING ON STARTER ROW.
- COHESIVE SOILS:
- NO OVERLAP REQUIRED ON SIDE SEAMS
 - USE 6" STAPLE LENGTH
- NON-COHESIVE SOILS:
- USE 6" SIDE SEAM OVERLAP
 - USE 8" STAPLE LENGTH
 - USE 6" ANCHOR TRENCH AT TOP OF SLOPE



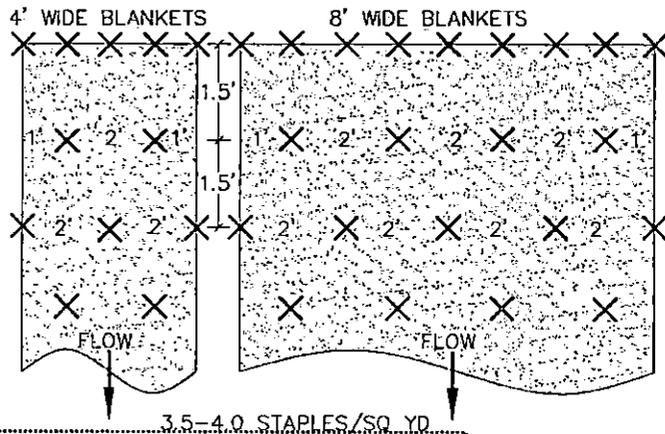
CHANNELS IN COHESIVE SOILS

- USE 6" SIDE SEAM OVERLAP
- USE 6" STAPLE LENGTH
- USE 6" TRANSVERSE ANCHOR TRENCH AT 100-FT. INTERVALS
- USE 12" STAPLE SPACING ON STARTER ROW.
- UPSTREAM BLANKET SHOULD OVERLAP DOWNSTREAM BLANKET A DISTANCE OF 12" IN A "SHINGLE" FASHION AND BURY THE FINISHED TOE AT LEAST 6".

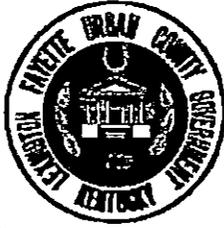


CHANNELS IN NON-COHESIVE SOILS

- USE 6" SIDE SEAM OVERLAP
- USE 8" STAPLE LENGTH
- USE 6" TRANSVERSE ANCHOR TRENCH AT 50-FT. INTERVALS
- USE 12" STAPLE SPACING ON STARTER ROW.
- UPSTREAM BLANKET SHOULD OVERLAP DOWNSTREAM BLANKET A DISTANCE OF 12" IN A "SHINGLE" FASHION AND BURY THE FINISHED TOE AT LEAST 6".



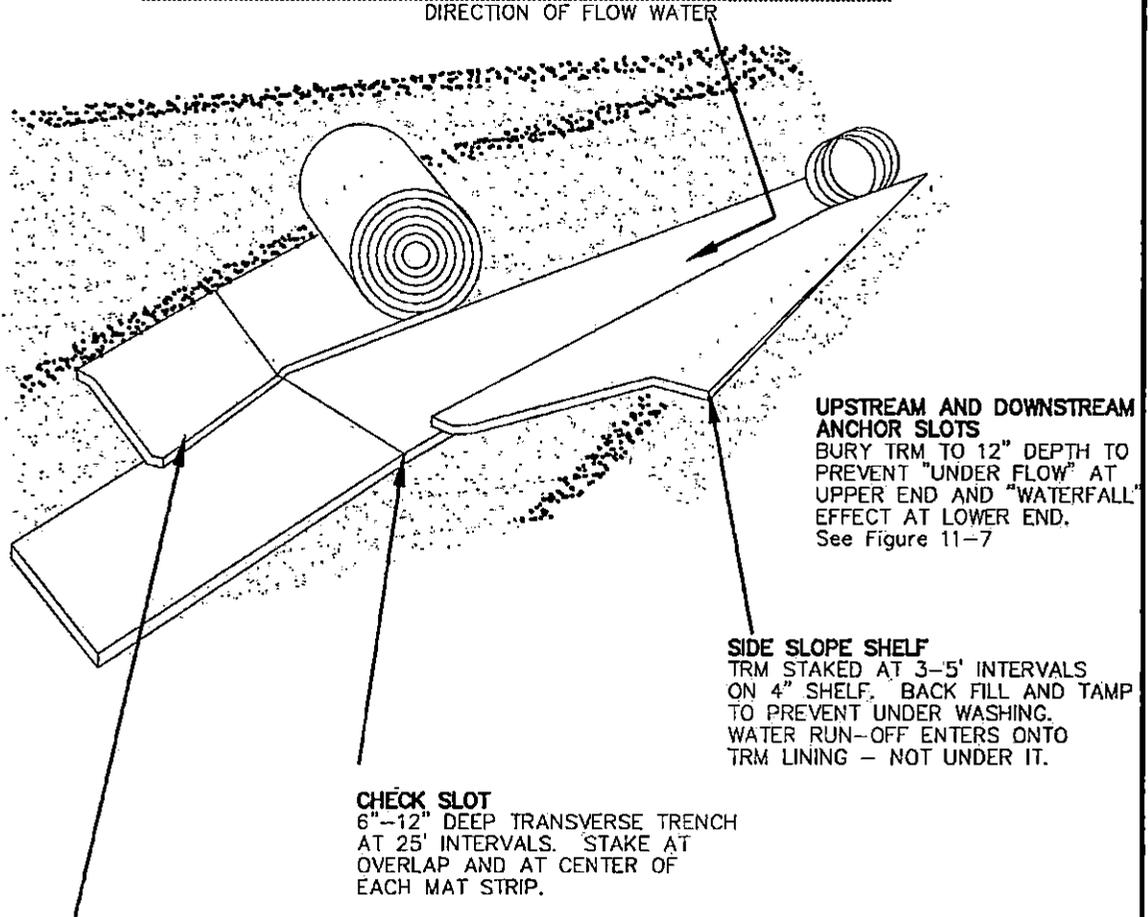
NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



STORMWATER MANUAL

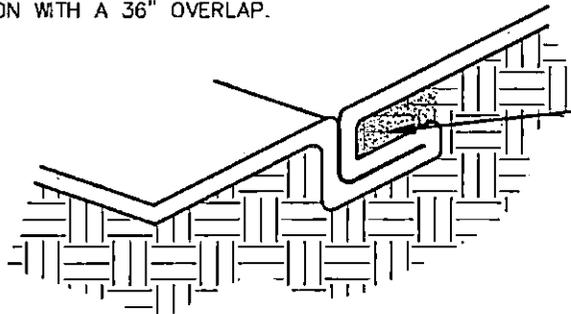
FIGURE 11-6
PLACEMENT OF TRM IN CHANNEL
(OCTOBER 1, 2016)

NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



OVERLAP IN A SHINGLE FASHION
4" OVERLAP STAKED AT 3-5' INTERVALS

WHEN ROLL TERMINATES, IT IS STAKED OVER THE ROLL WHICH EXTENDS DOWNSTREAM IN A SHINGLE FASHION WITH A 36" OVERLAP.



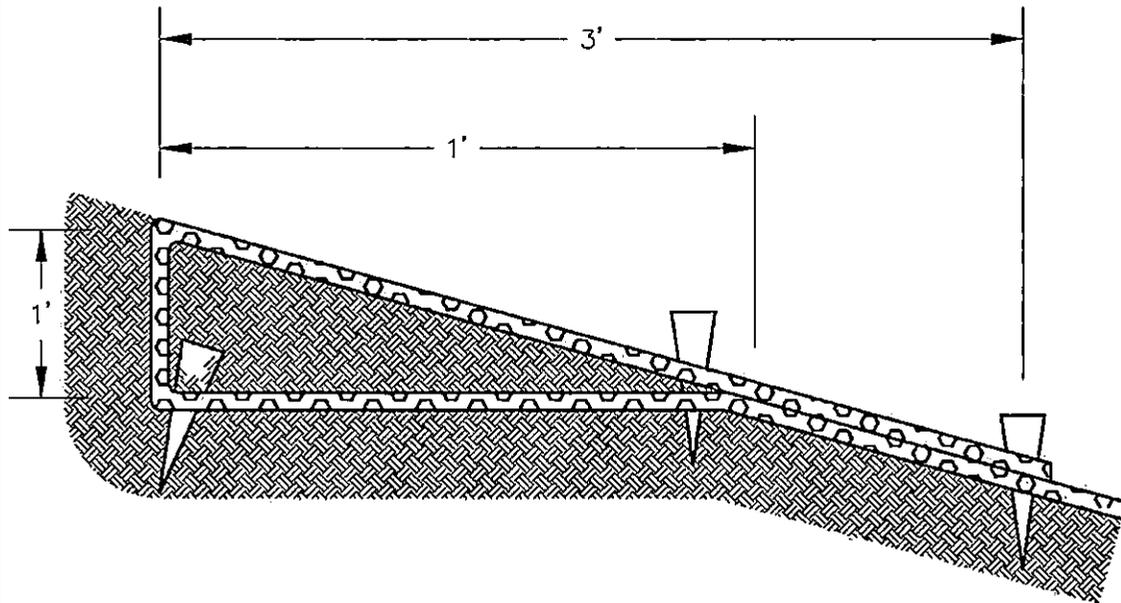
CHECK SLOT DETAIL
STAKE AND BACK FILL IN CHECK SLOT BEFORE CONTINUING TO PLACE UPSLOPE



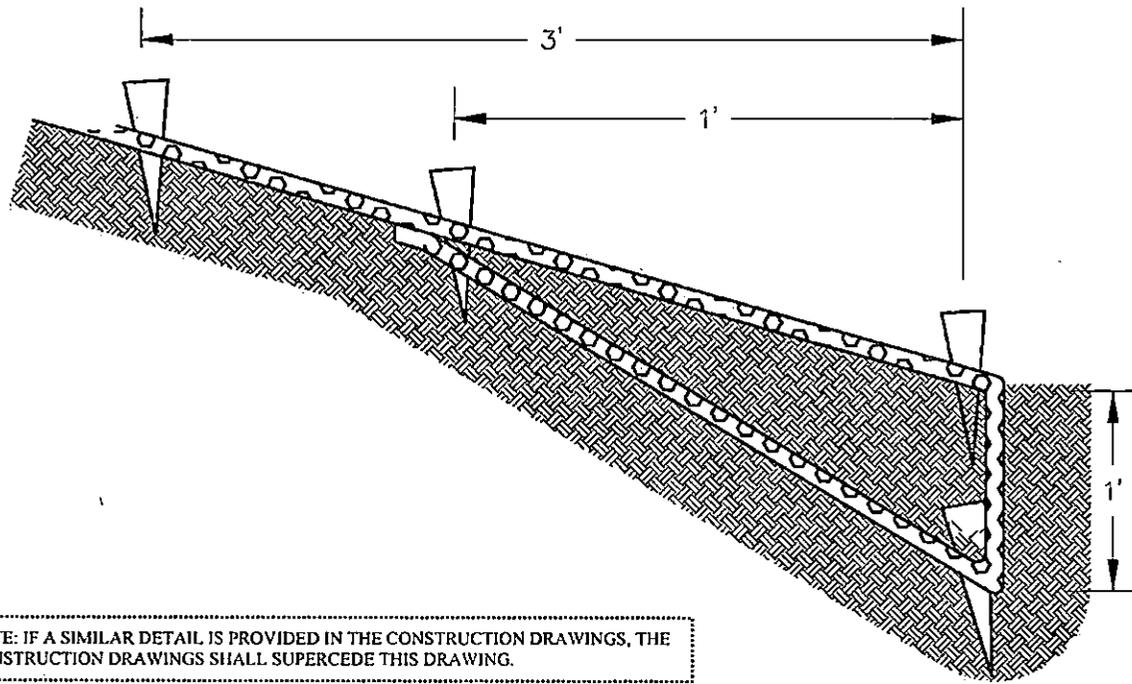
STORMWATER MANUAL

FIGURE 11-7
ANCHOR SLOT DETAILS FOR TRM
(OCTOBER 1, 2016)

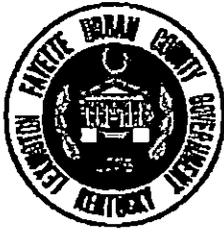
UPSTREAM ANCHOR SLOT DETAIL



DOWNSTREAM ANCHOR SLOT DETAIL



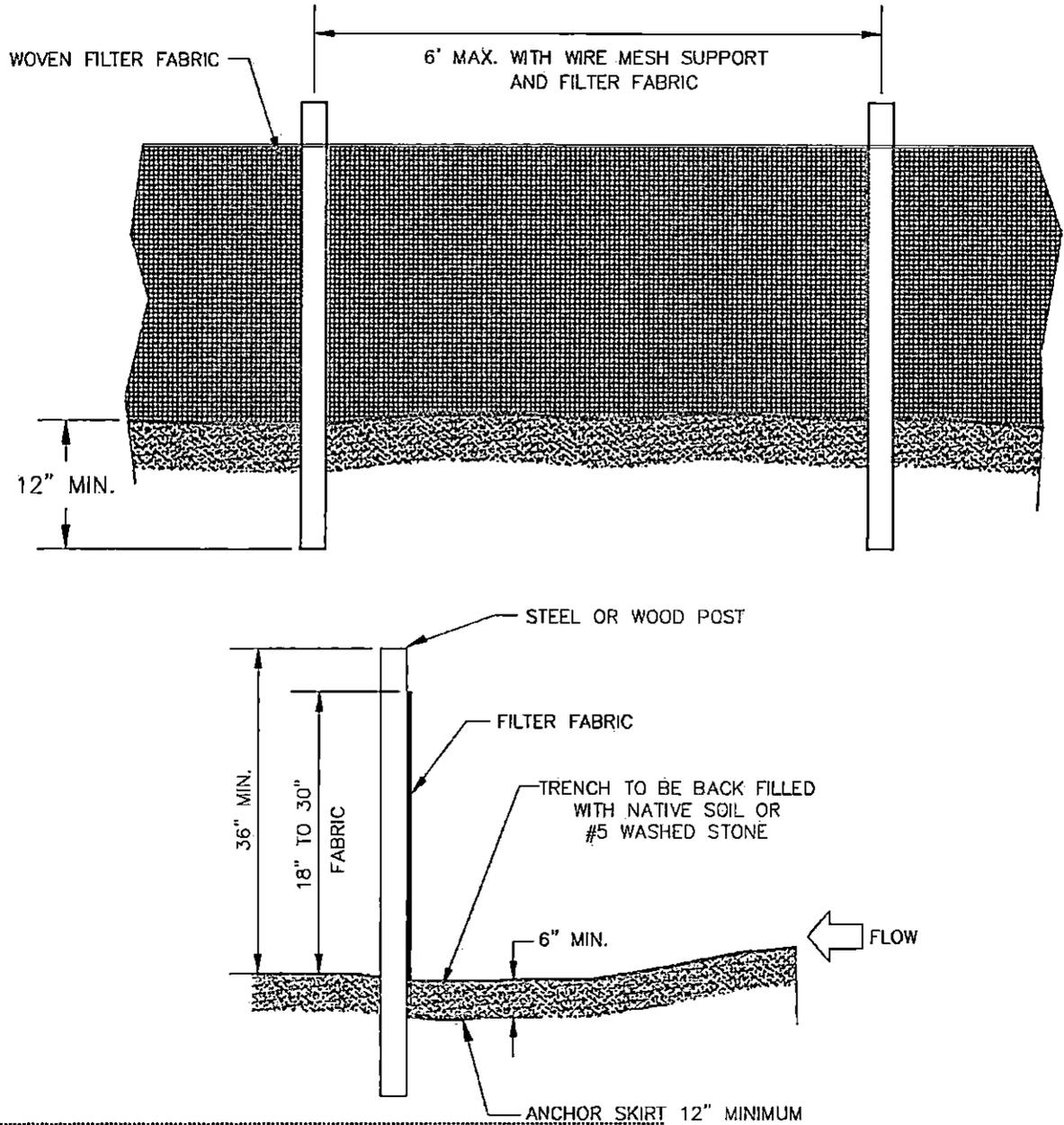
NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



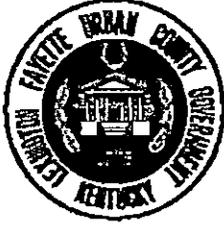
STORMWATER MANUAL

FIGURE 11-21
TEMPORARY SILT FENCE

(OCTOBER 1, 2016)



NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



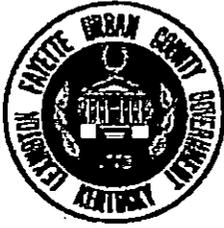
STORMWATER MANUAL

FIGURE 11-22
TEMPORARY SILT FENCE
GENERAL NOTES
(OCTOBER 1, 2016)

GENERAL NOTES

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER. WHEN JOINTS CANNOT BE AVOIDED, FILTER FABRIC SHALL BE SPLICED TOGETHER ONLY AT A POST WITH 3 FOOT MIN. OVERLAP, AND SECURELY SEALED.
2. POSTS SHALL BE SPACED AT 6 FOOT INTERVALS IN AREAS OF RAPID RUNOFF.
3. POSTS SHALL BE AT LEAST 5 FEET IN LENGTH.
4. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE AND FABRIC.
5. WOOD POSTS SHALL BE 2 INCHES BY 2 INCHES OR EQUIVALENT. STEEL POSTS SHALL BE 1.33 LBS PER LINEAR FOOT.
6. A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH IN LENGTH, WIRE TIES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. WASHED STONE SHALL BE USED TO BURY SKIRT WHEN SILT FENCE IS USED ADJACENT TO A CHANNEL, CREEK, OR POND.
8. TURN SILT FENCE UP SLOPE AT ENDS.

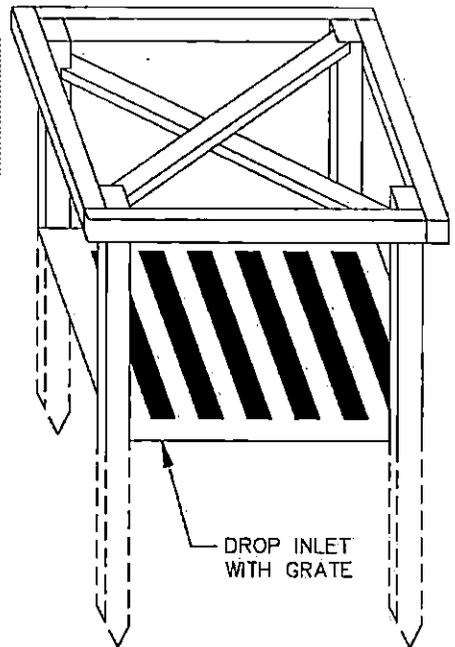
NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



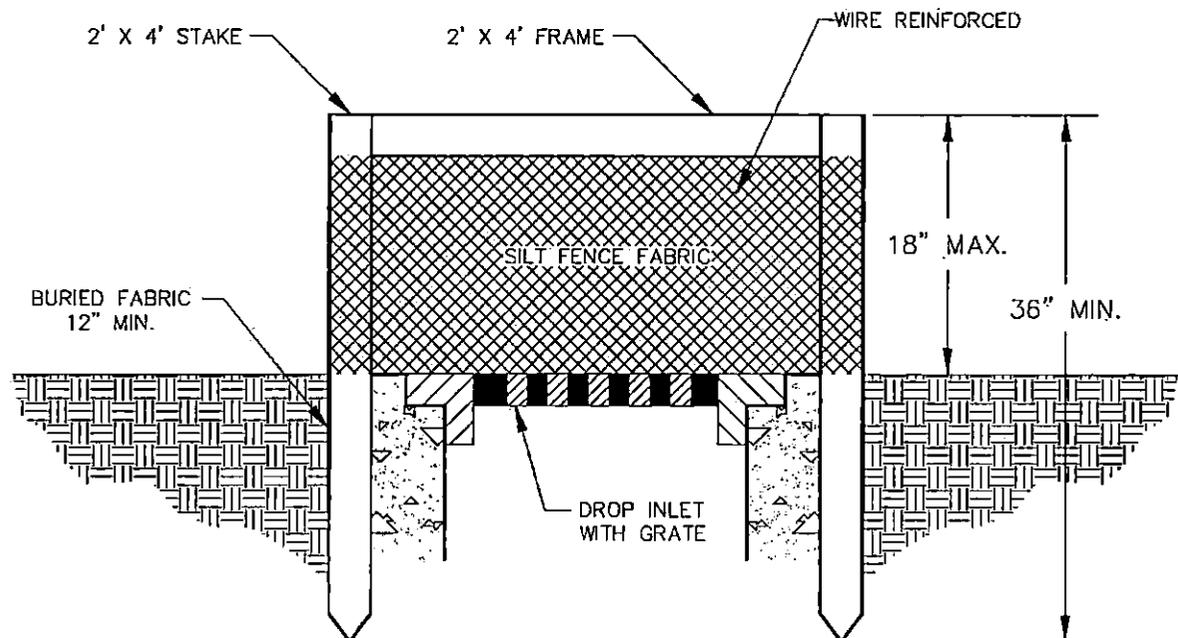
STORMWATER MANUAL

FIGURE 11-23
DROP INLET PROTECTION
USING SILT FENCE
(OCTOBER 1, 2016)

NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



**ISOMETRIC VIEW OF
2 X 4 WOOD FRAME**



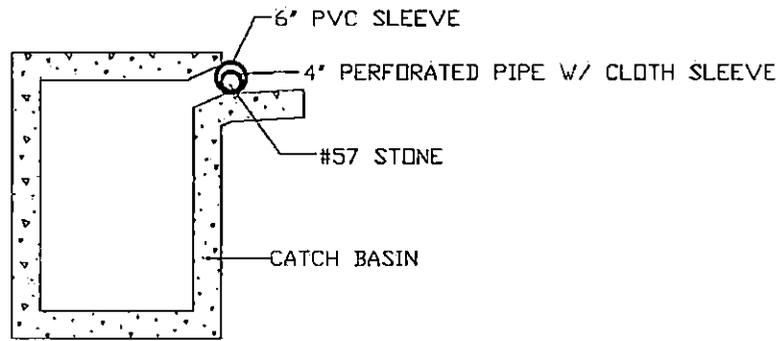
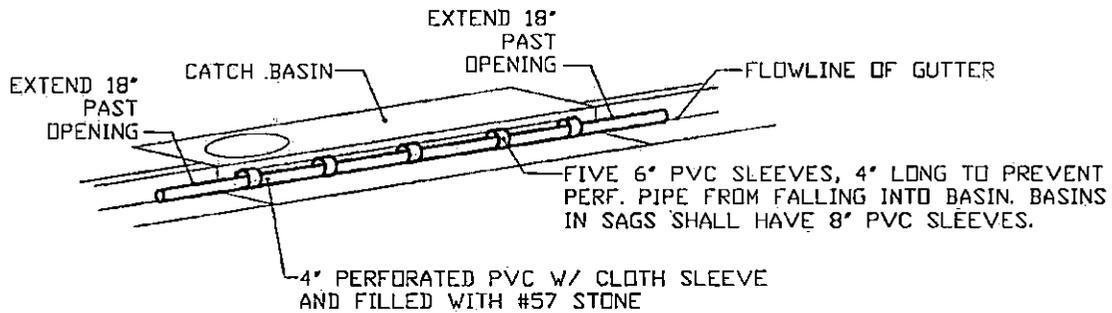
CROSS SECTION VIEW



STORMWATER MANUAL

FIGURE 11-24 CATCH BASIN INLET PROTECTION DETAIL

(OCTOBER 1, 2016)



SIDE VIEW

CATCH BASIN INLET PROTECTION DETAIL

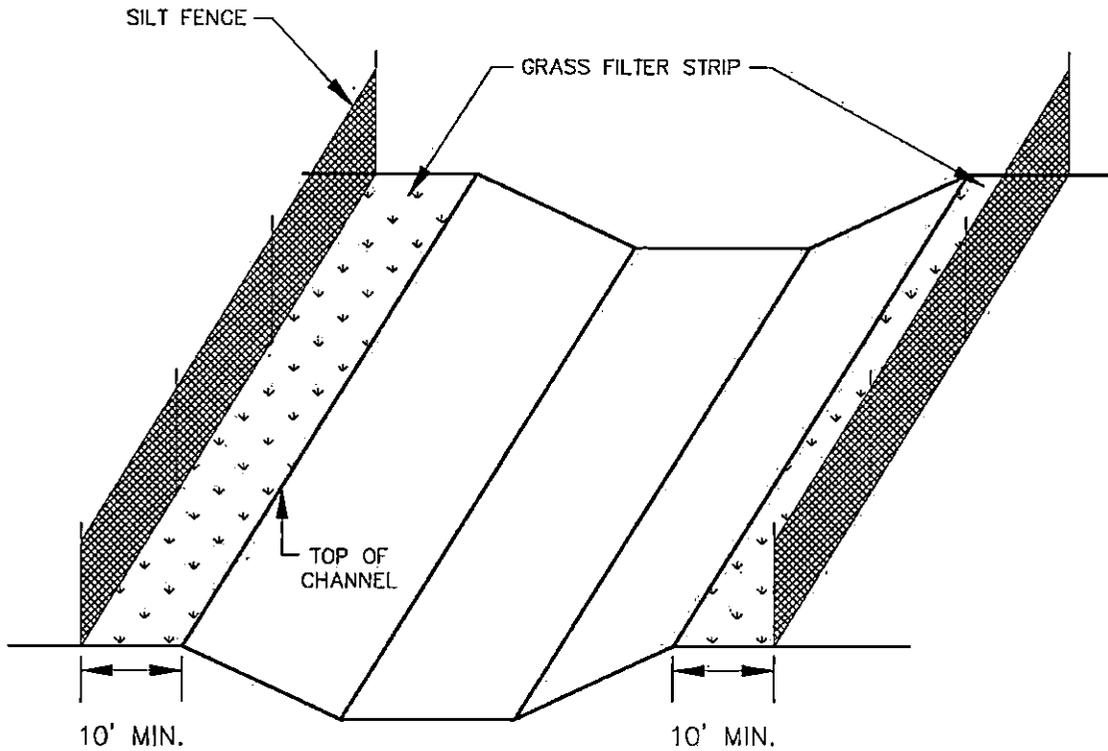
N.T.S.

NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



STORMWATER MANUAL

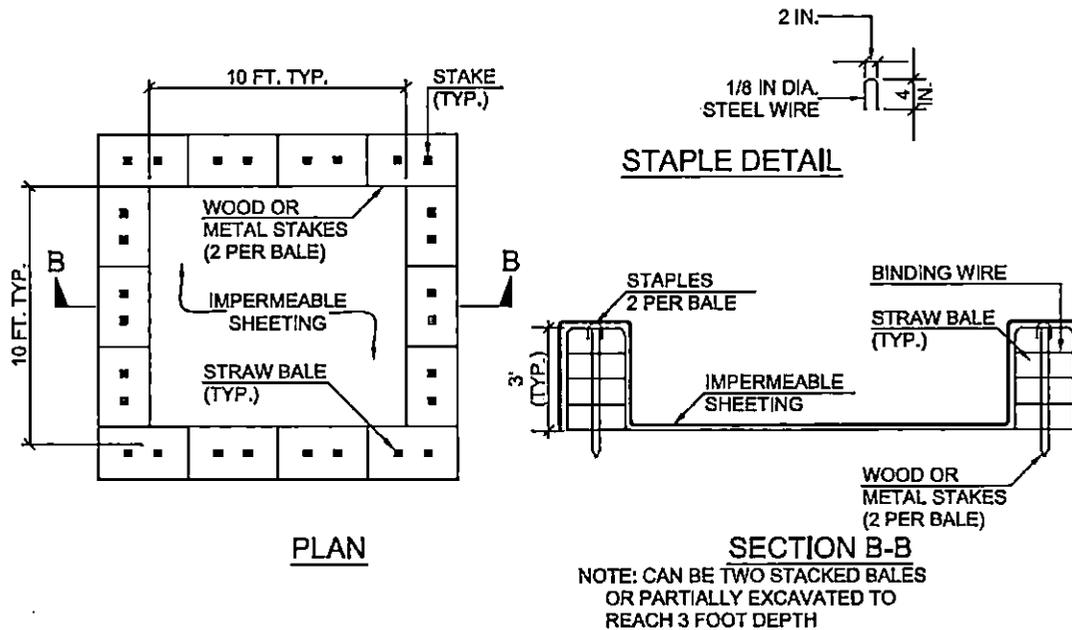
FIGURE 11-25
FILTER STRIP FOR
CONSTRUCTED CHANNEL
(OCTOBER 1, 2016)



NOTE: IF A SIMILAR DETAIL IS PROVIDED IN THE CONSTRUCTION DRAWINGS, THE CONSTRUCTION DRAWINGS SHALL SUPERCEDE THIS DRAWING.



CONCRETE WASH PIT



NOT TO SCALE

NOTES:

1. LOCATE CONCRETE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET x 10 FEET x 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT, REPLACE IMPERMEABLE LINER IF DAMAGED (E.G. RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND WASHOUT STRUCTURE UNTIL IT IS REMOVED.

SECTION 02374 – ESC PERMITTING, INSPECTION, AND ENFORCEMENT PROCEDURES

Project Management for DWQ Stormwater and Water Quality Capital Projects:

DWQ Section Managers: Greg Lubeck or Jennifer Carey

DWQ Project Manager: Varies

Construction Contract Administrator (CA): Rick Day

Resident Project Representatives (RPR): Richard Hall

ESC Plan Reviewer: DWQ Stormwater Section – Amad Al-Humadi

Land Disturbance Permit (LDP) Issuer: DOE New Development

Erosion and Sediment Control Compliance Inspector: RPR

Accela Data Entry: DWQ Compliance & Monitoring (C&M) – Richard Lamey, Kevin Lyne

Land Disturbance Permit (LDP) Permittee: Contractor

Permitting Procedures

1. For the WGPL Storm Sewer Project, the construction contract documents contain a SWPPP/ESC Plan prepared by LFUCG's consultant for purposes of establishing bid quantities. If the Contractor chooses to use this SWPPP/ESC Plan to obtain the required permits, the Contractor takes sole responsibility for the content of the SWPPP/ESC Plan and the implementation of the plan during construction. Contractor may also choose to prepare its own Stormwater Pollution Prevention Plan / Erosion and Sediment Control Plan (SWPPP/ESC Plan). A SWPPP/ESC Plan template is on the LFUCG website at <https://www.lexingtonky.gov/new-development>.
2. Contractor must submit an application for a Land Disturbance Permit to the LFUCG Division of Engineering before beginning project construction. The permit application is available at <https://aca3.accela.com/lexky/>.
3. For projects with a disturbed area of ≥ 1 acre, the contractor must submit a Notice of Intent (NOI) to the KY Division of Water (KDOW) and obtain KYR10 Permit coverage before beginning construction of any kind on the site. The NOI can be submitted electronically at <http://dep.ky.gov/formslibrary/Documents/KYR10PermitPage.pdf>.
4. Contractor cannot start project work until they have obtained the LFUCG Land Disturbance Permit and KYR10 Permit coverage (if applicable – see above).
5. Amad Al-Humadi will review the SWPPP/ESC Plan, confirm that the Contractor has obtained KYR10 Permit coverage (if applicable – see above), and authorize the Contractor to install the initial BMPs.
6. Contractor then installs the initial BMPs, prior to project work (general excavation, grading, etc.).
7. Amad Al-Humadi inspects the installation of the initial BMPs and authorizes DOE New Development to issue the Land Disturbance Permit. Contractor then begins the project.

Contractor Responsibilities

Contractor shall:

1. Develop a SWPPP/ESC Plan, or review and agree to use the SWPPP/ESC Plan prepared by LFUCG's consultant, or amend it as needed.
2. Attend a pre-construction conference with LFUCG.
3. Post the LFUCG Land Disturbance Permit and KYR10 Permit (if applicable) on the project sign at the site and keep a copy of the SWPPP/ESC Plan on site and available for review.
4. Follow the SWPPP/ESC Plan; revise and redline it as conditions change on the site.
5. Install and maintain BMPs to prevent sediment from washing into streets, storm sewers, and streams. All runoff from disturbed areas must pass through a BMP before leaving the site.
6. Maintain a 50-foot vegetative buffer strip along perennial and intermittent streams (including impounded streams), wetlands, sinkholes, and inlets.
7. If work must be done within 50 feet of a perennial or intermittent stream, wetland, sinkhole, or inlet, complete work as soon as possible and stabilize the area within 24 hours after completing work.
8. Conduct an ESC inspection at least once every 7 calendar days and within 24 hours after each rainfall of 0.5" or greater.
9. Complete and sign the inspection form after each inspection. Keep the completed inspection forms on site and available for review.
10. Stabilize inactive portions of the site with straw, blanket, seed, or other cover within 14 days of no activity, and provide permanent stabilization within 14 days of reaching final grade.
11. If the project has a KYR10 Permit, file a Notice of Termination with the KY Division of Water and forward to the LFUCG Division of Engineering and LFUCG Division of Water Quality when construction has been completed and the site is stabilized. Final stabilization is defined as follows from KYR10: "All soil disturbing activities at the site have been completed and either of the two following criteria are met – a uniform (e.g., evenly distributed, without large bare areas) perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures, or equivalent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed."

12. Respond promptly to Verbal Warnings and Notices of Violation from LFUCG regarding correcting ESC problems.

Inspection Procedures for the Resident Project Representative

Monthly Field Inspection (two times a month if crossing a stream or in a floodplain):

1. Ensure the LFUCG Land Disturbance Permit and KYR10 Permit, if applicable, are posted at the site
2. Ensure SWPPP/ESC Plan is available for review
3. Ensure that the weekly and rain event completed inspection forms are available for review
4. Walk the perimeter of the entire site
5. Note downgradient controls:
 - Inspect ditches and sheet flow areas
 - Silt fences working?
 - Ditches vegetated / stabilized?
 - Significant sediment discharges?
6. Walk around internal disturbed areas
 - Idle for more than 14 days . . . stabilized?
7. Inspect all inlets and ditches
 - Inlets protected, ditches stabilized?
8. Check out material / fuel storage areas
 - Spills? Leaks? Leaching pollutants? Litter / waste managed?
9. Inspect concrete washout(s)
10. Inspect the construction entrance / exit
11. Inspect the 50-foot vegetative buffer strip adjacent to waterways. The buffer strip must be stabilized within 24 hours of any approved construction activity in the buffer strip.
12. Communicate inspection findings to Contractor, note issues that need attention
13. Complete the LFUCG inspection checklist
14. Submit an electronic copy of the completed checklist to the Project Manager and DWQ C&M. DWQ C&M will enter it into Accela.
15. Inspect the site the next working day after a storm event of 0.5 inches or greater. Complete the inspection checklist and submit a copy to the Project Manager.

Important Items for the Permittee / Contractor / RPR to Verify:

- Posted permits, plans, and inspection reports
- Graded / inactive areas stabilized with seed, mulch, blankets, mats, etc.
- Stabilized, non-eroding ditches
- Maintained silt fences and protected curb / drop inlets
- No mud on the street

- Trash and litter managed
- No disturbance in the 50-foot buffer zone adjacent to streams, wetlands, sinkholes, and inlets, unless approved; areas within the 50-foot buffer must be stabilized within 24 hours

Enforcement Procedures

1. The Contractor will be paid for erosion and sediment control based upon a schedule of values established within the Measurement and Payment section of the specifications (e.g., 25% paid once initial ESCs have been installed and LDP obtained, 50% paid in equal monthly payments for maintenance over the construction period, 25% paid for removal of ESCs and final stabilization). The intent of this provision is to pay the Contractor for ESC maintenance for each month that the BMPs are maintained and functioning properly.
2. When the RPR identifies ESC deficiencies, the RPR shall issue a verbal warning to the Contractor to address the deficiencies. If the deficiencies are not addressed after two verbal warnings, the RPR shall notify the Construction Contract Administrator of the deficiencies. In some cases, the Construction Contract Administrator should be notified immediately. **Refer to the attached Compliance Assistance Guidance for RPRs.**
3. The Construction Contract Administrator shall prepare a written summary of the deficiencies referred by the RPR, and shall notify the Project Manager that additional enforcement measures are needed to achieve compliance.
4. The Project Manager shall use all available means in the contract to obtain compliance, including:
 - a. withholding payment
 - b. notifying the Contractor that LFUCG intends to initiate the process for declaring that the Contractor is in default of the contract and specifying a deadline for addressing the ESC deficiencies
 - c. initiating the process for calling the ESC Performance Bond
 - d. issuing Notices of Violation (NOVs)
 - e. stopping work

Compliance Assistance Guidance for DWQ Capital Project Inspectors

Observed Condition	Verbal Warning to Correct within 3-5 days (See Note 1)	Verbal Warning to Correct within 24 hours (See Note 1)	Notify Contract Administrator Immediately to Ensure Compliance
Construction Entrance to Public Road	Rock pad poorly installed/maintained	Rock pad not installed	
	Small amount of sediment on road	Rock pad completely covered with soil	
		Significant amount of sediment on road	
Unstabilized Areas	Flat inactive disturbed areas not stabilized in 14 days	Ditches not stabilized immediately after construction	
		Disturbed, inactive slopes not stabilized within 14 days	Disturbed, inactive slopes above waterways, wetlands, floodplains, critical areas not stabilized within 24 hours
Inlet Protection	Sediment needs to be removed around inlet protection	Curb inlet protection not in place or improperly installed	Discharge of concrete wash water, chemicals, other pollutants into inlets, streams, wetlands, etc.
Silt Fencing	Does not match SWPPP/ESC Plan but critical areas and roads are protected	Silt fence not installed per plan and critical areas and roads are not protected	
	Does not comply with Stormwater Manual but is functional	Blowouts have occurred with discharge of sediment to critical areas	Large quantities of sediment in critical areas
	Needs maintenance/repair, but is not near an inlet or surface water	Not trenched in, is not functional	
		Silt fence needs repairs in critical areas	
Soil Stockpiles	No perimeter controls, downstream BMPs in place	No perimeter controls, downstream BMPs not in place	
Permit Violations		Permit expired	Site not permitted (No LDP or KDOW NOI)
		Permit not posted or available on site	
		Contact name/phone not posted	
		No self-inspection reports; reports not on site	
		Self-inspection reports not current	
		SWPPP/ESC Plan not on site	
			Unapproved construction activities in 50-foot buffer zone around sinkholes, streams, wetlands, etc.
			Construction has started, BMPs not installed

1. Refer issue to Contract Administrator after 2nd Verbal Warning.
2. Critical areas are streams, wetlands, sinkholes, and inlets.

SECTION 02500 - STORM DRAINAGE

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. This Section includes all labor, materials, equipment and related items required to complete the work of storm drainage shown on the Drawings and specified herein.
- B. This Section does not include the following related items:
 - 1. Clearing and grubbing.
 - 2. Earthwork.
 - 3. Pavements and curbs.
 - 4. Site Utilities.
 - 5. Electrical Work.

1.02 PERMITS AND CODES

The intent of this Section of the Specifications is that the Contractor's bid on the Work covered herein shall be based upon the Drawings and Specifications, but that the Work shall comply with all applicable codes and regulations as amended by any waivers.

1.03 LOCAL STANDARDS

The term "local standards" as used herein means the standards of design and construction of the Lexington Fayette Urban County Government and the Kentucky Department of Highways.

PART 2 – PRODUCTS

All public drainage system structures including storm sewer pipe, curb box inlets, surface inlets, culvert pipe, and manholes, shall meet the specifications of the LFUCG Standard Drawings and the KYTC Standard Specifications for Road and Bridge Construction, latest edition. Storm sewers shall be reinforced concrete pipe or corrugated plastic pipe (CPP).

2.01 CORRUGATED PLASTIC PIPE

CPP shall meet the following requirements:

- 1. CPP shall have a smooth inner liner and shall be manufactured according to ASTM F2306

or ASTM F2562 for high density polyethylene pipe, or ASTM F2881 for polypropylene pipe.

2. CPP shall have an integral bell and spigot with an elastomeric seal meeting the requirements of ASTM F477 or ASTM D3212.
3. Manufacturers of CPP shall be qualified participants of the National Transportation Product Evaluation Program (NTPEP).
4. Installation of CPP shall follow existing LFUCG standard drawing details and requirements as previously outlined for other pipe materials. Additional manufacturer guidelines shall be followed if necessary.
5. The minimum cover shall be 24 inches. Maximum depth for CPP shall be 16 feet. All necessary precautions shall be taken to avoid operating heavy equipment on top of the pipe until the required cover is attained. If stone size other than #9 is proposed, it must be in accordance with manufacturer's recommendations. If no such recommendation exists, then the manufacturer shall submit approval to LFUCG in writing.
6. The Contractor shall, a minimum of 30 days after installation, certify that CPP pipe was installed in accordance with manufacturer's recommendations and ASTM 2321 and that the pipe's structural integrity and functionality is preserved. The Contractor shall also conduct deflection testing of the pipe a minimum of 30 days after installation. The deflection testing shall be done in accordance with KYTC specifications. The pipe shall be replaced if the deflection is greater than 7.5%. Allowable deflections on any axis are presented in the table below.

Base Pipe Diameter (inches)	AASHTO Nominal Diameter (inches)	Max. Deflection Limit		
		5.0% (inches)	7.5% (inches)	10.0% (inches)
15	14.76	14.02	13.65	13.28
18	17.72	16.83	16.39	15.95
24	23.62	22.44	21.85	21.26
30	29.53	28.05	27.32	26.58
36	35.43	33.66	32.77	31.89
48	47.24	44.88	43.70	42.52
54	53.15	50.49	49.16	47.84
60	59.06	56.11	54.63	53.15

From KYTC Kentucky Method (KM) 114-14

2.02 CIRCULAR REINFORCED CONCRETE PIPE

- A. Pipe materials shall conform to the requirements of the Kentucky Department of Highways.
- B. Reinforced concrete pipe shall meet ASTM C76 AASHTO M170, and shall be in the diameter on the Drawings and Class III unless noted otherwise.
- C. Pipe joints shall be bell and spigot construction in accordance with ASTM C443.
- D. Rubber gaskets shall be Forsheda 138 gaskets in accordance with ASTM C 443 or approved equal.
- E. Pipe shall be as manufactured by Independent Concrete Pipe Co. or approve equal.

2.03 ELLIPTICAL REINFORCED CONCRETE PIPE

- A. Elliptical reinforced concrete pipe shall conform to the requirements of the Kentucky Department of Highways.
- B. Elliptical reinforced concrete pipe shall meet ASTM C507 and in the size on the Drawings and Class III unless noted otherwise.
- C. Pipe joints shall be tongue and groove construction and shall be filled with butyl mastic sealant during installation as recommended by pipe manufacturer.
- D. Pipe shall be manufactured by Independent Concrete Pipe Co. or approved equal.

2.04 PRECAST CONCRETE BOX CULVERTS

- A. Precast reinforced concrete box culverts shall meet ASTM C789 and/or ASTM C850 and shall be in the size shown on the Drawings and Class III unless noted otherwise.
- B. Joints shall be tongue and groove construction and shall be filled with butyl mastic sealant during installation as recommended by culvert manufacturer.
- C. Precast reinforced concrete box culverts shall be as manufactured by Independent Concrete Pipe Co. or approved equal.

2.05 PRECAST CONCRETE MANHOLES

Manholes, frames, and covers shall be in accordance with Section 02735.

2.06 PRECAST CONCRETE INLET/OUTLET TREATMENTS

- A. Precast concrete inlet/outlet treatments shall meet the requirements of the Kentucky Department of Highways and of the type and size shown on the Drawings.
- B. Castings shall be cast iron as manufactured by Neenah, Hoe, McKinley, Flockhart or approved equal.

PART 3 - EXECUTION

3.01 EXISTING IMPROVEMENTS

Maintain in operating condition all active drains and other utilities encountered in the Project area. Repair to the satisfaction of the Engineer any surface or subsurface improvement damaged during the course of the Work (unless such improvement is shown to be abandoned or removed), whether or not such improvement is shown on the Drawings.

3.02 PROTECTION OF PIPING LAID IN AREAS OF FILL

Underground drains specified in this Section shall not be laid in areas of fill prior to the actual performance of the grading operation, unless the depth of the cover over such utilities below existing ground surface is at least 30 inches. Such depth of cover requirement may be reduced provided the pipe is protected by concrete cradling, encasement or other manner satisfactory to the Engineer.

3.03 TRENCHING AND BACKFILLING

- A. General: Unless otherwise directed by the Engineer, trenches in which storm drainage lines are to be laid shall be excavated in open cut to the depths shown on the Drawings. In general, this shall be interpreted to mean that machine excavation in earth shall extend to an elevation permitting minimum depth of bedding material below.
- B. Width of Trench: Excavate trenches of sufficient width to provide free working space on each side of the pipe and to permit proper backfilling around the pipe.
 - 1. Pipe trenches shall be made as narrow as practicable and shall not be widened by scraping or loosening material from the sides. Every effort shall be made to keep the sides of the trenches firm and undisturbed until backfilling has been completed and consolidated.
 - 2. Trenches shall be excavated with approximately vertical sides between the elevation of the center of the pipe and an elevation 1 foot above the top of the

pipe.

- C. **Sheeting and Bracing:** Sheet and brace trenches as necessary to protect workmen and adjacent structures. Comply with local regulations, or, in the absence thereof, with the "Manual of Accident Prevention in Construction", of the Associated General Contractors of America, Inc. Do not remove sheeting until trench is backfilled sufficiently to protect pipe and prevent injurious caving.
- D. **Water Removal:** Keep trenches free from water while construction therein is in progress. Under no circumstances lay pipe or appurtenances in water. Pump or bail water from bell hole to permit proper jointing of pipes. Conduct the discharge from trench dewatering to sediment controlled areas as specified in Section 02100.
- E. **Disposition of Existing Utilities:** Rules and regulations governing the respective utilities shall be observed in executing all work under this heading. Active utilities not shown on the Drawings shall be protected or relocated in accordance with written instructions of the Engineer and the Contract sum will be adjusted for such additional work. Inactive and abandoned utilities encountered in trenching operation shall be removed, plugged, or capped. In absence of specific requirements, plug or cap such utility lines at least 3 feet from new ditch line or as required by the local regulations.
- F. **Unclassified Excavation:** Materials to be excavated shall be unclassified, and shall include the removal of earth, rock, or other materials encountered in the excavating to the depth and extent shown or indicated on the Drawings. In the case of any change in the excavation, ordered in writing by the Engineer, the resulting changes in quantities shall be accurately computed, its value shall be determined in accordance with applicable Unit Prices agreed upon between the Owner and Contractor or subcontractors, and the Contract sum shall be adjusted accordingly.
- G. **Pipe Bedding:** Storm drainage pipe shall be laid on a bed of granular material except when a concrete encasement situations occurs. All pipe bedding material shall be Class I select granular material approved by the Engineer and shall be placed to a depth of 6 inches in an earth or rock trench. Granular bedding shall be graded to provide for a uniform and continuous support beneath the pipe at all points. Bell holes shall be provided so that after placement, only the barrel of the pipe receives bearing pressure from the supporting material.
 - 1. After each pipe has been aligned, and placed in final position, granular material as shown on the Drawings, shall be deposited and densified under the pipe haunches and on each side of the pipe up to the spring line of the pipe to prevent lateral displacement and hold the pipe in proper position during subsequent pipe jointing, bedding, and backfilling operations.
 - 2. In wet, yielding and mucky locations where the pipe is in danger of sinking below grade, the pipe must be weighted or secured permanently in place by

such means as will prove effective. In areas where a high water table exists, extreme care shall be taken in the placement of the backfill material to prevent flotation of the pipe at any time.

3. Where an unstable (i.e. water, mud, etc.) trench bottom is encountered, stabilization of the trench bottom is required. This is to be accomplished by undercutting the trench depth and replacing to grade with a foundation of aggregate material. The depth of the foundation is dependent upon the severity of the trench bottom. The size of aggregate used in the foundation will be determined by the condition of the unstable material. Once the trench bottom has been stabilized, the required Class I bedding can be placed.
- H. Special Supports: Whenever, in the opinion of the Engineer, the soil at or below the requisite pipe grade is unsuitable for supporting pipe and appurtenances specified in this Section after stabilization as herein before described, special supports shall be provided as the Engineer may direct, and the Contract sum will be adjusted.
- I. Backfilling: Backfill trenches only after pipe has been inspected, and locations of pipe lines and appurtenances, and rock excavation, if any, have been recorded. Pipes shall be backfilled as herein specified or as otherwise shown on the Drawings.
1. Initial Backfill: This backfill is defined as that material which is placed over the pipe from the spring line of the pipe, to a point 12 inches above the top of the pipe. The backfill shall be Class I aggregate material as detailed on the Drawings.
 2. Final Backfill: The trench shall be backfilled from a point 12 inches above the top of the pipe to subgrade with earth material reasonably free of any rocks. Compaction shall meet the requirements for the adjacent embankment.
 3. Walking or working on the completed pipelines, except as may be necessary in backfilling, will not be permitted until the trench has been backfilled to a point 6 inches above the top of the pipe.
 4. The Class I aggregate material used in backfilling shall be No. 9 crushed stone or clean sand meeting the requirements of the Kentucky Department of Highways.

3.04 TESTING

- A. After the piping system has been brought to completion, and prior to final inspection, the Contractor shall rod out the entire system by pushing through each individual line in the system appropriate tools for the removal from the lines of any and all dirt, debris, and trash. All dirt, debris, and trash removed shall be collected and disposed of in a proper manner.
- B. During the final inspection the Contractor shall inspect each individual line, either by use of lights, television or other means at his disposal to determine whether the

completed lines are true to line and grade as laid out or as shown on the Drawings.

1. The Engineer may require that the Contractor pass through the system under its own momentum a wooden ball of a diameter 1 inch less than the minimal diameter of the pipe, except that no ball larger than 8 inches in diameter shall be used.
2. All lines or sections of line that are found to be laid improperly with respect to line or grade, that are found to contain broken or leaking sections of pipe, or are obstructed in such a manner that they cannot be satisfactorily corrected otherwise, shall be removed and replaced at the Contractor's expense.

3.05 FINAL INSPECTION

At the time of final inspection of the Work performed under the Contract, the storm drainage system covered by this Section shall be complete in every respect and in perfect operating condition. All surplus materials of every character resulting from the Work of this Section shall have been removed. Pipes shall be free from sand, silt, or other obstructions. Any defects discovered in the storm drainage subsequent to this inspection shall have been corrected.

3.06 CERTIFICATES

Furnish to the Engineer affidavits from the manufacturers of pipe, furnished and installed under this Section, certifying that such materials delivered to the Project conform to the requirements of this Section.

END OF SECTION 02500

SECTION 02505 - CRUSHED STONE PAVING

PART 1 - GENERAL

1.01 WORK INCLUDED

Crushed stone paving course, compacted.

1.02 REFERENCES

ASTM C33 - Aggregate for Concrete.

1.03 TESTS

Gradation of stone materials will be performed in accordance with ASTM C33.

PART 2 - PRODUCTS

2.01 MATERIALS

Crushed stone shall conform to ASTM C33, Type No. 57, Type No. 2, and No. 610.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify compacted subgrade.
- B. Verify gradients and elevations of base are correct.
- C. Beginning of installation means acceptance of existing conditions.

3.02 PLACING STONE PAVING

- A. Spread stone material over prepared base to a total compacted thickness of 12 inches.
- B. Place stone in 6-inch layers and compact.
- C. Level surfaces to elevations and gradients indicated.

- D. Add small quantities of sand to stone mix as appropriate to assist compaction.
- E. Adequately compact placed stone materials.
- F. Add water to assist compaction. With an excess water condition, rework topping and aerate to reduce moisture content.

END OF SECTION 02505

SECTION 02510 - ASPHALT CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide asphalt concrete paving for following applications and prepared subbase and compacted base.
 - 1. Roads.
 - 2. Parking areas.
 - 3. Driveways.
 - 4. Walkways.
 - 5. Curbs.
- B. Provide striping for parking, roadway, and handicapped markings.

1.02 SUBMITTALS

Submit for approval product data, test reports.

1.03 QUALITY ASSURANCE

Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Prime coat: Cut-back asphalt.
- B. Tack coat: Emulsified asphalt.
- C. Asphalt cement: AASHTO M226 and as required by local authorities.
- D. Aggregate: Crushed stone or crushed gravel.
- E. Traffic paint: Quick-drying chlorinated-rubber alkyd type, color as approved.

- F. Wheelstops: Precast concrete of uniform color and texture with steel stakes.

PART 3 – EXECUTION

3.01 NEW PAVEMENT INSTALLATION

- A. Asphalt/aggregate Mixture: Comply with local DPW Standard Specifications for Highways and Bridges. Class as required by loading and use.
- B. Remove loose material from compacted subbase. Proof roll and check for areas requiring additional compaction. Report unsatisfactory conditions in writing. Beginning of work means acceptance of subbase.
- C. Apply tack coat to previous laid work and adjacent in-place concrete surfaces.
- D. Place asphalt concrete at minimum temperature of 225 degrees F in strips not less than 10' wide overlapping previous strips. Complete entire base course before beginning surface course.
- E. Construct curbs to dimensions indicated or if not indicated to standard shapes. Provide tack coat between curb and pavement.
- F. Begin rolling when pavement can withstand weight of roller. Roll while still hot to obtain maximum density and to eliminate roller marks.
- ~~G. Provide 4" lane and striping paint in uniform, straight lines. Provide wheelstops where indicated and securely dowel into pavement. Protect work from traffic and damage.~~
- H. Test in-place asphalt work for thickness and smoothness. Remove and replace defective work and patch to eliminate evidence of patching. Provide the following minimum thickness and smoothness unless otherwise greater thickness is required on the Drawings:
 - 1. Subbase course: 4-inch No. 2 stone and 4-inch DGA.
 - 2. Base course: 2-1/2-inch.
 - 3. Surface course: 1-1/2-inch plus or minus 1/4-inch at drives and parking; 1-inch plus or minus 1/4-inch at walks.
 - 4. Surface course smoothness: Plus or minus 1/8-inch in 10 feet. No ponding of water is acceptable.

