

# Lexington-Fayette Urban County Government

**Request for Proposals** 

The Lexington-Fayette Urban County Government hereby requests proposals for **RFP #16-2025 Site Development of the Fire Training Academy Campus Phase I** to be provided in accordance with terms, conditions and specifications established herein.

Sealed proposals will be received through Ion Wave until **2:00 PM**, prevailing local time, on **June 11, 2025.** All forms and information requested in RFP must be included and attached in Response Attachments tab in Ion Wave.

Proposals received after the date and time set for opening proposals will not be accepted. It is the sole responsibility of the Proposer to assure that his/her proposal is submitted in Ion Wave before the date and time set for opening proposals.

Proposals, once submitted, may not be withdrawn for a period of ninety (90) calendar days.

The Lexington-Fayette Urban County Government reserves the right to reject any or all proposals, and to waive technicalities and informalities when such waiver is determined by the Lexington-Fayette Urban County Government to be in its best interest.

Signature of this proposal by the Proposer constitutes acceptance by the Proposer of terms, conditions and requirements set forth herein.

Minor exceptions may not eliminate the proposal. Any exceptions to the specifications established herein shall be listed in detail on a separate sheet and attached hereto. The Lexington-Fayette Urban County Government shall determine whether any exception is minor.

The Lexington-Fayette Urban County Government encourages the participation of minority- and women-owned businesses in Lexington-Fayette Urban County Government contracts. This proposal is subject to Affirmative Action requirements attached hereto.

A pre-proposal meeting will be held May 22, 2025, 2:00 pm, 1375 Old Frankfort Pike, Lexington, KY.

Please do not contact any LFUCG staff member or any other person involved in the selection process other than the designated contact person(s) regarding the project contemplated under this RFP while this RFP is open and a selection has not been finalized. Any attempt to do so may result in disqualification of the firm's submittal for consideration.

# Laws and Regulations

All applicable state laws, municipal ordinances and regulations of all authorities having jurisdiction over the project shall apply to the contract, and shall be deemed to be incorporated herein by reference.

# Equal Employment Opportunity

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, religion, sex (including pregnancy, sexual orientation or gender identity), national origin, disability, age, genetic information, political affiliation, or veteran status, 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.

# Kentucky Equal Employment Opportunity Act

The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any "county, 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 contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provision of the nondiscrimination 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 timetables.

(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 to 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 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 above quoted be included as <u>special conditions</u> in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his workforce 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.

### LFUCG Non-Appropriation Clause

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

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

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

### **Contention Process**

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

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

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

# **SELECTION CRITERIA:**

The LFUCG's Selection Committee shall consider the following factors when it evaluates the proposals received:

- 1. Professional qualifications and experience of the team with architectural and engineering services throughout the design and construction phases. 20
- 2. Demonstrated understanding of the project requirements. Including past experience with similar projects and building systems. 25
- 3. Capacity of the team to perform the work within the time limitations. Illustrated by the current volume of work in progress. 15
- 4. Past record and performance on contracts with the LFUCG, other governmental agencies, and private industry with respect to such factors as cost control, quality of work, and ability to meet schedule requirements. 5
- 5. Degree of local employment to be provided by the person or firm in the performance of the contract by the person or firm. 5
- 6. Fees 30

Proposals shall contain the appropriate information necessary to evaluate based on these criteria. A committee composed of government employees as well as representatives of relevant user groups will evaluate the proposals.

Questions regarding this RFP shall be addressed through: <u>https://lexingtonky.ionwave.net</u>

# Affirmative Action Plan

All vendors must submit as a part of the proposal package the following items to the Urban County Government:

- 1. Affirmative Action Plan for his/her firm;
- 2. Current Work Force Analysis Form;

Failure to submit these items as required may result in disqualification of the submitter from award of the contract. All submissions should be directed to:

Director, Division of Procurement Lexington-Fayette Urban County Government 200 East Main Street, 3rd Floor Lexington, Kentucky 40507

All questions regarding this proposal must be directed to the Division of Central Purchasing, (859)-258-3320.

## <u>AFFIDAVIT</u>

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 proposal or is the authorized representative of \_\_\_\_\_\_, the entity submitting the proposal (hereinafter referred to as "Proposer").

2. Proposer will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the proposal 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. Proposer will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.

4. Proposer has authorized the Division of Central Purchasing to verify the abovementioned 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. Proposer 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 Proposer will not violate any provision of the campaign finance laws of the Commonwealth.

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

Continued on next page

7. Proposer 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.

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

# 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.

#### <u>The Law</u>

- 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 sub-contractor 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 contractors 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.

#### <u>Bidders</u>

*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

#### WORKFORCE ANALYSIS FORM

# Name of Organization: \_\_\_\_\_

Categories	Total	W (N Hisp ( Lat	hite Not panic pr ino)	His or L	panic .atino	Blac Afric Ame (N Hisp or La	ck or can- rican lot vanic atino	Nat Hawa and ( Pac Islar (N Hisp or La	tive aiian Other cific nder lot vanic atino	Asia His or L	n (Not panic .atino	An Ind Al N His or	nerican dian or askan lative (not spanic Latino	T∖ n ra ( His or	vo or nore aces Not spanic Latino	То	tal
		м	F	м	F	м	F	М	F	М	F	М	F	м	F	м	F
Administrators																	
Professionals																	
Superintendents																	
Supervisors																	
Foremen																	
Technicians																	
Protective Service																	
Para-Professionals																	
Office/Clerical																	
Skilled Craft																	
Service/Maintenance																	
Total:																	

Prepared by: \_\_\_\_\_\_Date: \_\_\_\_/\_\_\_/\_\_\_\_

(Name and Title)

Revised 2015-Dec-15

\_\_\_\_\_

#### DIRECTOR, DIVISION OF PROCUREMENT LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT 200 EAST MAIN STREET LEXINGTON, KENTUCKY 40507

# NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITIES AND DBE CONTRACT PARTICIPATION

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

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

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

Firm Submitting Prop	osal:		
Complete Address: _	Street	City	Zip
Contact Name:		Title:	
Telephone Number:		Fax Number:	
Email address:			



#### MINORITY BUSINESS ENTERPRISE PROGRAM

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

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

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

*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. Black American, Asian American, Hispanic American, Native American)

*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 Procurement as having the appropriate credentials to make a determination as to the status of the business. The following certifications are recognized and accepted by the MBEP:

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

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

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



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 the Division of Procurement for approval immediately. Failure to submit a completed form may cause rejection of the bid.

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

The undersigned company representative submits the above list of MDWBE and veteran 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



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 the Division of Procurement 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. Note: Form required if a subcontractor is being substituted on a contract.

SUBSTITUTED DBE/MBE/WBE/VOSB	DBE/MBE/WBE/VOSB/SDVOSB Formally Contracted/ Name,	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the	% Value of Total Contract
Company Name, Address, Phone, Email	Address, Phone, Email			work	
1.					
2.					
3					
5.					
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



#### DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS AND OUTREACH PLANS

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

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

- 1. 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, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to participate.
- 2. Attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year to meet new small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to partner with on LFUCG contracts and procurements.
- 3. Attended pre-bid/pre-proposal meetings that were scheduled by LFUCG to inform small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs of subcontracting opportunities.
- 4. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs.
- 5. Requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
- 6. Contacted organizations that work with small, DBE, MBE, WBE, and VOSB companies for assistance in finding certified DBEs, MBEs, WBEs, VOSB and/or SDVOSBs to work

on this project. Those contacted and their responses must be a part of the bidder's outreach efforts documentation.

- 7. Sent written notices, by certified mail, email, or facsimile, to qualified, certified small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs 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.
- 8. Followed up initial solicitations by contacting small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs via tailored communications to determine their level of interest.
- 9. Provided the interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs with adequate and timely information about the plans, specifications, and requirements of the contract.
- 10. Selected portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs in order to increase the likelihood of subcontracting participation. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate small, DBE, MBE, WBE, VOSB and/or SDVOSB participation, even when the prime contractor may otherwise perform these work items with its own workforce.
- 11. Negotiated in good faith with interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection must be so noted in writing with a description as to why an agreement could not be reached.
- 12. Included documentation of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs that 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.
  - a. 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 small business', DBE's MBE's, WBE's, VOSB's and/or SDVOSB's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy the participation goals.
- 13. Made an effort to offer assistance to or refer interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal.

- 14. Made efforts to expand the search for small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.
- 15. Other any other evidence that the bidder submits that may demonstrate that the bidder has made reasonable efforts to include small, DBE, MBE, WBE, VOSB and/or SDVOSB participation.