3.02 REPLACEMENT PAVEMENT FOR UTILITIES

- A. Sections of pavement shall be replaced as required to install the pipelines. Disturbed pavement shall be reconstructed to original lines and grades with bituminous binder as detailed on the Drawings and in such manner as to leave all such surfaces in fully as good or better condition than that which existed prior to these operations.
- B. Prior to trenching, the pavement shall be scored or cut to straight edges along each side of the proposed trench to avoid unnecessary damage to the remainder of the paving. Edges of the existing pavement shall be recut and trimmed as necessary to square, straight edges after the pipe has been installed and prior to placement of the binder course or concrete.
- C. Backfilling of trenches shall be in accordance with the applicable portions of Section 02225.
- D. Bituminous concrete shall be one course construction in accordance with applicable provisions of the Kentucky Department of Highways Standard Specifications, Section 402.
 - 1. Placement and compaction of pavement courses shall be in accordance with Section 402 of the Kentucky Department of Highways Standard Specifications. Minimum thickness after compaction shall be 2-inches for driveways and 2-inches with 6-inch concrete slab base for roads.
- E. Pavement restoration shall be in accordance with the above unless shown otherwise on the plans.

3.03 BITUMINOUS PAVEMENT MILLING AND TEXTURING

- A. Work for this Section shall conform to the Kentucky Department of Highways Standard Specifications, Section 408, current edition and shall include all labor, materials, equipment, incidentals necessary to complete Work, including disposal of all resultant cuttings. **Full-size milling equipment shall be used when greater than half of the roadway width is to be milled on public roadways.**

END OF SECTION 02510

SECTION 02520 - PORTLAND CEMENT CONCRETE PAVING

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide Portland cement concrete paving at following locations and prepared subbase and compacted base.
 - 1. Driveways and vehicular entrances.
 - 2. Walkways.
 - 3. Curbs.

1.02 SUBMITTALS

Submit for approval product data, mix design, mock-ups, test reports.

1.03 QUALITY ASSURANCE

Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Concrete mix design: Specific mixes as required for sidewalks, curbs, and vehicular ways. Submit mix proposed for use for approval.
- B. Exposed aggregate paving:
 - 1. Aggregate to match approved sample.
 - 2. Retarder.
- C. Reinforcing: 6 x 6, 1.9 x 1.9 welded flat wire mesh and ASTM A36 deformed steel bars. Sidewalks, entrances, curbs, and sidewalk ramps are typically non-reinforced.
- D. Joints: Preformed joint fillers/sealers.

E. Finish

1. Paving: Fine bristled stiff broom.
2. Exposed aggregate finish: Match approved sample.
3. Imprinting: Tools and hardeners by Bomanite Corp.
4. Curbs: Steel form finish.

F. Thickness (Unless shown otherwise on the drawings):

1. Driveways and vehicular entrances - 6 inches.
2. Sidewalks – 4.5 inches.
3. Curbs - 6 inches wide; depth as shown on the plans or standard drawings.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Proof roll subbase and check for unstable areas. Report unsatisfactory conditions in writing. Beginning paving work means acceptance of subbase.
- B. Comply with concrete section for concrete mix, testing placement, joints, tolerances, curing, repairs and protection.

END OF SECTION 02520

SECTION 02731 - GRAVITY SEWERS

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall furnish all labor, material, and equipment necessary to install gravity sewer piping together with all appurtenances as shown and detailed on the Drawings and specified herein.

1.02 RELATED WORK

- A. Section 02500 – Storm Drainage.
- B. Section 02225 - Excavating, Backfilling, and Compacting for Utilities.
- C. Section 02735 - Manholes.

PART 2 - PRODUCTS

2.01 PIPE AND FITTINGS

- A. Ductile Iron (DI) Pipe:
 - 1. Ductile iron pipe shall conform to ANSI A21.50 (AWWA C150) and ANSI A21.51 (AWWA C151) (latest revision). The pipe shall be designed for an internal working pressure of 150 psi and external loading based on flat bottom trenches without blocks and untamped backfill laying conditions. The pipe shall have a minimum pressure class of 150 psi.
 - 2. Fittings shall be ductile iron fittings in accordance with AWWA C153.
 - 3. Joints shall be push-on type or mechanical joint type conforming to ANSI A21.11 (AWWA C111). Unless specifically required at designated locations by the Drawings, the type of joint used is optional.
 - a. Push-on joints shall have an annular recess in the pipe socket to accommodate a single rubber gasket. Plain ends shall be suitably beveled to permit easy entry into the bell. The gasket and annular recess of the socket shall be so designed and shaped that the gasket is located in place against displacement as the joint is assembled.
 - b. Mechanical joints shall be bolted and of the stuffing box type and shall consist of a bell with exterior flange and interior recess for the sealing gasket, a pipe or fitting plain end, a sealing gasket, a follower gland, tee-head bolts and hexagon nuts.

4. All ductile iron pipe and fittings shall have the manufacturer's outside asphaltic coating and an interior lining of ceramic epoxy (no cement interior lining). The ceramic epoxy lining shall be a high build multi-component amine cured Novalac epoxy polymeric coating/lining equal to the Protecto 401 as manufactured by Vulcan Painters, Inc. of Birmingham, AL. The coating/lining shall have a permeability rating in accordance with Method A of ASTM E-96-66. The surface preparation shall remove all loose laitance, form oils, and other loose materials and include a "brush blast" per SSPC SP-7. The coating and lining shall be applied in accordance with the manufacturer's requirements and have a minimum dry film thickness of 40 mils.
5. Pipe shall be furnished in lengths of 16, 16.5, 18, and 20 feet nominal laying lengths. The weight of any single pipe shall not be less than the tabulated weight by more than 5 percent for pipe 12 inches or smaller in diameter, not by more than 4 percent for pipe larger than 12 inches in diameter.
6. The net weight, class or nominal thickness and sampling period shall be marked on each pipe. The pipe shall also be marked to show that it is ductile iron.
7. Pipe shall be as manufactured by U.S. Pipe & Foundry Company, American Cast Iron Pipe Company, or equal.

B. Polyvinyl Chloride (PVC) Pipe:

1. Solid Wall PVC Pipe (SDR 35):
 - a. PVC pipe and fittings less than 15 inches in diameter shall conform to the requirements of ASTM Standard Specifications for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings, Designation D 3034. Pipe and fittings shall have a minimum cell classification of 12454B or 12454C as defined in ASTM D-1784. All pipe shall have a pipe diameter to wall thickness ratio (SDR) of a maximum of 35.
 - b. PVC pipe and fitting with diameters 18-inch through 27-inch shall conform to the requirements of ASTM D-1784 and ASTM F-679. Pipe and fittings shall have a minimum cell classification of 12454C. The minimum wall thickness shall conform to T-1 as specified in ASTM F-679.
 - c. Joints shall be push-on bell and spigot type using elastomeric ring gaskets conforming to ASTM D 3212 and F 477. The gaskets shall be securely fixed into place in the bells so that they cannot be dislodged during joint assembly. The gaskets shall be of a composition and texture which is resistant to common ingredients of sewage and industrial wastes, including oils and groundwater, and which will endure permanently under the conditions of the proposed use.
 - d. Pipe shall be furnished in lengths of not more than 13 feet. The centerline of each pipe section shall not deviate from a straight line drawn between the centers of the openings at the ends by more than 1/16 inch per foot of length

- .e. PVC pipe shall not have a filler content greater than ten percent (10%) by weight relative to PVC resin in the compound.
- f. PVC pipe shall be clearly marked at intervals of 5 feet or less with the manufacturer's name or trademark, nominal pipe size, PVC cell classification, the legend "Type PSM SDR 35 PVC Sewer Pipe" and the designation "ASTM D 3034", or "ASTM F-679". Fittings shall be clearly marked with the manufacturer's name or trademark, nominal size, the material designation "PVC", "PSM" and the designation "ASTM D 3034", or "ASTM F-679".
- g. PVC pipe shall have a minimum pipe stiffness of 46 psi for each diameter when measured at 5 percent vertical ring deflection and tested in accordance with ASTM D-2412.
- h. Five (5) copies of directions for handling and installing the pipe shall be furnished to the Contractor by the manufacturer at the first delivery of pipe to the job. PVC pipe installation shall conform to ASTM D-2321 latest revision.

PART 3 - EXECUTION

3.01 PIPE LAYING

- A. All pipe shall be laid with ends abutting and true to the lines and grades indicated on the Drawings. The pipe shall be laid straight between changes in alignment and at uniform grade between changes in grade. Pipe shall be fitted and matched so that when laid in the trench, it will provide a smooth and uniform invert. Supporting of pipe shall be as set out in Section 02225 and in no case shall the supporting of pipe on blocks be permitted.
- B. Before each piece of pipe is lowered into the trench, it shall be thoroughly swabbed out to insure its being clean. Any piece of pipe or fitting which is known to be defective shall not be laid or placed in the lines. If any defective pipe or fitting shall be discovered after the pipe is laid, it shall be removed and replaced with a satisfactory pipe or fitting without additional charge. In case a length of pipe is cut to fit in a line, it shall be so cut as to leave a smooth end at right angles to the longitudinal axis of the pipe and beveled to match the factory bevel for insertion into gasketed joints. Bevel can be made with hand or power tools.
- C. The interior of the pipe, as the work progresses, shall be cleaned of dirt, jointing materials, and superfluous materials of every description. When laying of pipe is stopped for any reason, the exposed end of such pipe shall be closed with a plywood plug fitted into the pipe bell so as to exclude earth or other material and precautions taken to prevent flotation of pipe by runoff into trench.

- D. All pipe shall be laid starting at the lowest point and installed so that the spigot ends point in the direction of flow.

3.02 JOINTING

All joint surfaces shall be cleaned immediately before jointing the pipe. The bell or groove shall be lubricated in accordance with the manufacturer's recommendation. Each pipe unit shall then be carefully pushed into place without damage to pipe or gasket. All pipe shall be provided with home marks to insure proper gasket seating. Details of gasket installation and joint assembly shall follow the direction of the manufacturer's of the joint material and of the pipe. The resulting joints shall be watertight and flexible. **No solvent cement joints shall be allowed.**

3.03 UTILITY CROSSING CONCRETE ENCASEMENT

- A. At locations shown on the Drawings, required by the Specifications, or as directed by the Engineer, concrete encasement shall be used when the clearance between the proposed sanitary sewer pipe and any existing utility pipe is 18 inches or less. Utility pipe includes underground water, gas, telephone and electrical conduit, storm sewers, and any other pipe as determined by the Engineer.
- B. There are two cases of utility crossing encasement. Case I is applicable when the proposed sanitary sewer line is **below** the existing utility line. Case II is applicable when the proposed sanitary sewer line is laid **above** the utility line. In either case, the concrete shall extend to at least the spring line of each pipe involved.
- C. Concrete shall be Class B (3000 psi) and shall be mixed sufficiently wet to permit it to flow between the pipes to form a continuous bridge. In tamping the concrete, care shall be taken not to disturb the grade or line of either pipe or damage the joints.
- D. Concrete for this Work is not a separate pay item and will be considered incidental to utility pipe installation.

3.04 TESTING OF GRAVITY SEWER LINES

- A. After the gravity piping system has been brought to completion, and prior to final inspection, the Contractor shall rod out the entire system by pushing through each individual line in the system, from manhole to manhole, appropriate tools for the removal from the line of any and all dirt, debris, and trash. If necessary during the process of rodding the system, water shall be turned into the system in such quantities to carry off the dirt, debris and trash.
- B. During the final inspection, the Engineer will require all flexible sanitary sewer pipe to be mandrel deflection tested after installation.

1. The mandrel (go/no-go) device shall be cylindrical in shape and constructed with nine (9) evenly spaced arms of prongs. The mandrel dimension shall be 95 percent of the flexible pipe's published ASTM average inside diameter. Allowances for pipe wall thickness tolerances of ovality (from shipment, heat, shipping loads, poor production, etc.) shall not be deducted from the ASTM average inside diameter, but shall be counted as part of the 5 percent allowance. The contact length of the mandrel's arms shall equal or exceed the nominal diameter of the sewer to be inspected. Critical mandrel dimensions shall carry a tolerance " 0.001 inch.
 2. The mandrel inspection shall be conducted no earlier than 30 days after reaching final trench backfill grade provided, in the opinion of the Engineer, sufficient water densification or rainfall has occurred to thoroughly settle the soil throughout the entire trench depth. Short-term (tested 30 days after installation) deflection shall not exceed 5 percent of the pipe's average inside diameter. The mandrel shall be hand pulled by the contractor through all sewer lines. Any sections of the sewer not passing the mandrel test shall be uncovered and the Contractor shall replace and recompact the embedment backfill material to the satisfaction of the Engineer. These repaired sections shall be retested with the go/no-go mandrel until passing.
 3. The Engineer shall be responsible for approving the mandrel. Proving rings may be used to assist in this. Drawings of the mandrel with complete dimensioning shall be furnished by the Contractor to the Engineer for each diameter and type of flexible pipe.
- C. The pipe line shall be made as nearly watertight as practicable, and leakage tests and measurements shall be made. All apparatus and equipment required for testing shall be furnished by the Contractor and the cost shall be included in the unit price bid for pipe and manholes.
1. The Engineer may require the Contractor to smoke test the first section (manhole to manhole) of each size of pipe and type of joint prior to backfilling, to establish and check laying and jointing procedures. The test shall consist of smoke blown into closed-off sections of sewer under pressure and observing any smoke coming from the pipe line indicating the presence of leaks. Other supplementary smoke tests prior to backfilling may be performed by the Contractor at his option; however, any such tests shall not supplant the final tests of the completed work unless such final tests are waived by the Engineer.
 2. Where the groundwater level is more than 1 foot above the top of the pipe at its upper end, the Contractor shall conduct either infiltration tests or low pressure air tests on the completed pipeline.
 3. Where the groundwater level is less than 1 foot above the top of the pipe at its upper end, the Contractor shall conduct either exfiltration tests or low pressure air tests on the completed pipeline.

- D. Low pressure air tests shall be made using equipment specifically designed and manufactured for the purpose of testing sewer lines using low pressure air. The equipment shall be provided with an air regulator valve or air safety valve so set that the internal pressure in the pipeline cannot exceed 8 psig.
1. The test shall be made on each manhole-to-manhole section of pipeline after placement of the backfill. The Engineer or his designated representative must be present to witness each satisfactory air test before it will be accepted as fulfilling the requirements of these Specifications.
 2. Pneumatic plugs shall have a sealing length equal to or greater than the diameter of the pipe to be tested. Pneumatic plugs shall resist internal test pressures without requiring external bracing or blocking.
 3. Low pressure air passing through a single control panel, shall be introduced into the sealed line until the internal air pressure reaches 4 psig greater than the maximum pressure exerted by groundwater that may be above the invert of the pipe at the time of test. However, the internal air pressure in the sealed line shall not be allowed to exceed 8 psig. When the maximum pressure exerted by the groundwater is greater than 4 psig, the Contractor shall conduct only an infiltration test.
 4. At least two minutes shall be allowed for the air pressure to stabilize in the section under test. After the stabilization period, the low-pressure air supply hose shall be quickly disconnected from control panel. The time required in minutes for the pressure in the section under test to decrease from 3.5 to 2.5 psig (greater than the maximum pressure exerted by groundwater that may be above the invert of the pipe) shall not be less than that shown in the following table:

Pipe in Diameter in Inches	Minutes
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8.5
21	10.0
24	11.5
30 & larger	13.5

5. When the sewer section to be tested contains more than one size of pipe, the minimum allowable time shall be based on the largest diameter pipe in the

- section, and shall be the time shown in the table reduced by 0.5 minutes.
6. Reinforced concrete pipe shall be tested in accordance with ASTM C 924 (joint testing shall be in accordance with ASTM C 1103). Test time shall be a function of pipe diameter and the length of installed line to be tested as provided in ASTM C 924.
- E. Infiltration tests shall be made after underdrains, if present, have been plugged and other groundwater drainage has been stopped such that the groundwater is permitted to return to its normal level insofar as practicable.
 1. Upon completion of a section of the pipeline, the line shall be dewatered and a satisfactory test conducted to measure infiltration for at least 24 hours. The amount of infiltration, including manholes, tees and connections, shall not exceed 200 gallons per nominal inch diameter per mile of sewer per 24 hours.
 - F. Exfiltration tests which subject the pipeline to an internal pressure, shall be made by plugging the pipe at the lower end and then filling the line and manholes with clean water to a height of 2 feet above the top of the sewer at its upper end. Where conditions between manholes may result in test pressures which would cause leakage at the plugs or stoppers in branches, provisions shall be made by suitable ties, braces and wedges to secure the plugs against leakage resulting from the test pressure.
 1. The rate of leakage from the sewers shall be determined by measuring the amount of water required to maintain the level 2 feet above the top of the pipe.
 2. Leakage from the sewers under test shall not exceed the requirements for leakage into sewers as hereinbefore specified.
 - G. The Contractor shall furnish suitable test plugs, water pumps, and appurtenances, and all labor required to properly conduct the tests. Suitable bulkheads shall be installed, as required, to permit the test of the sewer. The Contractor shall construct weirs or other means of measurements as may be necessary.
 - H. Should the sections under test fail to meet the requirements, the Contractor shall do all work of locating and repairing the leaks and retesting as the Engineer may require without additional compensation.
 - I. If in the judgement of the Engineer, it is impracticable to follow the foregoing procedures for any reason, modifications in the procedures shall be made as required and as acceptable to the Engineer, but in any event, the Contractor shall be responsible for the ultimate tightness of the line within the above test requirements.

END OF SECTION 02731

SECTION 02735 - MANHOLES

PART 1 - GENERAL

1.01 WORK INCLUDED

The Contractor shall furnish all labor, material, and equipment necessary to construct manholes for sanitary sewers, including steps, frames and covers, together with all appurtenances as shown and detailed on the Drawings and specified herein. Manhole materials shall be precast concrete or high density polyethylene (HDPE).

1.02 RELATED WORK

- A. Section 02500 – Storm Drainage.
- B. Section 02731 - Gravity Sewers.
- B. Division 3 - Concrete.

1.03 DEFINITIONS

- A. Standard Manhole: A standard manhole is defined as any manhole that is greater than 4 feet in depth, as measured from the invert of the manhole base at its center to the bottom of the manhole frame.
- B. Shallow Manhole: A shallow manhole is defined as any manhole that is 4 feet or less in depth, as measured in the preceding sentence.

PART 2 - PRODUCTS

2.01 CONCRETE MANHOLES - GENERAL

- A. Manholes shall conform in shape, size, dimensions, materials, and other respects to the details indicated on the Drawings or bound in the Specifications.
- B. All concrete manholes shall have precast reinforced concrete developed bases. No other type of base will be allowed. Invert channels shall be factory constructed when the base is made. Sloping invert channels shall be constructed whenever the difference between the inlet and outlet elevation is 2 feet or less.
- C. The concrete manhole walls (barrels and cones) shall be precast concrete sections. The top of the cone shall be built of reinforced concrete adjustment rings to permit

adjustment of the frame to meet the finished surface. Minimum strength of the concrete for the precast sections shall be 4,000 psi at the time of shipment.

- D. For concrete manholes, the inverts of the developed bases shall conform accurately to the size of the adjoining pipes. Side inverts shall be curved and main inverts (where direction changes) shall be laid out in smooth curves of the longest possible radius which is tangent, within the manhole, to the centerlines of adjoining pipelines.
- E. For concrete manholes, the cast-iron frames and covers shall be the standard frame and cover as indicated on the Drawings and specified hereinafter in this Section.
- F. Manholes shall be manufactured by Sherman Dixie Concrete Industries, or approved equal.

2.02 PRECAST CONCRETE SECTIONS

- A. Precast concrete sections and appurtenances shall conform to the ASTM Standard Specifications for Precast Reinforced Concrete Manhole Sections, Designation C478, latest revision, with the following exceptions and additional requirements.
- B. The base section shall be monolithic for 4-foot diameter manholes. Manholes with diameter of 5 feet or larger shall have base slab.
- C. The wall sections shall be not less than 5 inches thick.
- D. Type II cement shall be used except as otherwise permitted.
- E. Joints between sections shall be made watertight through the use of rubber O-ring gaskets or rubber profile gaskets such as Forsheda 138. Gaskets shall conform to the ASTM Standard C-443, latest revision. Rope mastic or butyl mastic sealant will not be allowed except as noted in Article 2.02 F.
- F. Butyl mastic sealant shall be installed between the cone section, any adjusting sections or rings, and casting.

2.03 CONCRETE MANHOLE - FRAMES AND COVERS

- A. The Contractor shall furnish all cast-iron manhole frames and covers conforming to the details shown on the Drawings, or as herein before specified.
- B. The castings shall be of good quality, strong, tough, evengrained cast iron, smooth, free from scale, lumps, blisters, sandholes, and defects of every nature which would render them unfit for the service for which they are intended. Contact surfaces of covers and frame seats shall be machined to prevent rocking of covers.

- C. All casting shall be thoroughly cleaned and subject to a careful hammer inspection.
- D. Castings shall be at least Class 25 conforming to the ASTM Standard Specifications for Gray Iron Casting, Designation A48, latest revision.
- E. Unless otherwise specified, manhole covers shall be 22-3/4 inches in diameter, weighing not less than 350 pounds per frame and cover. Manhole covers shall set neatly in the rings, with contact edges machined for even bearings and tops flush with ring edge. They shall have sufficient corrugations to prevent slipperiness. The covers shall have two (2) pick holes about 1-1/4 inches wide and 1/2 inches deep with 3/8-inch undercut all around. Covers shall not be perforated. Frames and covers shall be J.R. Hoe and Sons, Mc-350, or approved equal.
- F. All covers shall be marked in large letters "SANITARY SEWER" in the center.

2.04 MANHOLE STEPS (CONCRETE MANHOLES)

Manholes steps shall be the polypropylene plastic type reinforced with a deformed steel rod. The steps shall be of the size and configuration as shown on the Drawings. Steps shall line up over the downstream invert of the manhole. The steps shall be embedded into the manhole wall a minimum of 3-3/8 inches. Steps shall be uniformly spaced at 12-inch to 16-inch intervals.

2.05 PREMOLDED ELASTOMERIC-SEALED JOINTS

All holes for pipe connections in concrete barrels and bases shall have a factory-installed flexible rubber gasket to prevent infiltration. The manhole boots shall conform to the latest revision of ASTM-C973. The boots shall be Contour Seal or Kor-N-Seal made by National Pollution Control Systems, Inc., Nashua, NH; A-Lok Manhole Pipe Seal made by A-Lok Corporation, Trenton, NJ; or an approved equal.

2.06 POLYETHYLENE DIAPHRAGM

- A. Polyethylene diaphragm manhole inserts shall be manufactured from corrosion-proof material suitable for atmospheres containing hydrogen sulfide and diluted sulfuric acid. Diaphragm shall be installed in manholes susceptible to inflow as indicated on the Drawings.
- B. The body of the manhole insert shall be made of high density polyethylene copolymer material meeting ASTM Specification D 1248, Class A, Category 5, Type III (the insert shall have a minimum impact brittleness temperature of -180 degrees fahrenheit). The thickness shall be uniform 1/8 inches or greater. The manhole insert shall be manufactured to dimensions as shown on the Drawings to allow easy

installation within the manhole frame.

- C. Gaskets shall be made of closed cell neoprene. The gasket shall have a pressure sensitive adhesive on one side and shall be placed under the weight bearing surface of the insert by the manufacturer. The adhesive shall be compatible with the manhole insert material so as to form a long lasting bond in either wet or dry conditions.
- D. Lift strap shall be attached to the rising edge of the bowl insert. The lift strap shall be made of 1 inch wide woven polypropylene web and shall be seared on all cut ends to prevent unraveling. The lift strap shall be attached to the manhole insert by means of a stainless steel rivet. Location of the lift strap shall provide easy visual location.
- E. Standard ventilation shall be by means of vent hole on the side wall of the manhole insert approximately 3/4-inches below the lip. The vent hole will allow a maximum release of 10 gallons per 24 hours when the insert is full.
- F. The manhole insert shall be manufactured to fit the manhole frame rim upon which the manhole cover rests. The Contractor is responsible for obtaining specific measurements of each manhole cover to insure a proper fit. The manhole frame shall be cleaned of all dirt, scale and debris before placing the manhole insert on the rim.

2.07 CLEANOUTS

Cleanouts shall be extended to finish grade and capped with a clean-out plug in accordance with details and at locations shown on the Drawings. Pipe shall be the same as the gravity sewer line in which the cleanout is located. A 4-inch thick concrete pad, 2 feet 0-inches square, with the valve box lid section, shall be provided around each cleanout.

2.08 DROP CONNECTIONS

Drop connections shall be installed in the manhole as shown on the Drawings.

PART 3 - EXECUTION

3.01 FABRICATION - PRECAST SECTIONS

- A. Manhole sections shall contain manhole steps accurately positioned and embedded in the concrete when the section is cast.
- B. Sections shall be cured in an enclosed curing area and shall attain a strength of 4,000

psi prior to shipment.

- C. No more than two (2) lift holes or inserts may be cast or drilled in each section.
- D. Flat slab tops shall have a minimum thickness of 6 inches and reinforcement in accordance with ASTM C478.
- E. The date of manufacture and the name or trademark of the manufacturer shall be clearly marked on the precast sections.
- F. Acceptance of the sections will be on the basis of material tests and inspection of the completed product and test cylinders if requested by the Engineer.
- G. Cones shall be precast sections of similar construction.

3.02 SETTING PRECAST MANHOLE SECTIONS

- A. Precast-reinforced concrete manhole sections shall be set so as to be vertical and with sections and steps in true alignment.
- B. Rubber gaskets shall be installed in all manhole joints in accordance with the manufacturer's recommendations.
- C. All holes in sections used for their handling shall be thoroughly plugged with rubber plugs made specifically for this purpose.

3.03 ADJUSTING MANHOLE FRAMES AND COVERS TO GRADE

- A. Except where shown on the Drawings, the top of the precast concrete eccentric cone of a standard manhole or the top of the flat slab of a shallow manhole shall terminate 4 inches below existing grade in an unpaved non-traffic area except in a residential yard and 13 inches below existing grade in a paved or unpaved traffic area and in a residential yard. The remainder of the manhole shall be adjusted to the required grade as described hereinafter in paragraphs B and C of this article.
- B. When a manhole is located in an unpaved non-traffic area other than in a residential yard, the frame and cover shall be adjusted to an elevation 3 inches to 5 inches above the existing grade at the center of the cover. If field changes have resulted in the installed manhole invert elevation to be lower than the invert elevation shown on the Drawings, the adjustment to an elevation of 3 inches to 5 inches above existing grade shall be accomplished by the use of precast concrete rings. If field changes have resulted in the completed manhole invert to be greater than the invert shown on the Drawings and the cover higher than 5 inches above existing grade, then the top of the eccentric cone, when used, or the top of the barrel section, when used, shall be trimmed down so that the manhole cover, after installation, is no

greater than 5 inches above existing grade at the center of the cover. The area around the adjusted frame and cover shall be filled with the required material, sloping it away from the cover at a grade of 1 inch per foot.

- C. When a manhole is located in a bituminous, concrete, or crushed stone traffic area, or in a residential yard, the frame and cover shall be adjusted to the grade of the surrounding area by the use of precast concrete rings. The adjusted cover shall conform to the elevation and slope of the surrounding area. If field changes have resulted in the installed manhole invert elevation to be so much higher than the invert elevation shown on the Drawings that the top of the eccentric cone, when used, or the top of the flat slab, when used, is less than the thickness of the frame and cover 7 inches from the grade of the surrounding area, then the top of the cone or barrel section shall be trimmed down enough to permit the cover, after installation, to conform to the elevation and slope of the surrounding area. After installation, the inside and outside surfaces of the brick shall receive a waterproofing bitumastic coating.
 - 1. The Contractor shall coordinate elevations of manhole covers in paved streets with the Owner. If resurfacing of the street in which sewers are laid is expected within twelve (12) months, covers shall be set 1-1/2 inches above the existing pavement surface in anticipation of the resurfacing operations.

3.04 ADJUSTING SECTIONS

Only clean adjusting sections shall be used. Each adjusting section shall be laid in a bead of butyl mastic sealant and shall be thoroughly bonded.

3.05 SETTING MANHOLE FRAMES AND COVERS

- A. Manhole frames shall be set with the tops conforming to the required elevations set forth herein before. Frames shall be set concentric with the top of the concrete and in a full bead of butyl mastic sealant so that the space between the top of the masonry and the bottom flange of the frame shall be completely watertight.
- B. Manhole covers shall be left in place in the frames on completion of other work at the manholes.

3.06 VACUUM TESTING OF MANHOLES

- A. Sanitary Sewer manholes shall be tested after installation with all connections in place.
 - 1. Lift holes, if any, shall be plugged with an approved, non-shrinkable grout prior to testing.

2. Drop connections shall be installed prior to testing.
3. The vacuum test shall include testing of the seal between the cast iron frame and the concrete cone, slab or grade rings.
4. The manholes shall be backfilled and finished to design grade.

B. Testing Procedure:

1. Temporarily plug, with the plugs being braced to prevent the plugs or pipes from being drawn into the manhole, all pipes entering the manhole at least eight inches into the sewer pipe(s). The plug must be inflated at a location past the manhole/pipe gasket.
2. The test head shall be placed inside the frame at the top of the manhole and inflated, in accordance with the manufacturer's recommendations.
3. A vacuum of 10 inches of mercury shall be drawn on the manhole. The valve on the vacuum line to the manhole shall be shut and the vacuum line disconnected.
4. The pressure gauge shall be liquid filled, having a 3.5 inch diameter face with a reading from zero to thirty inches of mercury.
5. The manhole shall be considered to pass the vacuum test if it holds at least 9 inches of mercury for the following time durations:

Time (Minutes)

<u>Manhole Depth</u>	<u>4' Dia.</u>	<u>5' Dia.</u>	<u>6' Dia.</u>
20 feet or less	1	2	3
20.1 to 30 feet	2	3	4

6. If a manhole fails the vacuum test, the manhole shall be repaired with a non-shrinkable grout or other suitable material based on the material of which the manhole is constructed and retested, as stated above.
7. All temporary plugs and braces shall be removed after each test.

END OF SECTION 02735

SECTION 02930 - SEEDING AND SODDING

PART 1 - WORK INCLUDED

1.01 CLEAN-UP

Upon completion of the Project, the Contractor shall remove all debris and surplus construction materials resulting from his work. The Contractor shall grade the ground along each side of the pipe trenches and/or structures in a uniform and neat manner leaving the construction area in a shape as near as possible to the original ground line, or as shown on the Drawings.

PART 2 - PRODUCTS

2.01 SEED

Grass seed shall be mixed and guaranteed by the supplier to consist of the following:

Annual Rye	60 percent
Kentucky Bluegrass	20 percent
Falcon Fescue	20 percent

2.02 TOPSOIL

Topsoil shall be material stripped and stored under work of Section 02200 and shall be used for all work under this Section. If the quantity of stored topsoil is inadequate or if none has been salvaged from the Project site, the Contractor shall furnish at his own expense sufficient topsoil to properly install all work as specified herein. Topsoil shall be original surface loam obtained from well drained areas from which topsoil has not been removed previously, either by erosion, clearing and removal of trees or mechanical means. It shall not contain subsoil material and shall be clean and free of clay lumps, roots, stones or similar substances more than 2 inches in any dimension, debris, discarded fragments of building materials or weeds and weed seeds.

2.03 SOIL IMPROVEMENTS

- A. Commercial fertilizers shall be of analyses specified, or as recommended by the Agricultural Extension Service for treatment of topsoil in the area from which removed, and shall conform to the applicable state fertilizer laws. Fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer which becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted.

- B. Lime, if recommended for soil treatment by the Agricultural Extension Service, shall be ground limestone (Dolomite) containing not less than 85 percent of total carbonates, and shall be ground to such a fineness that 50 percent will pass through a 100-mesh sieve, and 90 percent will pass through a 20-mesh sieve. Coarser material shall be acceptable provided that required rates of application are increased proportionally on the basis of quantities passing the 100-mesh sieve.

PART 3 - EXECUTION

3.01 SEEDING AND SODDING

- A. After installation of the Project, topsoil shall be spread evenly to a minimum 4-inch depth and lightly compacted. No topsoil shall be spread in a frozen or muddy condition.
 - 1. Any stored topsoil remaining after work is in place shall be disposed of by the Contractor as directed by the Engineer.
- B. Soil improvement shall be made if and as recommended by the Agricultural Extension Service prior to seeding.
 - 1. Ground limestone, if required, shall be applied at the recommended rates per square yard and shall be thoroughly mixed into the topsoil.
 - 2. Fertilizers, if required shall be of analysis and rates per square yard as recommended in the topsoil analysis and shall be mixed lightly in the top few inches of topsoil.
- C. Immediately before any seed is to be sown, the ground shall be scarified as necessary and shall be raked until the surface is smooth, friable and of a uniformly fine texture. Areas shall be seeded evenly with a mechanical spreader at a rate of 2 pounds per 1,000 square feet, lightly raked and watered with a fine spray.
- D. After seed has been distributed, the Contractor shall cover areas that are likely to washout with straw to a depth of 1-1/2 inches.
- E. Seeded areas shall be protected and maintained by watering, regular mowing and reseeded as may be necessary to produce a uniform stand of grass. Maintenance shall continue throughout the guarantee period until a dense, uniform turf is established.
- F. All paved streets, roads, sidewalks, curbs, fences, stonewalls, lawns, etc., disturbed during construction shall be restored, repaired, or replaced to as good a condition as

existed prior to construction. All materials and workmanship shall conform to standard practices and specifications of the Owner and/or the Kentucky Department of Highways, whichever applies.

- G. The Contractor shall remove from the site all equipment, unused materials and other items at his expense. The construction site shall be left in a neat, orderly condition, clear of all unsightly items, before the Work is finally accepted.

END OF SECTION 02930

WGPL Storm Sewer Project

Appendix A – Standard Drawings

WGPL Storm Sewer Project

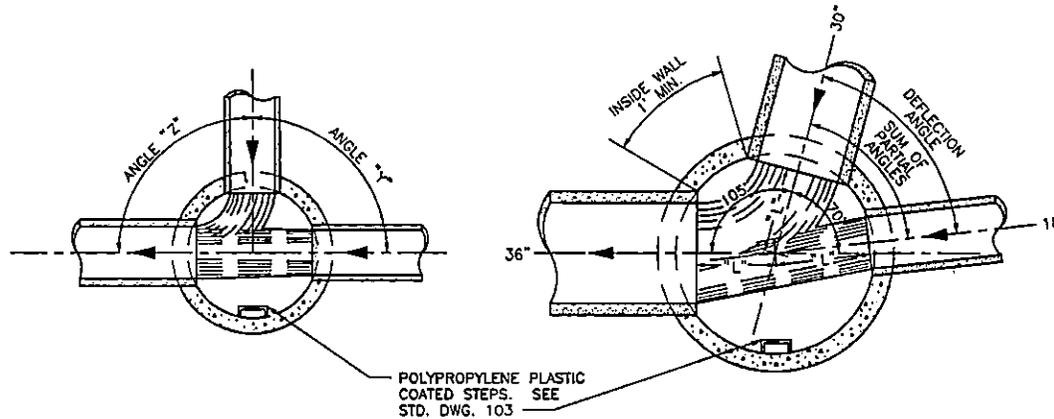
Appendix A – Standard Drawings

TABLE I
OF
MINIMUM PARTIAL ANGLE

PIPE SIZE	MANHOLE SIZE									
	4'-0"		5'-0"		6'-0"		7'-0"		8'-0"	
	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.	P. ANGLE	L. DIST.
15"	38°	1'-10"	30°	2'-4"	25°	2'-11"	22°	3'-5"	19°	3'-11"
18"	43°	1'-9"	34°	2'-4"	28°	2'-10"	24°	3'-4"	21°	3'-11"
24"	53°	1'-7"	41°	2'-2"	34°	2'-9"	29°	3'-3"	25°	3'-10"
27"	—	—	45°	2'-1"	37°	2'-8"	32°	3'-3"	28°	3'-9"
30"	—	—	49°	2'-0"	40°	2'-7"	34°	3'-2"	30°	3'-8"
33"	—	—	54°	1'-10"	44°	2'-6"	37°	3'-1"	37°	3'-8"
36"	—	—	—	—	47°	2'-4"	40°	3'-0"	34°	3'-7"
42"	—	—	—	—	55°	2'-1"	46°	2'-9"	39°	3'-5"
48"	—	—	—	—	63°	1'-9"	52°	2'-6"	44°	3'-2"
54"	—	—	—	—	—	—	59°	2'-3"	50°	2'-11"
60"	—	—	—	—	—	—	67°	1'-10"	56°	2'-8"

GENERAL NOTES:

1. ALL DIMENSIONS ARE BASED ON SIZE OF LARGEST PIPE IN MANHOLE.
2. MANHOLES FOR PIPE LARGER THAN 60" SHALL BE SPECIALLY DESIGNED.
3. IN CASES WHERE DEFLECTION ANGLES EXCEED MAXIMUM SHOWN IN TABLES, MANHOLE SHALL BE INCREASED IN SIZE OR SPECIALLY DESIGNED.
4. BOTTOM SLAB OF MANHOLES SHALL BE SPECIALLY DESIGNED WITH REGARD TO AREA, THICKNESS, AND REINFORCING IN SITUATIONS WHERE HIGH WATER TABLE OR UNSTABLE SOIL CONDITIONS EXIST.
5. MANHOLE BENCH SHALL SLOPE AT LEAST 1" PER FT. FROM WALLS TO CHANNELS AND SHALL HAVE SMOOTH FLOAT AND BRUSH FINISH.
6. ELEVATIONS OF PIPES IN MANHOLES SHALL BE SUCH THAT THE TOP OF ALL INFLUENT PIPES WILL BE AT AN ELEVATION EQUAL TO OR GREATER THAN THE TOP OF THE EFFLUENT PIPE.
7. INFLUENT PIPES MAY ENTER MANHOLES AT AN ELEVATION ABOVE THE CHANNELS AS REQUIRED TO AVOID CONFLICT WITH LARGER PIPES IN THE MANHOLE.



TYPE "A" MANHOLE - CIRCULAR WALLS
CAST-IN-PLACE OR PRECAST CONCRETE

NOTES:

1. PRECAST CONCRETE MANHOLE BARREL SHALL BE ASTM C-478, CLASS II PIPE TO 12' DEPTH AND C-76 CLASS III GREATER THAN 12' DEPTH.
2. BASE SECTION OF CIRCULAR MANHOLES MAY BE CAST-IN-PLACE CONCRETE, OR CUSTOM PRECAST CONCRETE WITH OPENINGS FOR PIPE.
3. BASE SECTIONS MAY BE SIMILAR TO SANITARY SEWER MANHOLE.
4. PROVIDE STEPS WITHIN 18" OF BENCH.

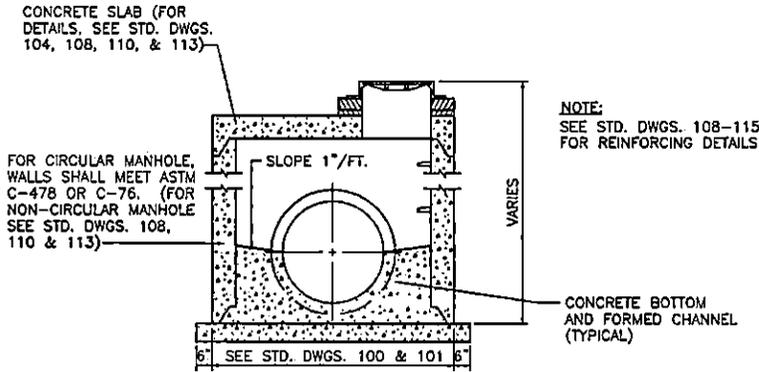
CIRCULAR MANHOLE NOTES:

1. THE ANGLE BETWEEN ANY TWO PIPES (e.g. ANGLE "Y" OR "Z") MUST BE GREATER THAN THE SUM OF THE PARTIAL ANGLES FROM TABLE I FOR THE MANHOLE SIZE SELECTED. FOR SMALLER ANGLES BETWEEN PIPES, LARGE MANHOLES MUST BE SELECTED. (SEE EXAMPLE BELOW)
2. THE MAXIMUM DEFLECTION ANGLE BETWEEN ANY INCOMING PIPE AND THE DISCHARGE PIPE SHALL BE NO MORE THAN 90° FOR PIPES UP TO 24" IN DIAMETER. THE MAXIMUM DEFLECTION ANGLE FOR 27" TO 42" PIPES SHALL BE 75° AND FOR PIPES LARGER THAN 42" THE MAXIMUM DEFLECTION ANGLE SHALL BE 60°.

EXAMPLE FOR MANHOLE SIZE SELECTION:

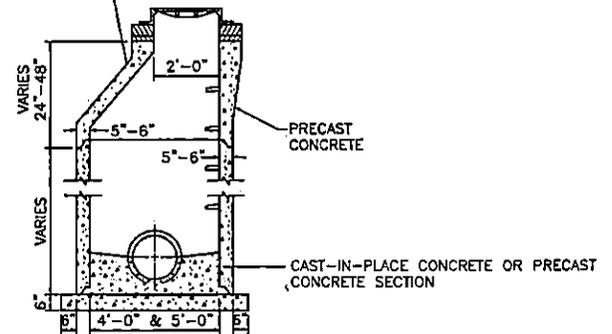
FOR MANHOLE SHOWN ABOVE, THE ANGLE BETWEEN 18" AND 30" PIPE IS 70° AND THE ANGLE BETWEEN 30" AND 36" PIPE IS 110°. THE TABLE INDICATES THAT FOR A 6'-0" DIAMETER MANHOLE THE MINIMUM PARTIAL ANGLE FOR AN 18" PIPE IS 28° AND FOR A 30" PIPE IS 40°. THE SUM OF THE PARTIAL ANGLES IS 68° THIS SUM IS LESS THAN THE 70°. THEREFORE, A 6'-0" MANHOLE DIAMETER IS ACCEPTABLE.

 LEXINGTON	
DIVISION OF ENGINEERING	
STORM SEWER MANHOLE TYPE "A"- CIRCULAR WALLS	
STANDARD DRAWING NO.	100
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER 	DATE 9/22/17
COMMISSIONER 	DATE

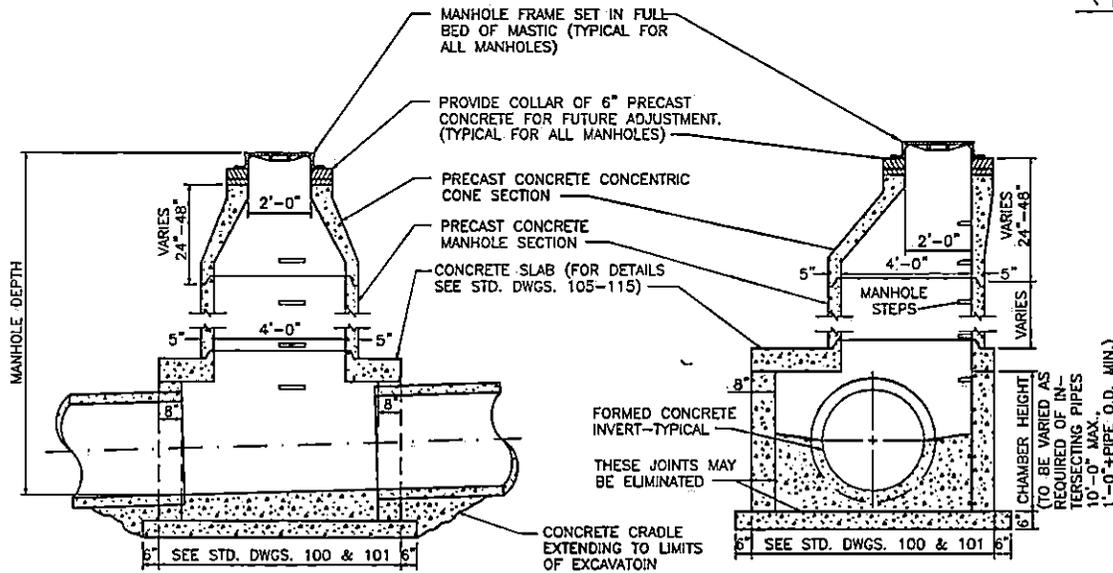


CIRCULAR AND NON-CIRCULAR WALLS
(TYPE "A" & TYPE "B")

NOTE:
VERTICAL WALLS AND FLAT SLAB MAY BE SUBSTITUTED FOR CONE SECTION OF MANHOLE.



STANDARD 4'-0" DIA. & 5'-0"
CIRCULAR WALLS
(TYPE "A")



TYPICAL LONGITUDINAL SECTION

TYPICAL TRANSVERSE SECTION

NOTES:

1. BASE SECTION OF CIRCULAR MANHOLES MAY BE CAST-IN-PLACE CONCRETE OR CUSTOM PRECAST CONCRETE WITH OPENINGS FOR PIPE.
2. 6" OVERHANG IN BOTTOM SLAB IS NOT REQUIRED IF PRECAST MANHOLES ARE USED.
3. FLAT SLABS IN PAVED AREAS SHALL BE USED ONLY AS APPROVED BY ENGINEER.

STANDARD CIRCULAR MANHOLE - 6'-0" DIAMETER & LARGER TYPE "A"
AND NON-CIRCULAR WALL MANHOLE - ALL SIZES TYPE "B"

NO.	DATE	REVISION DESCRIPTION	BY
01	04/13/16	UPDATE MANHOLE FRAME NOTE	TAL

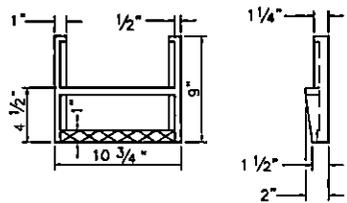


LEXINGTON

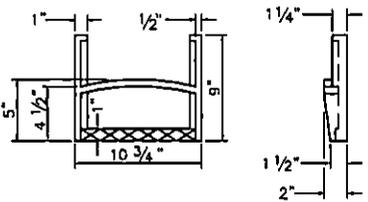
DIVISION OF ENGINEERING

STORM SEWER
MANHOLE DETAILS

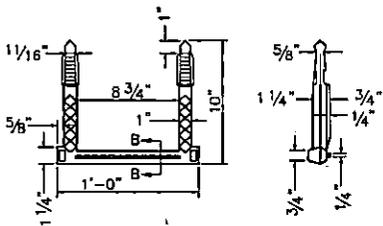
STANDARD DRAWING NO.	102
APPROVAL	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



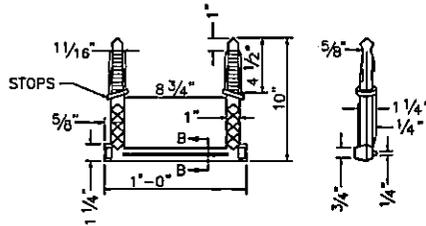
STEP TYPE NO. 1



STEP TYPE NO. 2

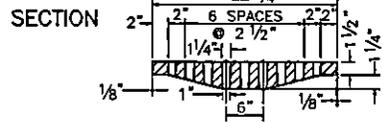
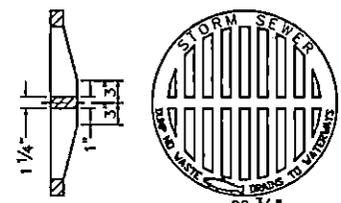
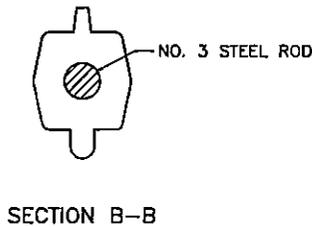


STEP TYPE NO. 3

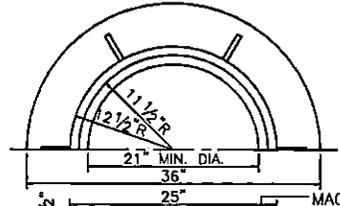


STEP TYPE NO. 4

MANHOLE STEPS



GRATING COVER



FRAME



SOLID COVER

MANHOLE FRAME AND COVERS

- NOTES:**
1. MINIMUM WEIGHT FOR THE 7" FRAME SHALL BE 185 LBS.
 2. MINIMUM WEIGHT FOR THE SOLID COVER SHALL BE 120 LBS.
 3. CASTINGS TO MEET ASTM A-48 CLASS 35.

- NOTES:**
1. STEPS SHALL BE POLYPROPYLENE PLASTIC COATED STEEL ROD OR OF A TYPE AND SIZE APPROVED BY THE ENGINEER.
 2. STEPS SHALL BE SPACED 12" TO 16" O.C. VERTICALLY SO AS TO FORM A CONTINUOUS LADDER.
 3. STEPS SHALL BE REQUIRED IN MANHOLES WHEN THE STRUCTURE IS 4 FEET AND GREATER IN DEPTH. (MEASURE FROM FLOWLINE OF LOWEST PIPE TO TOP OF STRUCTURE.)
 4. THE TREADS OF ALL STEPS SHALL HAVE ANTI-SKID PROPERTIES FOR HAND AND FOOT GRIPS.
 5. MANHOLE STEPS SHALL BE INSTALLED IN A VERTICAL LINE AND SHALL COMPLY WITH OSHA STANDARDS IN ALL RESPECTS.
 6. FOR CAST-IN-PLACE OR PRECAST CIRCULAR AND NON-CIRCULAR MANHOLES.
 7. FIRST STEP SHALL BE 12" - 18" FROM TOP OF PRECAST CONE SECTION, AND SHALL BE VERTICALLY LOCATED TO MAXIMIZE THE DISTANCE OF ANY STEP FROM THE JOINT OF A MANHOLE SECTION.

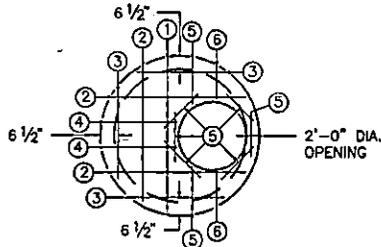
NO.	DATE	REVISION DESCRIPTION	BY
01	04/13/18	UPDATE NOTE 2	TAL



DIVISION OF ENGINEERING

MANHOLE FRAMES,
COVERS, & STEPS

STANDARD DRAWING NO.	103
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

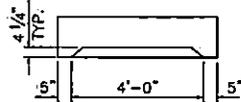


MARK	NO.	SIZE	LENGTH	TYPE
1	1	4	4'-5"	STR.
2	3	"	4'-0"	"
3	3	"	2'-8"	"
4	2	"	2'-0"	"
5	8	"	1'-6"	"
6	2	"	1'-0"	"

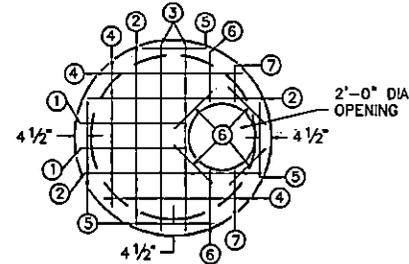
4'-0" DIA.
SHALLOW MANHOLES

NOTES:

- FOR PIPE SIZES 15" TO 24".
- 9" O.C. SPACING EACH WAY.
- 8" THICK SLAB.
- 4'-10" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
- CIRCULAR REBAR MAY BE USED, OR MARK 5 BARS AS SHOWN.



SIDE VIEW

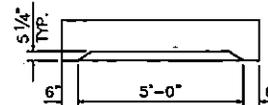


MARK	NO.	SIZE	LENGTH	TYPE
1	2	4	3'-2"	STR.
2	3	"	5'-3"	"
3	2	"	5'-8"	"
4	3	"	4'-2"	"
5	4	"	2'-2"	"
6	6	"	1'-6"	"
7	2	"	1'-0"	"

5'-0" DIA.
SHALLOW MANHOLES

NOTES:

- FOR PIPE SIZES 21" TO 33".
- 9" O.C. SPACING EACH WAY.
- 8" THICK SLAB.
- 6'-0" O.D.
- 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
- CIRCULAR REBAR MAY BE USED, OR MARK 6 BARS AS SHOWN.



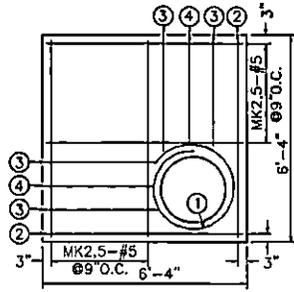
SIDE VIEW

NOTE:

SLAB OUTER DIAMETER TO VARY WITH MANHOLE WALL THICKNESS, TO COMPLETELY COVER MANHOLE WALLS.

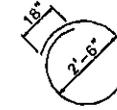
 LEXINGTON	
DIVISION OF ENGINEERING	
STORM SEWER MANHOLE CIRCULAR SLABS 4'-0" & 5'-0" DIAMETER	
STANDARD DRAWING NO.	104
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

SPECIAL BAR BENDS

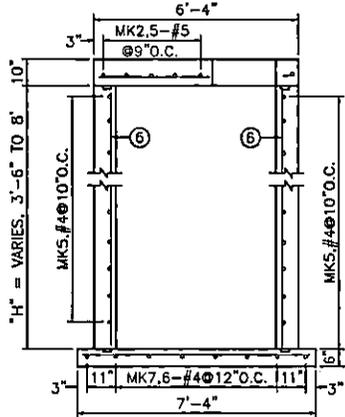


TOP SLAB
2'-0" OPENING

MARK	NO.	SIZE	LENGTH	TYPE
1	1	6	9'-6"	A ₁
2	12	5	6'-0"	STR.
3	4	5	3'-8"	"
4	2	5	3'-4"	"



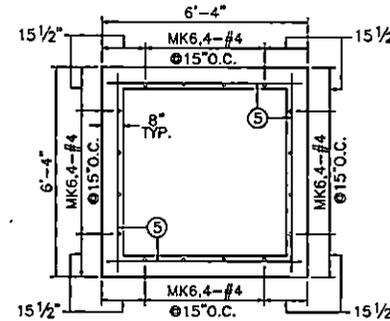
TYPE A₁



VERT. SECTION

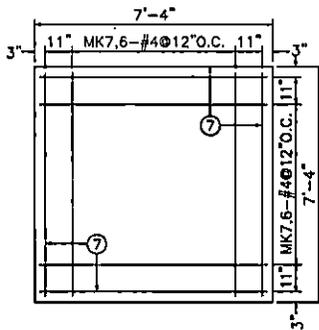
MARK	NO.	SIZE	LENGTH	TYPE
5	*	4	6'-0"	STR.

* 4 X (HEIGHT OF WALL (INCH)/10)
(ROUNDED UP TO THE NEXT
WHOLE NUMBER)



HORIZ. SECTION

MARK	NO.	SIZE	LENGTH	TYPE
6	16	4	DIM. "H"-2"	STR.