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

<u>Note</u>: Failure to submit 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 and Outreach Efforts must be submitted with the Bid, regardless of the proposed level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation in the procurement. If the Good Faith and Outreach Effort documentation is not submitted with the bid response, the bid may be rejected.

### OUTREACH EFFORTS EVALUATION

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

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

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

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

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

Is the Bidder/ Proposer a certified firm?	Yes 🗆	No 🗆
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If yes, indicate all certification type(s):

DBE 🗆	$MBE \square$	WBE $\Box$	SBE $\Box$	VOSB/SDVOSB □

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

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

( Click or tap here to enter text.)

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

Yes  $\Box$  No  $\Box$ 

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

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

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

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

- □ Bidder placed advertisements in search of prospective small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs for the solicitation.
- □ Bidder attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year.
- Bidder attended pre-bid and/or pre-proposal meetings for this solicitation.
- □ Bidder sponsored an Economic Inclusion Outreach event.
- □ Bidder requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG.
- □ Bidder contacted organizations that work with small, DBE, MBE, WBE, VOSB and/or SDVOSB companies.
- □ Bidder sent written notices to certified small, DBE, MBE, WBE, VOSB and SDVOSB businesses.
- □ Bidder followed up to initial solicitations with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB.
- □ Bidder provided small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses interested in performing the solicited work with prompt access to the plans, specifications, scope of work, and requirements of the solicitation.
- □ Bidder made efforts to segment portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, including dividing sub-bid/partnership opportunities into economically feasible units/parcels, to facilitate participation.

- □ Bidder negotiated in good faith with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses.
- □ Bidder provided adequate rationale for rejecting any small business', DBEs, MBEs, WBEs, VOSBs or SDVOSBs for lack of qualifications.
- □ Bidder offered assistance in obtaining bonding, insurance, financial, equipment, or other resources to small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, in an effort to assist them in meeting project requirements.
- □ Bidder made efforts to expand the search for small businesses, DBEs MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.
- □ Bidder made other reasonable efforts to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation.

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

Click or tap here to enter text.

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

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

Failure to submit the documentation requested may be cause for rejection of the 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 and Outreach Efforts must be submitted with the bid, regardless of the proposed level of SBEs, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation in the procurement. If the Good Faith and Outreach Effort Form and associated documentation is not submitted with the bid response, the bid may be rejected.

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

**Company Representative** 

Date

Title

4870-1925-6809, v. 1

## **GENERAL PROVISIONS**

1. Each Respondent shall comply with all Federal, State & Local regulations concerning this type of service or good.

The Respondent agrees to comply with all statutes, rules, and regulations governing safe and healthful working conditions, including the Occupational Health and Safety Act of 1970, *29 U.S.C. 650 et. seq.*, as amended, and KRS Chapter 338. The Respondent also agrees to notify the LFUCG in writing immediately upon detection of any unsafe and/or unhealthful working conditions at the job site. The Respondent agrees to indemnify, defend and hold the LFUCG harmless from all penalties, fines or other expenses arising out of the alleged violation of said laws.

- 2. Failure to submit ALL forms and information required in this RFP may be grounds for disqualification.
- 3. Addenda: All addenda and IonWave Q&A, if any, shall be considered in making the proposal, and such addenda shall be made a part of this RFP. Before submitting a proposal, it is incumbent upon each proposer to be informed as to whether any addenda have been issued, and the failure to cover in the bid any such addenda may result in disqualification of that proposal.
- 4. Proposal Reservations: LFUCG reserves the right to reject any or all proposals, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
- 5. Liability: LFUCG is not responsible for any cost incurred by a Respondent in the preparation of proposals.
- 6. Changes/Alterations: Respondent may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the proposal, and received by LFUCG prior to the scheduled closing time for receipt of proposals, will be accepted. The proposal, when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of proposal".
- 7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from a Respondent.
- 8. Bribery Clause: By his/her signature on the bid, Respondent certifies that no employee of his/hers, any affiliate or Subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.

- 9. Additional Information: While not necessary, the Respondent may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the Respondent's response. Additional documentation shall not serve as a substitute for other documentation which is required by this RFP to be submitted with the proposal,
- 10. Ambiguity, Conflict or other Errors in RFP: If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in the RFP, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
- 11. Agreement to Bid Terms: In submitting this proposal, the Respondent agrees that it has carefully examined the specifications and all provisions relating to the work to be done attached hereto and made part of this proposal. By acceptance of a Contract under this RFP, proposer states that it understands the meaning, intent and requirements of the RFP and agrees to the same. The successful Respondent shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to Respondent shall be authorized for services or expenses reasonably covered under these provisions that the proposer omits from its Proposal.
- 12. Cancellation: If the services to be performed hereunder by the Respondent are not performed in an acceptable manner to the LFUCG, the LFUCG may cancel this contract for cause by providing written notice to the proposer, giving at least thirty (30) days notice of the proposed cancellation and the reasons for same. During that time period, the proposer may seek to bring the performance of services hereunder to a level that is acceptable to the LFUCG, and the LFUCG may rescind the cancellation if such action is in its best interest.
  - A. Termination for Cause
  - (1) LFUCG may terminate a contract because of the contractor's failure to perform its contractual duties
  - (2) If a contractor is determined to be in default, LFUCG shall notify the contractor of the determination in writing, and may include a specified date by which the contractor shall cure the identified deficiencies. LFUCG may proceed with termination if the contractor fails to cure the deficiencies within the specified time.
  - (3) A default in performance by a contractor for which a contract may be terminated shall include, but shall not necessarily be limited to:
    - (a) Failure to perform the contract according to its terms, conditions and specifications;
    - (b) Failure to make delivery within the time specified or according

to a delivery schedule fixed by the contract;

- (c) Late payment or nonpayment of bills for labor, materials, supplies, or equipment furnished in connection with a contract for construction services as evidenced by mechanics' liens filed pursuant to the provisions of KRS Chapter 376, or letters of indebtedness received from creditors by the purchasing agency;
- (d) Failure to diligently advance the work under a contract for construction services;
- (e) The filing of a bankruptcy petition by or against the contractor; or
- (f) Actions that endanger the health, safely or welfare of the LFUCG or its citizens.
- B. At Will Termination

Notwithstanding the above provisions, the LFUCG may terminate this contract at will in accordance with the law upon providing thirty (30) days written notice of that intent, Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

- 13. Assignment of Contract: The contractor shall not assign or subcontract any portion of the Contract without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
- 14. No Waiver: No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this Contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
- 15. Authority to do Business: The Respondent must be a duly organized and authorized to do business under the laws of Kentucky. Respondent must be in good standing and have full legal capacity to provide the services specified under this Contract. The Respondent must have all necessary right and lawful authority to enter into this Contract for the full term hereof and that proper corporate or other action has been duly taken authorizing the Respondent to enter into this Contract. The Respondent will provide LFUCG with a copy of a corporate resolution authorizing this action and a letter from an attorney confirming that the proposer is authorized to do business in the State of Kentucky if requested. All proposals must

be signed by a duly authorized officer, agent or employee of the Respondent.

- 16. Governing Law: This Contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this Contract, the Parties agree that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division. All parties expressly consent to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to this Contract or any rights or obligations arising thereunder. Service of process may be accomplished by following the procedures prescribed by law.
- 17. Ability to Meet Obligations: Respondent affirmatively states that there are no actions, suits or proceedings of any kind pending against Respondent or, to the knowledge of the Respondent, threatened against the Respondent before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of Respondent to perform its obligations under this Contract, or which question the legality, validity or enforceability hereof or thereof.
- 18. Contractor understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Contractor is an independent contractor at all times during the performance of the services specified.
- 19. If any term or provision of this Contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.
- 20. Contractor [or Vendor or Vendor's Employees] will not appropriate or make use of the Lexington-Fayette Urban County Government (LFUCG) name or any of its trade or service marks or property (including but not limited to any logo or seal), in any promotion, endorsement, advertisement, testimonial or similar use without the prior written consent of the government. If such consent is granted LFUCG reserves the unilateral right, in its sole discretion, to immediately terminate and revoke such use for any reason whatsoever. Contractor agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.