BOTTOM SLAB

MARK	NO.	SIZE	LENGTH	TYPE
7	16	4	7'-0"	STR.

NOTES:

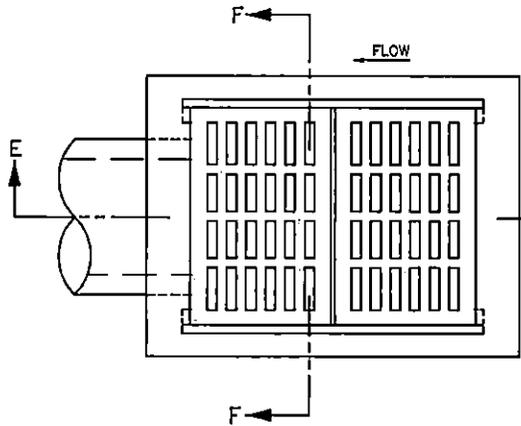
1. PROVIDE 2" x 4" KEY FOR ALL CONSTRUCTION JOINTS WHEN MANHOLE IS CAST IN PLACE.
2. 2" MIN. STEEL REINFORCEMENT COVER ALL FACES.
3. THIS MANHOLE IS INTENDED FOR PIPE AS INDICATED ON STD. DWG. 101, FOR MANHOLE STEPS AND OTHER DETAILS NOT SHOWN ON THIS SHEET, SEE STD. DWGS. 102 & 103.
4. DEPTHS INDICATED IN TITLE ARE MEASURED FROM SURFACE TO M.H. INVERT.

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REINFORCEMENT DETAIL
5' NON-CIRCULAR M.H.
LESS THAN 10' DEPTH,
8" WALLS, 10" SLAB

STANDARD DRAWING NO.	108
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	9/22/17
	DATE

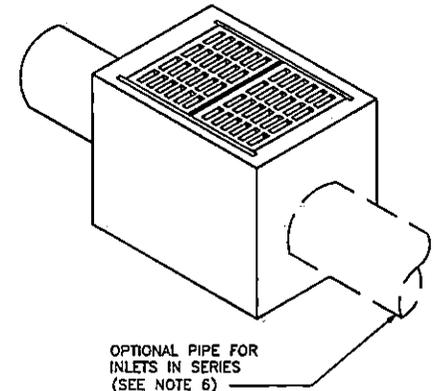


PLAN VIEW

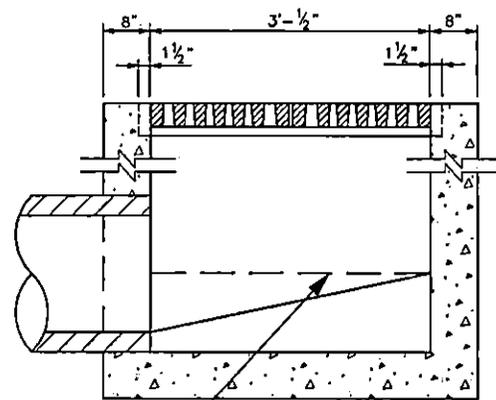
NOTES:

1. NO. 5 STEEL SHALL BE USED THROUGHOUT ON 12" CENTERS.
2. ALL STEEL SHALL HAVE A 2" MINIMUM CLEARANCE TO ANY CONCRETE FACE.
3. NO STEEL IS REQUIRED IN THE BOTTOM SLAB.
4. ALL VERTICAL STEEL SHALL EXTEND 4" INTO BOTTOM SLAB.
5. FOR USE IN PAVED AREAS ONLY.
6. PROVIDE MINIMUM 0.1' SLOPE THROUGH STRUCTURE FOR PIPES IN SERIES. CARRY TROUGH THROUGH. ONLY STRAIGHT THROUGH CONNECTIONS ARE ALLOWED.

ISOMETRIC VIEW

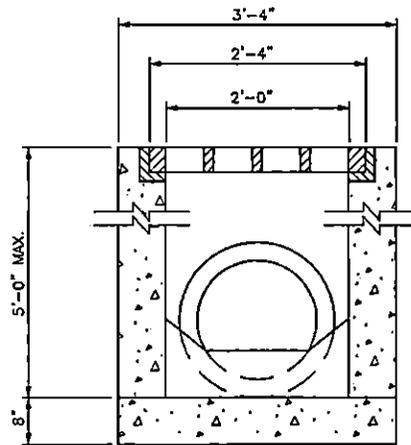


OPTIONAL PIPE FOR INLETS IN SERIES (SEE NOTE 6)

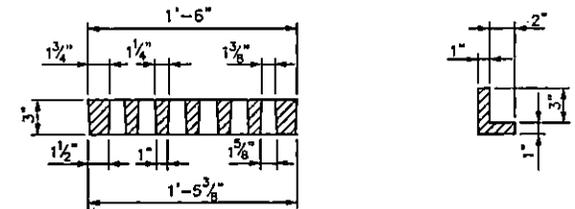
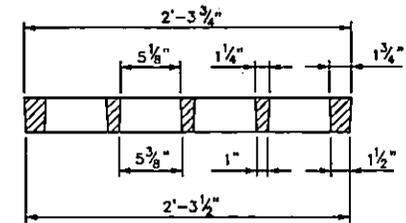


TOP OF BENCH IF PIPE RUNS STRAIGHT THROUGH INLET

SECTION E-E

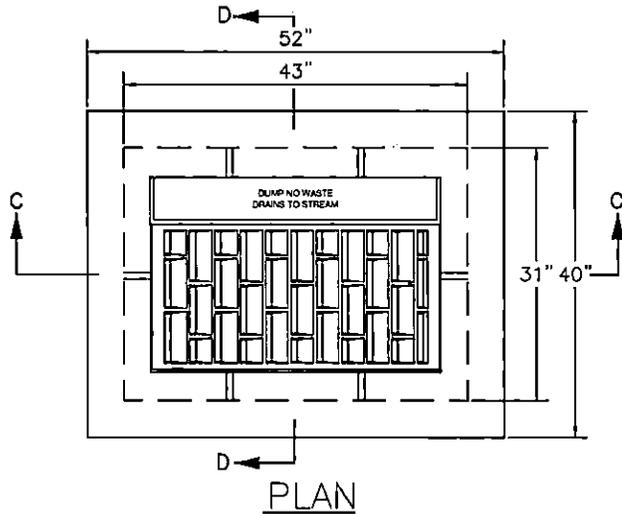


SECTION F-F

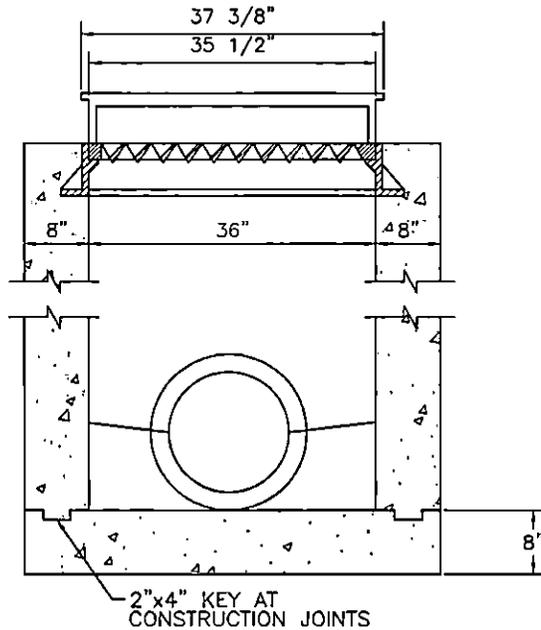


GRATE DETAILS

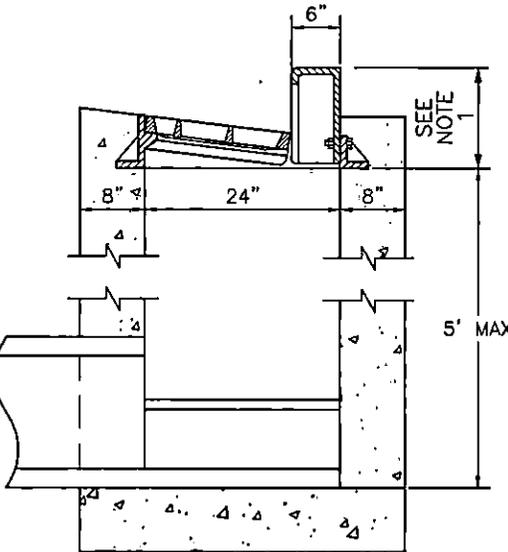
 LEXINGTON	
DIVISION OF ENGINEERING	
SURFACE INLET TYPE "B"	
STANDARD DRAWING NO.	121
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	9/22/17
	DATE



PLAN



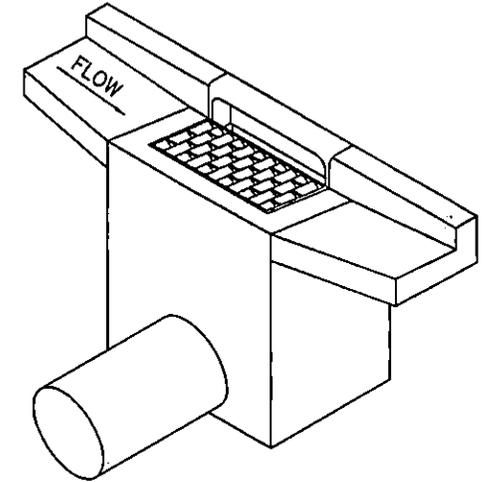
SECTION C-C



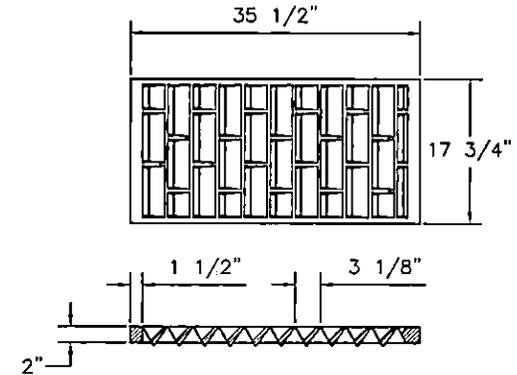
SECTION D-D

NOTES:

1. CURB BOX ADJUSTABLE 6" TO 9" TO MATCH TOP OF CURB.
2. NO. 5 STEEL SHALL BE USED THROUGHOUT ON 12" CENTERS. 2" CLEARANCE ON ALL EXTERIOR WALL BARS. EXTERIOR HORIZ. WALL BARS SHALL HAVE A 12" MIN. LAP AT CORNERS.
3. ALL EXPOSED FLATWORK SHALL HAVE A HAND FLOATED AND BROOMED FINISH.
4. NO STEEL IS REQUIRED IN BOTTOM SLAB.
5. ALL VERTICAL STEEL SHALL EXTEND 4" INTO BOTTOM SLAB. VERTICAL STEEL SHALL HAVE A 12" LAP INTO BOTTOM SLAB WITH 3" CLEARANCE FROM EXTERIOR BOTTOM.
6. SET BACK OF FRAME IN CONCRETE TO ANCHOR IN PLACE AFTER IT HAS BEEN ADJUSTED.
7. 18" MAX. PIPE DIAMETER.
8. EAST JORDAN IRON WORKS CATCH BASIN CURB INLET 7035 WITH TYPE M6 GRATE OR EQUIVALENT.
9. TOP OF CURB SECTION SHALL BE CAST WITH "DUMP NO WASTE DRAINS TO STREAM".

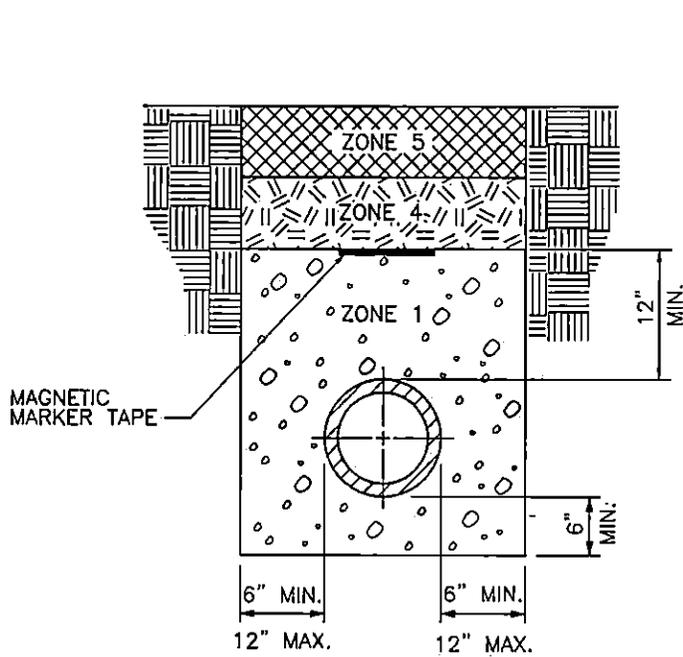


ISOMETRIC VIEW

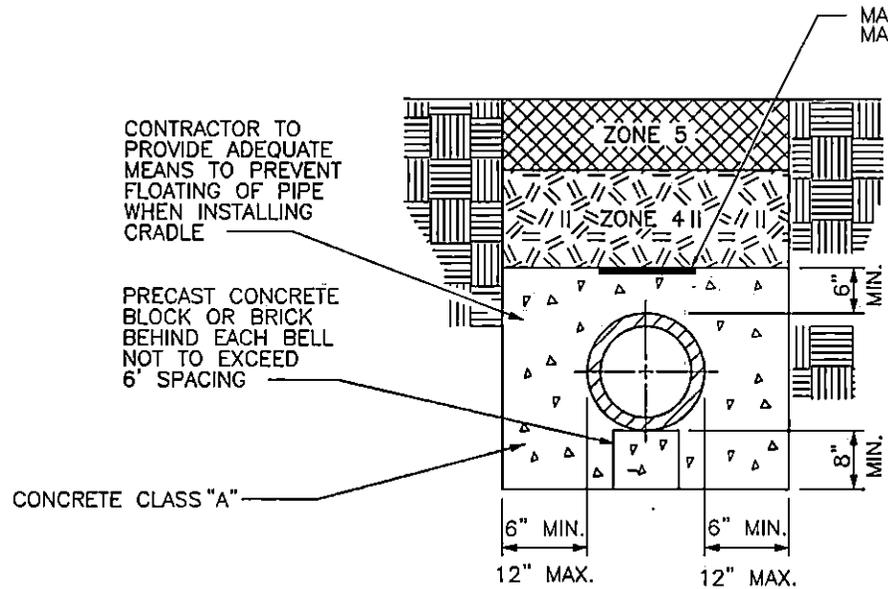


GRATE DETAIL

 LEXINGTON	
DIVISION OF ENGINEERING	
CURB BOX INLET TYPE "D"	
STANDARD DRAWING NO.	125
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



PIPE LAID IN ROCK
OR SOIL TRENCH



STANDARD CONCRETE ENCASEMENT
(NOTE: AS REQUIRED BY DESIGN)

PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER) NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED

NOTES:

1. COVER, UP TO AND INCLUDING ZONE 4 SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
2. ALL SANITARY SEWER LINES CONSTRUCTED FROM NON-METALLIC MATERIALS SHALL HAVE MAGNETIC MARKER TAPE INSTALLED IN THE TRENCH ABOVE THE SANITARY SEWER LINE.
3. MAGNETIC MARKER TAPE FOR SANITARY SEWER ONLY.



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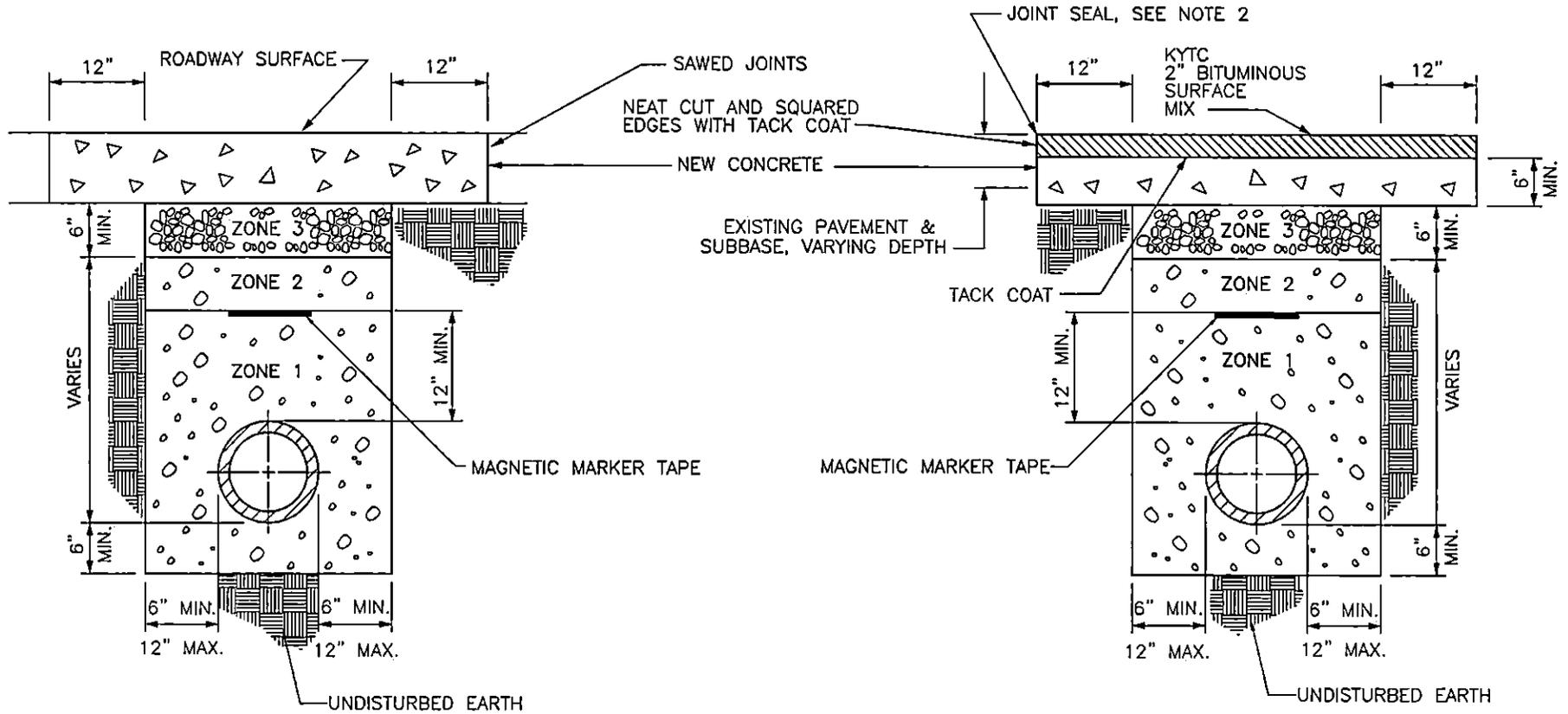
TRENCHING, LAYING,
BACKFILLING AND BEDDING
OUTSIDE R/W LIMITS

STANDARD DRAWING NO. 200

APPROVAL: *[Signature]* 9/22/17
URBAN COUNTY ENGINEER / DATE
COMMISSIONER *[Signature]* 9/22/17 / DATE

CONCRETE PAVEMENT

BITUMINOUS PAVEMENT



NOTES:

1. REPLACE CONCRETE PAVEMENT WITH NEW CONCRETE PAVEMENT, 6" MINIMUM OR EXISTING THICKNESS, WHICHEVER IS GREATER.
2. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.
3. MAGNETIC MARKER TAPE FOR SANITARY SEWER ONLY.

PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER), NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED

LEXINGTON

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TRENCHING, LAYING, BACKFILLING AND BEDDING UNDER STREET PAVEMENT

STANDARD DRAWING NO. 201-1

APPROVAL: 9/22/17

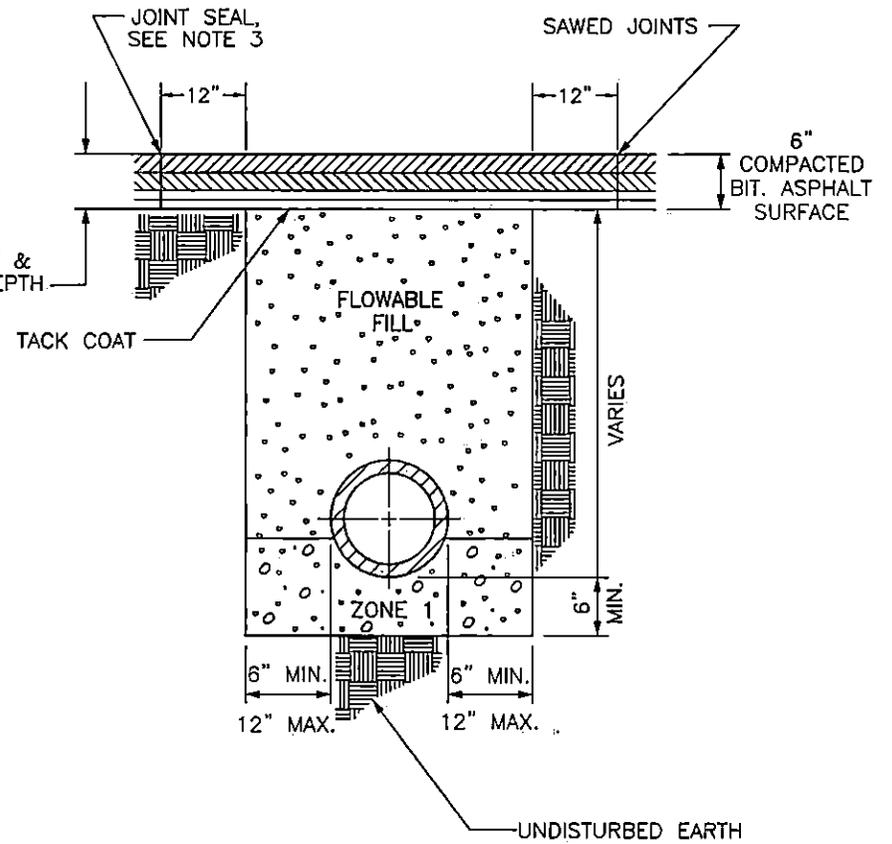
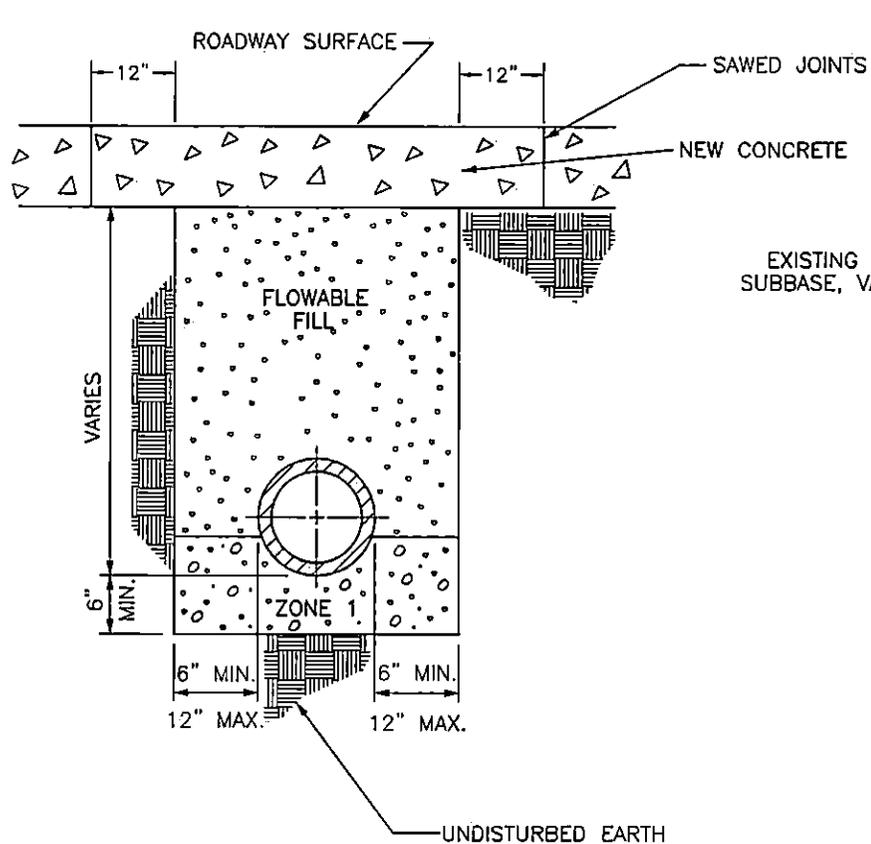
URBAN COUNTY ENGINEER DATE

COMMISSIONER 9/22/17

DATE

CONCRETE PAVEMENT

BITUMINOUS PAVEMENT



PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SOIL, (NO ROCK GREATER THAN 6" DIAMETER), NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED

NOTES:

1. FLOWABLE FILL PER KYTC SPECIFICATION 601.03.03 FROM STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CURRENT EDITION.
2. REPLACE CONCRETE PAVEMENT WITH NEW CONCRETE PAVEMENT, 6" MINIMUM OR EXISTING THICKNESS, WHICHEVER IS GREATER.
3. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.



LEXINGTON

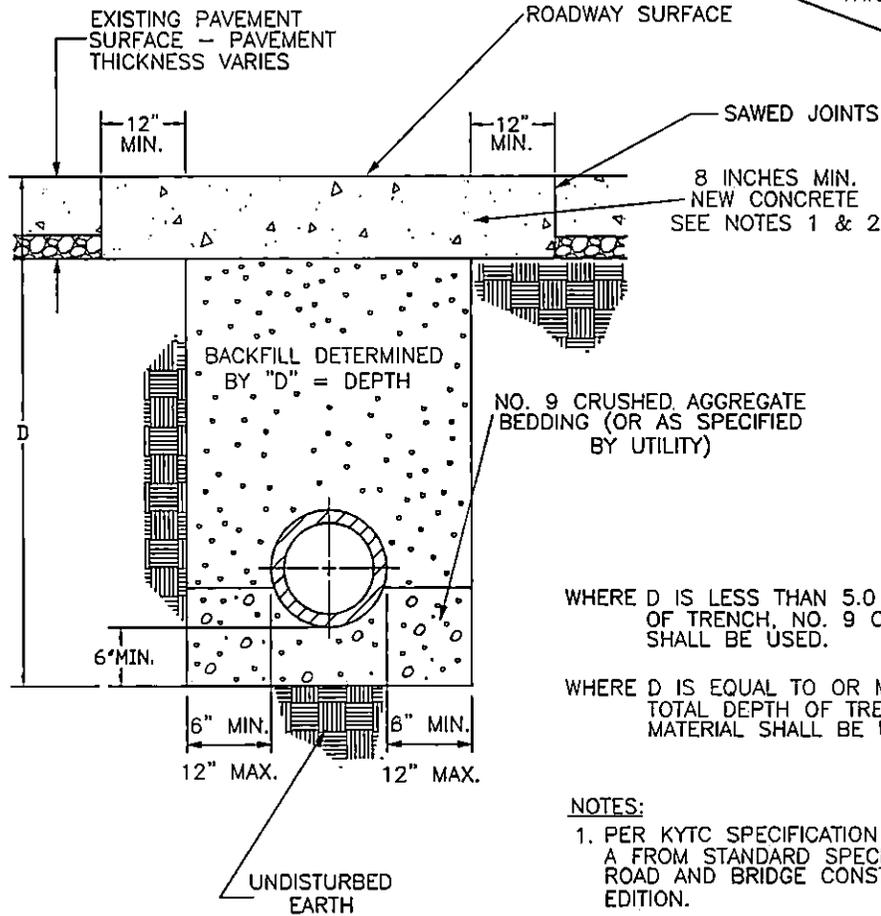
DIVISION OF ENGINEERING

TRENCHING, LAYING, BACKFILLING, AND BEDDING UNDER STREET PAVEMENT USING FLOWABLE FILL

STANDARD DRAWING NO. 201-2

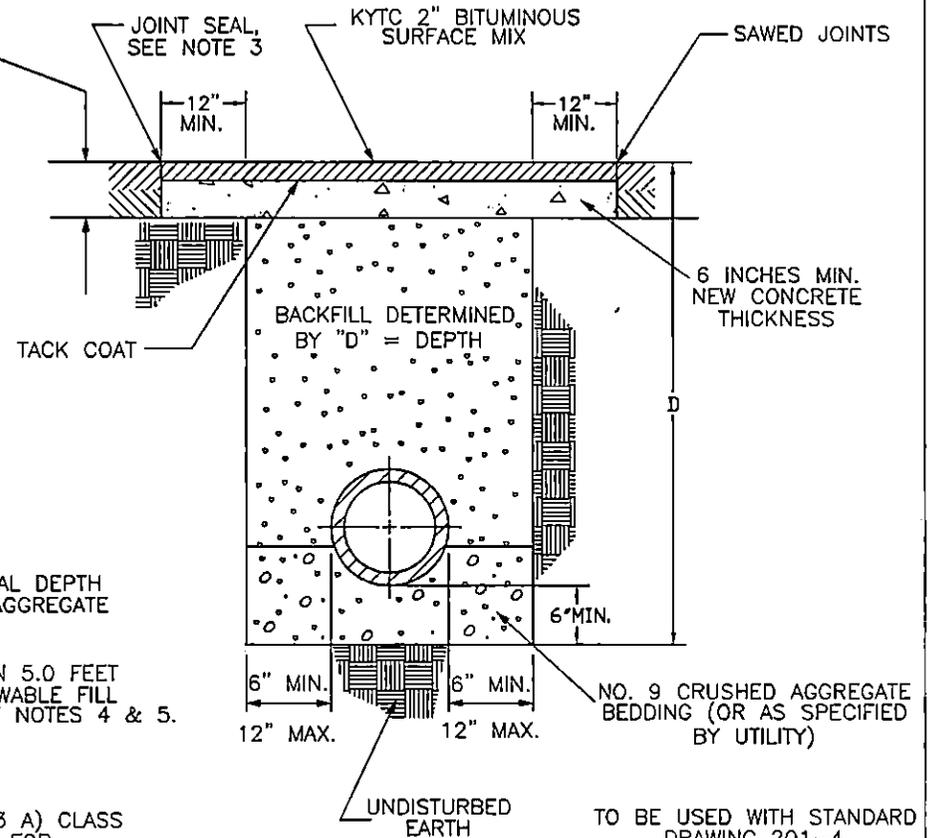
APPROVAL: *[Signature]* 9/22/17
 URBAN COUNTY ENGINEER / DATE
 COMMISSIONER *[Signature]* 9/22/17
 DATE

CONCRETE PAVEMENT



EXISTING PAVEMENT SURFACE - PAVEMENT THICKNESS VARIES

BITUMINOUS PAVEMENT



WHERE D IS LESS THAN 5.0 FEET TOTAL DEPTH OF TRENCH, NO. 9 CRUSHED AGGREGATE SHALL BE USED.

WHERE D IS EQUAL TO OR MORE THAN 5.0 FEET TOTAL DEPTH OF TRENCH, FLOWABLE FILL MATERIAL SHALL BE USED. SEE NOTES 4 & 5.

NOTES:

1. PER KYTC SPECIFICATION 601.03.03 A) CLASS A FROM STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.
2. REPLACE CONCRETE PAVEMENT WITH NEW CONCRETE PAVEMENT.
3. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.
4. FLOWABLE FILL TO BE PROPORTIONED PER KYTC SPECIFICATION 601.03.03 B) 5) FROM STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.
5. UTILITY DESIGNERS AND CONTRACTORS SHALL ACCOUNT FOR AND PROVIDE ANY SUITABLE MEANS TO PREVENT PIPE/CONDUIT FLOATATION.

TO BE USED WITH STANDARD DRAWING 201-4



LEXINGTON

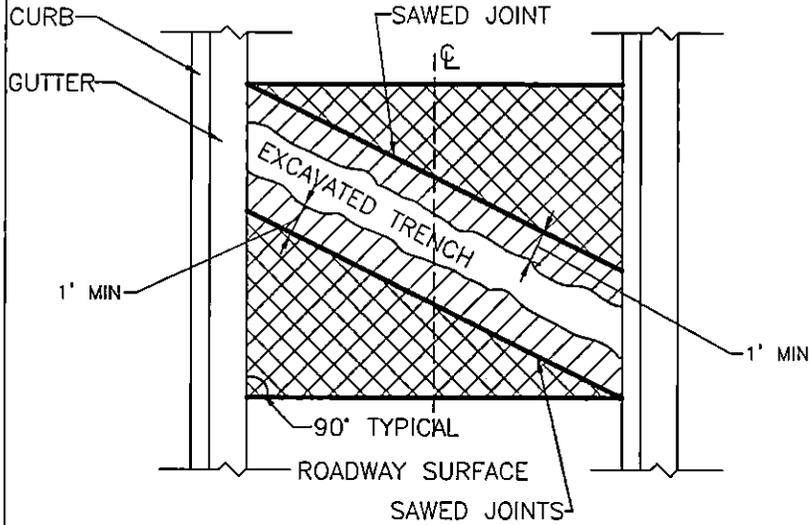
DIVISION OF ENGINEERING

UTILITY TRENCH RESTORATION BENEATH EXISTING PAVED ROADS (SECTION VIEW)

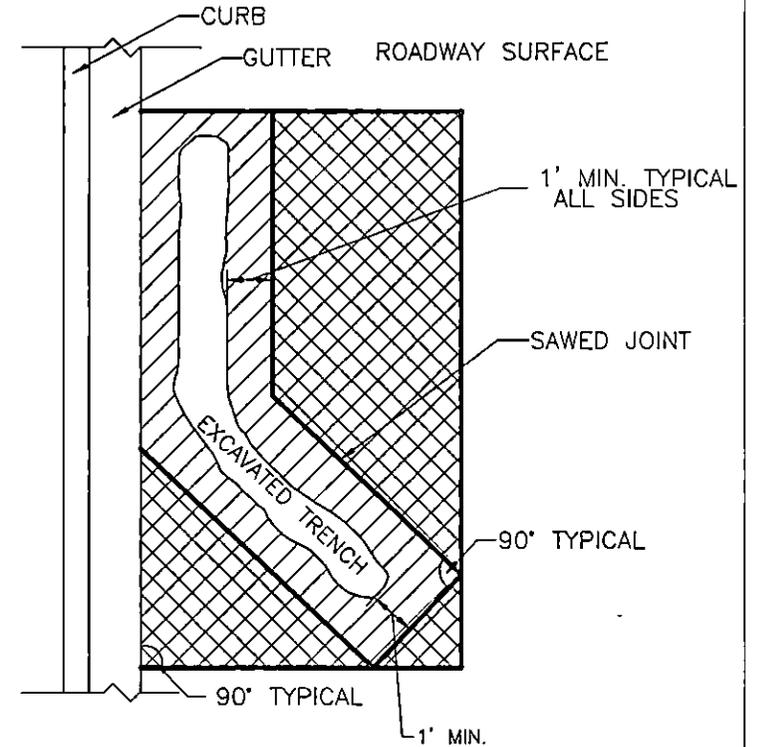
STANDARD DRAWING NO. 201-3

APPROVAL:	DATE
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE

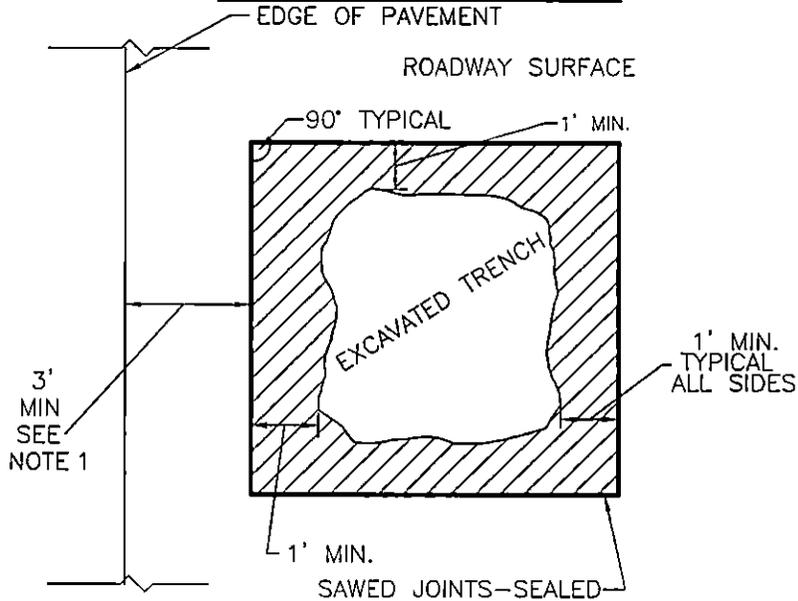
TRANSVERSE EXCAVATION



LONGITUDINAL EXCAVATION – ADJACENT TO CURB OR GUTTER



ISOLATED EXCAVATION



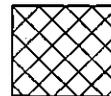
NOTES:

1. WHEN LESS THAN 3', THEN THE PAVEMENT SHALL BE REMOVED TO THE EDGE OF PAVEMENT AND REPLACED PER STANDARD DRAWING 201-3.
2. STREET CUT SHALL BE ORIENTED EITHER PARALLEL OR PERPENDICULAR TO CURB OR GUTTER.
3. ALL SAWED JOINTS SHALL PRODUCE NEAT CUTS WITH SQUARED EDGES.

TO BE USED WITH STANDARD DRAWING, 201-3



AREA SHALL BE EXCAVATED TO 8" BELOW ROADWAY SURFACE, THEN REPLACED PER STANDARD DRAWING 201-3.



AREA SHALL BE MILLED 2" AND REPLACED WITH 2" BITUMINOUS SURFACE MIX.



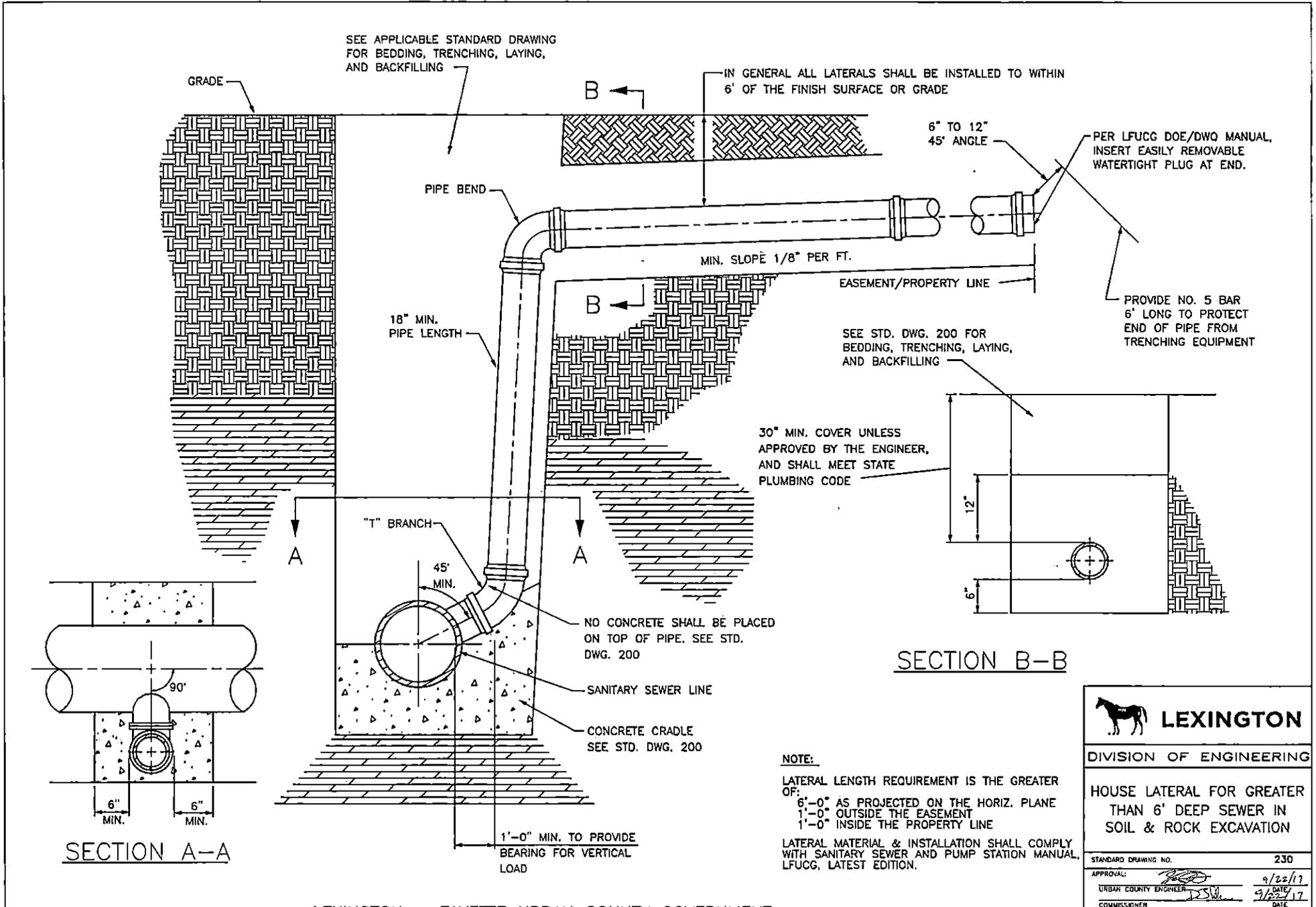
LEXINGTON

DIVISION OF ENGINEERING

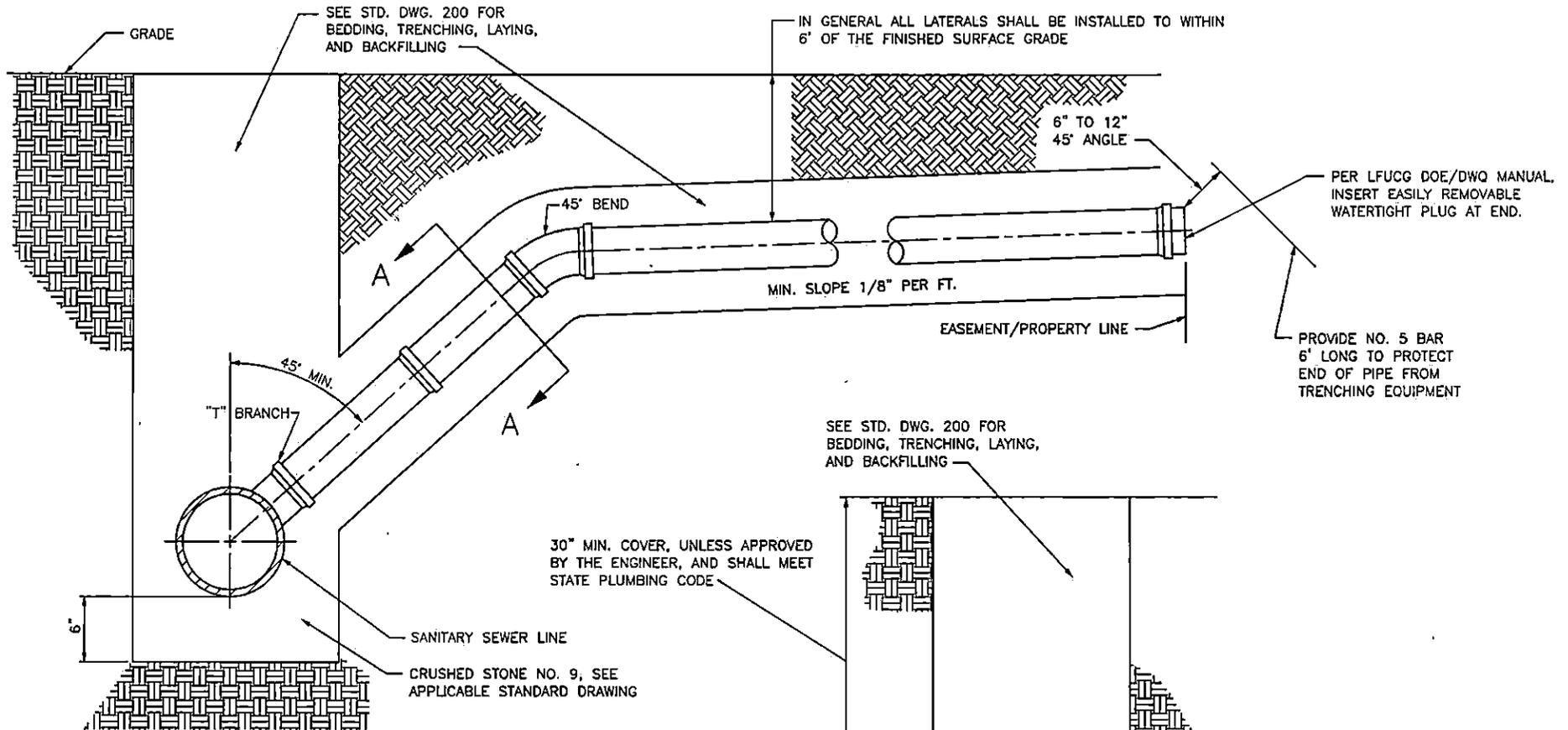
UTILITY TRENCH RESTORATION BENEATH EXISTING PAVED ROADS (PLAN VIEW)

STANDARD DRAWING NO. 201-4

APPROVAL:		9/22/17
URBAN COUNTY ENGINEER	DATE	DATE
COMMISSIONER		DATE



 LEXINGTON	
DIVISION OF ENGINEERING	
HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL & ROCK EXCAVATION	
STANDARD DRAWING NO.	230
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



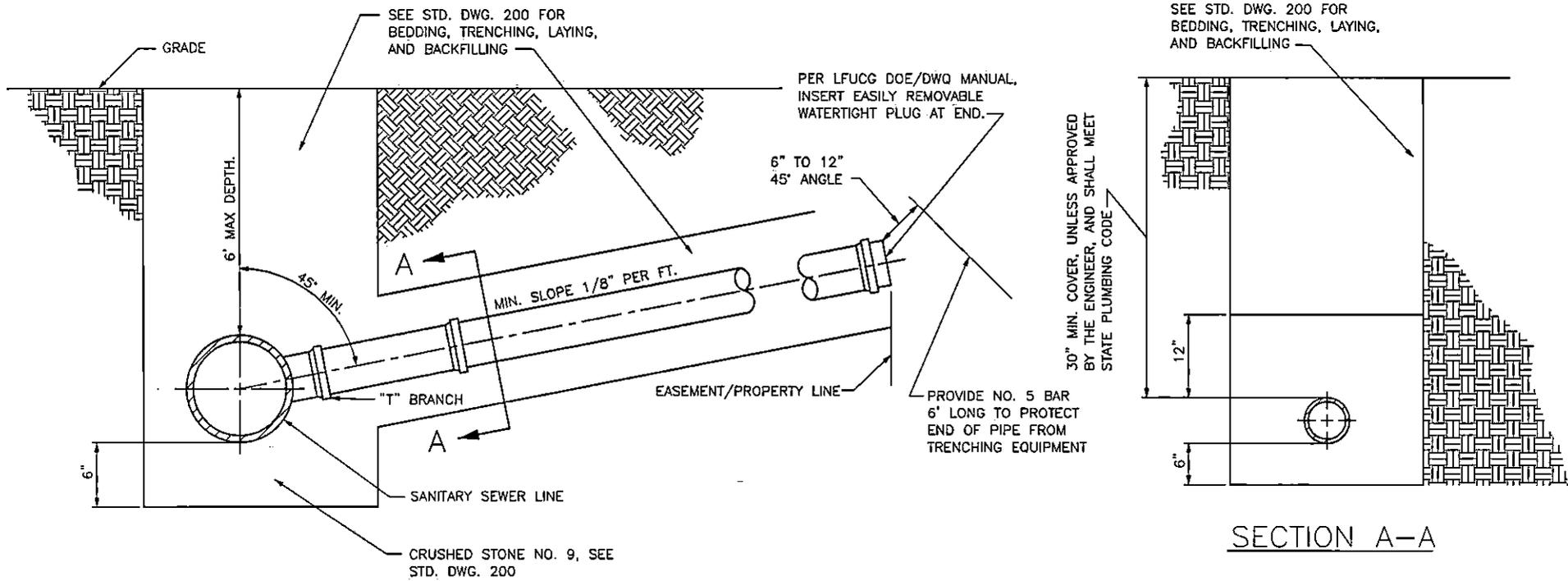
NOTE:

LATERAL LENGTH REQUIREMENT IS THE GREATER OF:
 6'-0" AS PROJECTED ON THE HORIZ. PLANE
 1'-0" OUTSIDE THE EASEMENT
 1'-0" INSIDE THE PROPERTY LINE

LATERAL MATERIAL & INSTALLATION SHALL COMPLY WITH SANITARY SEWER AND PUMP STATION MANUAL, LFUGG, LATEST EDITION.

SECTION A-A

 LEXINGTON	
DIVISION OF ENGINEERING	
HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL	
STANDARD DRAWING NO.	231
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



NOTE:

LATERAL LENGTH REQUIREMENT IS THE GREATER OF:
 6'-0" AS PROJECTED ON THE HORIZ. PLANE
 1'-0" OUTSIDE THE EASEMENT
 1'-0" INSIDE THE PROPERTY LINE

LATERAL MATERIAL & INSTALLATION SHALL COMPLY WITH SANITARY SEWER AND PUMP STATION MANUAL, LFUCG, LATEST EDITION.

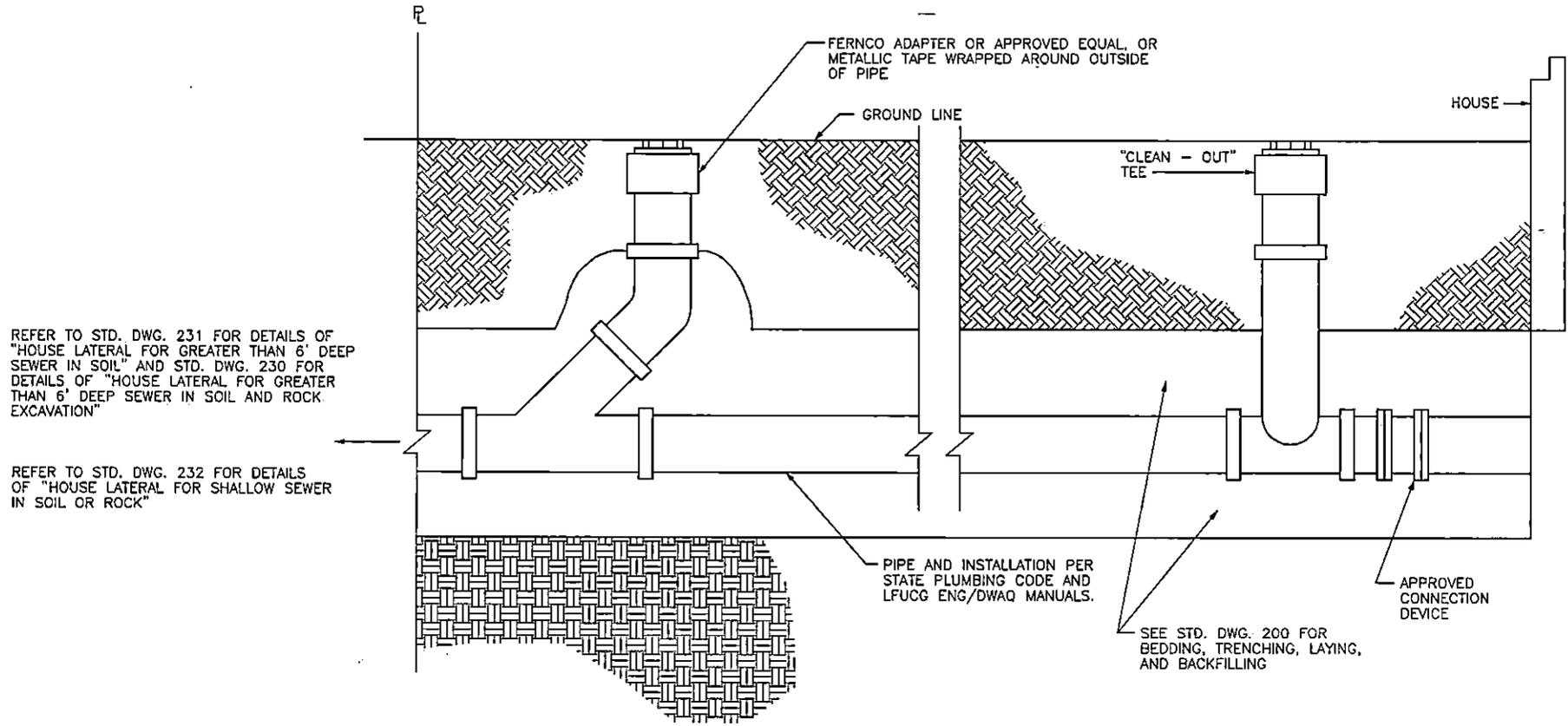
SECTION A-A



DIVISION OF ENGINEERING

HOUSE LATERAL
 FOR SHALLOW SEWER
 IN SOIL OR ROCK

STANDARD DRAWING NO.	232
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



REFER TO STD. DWG. 231 FOR DETAILS OF "HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL" AND STD. DWG. 230 FOR DETAILS OF "HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL AND ROCK EXCAVATION"

REFER TO STD. DWG. 232 FOR DETAILS OF "HOUSE LATERAL FOR SHALLOW SEWER IN SOIL OR ROCK"

FERNCO ADAPTER OR APPROVED EQUAL, OR METALLIC TAPE WRAPPED AROUND OUTSIDE OF PIPE

GROUND LINE

HOUSE

"CLEAN - OUT" TEE

PIPE AND INSTALLATION PER STATE PLUMBING CODE AND LFUCG ENG/DWAQ MANUALS.