Signature

Date

#### **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) 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.
- (6) Notwithstanding, the foregoing with respect to any professional services performed by CONTRACTOR hereunder (and to the fullest extent permitted by law), CONTRACTOR shall indemnify, save, hold harmless and defend LFUCG from and against any and 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, for any damage due to death or injury to any person or injury to any property (including the loss of use resulting therefrom) to the extent arising out of, pertaining to or relating to the negligence, recklessness or willful misconduct of CONTRACTOR in the performance of this agreement.

#### FINANCIAL RESPONSIBILITY

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

#### **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 (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million aggregate or \$2 million combined single limit
Auto Liability	\$1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	\$100K
Professional (E&O) Liability	\$1 million per claim

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. 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.
- d. 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.

#### **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

#### 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.

00548704



# **REQUEST FOR PROPOSALS**

FOR:

# Lexington Fire Department New Phase 1 Site Development of the Fire Training Academy Campus

# RFP # 16-2025

**Department of General Services** 

**Division of Facilities & Fleet Management** 

**Capital Project Management** 

May 2025

#### **TABLE OF CONTENTS**

#### SECTION I - OVERVIEW OF PROCESS

- 1.0 Introduction
- 1.1 Project Narrative
- 1.2 Program & Technical Requirements
- 1.3 Scope of Basic Services
  - 1.3a Stage 1: Design Stage
  - 1.3b Stage 2: Construction Administration Stage
- 1.4 Selection Process
- 1.5 Selection Criteria

#### SECTION II - LIST OF ATTACHMENTS

ATTACHMENT A – Form of Proposal (Includes Submittal Requirements)

ATTACHMENT B – Sample Agreement for Consultant Services

ATTACHMENT C – Project Schedule

ATTACHMENT D – Preliminary Site Development Plan Layout

ATTACHMENT E – 2024 Fire Training Academy Campus Feasibility Study (includes Survey & Geotech)

# **1.0-INTRODUCTION**

The Lexington-Fayette Urban County Government (LFUCG) is seeking proposals from Architectural/ Engineering consultants who are expertly qualified in the performance of professional design services relating to new site development construction.

The purpose of these services is for a Phase 1 Site Development of the existing Lexington Fire Department – Fire Training Academy Campus located at 1375 Old Frankfort Pike, Lexington, KY 40504. The new site improvements and development will include new parking lots for 200+ and paved driving pad areas suitable for standard vehicles and large LFD apparatus vehicles and trucks. New storm water management systems will be installed in place, along with new utilities for electric, lighting, and domestic water on the campus. A new appropriately sized bridge will be provided to the rear parcel to replace the existing structurally condemned bridge.

The address for the **Lexington Fire Department – Phase 1 Site Development Project** will be: 1375 Old Frankfort Pike, Lexington, KY 40504.

The Project shall consist of Two Stages:

- Stage 1: Design Stage
- Stage 2: Construction Administration Stage

# **1.1 - PROJECT NARRATIVE**

The current Lexington Fire Department – Fire Training Academy Campus is situated along Old Frankfort Pike and has very limited access and parking. The existing rear parcel on this property was formerly utilized by our LFUCG Division of Streets and Roads, with snow removal equipment, brine storage, excess materials, and stockpiling of stone aggregates and soil. The existing bridge to access this rear parcel has been structurally condemned per the attached report and is not suitable for vehicular use. It is the only access point to this rear parcel.

The new LFUCG Town Branch Trail development will also traverse through this campus property, running parallel along Old Frankfort Pike and further reducing vehicular access and parking. The integration of this new Town Branch Trail will coincide with the new site development design and coordination with our LFUCG Division of Engineering.

In 2024, a Feasibility Study was performed to evaluate the entire existing Fire Training Academy Campus, including the Fire Training Center Facility, Fire Tower, Training Simulation Area, utilities, parking, vehicle and LFD apparatus access. A site survey and geotechnical exploration study and report were also conducted to obtain further information about the campus. The Kentucky State EPA covenant area with LFUCG for contaminated soil was also identified and defined for the small area on the site. The final report and recommendations from this Feasibility Study are included as an attachment to this RFP.

The goal of this Phase 1 Site Development Project is to maximize the vehicular parking for staff and public with the closest proximity to the existing Fire Training Center. It will also provide a new vehicular and pedestrian replacement bridge capable of supporting the largest apparatus vehicle and two-way traffic. The rear parcel will be developed to maximize additional parking and a driving pad, with utility connections for future facility development in the rear area.

The consultant shall be responsible for reviewing all attachments, reports, project criteria, and gathering the necessary information to make expert-based recommendations to the Owner. The consultant shall work with all applicable divisions of LFUCG and the State of Kentucky for the development of the site and the new access bridge. Recommendations shall include, at a minimum, comparisons of probable costs, product lifecycles, maintenance requirements, and site considerations.

Consultants should build their project design teams with expertly qualified subconsultants to complete all of the desired scope, including site development, civil engineering, landscaping, bridge design, lighting, utility infrastructure, etc.

This Request for Proposal includes all phases of design and outlines each phase with minimum requirements and recommendations within two project stages. Stage 1: Design Stage includes a schematic design phase, design development phase, construction document phase, and a bidding phase. Stage 2: Construction Administration Phase includes construction administration, and a required eleventh month walkthrough to review items that may fall under the one-year workmanship warranty provided by the contractor.

The basis of design layout shall be per the Attachment 'D' prepared by the design consultant. This is also included in the 2024 Feasibility Study aforementioned. The final layout shall be coordinated with LFUCG and the LFD stakeholders.

# **1.2 - PROGRAM & TECHNICAL REQUIRMENTS**

The Phase 1 Site Development Project is anticipated to provide supporting parking, access, and future facility developments to the existing Fire Training Academy Campus. The parking lot and bridge developments shall be sited in accordance with all applicable codes, zoning, ordinances, and regulations. Consultants shall collaborate with the Lexington Fire Department for safety and security strategies to be implemented within the design.

They shall also work with all applicable Divisions of LFUCG and Commonwealth of Kentucky for planning, zoning, storm water management, utilities, easements, EPA, bridge replacement, Town Branch Trail integration, etc.

#### Site Development Areas shall include the following, but not be limited to:

- Coordination to identify the size, location, and design of the new vehicular/pedestrian replacement bridge to the rear parcel.
- Coordination with LFUCG on the review and recommendation of excess stockpiled materials and former facility structures on the rear parcel. Confirming and coordinating all existing and/or abandoned utilities.
- Over 200 vehicular parking spaces for staff and the public, with maximizing proximity to the existing Fire Training Academy and quantity at the front parcel. Providing the required accessible parking spaces and path of travel per building code and ADA compliance.
- LED site lighting to meet all building codes and LFUCG Ordinances for safe access.
- Providing new utilities to the rear parcel for future facility developments, including domestic water, electric, and natural gas. Identify the prime locations for the driving pad and future support facilities on the rear parcel with new utility access.
- Coordination with the LFUCG Division of Engineering on the full integration of the new Town Branch Trail that traverses the Fire Training Academy Campus and portions of this new Phase 1 Development.
- Coordination with LFUCG on all storm water development and water quality requirements, including all applicable codes, ordinances, and regulations.

 Coordination with LFUCG and Commonwealth of Kentucky on the siting, sizing, and regulations of the new vehicular/pedestrian replacement bridge.

#### Notes:

- 1. Consultants shall coordinate with the Owner for LFUCG standards. Owner will provide the consultant with all available LFUCG standards as necessary.
- Consultants shall coordinate with the Owner (LFUCG) and all Divisions, including the Division of Engineering and Division of Environmental Quality & Public Works, for integration of the new Town Branch Trail, stormwater management, contaminated soils covenant, and appropriate approvals for the new bridge construction at the Town Branch Creek.
- 3. Consultant shall coordinate all colors and finishes with the Owner including LFUCG & Lexington Fire Department graphics. Sample boards for exterior finishes shall be submitted and reviewed with the Owner for approval.
- 4. Any electrical, mechanical, or operable systems should be engineered for long-term operating efficiency, energy costs, and maintenance costs.
- 5. Consultant shall ensure any systems specified can be serviced and maintained by locally available trades-people.
- 6. All exterior finish materials should be long-lasting, durable, and easily maintained.
- 7. Building exterior and parking areas shall be well lit to provide for safe use of the campus and meet all building codes and LFUCG ordinances. Exterior lights should be resistant to vandalism and be energy efficient.
- 8. Consultants should consider permeable surfaces and landscaping options when evaluating storm water management.

The consultant shall provide continual coordination with the owner and provide recommendations based on cost, quality, schedule, maintenance, life cycle, constructability, and applicability to the specific project. The consultant shall prepare alternates at the Owner's request, or as recommended by the consultant and approved by the Owner. Alternates may include, but are not limited to, additional paved areas, utilities, photovoltaics, etc.