APPROVED CONNECTION DEVICE

SEE STD. DWG. 200 FOR BEDDING, TRENCHING, LAYING, AND BACKFILLING

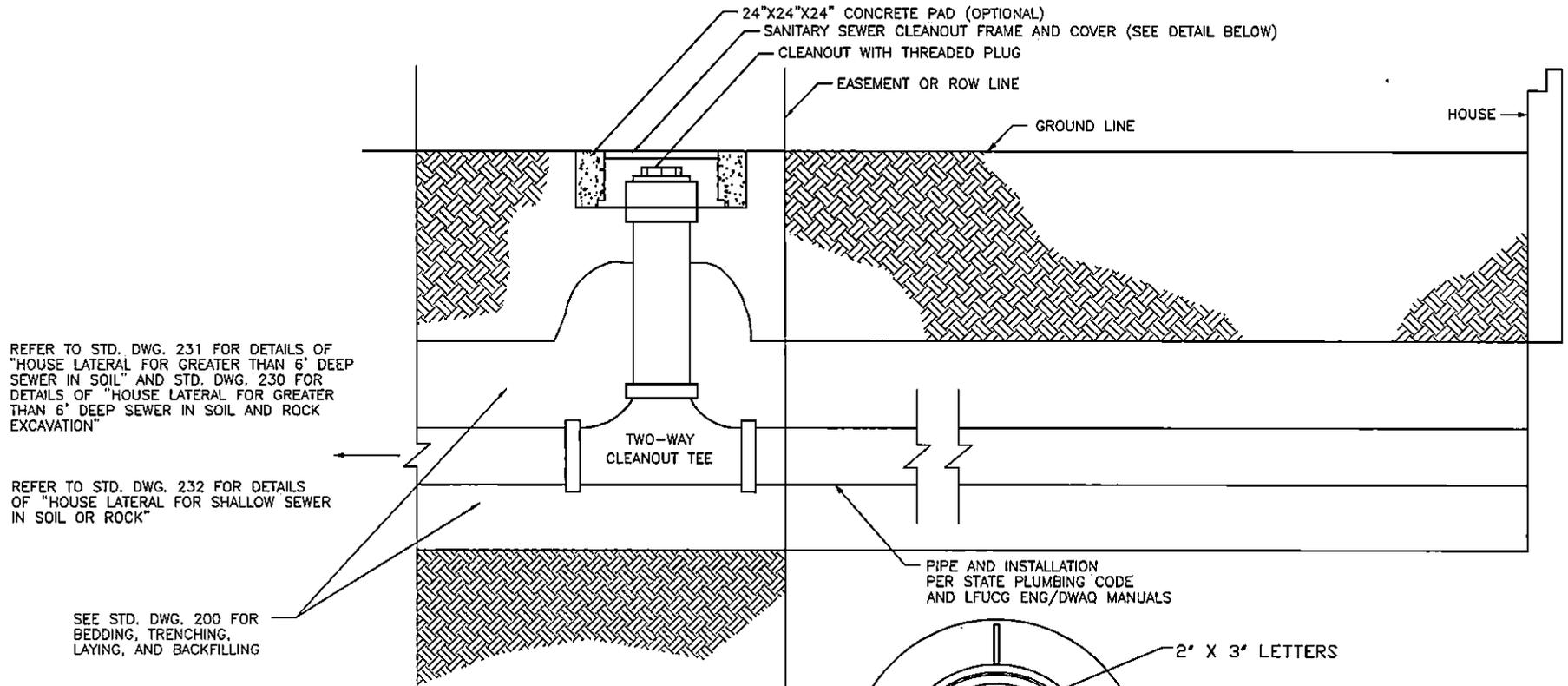
NOTE:
SEWER PIPE FROM HOUSE TO THE LONG SWEEP "L" MUST BE IN ACCORDANCE WITH STATE PLUMBING CODE AND LFUCG ENG/DWAQ MANUALS.



DIVISION OF ENGINEERING

LATERAL CLEANOUT IN NON-PAVED AREAS AND YARDS

STANDARD DRAWING NO.	233
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE

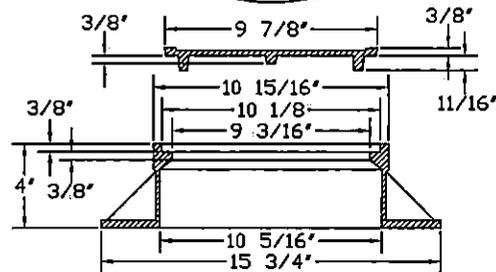
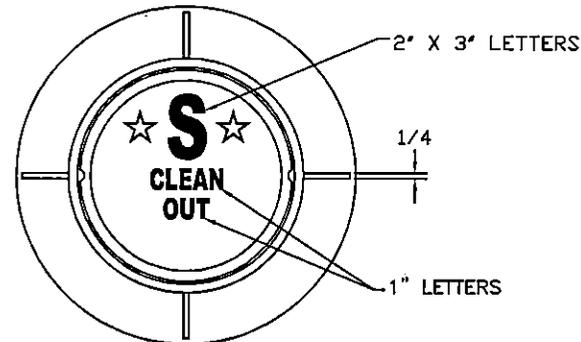


REFER TO STD. DWG. 231 FOR DETAILS OF "HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL" AND STD. DWG. 230 FOR DETAILS OF "HOUSE LATERAL FOR GREATER THAN 6' DEEP SEWER IN SOIL AND ROCK EXCAVATION"

REFER TO STD. DWG. 232 FOR DETAILS OF "HOUSE LATERAL FOR SHALLOW SEWER IN SOIL OR ROCK"

SEE STD. DWG. 200 FOR BEDDING, TRENCHING, LAYING, AND BACKFILLING

PIPE AND INSTALLATION PER STATE PLUMBING CODE AND LFUCG ENG/DWAQ MANUALS



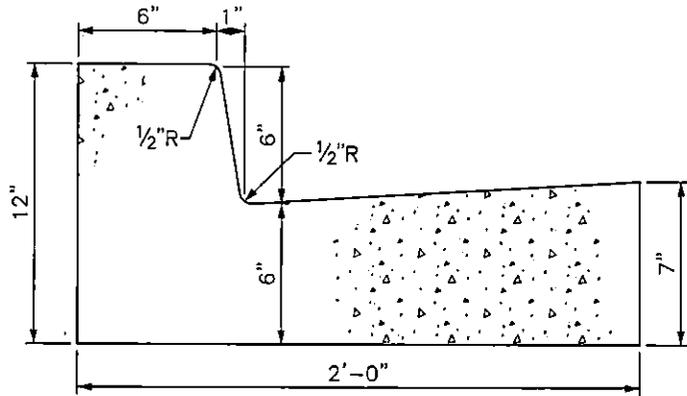
NOTES:

SEWER PIPE FROM HOUSE TO CLEANOUT MUST BE IN ACCORDANCE WITH STATE PLUMBING CODE AND LFUCG ENG/DWAQ MANUALS.

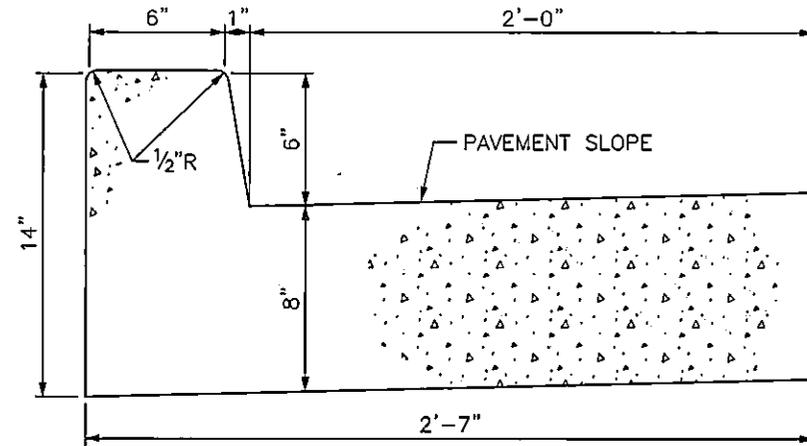
TWO-WAY CLEANOUT TEE IS TO BE INSTALLED BY THE PLUMBER AND OR CONTRACTOR PRIOR TO CONNECTION OF THE LATERAL TO PUBLIC SANITARY SEWER LINE.

CLEANOUT TO BE INSTALLED AT THE END OF PUBLICLY MAINTAINED SEWER. POINT TO BE DETERMINED BY THE DIVISION OF ENGINEERING.

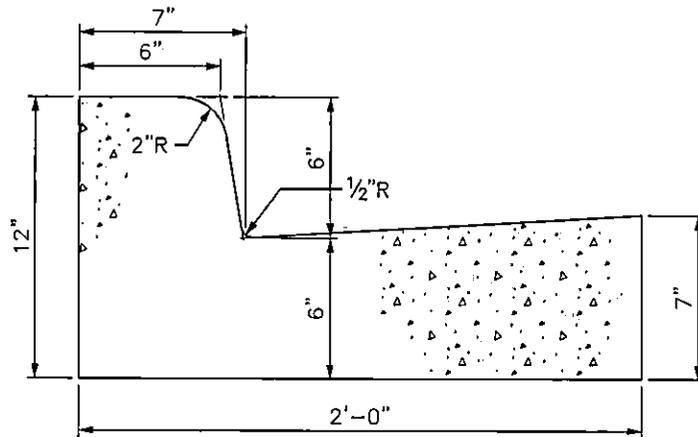
 LEXINGTON	
DIVISION OF ENGINEERING	
RIGHT OF WAY OR EASEMENT LATERAL CLEANOUT IN NON-PAVED AREAS AND YARDS	
STANDARD DRAWING NO.	234
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	9/22/17
	DATE



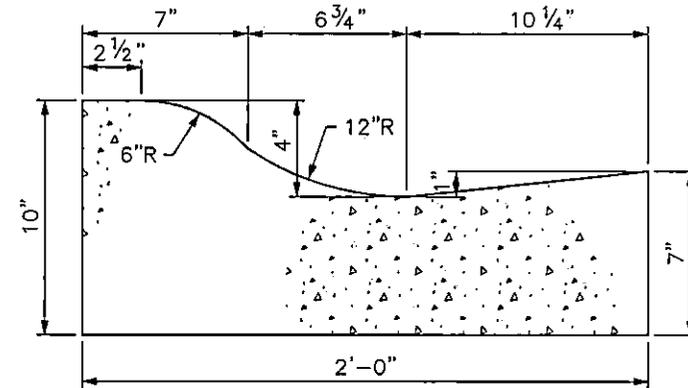
TYPE 1



TYPE 2



TYPE 3



TYPE 4

(RESIDENTIAL LOCAL STREETS ONLY)

NOTES:

1. CONCRETE SHALL BE KDOT CLASS "A".
2. SAWED CONTRACTION JOINTS SHALL BE CONSTRUCTED EVERY 20 FEET, WITH A MIN. DEPTH OF 3", IN ACCORDANCE WITH KDOT STANDARD SPECIFICATION.

3. FULL DEPTH EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL BREAKS IN ALIGNMENT, AT CONTACT WITH NEW OR EXISTING CONCRETE, AT ALL DRAINAGE INLETS, AT THE BEGINNING AND ENDING POINTS OF CURVES, AND NOT TO EXCEED 200' MAXIMUM SPACING FOR SLIP FORM APPLICATION AND 30' MAXIMUM SPACING FOR HAND PLACED.
4. ALL CONCRETE SHALL BE CURED WITH WHITE PIGMENTED MEMBRANE FORMING COMPOUND (AASHTO M 148, TYPE 2).

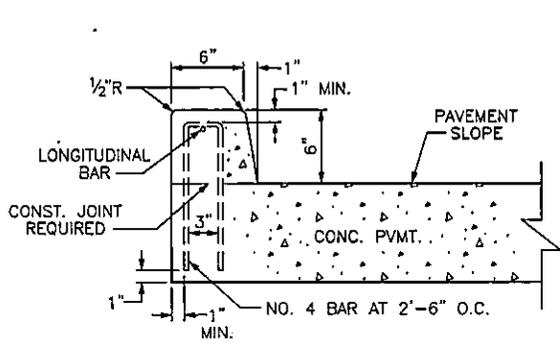


LEXINGTON

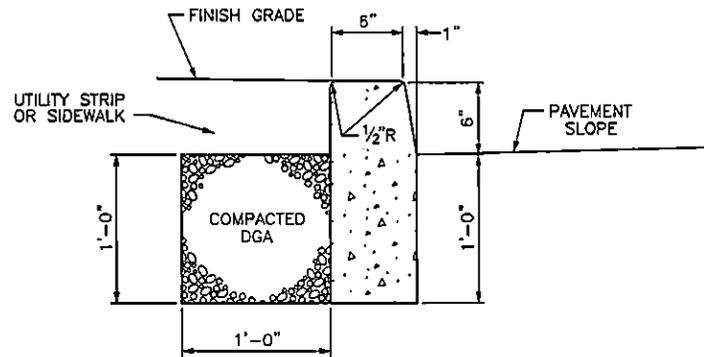
DIVISION OF ENGINEERING

CURB & GUTTER

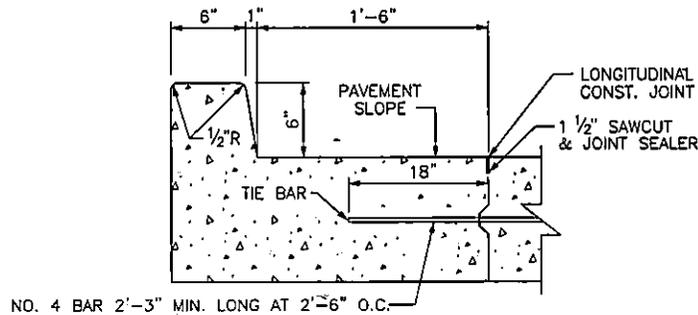
STANDARD DRAWING NO.	301
APPROVAL:	
URBAN COUNTY ENGINEER	9/22/17
COMMISSIONER	DATE



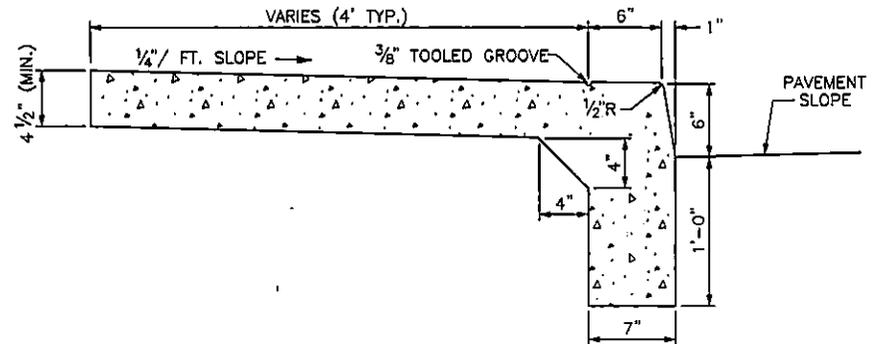
INTEGRAL CURB, TYPE 1



HEADER CURB



INTEGRAL CURB, TYPE 2



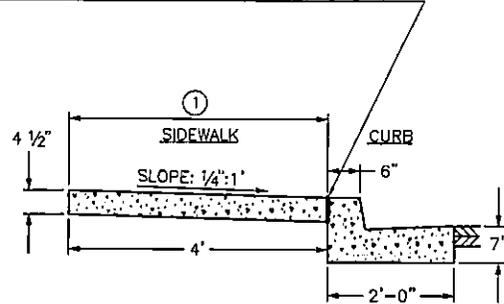
MONOLITHIC CURB AND SIDEWALK

NOTES:

1. CONCRETE SHALL BE KDOT CLASS "A".
2. SAWED CONTRACTION JOINTS SHALL BE CONSTRUCTED EVERY 20 FEET, 3" MINIMUM DEPTH.
3. THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING THE STANDARD INTEGRAL CURB AS DETAILED IN EITHER TYPE 1 OR 2. IF TYPE 2 IS CHOSEN A LONGITUDINAL CONSTRUCTION JOINT SHALL BE REQUIRED AND THE REMAINING PAVEMENT AND CURB SHALL BE CONSTRUCTED MONOLITHIC WITHOUT A HORIZONTAL CONSTRUCTION JOINT AND ACCOMPANYING REINFORCING STEEL (TYPE 1).
4. FULL DEPTH EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL BREAKS IN ALIGNMENT, AT ALL DRAINAGE INLETS AND AT THE BEGINNING AND ENDING POINTS OF CURVES.
5. ALL CONCRETE, EXCEPT BONDING SURFACES, SHALL BE CURED WITH WHITE PIGMENTED MEMBRANE FORMING COMPOUND (AASHTO M 148, TYPE 2).

 LEXINGTON	
DIVISION OF ENGINEERING	
INTEGRAL CURB, HEADER CURB, MONOLITHIC CURB & SIDEWALK	
STANDARD DRAWING NO.	302
APPROVAL	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

EXPANSION JOINT, FULL DEPTH AND SPAN



SIDEWALK/CURB AND GUTTER

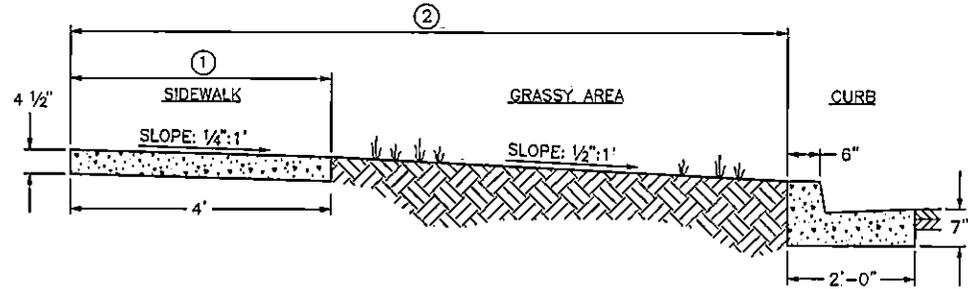
NOTES:

1. CONCRETE SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED ON A THOROUGHLY COMPACTED SUB-GRADE AND SHALL BE FOUR AND ONE HALF (4 1/2) INCHES IN THICKNESS AND A MINIMUM WIDTH OF FOUR (4) FEET. CONCRETE SHALL MEET THE REQUIREMENTS FOR CLASS "A" AND SHALL BE COATED WITH WHITE PIGMENTED CURING COMPOUND TYPE 2, ALL AS SPECIFIED IN KYTC SPECIFICATION, SECTION 823.02.
2. FULL DEPTH EXPANSION JOINTS SHALL BE PLACED AT CONTACT WITH NEW OR EXISTING CONCRETE, EXISTING CONCRETE, AT ABUTTING RIGID STRUCTURES OR FEATURES SUCH AS BUILDINGS, DRIVEWAYS, UTILITY POLES FIRE HYDRANTS, ECT. AND NOT TO EXCEED 200' MAXIMUM SPACING FOR SLIP FORM APPLICATION AND 32' FOR HAND PLACED. EXPANSION MATERIAL SHALL BE 1/2" ASPHALTIC MATERIAL OR APPROVED EQUAL MEETING KYTC 807.04.03.
3. CONTROL JOINTS SHALL BE PLACED AT INTERVALS EQUIVALENT TO THE SIDEWALK WIDTH, WITH A DEPTH OF 1/4 THE SIDEWALK THICKNESS.
4. THE SIDEWALKS SHALL BE PLACED ADJACENT TO THE STREET RIGHT-OF-WAY LINE. SLOPE TOWARD CURB SHALL BE ONE QUARTER (1/4) OF AN INCH TO THE FOOT. CONSTRUCTION IN EXISTING NEIGHBORHOODS SHALL REQUIRE THE CONTRACTOR TO MATCH EXISTING GRADE AND SIDEWALK WIDTH UNLESS SPECIFIED OTHERWISE, BY THE DIVISION OF ENGINEERING.
5. SIDEWALK REPAIR FOR ANY CUTS MADE FOR UTILITY WORK REPLACEMENT SHALL BE FULL PANEL MATCHING THE ORIGINAL DIMENSIONS.

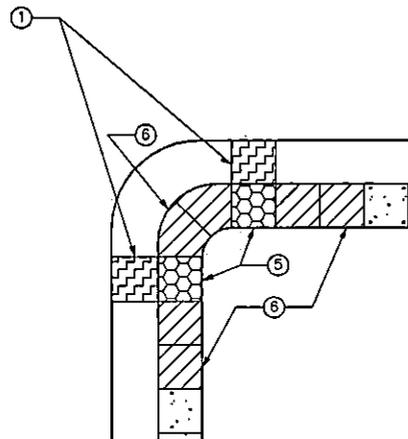
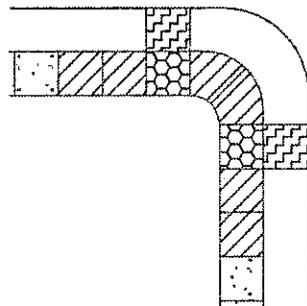
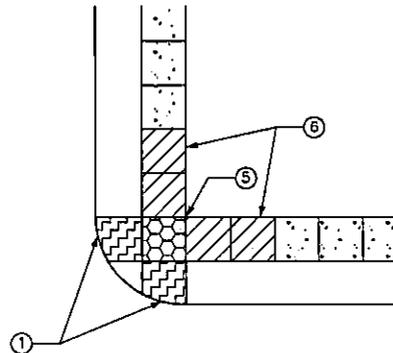
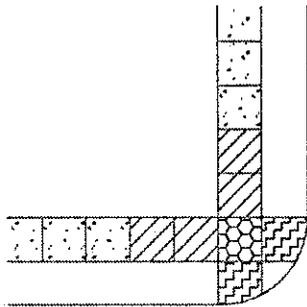
SHEET NOTES:

- ① NORMAL SIDEWALK WIDTH SHALL BE 4' UNLESS CHANGE IS AUTHORIZED BY URBAN COUNTY ENGINEER'S OFFICE.
- ② DISTANCE WILL VARY WITH ROAD CROSS-SECTION.

SIDEWALK/CURB AND GUTTER WITH GRASS UTILITY STRIP



 LEXINGTON	
DIVISION OF ENGINEERING	
SIDEWALK CONSTRUCTION SPECIFICATIONS	
STANDARD DRAWING NO.	303
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER 	DATE/
COMMISSIONER 	DATE



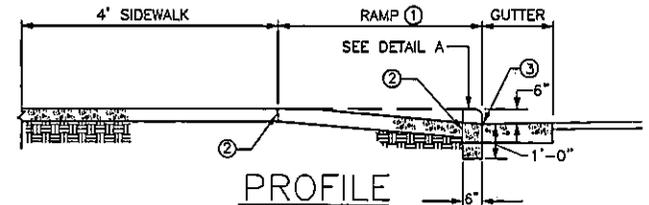
PLAN VIEW

NOTES:

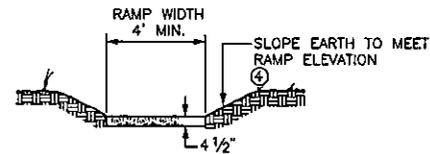
1. INLET LOCATIONS WILL VARY, DEPENDENT ON CROSSWALK AND RAMP LOCATION.
2. THE RAMP SHALL BE CONSTRUCTED OF CLASS A⁺ CONCRETE, AND SHALL UTILIZE CAST IN PLACE REPLACEABLE TACTILE WARNING TILE, SUCH AS ADA SOLUTIONS, INC., ACCESS TILE TACTILE SYSTEMS, ARMOR-TILE HERCULITE OR APPROVED EQUAL TILE COLOR SHALL BE FEDERAL YELLOW.
3. THE NORMAL GUTTER LINE SHOULD BE MAINTAINED THROUGH THE RAMP.
4. RAMPS SHOULD BE LOCATED WITHIN MARKED LIMITS OF CROSSWALKS.
5. WHERE NO CURB EXISTS, STREET EDGE SHALL BE SAW CUT, OR AS DIRECTED BY L.F.U.C.G. ENGINEER.
6. MAXIMUM CROSS SLOPE OF SIDEWALK 1/4": 1'.
7. SIDEWALK REPAIR FOR ANY CUTS MADE FOR UTILITY WORK REPLACEMENT SHALL BE FULL PANEL MATCHING THE ORIGINAL DIMENSIONS.

SHEET NOTES:

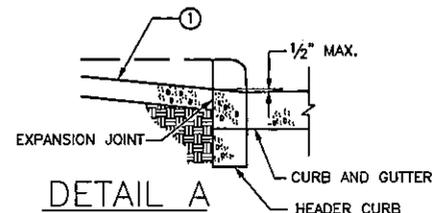
- ① MAXIMUM RAMP SLOPE 1":1'.
- ② 1/2" EXPANSION JOINT AT BACK OF CURBLINE AND SIDEWALK LINE, FULL DEPTH.
- ③ NO BUMP PERMITTED.
- ④ SLOPE VARIES UNIFORMLY TO A MAXIMUM OF 1":1' AT GUTTER LINE.
- ⑤ MAXIMUM CROSS SLOPE OF LANDING 1/4": 1' IN ALL DIRECTIONS.
- ⑥ MAXIMUM LONGITUDINAL SLOPE 1/2": 1', OR ALONG THE CENTERLINE GRADE OF THE ADJACENT ROADWAY.



PROFILE



CROSS SECTION



DETAIL A

NO.	DATE	REVISION DESCRIPTION	BY
01	06/05/18	UPDATE PLAN VIEW NOTE	TAL



LEXINGTON

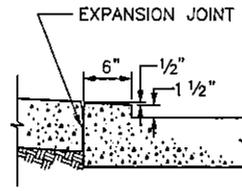
DIVISION OF ENGINEERING

SIDEWALK RAMP

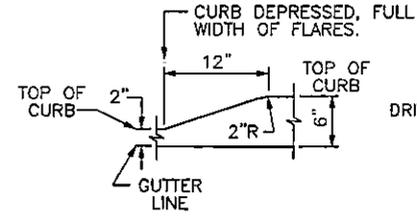
STANDARD DRAWING NO.	304
APPROVAL	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE

MAXIMUM ALLOWABLE APRON AND DRIVEWAY WIDTHS

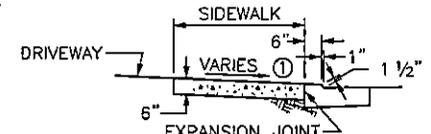
CLASSIFICATION	DRIVEWAY	APRON
SINGLE RESIDENTIAL	12'	18'
DOUBLE OR JOINT RESIDENTIAL	20'	26'



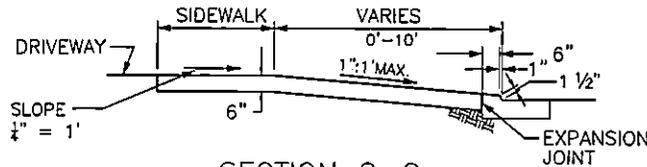
SECTION A-A



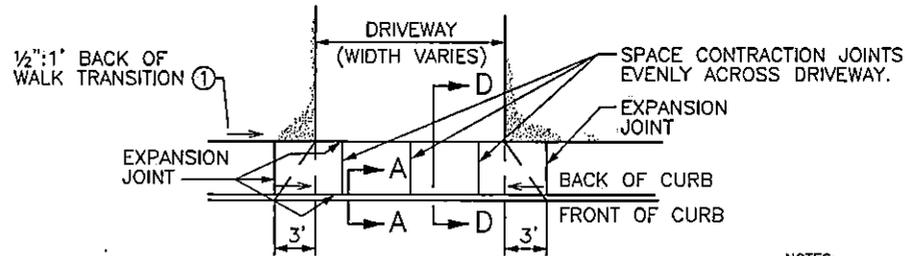
SECTION B-B



SECTION D-D



SECTION C-C



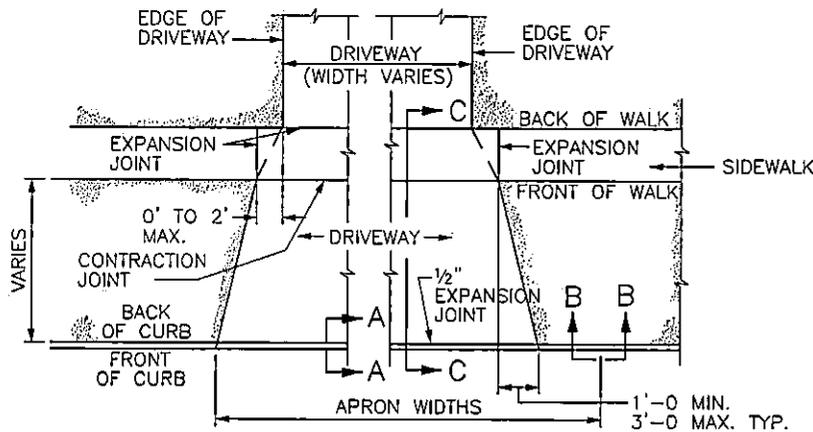
ENTRANCE WITHOUT UTILITY STRIP

NOTES:

- ① DROP BACK OF SIDEWALK GRADE 1 1/2" OVER 3' TO PROVIDE A MAXIMUM SLOPE OF 1":1'.
- PROVIDE A SAWED JOINT ALONG CENTER LINE OF APRON.
- MAXIMUM DROP AT BACK OF SIDEWALK SHALL NOT EXCEED 1 1/2".
- MAXIMUM CROSS SLOPE ON SIDEWALK SHALL NOT EXCEED 1/4" = 1'.
- MAXIMUM SLOPE ON APRON SHALL NOT EXCEED 1":1' (8.3%).
- ENTIRE APRON FROM BACK OF CURB TO BACK OF SIDEWALK SHALL BE CONSTRUCTED WITH A SINGLE POUR.
- ALL EXPANSION JOINTS SHALL BE FULL DEPTH.