# **1.3 - SCOPE OF BASIC SERVICES**

#### **General Requirements:**

- a. **Council Presentations** The Consultant must be available for Council Work Sessions and/or Council Meetings to make presentations, answer design questions, and provide change order information as necessary.
- b. **Design Schedule** See Project Schedule (Attachment C). The Consultant shall review the design schedule and submit a strategy of reaching milestone dates. Any proposed deviations to the attached schedule should be identified in the proposal.
- c. Deliverables All design submittals shall consist of (2) hard copies and (1) digital PDF copy at 98% submissions, and (3) hard copies and (1) digital PDF at the Final Submission of each Phase. Typical drawing sheet size to be 24"x 36" unless approved otherwise. Specifications, reports, and other supplemental documents shall be on 8-1/2" x 11" sheets unless approved otherwise. Supplemental drawings, revisions, and clarifications may be on 8-1/2" x 11" sheets, or 11" x 17" sheets. All other sheet sizes are to be approved by LFUCG Project Manager. The LFUCG Project Manager may request half-size sets of drawings as a portion of the required amount of hard copy sets per each submission.
- d. **Owner Review Meetings/Presentation -** The Consultant shall be responsible for attending review meetings/presentations at the end of each design phase, and as otherwise noted in the RFP. Refer
to design schedule (Attachment 'C').

- e. Value Engineering shall be performed at the end of each design phase as necessary to meet the project budget.
- f. Authorization to Proceed Where multiple phases of work are outlined; the Consultant shall not proceed with the next stage or phase of work until cost and timeline estimates are aligned with the Owner's budget and schedule. Authorization to commence with the next phase of work will be issued in writing from the Owner (LFUCG) after approval of previous design documents. Any work performed by the Consultant without this written authorization will be at the Consultant's risk and will be a voluntary contribution to the project.

# 1.3a - STAGE 1: Design Stage

The design stage of the project shall include all phases of design as outlined below. The consultant shall collect all necessary information, provide updates to the LFUCG Project Manager, acquire continual input from the Owner, evaluate and implement Owner's comments, advocate for the Owner, maintain documentation of the design process, and provide all deliverables as outlined by the RFP per the design schedule. Minimum requirements for each design phase are listed below. However, it is the Consultant's responsibility to communicate the design intent and full scope of work. Content established in the minimum requirements may be shown or indicated where the content is best communicated. The consultant shall be responsible for determining additional content as necessary to complete the full design intent based on the Owner's Project Requirements. The scope of this project will include full professional services for new construction and site development. The consultant shall seek continual input from the Owner throughout each phase of the project.

**Phase 1: Schematic Design** - Schematic Design Documents shall consist of drawings and other documents necessary to convey the overall intent. Preliminary selections of major building systems and construction materials shall be noted on the drawings or described in writing in a schematic design narrative. Proposed building systems shall be evaluated on probable costs, product lifecycle, and maintenance requirements. Continual input from the Owner shall be actively sought throughout the schematic design process. At the completion of the Schematic Design Phase the general design intent of the project shall be expressed and evident. See below for minimum Schematic Design Submission Requirements:

#### □ Program of Spaces/ Defined Scope of Work

Written assurance from the design professional that the building square footage, and/or defined scope of work depicted on the drawings is consistent with that shown in the program of spaces, and/or proposed scope of work. If there is a discrepancy between these documents, an explanation of the discrepancy shall be provided.

#### □ Preliminary Estimate of Probable Construction Cost.

The Probable Construction Cost shall be itemized with unit costs. If the consultants Preliminary Estimate of Probable Construction Cost is over an Owner provided construction budget, the consultant must include value engineering options, and written recommendations of how to reduce the cost to meet the provided budget.

#### □ Schematic Design Narrative & Documentation

Written documentation and justification of proposed major building systems. Identify each major building system (building structure, HVAC system, building envelope, etc.). Provide probable costs, product lifecycle, and maintenance requirements of each system. Provide a written recommendation for the systems to be used. Specify to what degree, if any, that system commissioning will be required for the project and advise Owner on procurement options.

# □ Schematic Design Drawings (include at a minimum):

- <u>Cover Sheet:</u> Project name, project address, date of submission, drawing index with sheet names and numbers listing all drawings included within the submission, list of abbreviations and project specific notes, vicinity map of general project location with north arrow, breakdown of building square footage by floor with total, use & occupancy classification, construction classification, phase of submission, and owner name & contact information.
- <u>Site Plan:</u> Incorporate Boundary and Topographic Survey Data, Preliminary Grading Plan, and Utility Plan showing anticipated proposed tie-in locations.
- <u>Floor Plans</u>: Room descriptions and square footages of each space, plumbing fixtures, all major MEP components applicable to the scope of work at the schematic level, line diagrams as necessary, and overall dimensions.
- <u>Elevations</u>: Exterior elevation drawings sufficient to describe the general layout and character of proposed new construction and/or major renovation. All major construction materials and/or components shall be identified in drawings. All major building elevations shall be required for new building construction.

#### Schematic Design Deliverables:

(2) Full hardcopy sets, and (1) digital set of submission items are due at the 98% submission as indicated on the design schedule (Attachment C) unless approved otherwise. Consultants are required to present the submission in person at an Owner's review meeting and keep a record of the meeting minutes along with all Owner comments and action items. The consultant shall distribute the meeting minutes within (3) business days of the Owner review meeting. LFUCG Project Manager will review the submission, and will send in writing, additional review items and comments within (5) business days. The consultant shall incorporate all applicable review comments and submit three full hard copy sets and one digital set of all submission items for the final schematic design submission.

The Consultant shall not proceed with the next phase of work until cost and timeline estimates are aligned with the Owner's budget and timeline and approved by the Owner. Authorization to commence with the next phase of work will be made in writing from the Owner. Any work performed by the Consultant without this written authorization will be at the Consultant's risk.

#### Phase 2: Design Development

The Design Development Documents shall illustrate and describe the development of the approved Schematic Design Documents. Design Development Documents shall consist of documents including plans, sections, elevations, and typical construction details that effectively communicate the overall scope of work, layout, dimensions, quantities, and specific building systems. The Design Development Documents shall include outline specifications that identify major materials and systems and establish in general their quality levels. All major building systems shall be expressed in a clear graphical and/or written manner. The design approach and aesthetic of the building envelope improvements shall be fully communicated within the Design Development Submission. Continual input from the Owner shall be actively sought throughout the Design Development process. At the completion of the Design Development Phase the design intent of the project shall be fully expressed and evident. See below for minimum Design Development Submission Requirements:

# □ Program of Spaces/ Defined Scope of Work

Written assurance from the design professional that the building square footage, and/or defined scope of work depicted on the drawings is consistent with that shown in the program of spaces, and/or proposed scope of work. If there is a discrepancy between these documents, an explanation of the discrepancy shall be provided.

#### □ Estimate of Probable Construction Cost.

The Probable Construction Cost shall be itemized out with unit cost. If the consultant's Estimate of Probable Construction Cost is over an Owner provided construction budget/ approved construction cost from a previous phase, the consultant must include value engineering options, and written recommendations of how to reduce the cost to meet the provided budget.

#### □ Outline Specification

Outline specifications to include all major building, and/or project components & systems per division of work specific to the project. Identifies the major materials & systems and establishes in general their quality levels. Basis of design for major materials, components, and systems to be identified, and coordinated with the Owner. Include Cover Sheet, and full table of contents.

#### Design Development Drawings (include at a minimum):

- Site Plans: Key plan, property lines, building footprint, parking & paving, exterior steps & ramps, sidewalks, fencing. Identify locations of materials (asphalt, concrete, pavers, lawn, etc.), storm water management, spot grades at all entrances & new building corners, grades (at drives, sidewalks, parking), location of all necessary utilities (power, water, sewer, communication, etc.), and datum points for locating/ placing new construction.
- <u>Structural Plans</u>: Key plan, layout of floor & roof framing plans showing major structural components including sizes/ weights, descriptions of floor deck & concrete systems, locations of retaining walls or non-standard foundations and/or framing systems, bearing height of structural elements, finish floor elevations, proposed bottom of footing elevations, location dimensions for all major structural elements/ dimensional tie-ins to architectural plans, narrative describing structural systems for all footings, foundations, floors, roof, and/or modifications.
- Architectural Plans: Key plan, Show all major plan elements where applicable (columns, exterior walls, interior partitions, doors/ door swing, windows, stairs, handrail/guard rails, elevators, interior frames & openings, casework/ built in items, equipment, etc.), room names and numbers, door numbers, Overall building dimensions, column line dimensions tied to exterior wall dimensions, wall thicknesses, stair & ramp dimensions, continuous string of dimensions (minimum of one longitudinally & one laterally) through the building or space that equals the overall dimensions, ceilings (show grid with lighting & HVAC, ceiling heights, changes in ceiling elevations, note materials, show all ceiling mounted items), callouts for building elevations & sections, door & window tags, roofing elements (locate: roof drains, gutters, downspouts, overflows, taper insulation, roof slops, major flashing, roof curbs, parapets, ridge lines, valleys, roof ladders, hatches, etc.), preliminary finish schedule (floors, walls, and ceilings).
- <u>Plumbing:</u> Key plan with legend, preliminary plumbing fixture schedule & equipment schedules for all plumbing equipment (provide makes & model, if available), locate all plumbing fixtures & equipment, locate main water line and include sizing, locate main sewer/ vent lines and include sizing, locate roof drain lines and include sizing. Identify where water, sewer and storm enter/ exit the site/ facility.
- Electrical: Key plan with legend, power plan with legend showing locations of main and distribution panel boards/ outlets along with service entrance and transformer locations, and emergency power systems (generators/ misc. systems). Lighting plan with legend showing the location of lighting, fixture type, controls, dimming systems, exit lighting, and emergency egress lighting. Preliminary fixture schedule showing all fixture types with basis design identified. (make & model, if known). Communications plan with legend showing location of fire alarm pull stations (if applicable), data outlets, phone outlets, etc. Site

utility service connections & details, technology documents showing cable tray, outlet locations, main technology closets and outlet details.

#### □ 3D Images/ Samples:

Provide color 3D images of all major elevations to show the proposed new layout. 3D Images may be sketched by hand, exported images from sketch-up, rendered images from Revit, or other preferred program. The intent of the 3D images is to provide an aesthetic understanding of the proposed building envelope. Material types, configurations, and overall aesthetic shall be clear and evident. Consultants shall submit sample boards of all major exterior materials (brick, metal panels, stone/ casts tone, fascia material, window finishes, glass samples, etc.)

# **Design Development Deliverables:**

(2) Full hardcopy sets, and (1) digital set of submission items are due at the 98% submission as indicated on the design schedule (Attachment C) unless approved otherwise. Consultants are required to present the submission in person at an Owner's review meeting, and keep a record of the meeting minutes along with all Owner comments and action items. Only one material sample board is required at 98% submission unless updates are necessary. If updates are necessary, an updated material sample board may be resubmitted at final completion of the phase. The consultant shall distribute the meeting minutes within (3) business days of the Owner review meeting. LFUCG Project Manager will review the submission, and will send in writing, additional review items and comments within (5) business days. The consultant shall incorporate all applicable review comments, and submit three full hard copy sets and one digital set of all submission items for the final design development submission.

The Consultant shall not proceed with the next phase of work until cost and timeline estimates are aligned with the Owner's budget and timeline, and approved by the Owner. Authorization to commence with the next phase of work will be made in writing from the Owner. Any work performed by the Consultant without this written authorization will be at the Consultant's risk.

#### Phase 3: Construction Documents

The Construction Documents shall illustrate and describe the further development of the approved Design Development Documents. Construction Documents shall consist of documents including fully noted drawings and specifications that effectively communicate the entire design intent and full scope of work including all approved alternates. Drawings and specification shall be coordinated by the design consultant for quality and completeness. Continual input from the Owner shall be actively sought throughout the Construction Document process. The consultant shall coordinate with LFUCG Project Manager and LFUCG Division of Central Purchasing. LFUCG Front End Documents, Parts I through VIII will be completed by Central Purchasing with assistance from the design consultant, and inserted into the Project Manual. Parts I through VIII include: I- Advertisement for Bids, II- Information for Bidders, III- Form of Proposal, IV- General Conditions, V- Special Conditions, VI- Contract Agreement, VII- Performance and Payment Bonds, VIII- Addenda. Consultants shall review Parts I – VII, assist with project specific information, and complete the rest of the Project Manual including cover sheet, indexes, technical specifications, etc. The completed construction documents shall convey the entire scope of work in a level of detail for quality construction of the full project scope that meets all applicable codes, regulations, and requirements. See below for minimum Construction Documents Submission Requirements:

# □ Program of Spaces/ Defined Scope of Work

Written assurance from the design professional that the building square footage, and/or defined scope of work depicted on the drawings is consistent with that shown in the program of spaces,

and/or proposed scope of work. If there is a discrepancy between these documents, an explanation of the discrepancy shall be provided.

#### □ Independent Third Party Estimate of Construction Cost:

The consultant shall engage with a third party estimator for a full Itemized Construction Cost Estimate including unit costs and quantities per division of work. If the Construction Cost Estimate is over the Owner provided construction budget/ approved construction cost from a previous phase, the consultant shall work with the third party estimator to include value engineering options to meet the Owner's Budget. The consultant shall provide a written evaluation of value engineering options with a recommendation of how to reduce the cost to meet the provided budget.

#### □ Project Manual

Specifications shall include all major building, site, and project components/ systems per division of work specific to the project. Consultant shall provide all necessary Divisions (Divisions 01 through 33). Division 01 – General Requirements shall be coordinated with LFUCG General Conditions, and with the LFUCG Project Manager. Consultants shall coordinate basis of design, equal manufacturers, warranties, and applicable sample/ mock-up submittal requirements with LFUCG Project Manager for all major building systems. Consultants shall be responsible for the complete Project Manual, and shall include a full table of contents. LFUCG's Central Purchasing will provide LFUCG Front End Documents to be inserted into the Project Manual before advertising for bids. The Consultant shall coordinate and assist as necessary with Central Purchasing on all LFUCG Front End Documents pertaining to project specific information. Project Manual Cover Sheet shall include at a minimum: LFUCG Logo, Phase, Owner (LFUCG) Information, Project Name, Project Address, Date, and Bid Number.

#### **Construction Document Drawings** (include at a minimum):

- <u>Cover Sheet</u>: Project name, project address, date of submission, drawing index with sheet names and numbers listing all drawings included within the submission, list of abbreviations and project specific notes, vicinity map of general project location with north arrow, breakdown of building square footage by floor with total, use & occupancy classification, construction classification, phase of submission, owner name & contact information, and Bid Number as issued by LFUCG.
- Civil: Site layout plans and details including property lines, buildings/ structures, curb cuts, parking & paving, exterior steps & ramps, sidewalks, fencing, curbs, locations of materials (asphalt, concrete, pavers, lawn, etc.), dumpster location & pad/enclosure details, site signage, miscellaneous details (light bases, bollards, curbs, etc.), and all other site improvements. Landscaping plans and details as required by code, ordnances, and/or other required regulations. Site grading plans and details with spot grades at all entrances & new building corners. Include datum points for locating/ placing new construction (coordinate with architectural). Storm water management, sediment and erosion control plan & details. Site profiles and sections. Utility plans, details, and profiles indicating locations of all utilities, tie-ins, etc. (power, water, sewer, communication, etc.). Include all details, legends, and schedules as necessary to convey full scope of work. Include key plan, tags, call outs, etc.
- <u>Structural:</u> Structural comments sheet with all code and design basis noting all design parameters, abbreviations, legends, etc. Dimensioned foundation plans with slab notes and details. Dimensioned layout of floor & roof framing plans showing structural

components including sizes/ weights. Note all openings, jointing, and edge conditions. Include bearing height of structural elements, finish floor elevations, footing elevations, and location dimensions for all major structural elements/ dimensional tie-ins to architectural plans. Provide sections and details to show all typical and unique foundation and framing conditions. Complete all foundation, column, beam, and lintel schedules and details to convey full scope of work. Include key plan, tags, call outs, etc.