STREET WITH PARKING LANE

STREET WITHOUT PARKING LANE



ENTRANCE WITH UTILITY STRIP

NOTE:
FOR USE WITH 6" HEADER CURB OR 6" CURB AND GUTTER

BASED ON UTILITY STRIP WITH 1/2":1' CROSS SLOPE			
UTILITY STRIP WIDTH	DROP BACK OF 4' SIDEWALK	SIDEWALK SLOPE	SLOPE ON APRON
0'	1 1/2"	7.29%	N/A
2'	1 1/2"	5.21%	8.33%
4'	1 1/2"	3.12%	8.33%
5'	1 1/2"	2.08%	8.33%
6'	1"	2.08%	8.33%
8'	0"	2.08%	8.33%
10'	0"	2.08%	7.50%

BASED ON UTILITY STRIP WITH 1/4":1' CROSS SLOPE			
UTILITY STRIP WIDTH	DROP BACK OF 4' SIDEWALK	SIDEWALK SLOPE	SLOPE ON APRON
0'	1 1/2"	7.29%	N/A
2'	1 1/2"	4.17%	8.33%
3'	1 1/2"	2.60%	8.33%
4'	1"	2.08%	8.33%
6'	0"	2.08%	7.64%
8'	0"	2.08%	6.25%
10'	0"	2.08%	5.42%

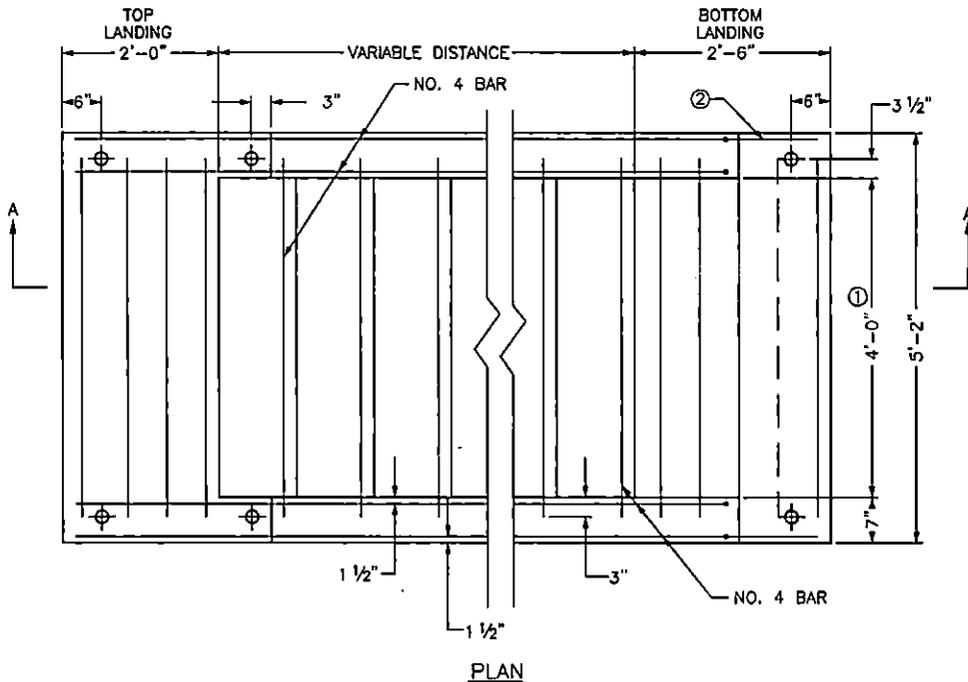


LEXINGTON

DIVISION OF ENGINEERING

RESIDENTIAL
ENTRANCE DETAILS

STANDARD DRAWING NO.	307-1
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	DATE



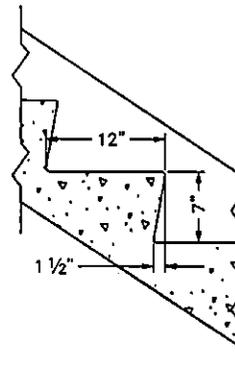
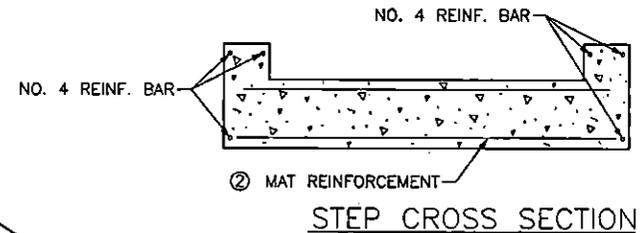
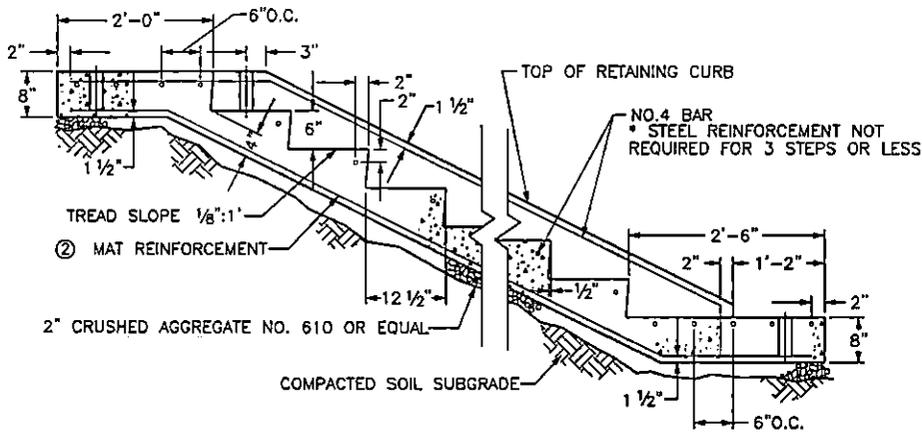
NOTES:

1. MAT REINFORCEMENT ②
NO. 4 REINFORCEMENT BARS, LONG. BARS 6" O.C. AND TRANSV. BARS 12" O.C., MIN. GRADE 40, OR WELDED WIRE FABRIC-6X6-W4XW4, 58 LBS./100 SQ. FT.
2. NO. 4 REINFORCEMENT BARS ADDITIONALLY AS SHOWN.
3. ROUND ALL EXPOSED EDGES AND CORNERS 1/4" R.
4. MAT REINFORCEMENT IN BOTTOM OF THE STEPS SHALL BE WIRE FABRIC OR BAR MAT ②.
5. HANDRAIL SHALL BE REQUIRED WITH THREE OR MORE STEPS.

TABLE OF QUANTITIES

SLOPE	LOCATION	ADDITIONAL NO. 4 BAR REINF. (LBS)		MAT REINFORCEMENT		CU. YDS. CLASS "A" CONCRETE			
		4' WIDTH ①	4' WIDTH ①	WIRE FABRIC (SQ.FT.)	BAR MAT (LBS)	4' WIDTH ①	4' WIDTH ①		
2:1	BOTTOM LANDING	23.547	3.340	11.776	2.375	27.388	5.177	0.337	0.059
	INTERMEDIATE STEP	8.015	1.336	5.991	1.208	12.191	2.283	0.16	0.025
	TOP LANDING	22.483	3.340	9.504	1.917	20.708	3.897	0.265	0.051
1 1/2:1	BOTTOM LANDING	23.603	3.340	12.602	2.542	28.613	5.400	0.36	0.062
	INTERMEDIATE STEP	7.431	1.336	5.268	1.063	11.119	2.088	0.17	0.027
	TOP LANDING	22.545	3.340	9.710	1.958	21.014	3.952	0.281	0.054

① APPROXIMATE QUANTITY TO ADD FOR EACH ADDITIONAL FOOT OF WIDTH OVER 4'-0".



LEXINGTON

DIVISION OF ENGINEERING

CONCRETE STEPS

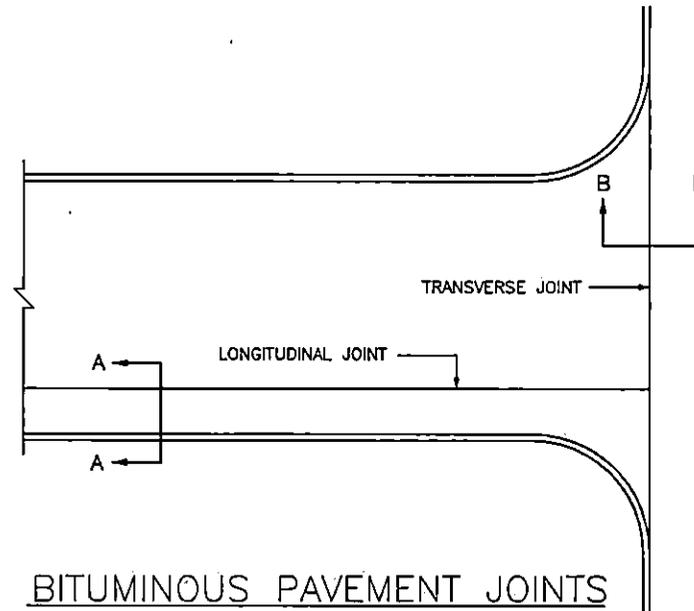
STANDARD DRAWING NO. 315

APPROVAL: 9/22/17

URBAN COUNTY ENGINEER DATE

COMMISSIONER 9/22/17

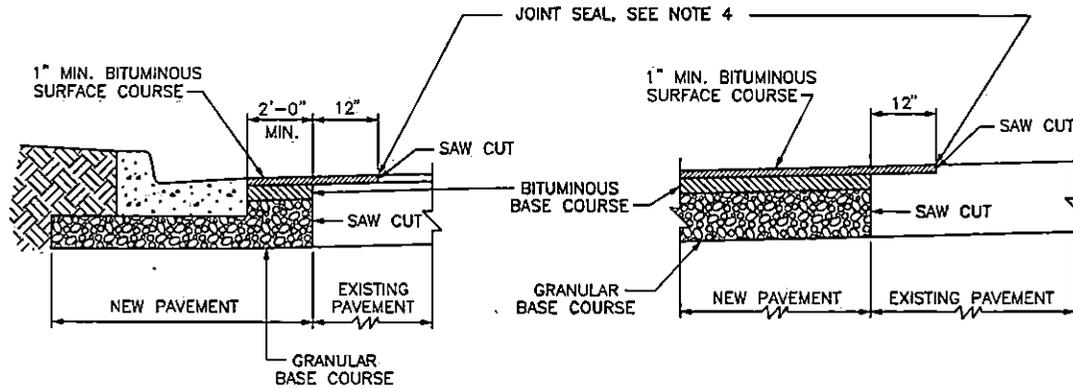
DATE



BITUMINOUS PAVEMENT JOINTS

NOTES:

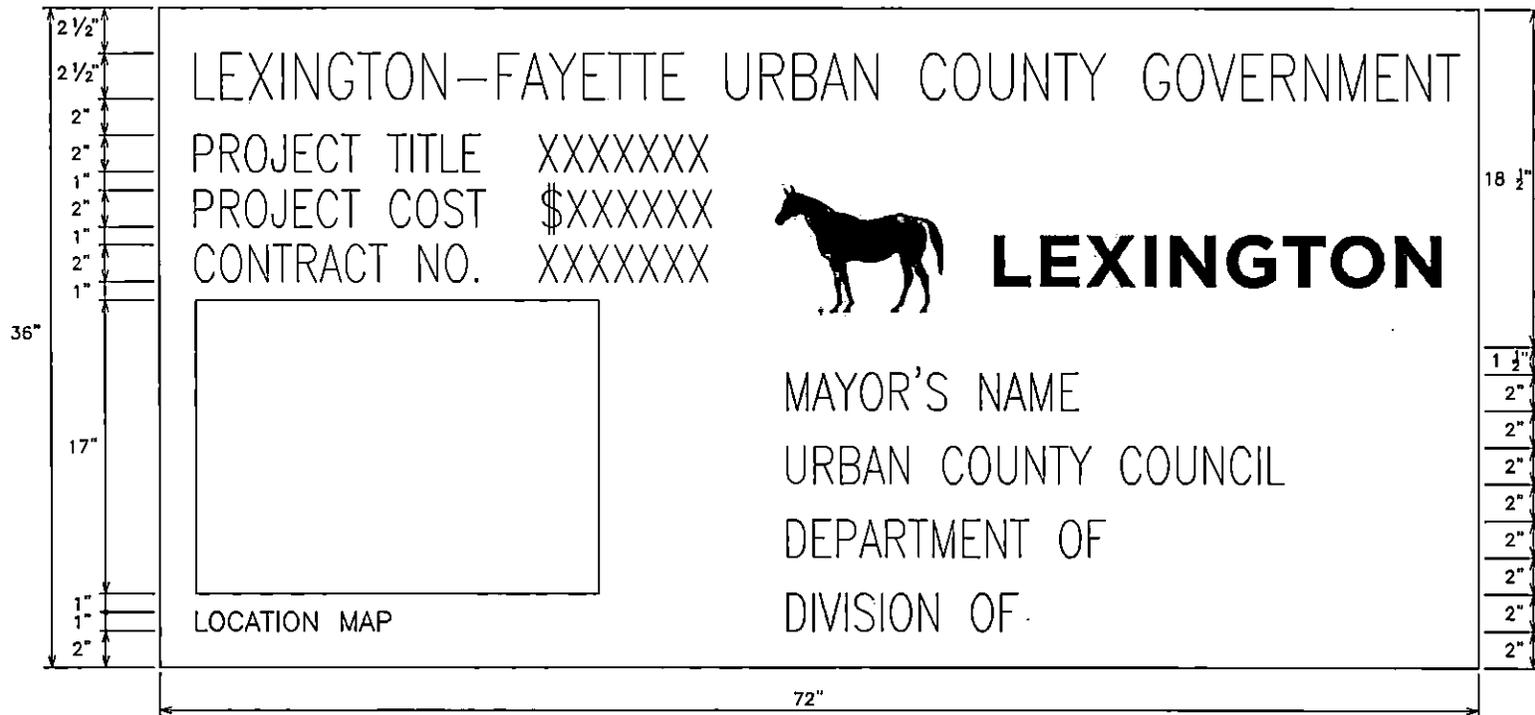
1. ALL SAW-CUTS SHALL BE NEAT AND STRAIGHT.
2. IMMEDIATELY BEFORE LAYING NEW BITUMINOUS COURSES, ALL SAW CUT EDGES SHALL BE CLEANED OF DUST AND DEBRIS AND SPRAYED WITH A BITUMINOUS TACK COAT.
3. EDGE KEY SHALL NOT BE REQUIRED IF BOTH EXISTING AND NEW PAVEMENT ARE TO RECEIVE AN OVERLAY AS PART OF THIS CONTRACT.
4. SEAL PERIMETER OF CUT PAVEMENT WITH CRACK SEALANT THAT MEETS ASTM D6690, TYPE 2.



**SECTION A-A
LONGITUDINAL EDGE KEY**

**SECTION B-B
TRANSVERSE EDGE KEY**

 LEXINGTON	
DIVISION OF ENGINEERING	
EDGE KEY	
STANDARD DRAWING NO.	318
APPROVAL:	9/22/17
URBAN COUNTY ENGINEER	DATE
COMMISSIONER	9/22/17
	DATE

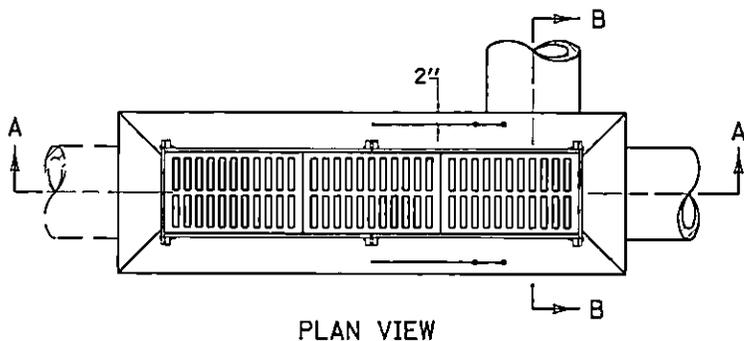


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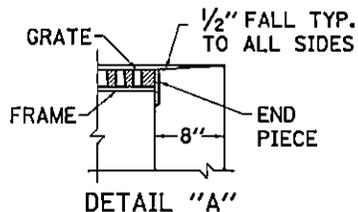
THIS SIGN SHALL BE:

1. FURNISHED AND ERECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, IN ADDITION TO THE NORMAL WARNING AND REGULATORY SIGNS.
2. OF GOOD QUALITY EXTERIOR PLYWOOD OR OTHER APPROVED MATERIAL.
3. PAINTED WITH SOLID BLUE LETTERS ON A WHITE BACKGROUND.
4. UPDATED AS NEEDED TO INDICATE THE APPROPRIATE MAYOR'S NAME.
5. FRAMED AND BRACED SO AS TO REMAIN VERTICAL AND PLAINLY VISIBLE TO THE TRAVELING PUBLIC.
6. ERECTED PRIOR TO STARTING CONSTRUCTION WORK.
7. ERECTED AT EACH END OF THE PROJECT AT LOCATIONS DIRECTED BY THE ENGINEER AND AT OTHER LOCATIONS SPECIFIED ON THE PLANS OR IN THE PROPOSAL.
8. KEPT CLEAN AND IN GOOD CONDITION FOR THE DURATION OF THE CONSTRUCTION AS DIRECTED BY THE ENGINEER.
9. THE COST SHOWN APPLIES ONLY TO THE PORTION OF PROJECT UNDER CONSTRUCTION IN A CONTINUOUS SECTION. IN THE EVENT THE PROJECT CONSISTS OF MORE THAN ONE CONTINUOUS SECTION THE COST SHOWN SHALL BE FOR THE PARTICULAR SECTION WHERE WORK IS IN PROGRESS.
10. NOT TO BE USED ON FEDERAL AID TRANSPORTATION PROJECTS

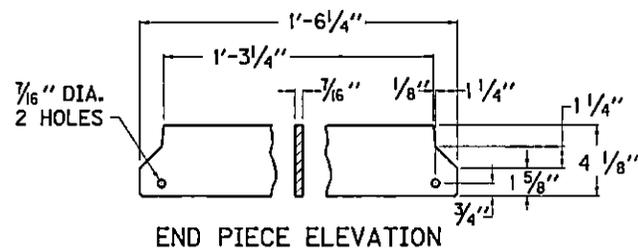
	LEXINGTON
DIVISION OF ENGINEERING	
PUBLIC IMPROVEMENT SIGN	
STANDARD DRAWING NO. 323	
APPROVAL:	DATE
URBAN COUNTY ENGINEER 	9/22/17
COMMISSIONER 	DATE
	9/22/17



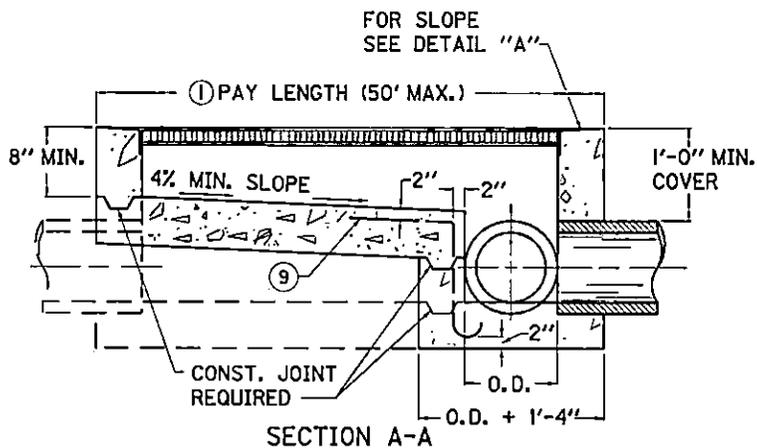
PLAN VIEW



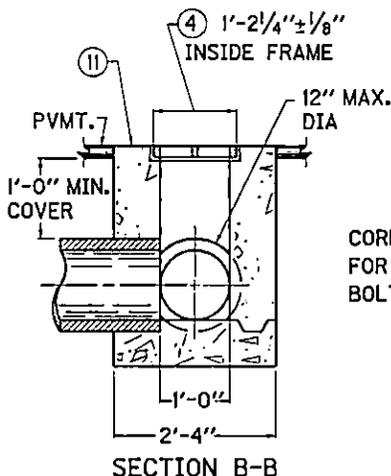
DETAIL "A"



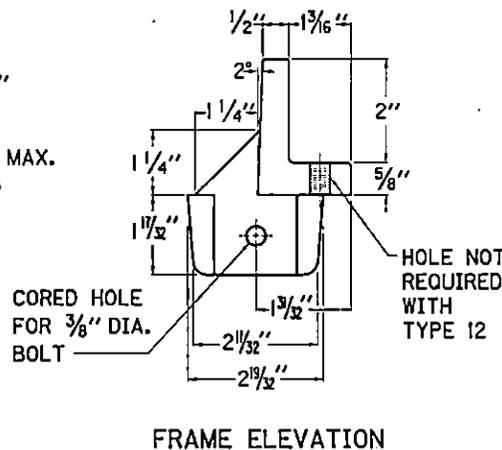
END PIECE ELEVATION



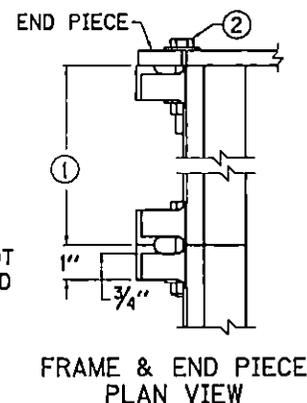
SECTION A-A



SECTION B-B



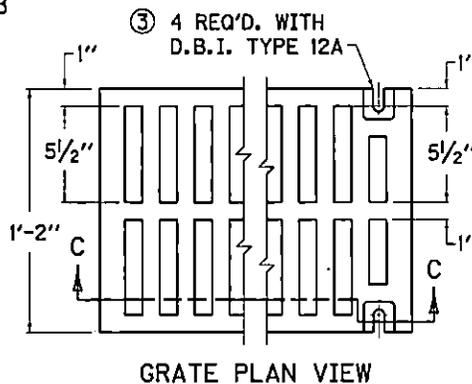
FRAME ELEVATION



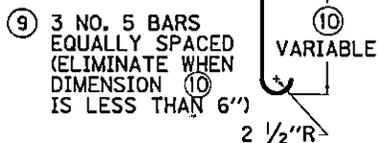
FRAME & END PIECE PLAN VIEW

~ NOTES ~

- THE BID ITEM PER LIN. FT. SHALL BE: "DROP BOX INLET TYPE \star ".
- \star 12 WHEN THE GRATES ARE NOT TO BE BOLTED TO THE FRAME.
12A WHEN THE GRATES ARE TO BE BOLTED TO THE FRAME.
- THE UNIT LENGTHS ARE 3'-0" FOR THE FRAMES AND 1'-11 7/8" FOR THE GRATES AND ARE TO BE CONSTRUCTED IN MULTIPLE LENGTHS OF 6'-0" FOR TYPE 12 INLET. THE UNIT LENGTHS ARE 2'-0" FOR THE FRAMES AND 1'-11 7/8" FOR THE GRATES AND ARE TO BE CONSTRUCTED IN MULTIPLE LENGTHS OF 2'-0" FOR TYPE 12A INLET.
 - THE FRAME AND END PIECES SHALL BE ASSEMBLED WITH 3/8" X 2 1/2" HEX HEAD BOLTS, NUTS AND FLAT WASHERS (COMMERCIAL QUALITY).
 - WHEN DROP BOX INLET TYPE 12A IS A BID ITEM, THE GRATES SHALL BE BOLTED TO THE FRAME WITH FOUR 3/8"-16 X 2" STAINLESS STEEL HEX BOLTS AND FLAT WASHERS (COMMERCIAL QUALITY).
 - THIS IS A CONTROL DIMENSION TO PREVENT FRAME FROM SPREADING.
 - THE WALLS AND BASE OF THE STRUCTURE SHALL BE 8" THICK.
 - SEE PIPE SECTIONS IN THE PLANS FOR FLOW LINE ELEVATIONS, PIPE SIZES, AND OTHER PERTINENT DETAILS.
 - SECURITY DEVICES ARE REQUIRED FOR TYPE 12 ONLY.
 - APPROXIMATE WEIGHT OF CASTINGS:
FRAME 15 LBS. PER FOOT (BOTH SIDES)
GRATE 50 LBS. PER FOOT
 - TOP SLOPE OF INLET SHALL BE CONSTRUCTED TO MATCH SLOPE OF ADJACENT PAVEMENT.
 - THESE GRATES ARE BICYCLE FRIENDLY.

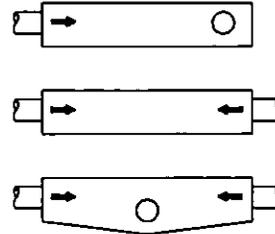


GRATE PLAN VIEW



SECTION C-C

VARIATIONS OF DRAINAGE PATTERNS



COMBINATIONS OF THE ABOVE MAY BE REQUIRED (SEE PIPE SECTIONS FOR APPROPRIATE DETAILS)

KENTUCKY DEPARTMENT OF HIGHWAYS

DROP BOX INLET TYPE 12 OR 12A

STANDARD DRAWING NO. RDB-012-09
SUBMITTED: *Paul K...* DIRECTOR DIVISION OF DESIGN DATE: 11-21-07
APPROVED: *...* STATE ENGINEER DATE: 11-21-07