- Architectural Plans: Show all major plan elements (columns, exterior walls, interior partitions, doors/ door swing, windows, stairs, handrail/ guard rails, elevators, interior frames & openings, casework/ built in items, equipment, etc.), room names and numbers, door and window tags/numbers, partition tags, legends, overall building dimensions, column line dimensions tied to exterior wall dimensions, wall thicknesses, stair & ramp dimensions, dimension all interior partitions and openings, provide continuous string of dimensions, and key notes to covey full scope of work. Life safety plan to show all exists with actual load and capacity (verify that minimum egress requirements are met), show egress paths per code lengths, verify stair/ ramp/ railing requirements per code, verify wall ratings per code, review plan for handicapped access. Reflected Ceilings to be coordinate with MEP and structural. Show grid with lighting, HVAC, ceiling heights, changes in ceiling elevations, note materials, access panels, and all other ceiling mounted items). Roof Plans and details shall be coordinate with MEP and structural. Locate roof drains, gutters, downspouts, overflows, taper insulation, roof slops, major flashing, roof curbs, parapets, ridge lines, valleys, roof ladders, hatches, etc. Indicate R-value, and identify minimum roof insulation at low points. Finish plans to indicate locations and extents of finish materials, material transitions and locations, room names/ numbers, and casework locations. Provide furniture layout to be coordinated with MEP (electrical and data locations to be allow for flexibility in furniture arrangement. Enlarged plans to include kitchen, restrooms, stairs, display areas, etc. Architectural Plans to Include all details, legends, and schedules as necessary to convey full scope of work. Include key plan, tags, call outs, etc. Coordinate with Civil, Structural, and MEP.
- Plumbing: Completed plumbing systems foundation drain lines, storm, and sanitary sewer and vent lines, complete water supply system and location of all plumbing fixtures, including hose cabinets and sewage disposal system. Size all piping including valves, on plan view. Include riser diagrams and details for all systems. Completed fixture and equipment schedules including makes and models for all systems to adequately show the basis of design. For areas of concentrated equipment, provide enlarged plans for both plan and section views. Indicate the design intent for fire protection system desired, and special equipment (i.e., fire pumps, holding tanks) as necessary and where applicable for the project. Include key plan, legends, tags, call outs, etc.
- Electrical: Use standard symbols to show all connections; inside and outside, wall, floor, and ceiling. Show locations and size of all conduits, capacity of outlets, network drops, location and details of switch panels, circuit breakers and fusing, location and connections for all bells, alarms, special outlets, etc. Electrical light fixture schedule with makes and models to adequately show the basis of design. Lighting control details and risers. One-line diagrams showing all panel sizes, conduit requirements and wire sizes. Panel schedules for all new, renovated and existing panels. Plans showing locations of all panels, outlets, light fixtures, receptacles, switches, fire alarm devices (if applicable) and equipment, emergency power systems, etc. Show mechanical equipment connection schedule. For areas of concentrated equipment, provide enlarged plans and section views. Coordinate technology with LFUCG. Show detailed rack systems for T/D, video/TV, sound, security, intercom, cctv and wireless outlet systems. Provide completed equipment schedules including makes and models for all systems. Provide riser diagrams for all systems. Show incoming service connection details, completed site utility service connections and detail,

power plan with legend showing locations of main and distribution panel boards and outlets. Provide lighting plan with legend showing location of lighting, controls, exit lighting, and emergency egress lighting. Provide communications plan, hardwired computer outlets, phone outlets, CCTV locations, TV Monitors, etc. Provide completed power, lighting and communication equipment schedules. Include key plans, legends, tags, call outs, etc.

# □ 3D Images/ Samples:

Provide color 3D images of all major elevations to show the proposed new layout. 3D Images may be sketched by hand, exported images from sketch-up, rendered images from Revit, or other preferred program. The intent of the 3D images is to provide an aesthetic understanding of the final building envelope. Material types, configurations, and overall aesthetic shall be clear and evident.

# **Construction Document Deliverables:**

(2) Full hardcopy sets, and (1) digital set of submission items are due at the 98% submission as indicated on the design schedule (Attachment 'C') unless approved otherwise. Consultants are required to present the submission in person at an Owner's review meeting and keep a record of the meeting minutes along with all Owner comments and action items. The consultant shall distribute the meeting minutes within (3) business days of the Owner review meeting. LFUCG Project Manager will review the submission, and will send in writing, additional review items and comments within (5) business days.

The Consultant shall not proceed with the next phase of work until cost and timeline estimates are aligned with the Owner's budget and timeline and approved by the Owner. Authorization to commence with the next phase of work will be made in writing from the Owner. Any work performed by the Consultant without this written authorization will be at the Consultant's risk.

The consultant shall incorporate all applicable review comments, and coordinate with the LFUCG Project Manager & LFUCG Division of Central Purchasing for submission of Ready to Advertise (RTA) Construction Documents. Consultants shall submit three full hard copy sets and one digital set of all submission items for the Final Construction Document Submission.

#### Phase 4: Bid Phase

The Division of Central Purchasing will be responsible for advertising the bid documents. All questions, requests, and correspondence shall be directed to LFUCG Division of Central Purchasing during the Bid Phase. The consultant shall assist Purchasing with clarifications, questions form bidders, and addenda. The Consultant shall be responsible for attending the Pre-Bid Conference and providing a verbal summary of the scope of work. The Pre-Bid Conference will be conducted by the Division of Central Purchasing. The Bid Opening will also be conducted through the Division of Central Purchasing. After the Bid Opening, the Consultant shall be responsible for reviewing all Bids and providing a written recommendation to the LFUCG Project Manager.

#### **Bid Phase Deliverables:**

(2) Full-Size hard copies of the drawings and bid package book, along with (1) Half-Size set of drawings. Provide (1) digital copy of everything and digital written recommendation on company letterhead.

# **1.3b - STAGE 2: Construction Administration Stage**

The Construction Administration Phase of the project shall start after the Bid Phase once the Owner has

released the written Notice to Proceed (NTP) to the contractor. Duration of construction administration services will be based on both construction contract time, completion of the original project scope, and Owner's approval of all deliverables. The Consultant shall forward all review items to the LFUCG Project Manager and provide continuous updates and coordination. The consultant shall inform and coordinate all site visits and construction administration related meetings with the LFUCG Project Manager. The LFUCG Project Manager will be the primary contact for the Owner. All written recommendations and reports throughout the construction phase shall appear on the Consultant's company letterhead. All Owner approvals shall be made in writing.

#### Phase 1: Construction Administration Phase

Construction Administration shall be provided throughout the Construction Stage in which the consultant shall advocate for the Owner (LFUCG), administer the construction contract, maintain consistent and precise documentation, facilitate the project close out, and provide frequent updates to the LFUCG Project Manager. LFUCG Project Manager shall be included in all correspondence, meeting invites, and shall be informed of all milestones, issues, delays, or contract deviations. Minimum Construction Administration services shall include the following:

#### □ Meetings (Pre-Construction & Progress Meetings):

Prepare agendas, lead meetings, and distribute meeting minutes. Progress meeting shall be scheduled bi-weekly (every two weeks).

#### □ Reviews:

Consultant shall review Construction Schedules, Schedule of Values (SOV), Submittals, Samples, Mock-ups, Contractor's Daily Logs, Payment Applications, Proposals, Change Order Documentation, RFIs, O&M Manuals, Close Out Documents, and all other correspondence. All Owner approvals shall be made in writing.

#### □ Logs:

Maintain Submittal Logs, RFI Log, ASI, Log, Proposal Log, Change Order Log, etc. At a minimum, all logs shall contain numbered items, item names, relevant dates, item summary, item action, and current status.

#### □ Correspondence/ Reports:

Consultants shall document and keep a record of all project correspondence. Clarifications to the construction documents initiated by the Contractor shall be though a Request for Information (RFI). Clarifications initiated by the consultant shall be through Architectural Supplemental Instructions (ASI). Clarifications made by RFI or ASI shall not change the contract time, or the contract amount. Field Observations shall be made at each Progress Meeting, and Field Observation Reports shall be provided with Progress Meeting Minutes. Work Changes Proposal Request (WCPR) will be used for proposal request with Owner Approval. Written Recommendations from the consultant shall be required for all proposed Change Orders. The consultant shall consistently update the Owner and inform the Owner of any deviations from the construction documents, potential time delays, or construction issues.

#### □ Inspections:

Consultant shall inspect the full scope of work to determine Substantial Completion. The consultant shall conduct a second inspection of the full scope of work to determine Final Completion after all Punch List items have been corrected. Consultants shall provide both a Punch

List, and a Back-Punch List containing completion dates for each punch-item. A Certificate of Substantial Completion shall be issued to both the Owner and Contractor.

# □ Supplemental Drawings:

Supplemental drawings shall be required to clearly communicate the full scope of work, when necessary, when not already shown in the construction documents, or when additional clarification is needed. Supplemental Drawings may be required for clarifications, RFI, ASI, WCPR, Change Orders, etc.

# □ Record Drawings:

Consultant shall collect the Contractor's marked-up drawings (As Built Drawings) and digitally update the construction documents for Record Documents to be submitted to the Owner in both hardcopy and digital format.

# □ Close Out:

Consultant shall generate a Project Close Out Checklist containing all close-out items as listed in the Contract Documents. This Checklist shall include dates for the following items: Issue of Certificate of Substantial Completion, List of Completed Inspections, Completion of Punch List Items, Final Release of Liens, Consent of Surety, Completed O&M Manuals, Completed Record Drawings, Completion of Back-Punch List, Review of Final Payment Application, Verification of Stock Items Transferred to Owner, and Confirmation of all Deliverables competed and submitted to the Owner.

#### **Construction Administration Deliverables:**

- Consultant shall provide Progress Meeting Agenda, Submittal Log, RFI Log, ASI Log, Log of Proposals, and Change Order Log in digital format sent (1) day prior to each progress meeting and shall provide hardcopy prints at each progress meeting for attendees at the meeting.
- II. Consultant shall submit (1) digital copy of Progress Meeting Minutes, and Field Observation Report within (5) business days after each Progress Meeting.
- III. Consultant shall submit (1) digital copy of Change Order Recommendation within (5) business days after receiving the contractor's proposal and back-up documentation.
- IV. Consultant shall submit (3) hardcopies, and (1) digital copy of the Certificate of Substantial Completion.
- V. Consultant shall submit (1) digital copy of the Punch List within (5) business days after the walkthrough to determine Substantial Completion.
- VI. Consultant shall submit (1) digital copy of the Back-Punch List within (5) business days after the walk-through to determine Final Completion.
- VII. Consultant shall submit the Contractor's Original "As Build" Drawings to the Owner, and the following digital copies of the Record Documents: PDF file of all Drawings, PDF File of the Project Manual, CAD files of all drawings, DOCX files of the Project Manual.
- VIII. Consultant shall submit (1) digital copy of the completed Project Close Out List within (5) days after Final Completion.

#### Phase 2: One Year Workmanship Warranty Period - Coordination Assistance

#### □ Warranty Coordination

Owner assistance, and coordination with the Contractor for correction of warranty items throughout the Contractor's One Year Workmanship Warranty Period.

# □ 11- Month Walk-Through

Consultant shall coordinate an 11-Month Walk-Through onsite with the Consultant, Owner, and Contractor. A list of warranty items to be corrected shall be submitted to all parties. The consultant shall follow-up with the completion of identified warranty items and resubmit the list of warranty items to the Owner with completion dates.

#### One Year Workmanship Warranty Period Deliverables:

- I. Consultant shall submit (1) digital copy of the 11 Month Walk-Through List of Warranty Items within (5) business days of the 11 Month Walk Through.
- II. Consultant shall submit (1) digital copy of the 11 Month Walk-Through List of Warranty Items with dates of correction for each item.

# **1.4 - SELECTION PROCESS**

All responses to this RFP/Q meeting the submittal requirements will be evaluated by a review committee. Written proposals will be reviewed and ranked by the review committee and ranked in accordance with the rating criteria reflected in this RFP/Q.

All costs associated with the preparation and responses, including presentation materials for interviews and site visits, if conducted, related to this RFP/Q shall be borne solely by the consultant and at no cost to LFUCG.

# SCORING CRITERIA

	Total Points
Professional qualifications and experience of the team with architectural and engineering services throughout the design and construction phases.	20
Demonstrated understanding of the project requirements. Including past experience with similar projects and building systems.	25
Capacity of the team to perform the work within the time limitations. Illustrated by the current volume of work in progress.	15
Past record and performance on contracts with the LFUCG, other governmental agencies, and private industry with respect to such factors as cost control, quality of work, and ability to meet schedule requirements.	5
Degree of local employment to be provided by the person or firm in the performance of the contract by the person or firm.	5
Fees	30
Final Technical Score	100

#### COMPENSATION

Refer to the Sample Contract (Attachment B) for complete compensation description.

# **ATTACHMENT: A**

# FORM OF PROPOSAL

# Design Services for the Phase 1 Site Development of the Fire Training Academy Campus

# Request for Proposal # 16-2025 Form of Proposal

Consultant:

Address: \_\_\_\_\_

# 1. General:

- a. The undersigned Consultant, having read and examined the specifications and associated documents for the above designated work, affirms agreement to complete all work in accordance with the contract documents.
- b. The selected Successful Consultant (SC) shall verify all mentioned requirements in these contract documents. The SC shall confirm in writing any discrepancies found within one week of being informed of successful proposal.
- c. The undersigned agrees that this proposal constitutes a firm offer to the LFUCG which cannot be withdrawn for one hundred twenty (120) calendar days from and after the stated closing time, or until a contract is fully executed by the LFUCG and a third party, whichever occurs earlier.
- d. The Consultant shall include Technical Information as required herein.
- 2. Submittal Requirements: Interested firms are encouraged to submit their qualifications, which will include the information below. Failure to comply with this requirement may lead in disqualification of the Consultant's proposal:
  - a. Signed cover letter stating interest in the project. The cover letter should indicate the proposer's willingness to enter into an agreement with the LFUCG (see Sample Contract **Attachment B**). An officer of the company who has authority to commit their firm to the proposed project must sign the letter.
  - b. Additional company information to be provided shall include company history, key management members, major accomplishments, inter-company or third party alliances or partnerships, and any major pending litigation and facts of the case(s).
  - c. Narrative on how customer satisfaction is tracked.
  - d. Copies of written continuing education/professional training program and quality control/quality assurance program.
  - e. Provide the current number of employees and employee types.
  - f. Statement of general firm qualifications and capacity that should include firm location, where the work will be performed, and the firm's background and demonstrated ability to perform the required services for this project.
  - g. Project Team list including sub consultants indicating key professionals that will be specifically assigned to work on each discipline and phase of the project. Identify project manager. Detailed resumes for the key professionals and project manager should be included with the proposal. Describe team members' educational background, related experience, experience in providing like services to governmental entities, and individual references within such entities. Describe how the team has worked together on similar projects in the past.
  - h. Summary of firm's recent (5 year) experience in similar/representative projects including

- i. Physical project size
- ii. Estimated and Actual Cost of the resulting construction and/or renovation work
- iii. Identification of any involved sub-consultants and/or joint-venture partners
- i. Conflict of Interest Statement clearly stating the proposer has no conflicts of interest in providing professional services on the project.
- j. A narrative of design approach, preliminary design concepts, approach to project inclusive of proposed work scope, and related considerations.
- k. Ability to meet required deadlines (See Project Schedule **Attachment C**). Demonstrate integration of this project into the firm's present workload through current and projected staff workload data.
- 1. References: names and contact information of previous clients on similar projects within the past five (5) years with a description of the type of project completed on schedule and on budget. A minimum of three references is required.
- 3. **Proposal Format**: Proposals are limited to 20 single-sided pages not including the required LFUCG documents as outlined in the RFP. Proposals in excess of these requirements may not be considered. The twenty (20) page limitation includes any written, photographic or graphic material contained in the body of the statement and any appendices. The limitation does not include:
  - i. The cover (although narrative on the reverse side of the front cover or front of the back cover will be counted)
  - ii. A title page
  - iii. A table of contents and/or index; or blank tab pages
- 4. Respondents are responsible for all costs associated with the preparation of materials in response to this RFP. The LFUCG assumes no responsibility for such costs. The LFUCG reserves the right to waive any formality in the submitted statements of qualifications, to reject any and all statements of qualifications or to re-advertise for additional statements of qualifications.
- 5. **Work Plan:** Consultant shall provide a plan to complete the work described herein in submitted proposal within the submittal limit. Included in work plan shall be:
  - a. A checklist of what specific deliverables will be provided at each design phase and/or milestone and the team member that will provide the deliverable.
  - b. A specific budget and schedule (See Project Schedule **Attachment C**) to complete services described herein.
  - c. An explanation of the communication/documentation and collaboration plan.
  - d. An explanation of the approach that will be used to assure quality and well-coordinated documents between all disciplines through the design process.
  - e. An explanation of the team Quality Control Program throughout all phases of design, and through construction administration.

# 6. Lump Sum Pricing:

- a. All Lump Sum Pricing shall include all direct labor and supervision necessary to complete the item in a manner that meets or exceeds the customer's satisfaction. It shall also include the labor payroll costs, overhead (such as unemployment taxes, general liability insurance, rent, utilities, phones, supplies, administrative salaries, F.I.C.A. sick and vacations, etc. disposal fees tool allowance, equipment, materials, profit and all other costs used on the job.)
- b. Provide Firm Lump Sum Cost for providing the LFUCG with services as noted in these specifications.

Design Stage (Total Services Below)	\$
Schematic Design Phase: (percentage of total services)	\$%
Design Development Phase: (percentage of total services)	\$%
Construction Documents Phase: (percentage of total services)	\$%
Bid Phase: (percentage of total services)	\$%
Construction Administration Stage	\$
(percentage of total services)	%
Total Architectural/ Engineering Services	\$

7. **Payment for Additional Services:** Additional Services, as permitted under Section 2 of the Contract, shall be compensated at the unit rates listed below. The LFUCG reserves the right to increase or decrease frequencies of unit cost. If Additional Services are requested, the base contract may be increased or decreased on the basis of the unit rates. No price adjustments will be made unless mutually agreed to in advance through the Change Order process to the contract. All Unit Pricing Hourly Rates shall include all direct labor, any supervision required, labor payroll costs, overhead (such as unemployment taxes, general liability insurance, rent, utilities, phones, supplies, administrative salaries, F.I.C.A., sick and vacations, etc.) disposal fees, tool allowance, equipment, materials, profit, and all other costs used on the job.

Title/Skill Level	Hourly Rate
	\$/HR

- a. Additional Services may require procurement beyond the base contract. Procurement shall comply with the specifications set forth herein. The Consultant markup over the invoiced price shall be zero percent (0%).
- b. Approved reimbursables will be based on actual costs and shall be mutually agreed to in advance through the Change Order process to the contract.

 Signature
 Name

 Title
 Date

# **ATTACHMENT: B**

# CONSULTANT SERVICES AGREEMENT

THIS IS AN AGREEMENT made as of \_\_\_\_\_\_, 2023, between the LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT (OWNER) and \_\_\_\_\_\_ (CONSULTANT). OWNER intends to proceed with architectural/engineering design services as described in the attached Request for Proposal document. The services are to include the preparation of Schematic Design Documents through Construction Documents, Bidding, and Construction Administration for the construction of the Phase 1 Site Development of the Fire Training Academy Campus as contemplated in the OWNER's Request for Proposal No. 16-2025. The services are hereinafter referred to as the Project.

**OWNER** and **CONSULTANT** in consideration of their mutual covenants herein agree in respect of the performance of professional architectural/engineering services by **CONSULTANT** and the payment for those services by **OWNER** as set forth below.

**CONSULTANT** was selected by **OWNER** based upon its response to the Request for Proposal No. 16-2025.

**CONSULTANT** shall provide professional consulting services for **OWNER** in all phases of the Project described herein, serve as **OWNER'S** professional architectural and engineering representative for the Project as set forth below and shall give professional consultation and advice to **OWNER** during the performance of services hereunder.

# SECTION 1 - BASIC SERVICES OF CONSULTANT

**CONSULTANT** shall perform professional services as hereinafter stated, which include customary architectural and engineering incidental thereto.

The following documents are incorporated by reference herein as if fully stated and are attached hereto as exhibits: RFP No. 16-2025. (**Exhibit "A"**), and Consultant's Response dated June 11, 2025 (**Exhibit "B"**). To the extent there is conflict among their provisions, the provisions of this Agreement shall take precedence, followed by the provisions of Request for Proposal No. 16-2025. (**Exhibit "A"**).

After written authorization to proceed with the Evaluation and Recommendation Phase, **CONSULTANT** shall:

**1.** Notify the **OWNER** in writing of its authorized representative who shall act as Project Manager and liaison representative between the **CONSULTANT** and the **OWNER**.

**2.** On the basis of the "Selection Criteria" in the "Request for Proposal", attached in **Exhibit** "**A**", conduct field surveys and gather other necessary data or information, prepare an evaluation and recommendation document consisting of design options and cost estimates as well as all required deliverables listed in the Request for Proposal. See **Exhibit** "**A**" for complete listing of all deliverables.

This Agreement (consisting of pages 1 to \_\_\_\_\_ inclusive), together with the Exhibits and schedules identified above, constitutes the entire Agreement between **OWNER** and **CONSULTANT** and supersedes all prior written or oral understandings. This Agreement and said Exhibits and schedules may only be amended, supplemented, modified, or canceled by a duly executed written instrument.

The General Condition provisions of RFP No. 16-2025 are incorporated herein by reference as if fully stated.

# **SECTION 2 - ADDITIONAL SERVICES BY CONSULTANT**

- 2.1. The OWNER may desire to have the CONSULTANT perform work or render services in connection with this Project other than as provided by Exhibit "A" of this Agreement. Such work shall be considered as "Additional Services", subject to a change order, supplemental to this Agreement, setting forth the character and scope thereof and the compensation therefore. Work under such change order shall not proceed until the OWNER gives written authorization. Should the OWNER find it desirable to have previously satisfactorily completed and accepted plans or parts thereof revised, the CONSULTANT shall make such revisions as directed, in writing, by the OWNER. This work shall be considered as "Additional Services" and shall be paid as such.
- **2.2.** All "Additional Services" are subject to prior written authorization of **OWNER** and necessary appropriations made by the Urban County Council.

# SECTION 3 - OWNER'S RESPONSIBILITIES

# **OWNER shall:**

- **3.1.** Provide criteria and information as to **OWNER'S** requirements for the Project, including design objectives and constraints, space, capacity and performance requirements, flexibility and expandability, and any budgetary limitations.
- **3.2.** Assist **CONSULTANT** by placing at its disposal available information pertinent to the Project.
- **3.3.** Examine all studies, reports, sketches, drawings, specifications, proposals and other documents presented by **CONSULTANT**, and render in writing decisions pertaining thereto within a reasonable time so as not to delay the services of **CONSULTANT**.
- **3.4.** Designate in writing a person to act as **OWNER'S** representative with respect to the services to be rendered under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define **OWNER'S** policies and decisions with respect to materials, equipment, elements and systems pertinent to **CONSULTANT'S** services.

- **3.5.** Give written notice to **CONSULTANT** whenever **OWNER** observes or otherwise becomes aware of any development that affects the scope or timing of **CONSULTANT'S** services, or any defect in the work of Contractor(s).
- **3.6.** Furnish or direct **CONSULTANT** to provide necessary Additional Services as stipulated in Section Two (2) of this Agreement or other services as required.

# **SECTION 4 - PERIOD OF SERVICES**

- **4.1.** See **Exhibit "A"** for the project timeline/schedule.
- **4.2.** The provisions of this Section Four (4) and the various rates of compensation for **CONSULTANT'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.

If delays result by reason of acts of the **OWNER** or approving agencies or other causes, which are beyond the control of the **CONSULTANT**, an extension of time for such delay will be considered. If delays occur, the **CONSULTANT** shall within 14 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 6.5, under DISPUTES, of this Agreement, shall apply in the event the parties cannot mutually 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 two (2) months of the time specified therein, the Agreement fee or fees shall be subject to reconsideration and adjustment. Section 6.5 of this Agreement shall apply in the event the parties cannot mutually agree upon an adjustment of fee.

# **SECTION 5 - PAYMENTS TO CONSULTANT**

# 5.1 Methods of Payment for Services of CONSULTANT

# 5.1.1 For Basic Services.

# Lump Sum Pricing

In consideration of the architectural and engineering services described in this Loan Agreement and its exhibits, **OWNER** shall pay **CONSULTANT** the sum below stated, which sum shall include without limitation all direct labor and supervision necessary to complete the item in a manner that meets or exceeds the customer's satisfaction, labor payroll costs, overhead (such as unemployment taxes, general liability insurance, rent, utilities, phones, supplies, administrative salaries, F.I.C.A., sick and vacation leave, etc.), disposal fees, tool allowances, equipment fees, materials, profits, and all other costs used on, for, or in association with the job. The negotiated cost of services is represented in the Form of Proposal, and is summarized as follows:

Design Stage (Total Services Below)	\$
Schematic Design Phase: (percentage of total services)	\$%
Design Development Phase: (percentage of total services)	\$%
Construction Documents Phase: (percentage of total services)	\$%
Bid Phase: (percentage of total services)	\$%
Construction Administration Stage	\$
(percentage of total services)	%
Total Architectural/Engineering Services	\$

# 5.1.2. For Additional Services

"Additional Services" shall be paid for by the **OWNER** on the basis of the unit pricing below. In the event the **OWNER** and the **CONSULTANT** are unable to agree upon payment for "Additional Services", the amount of such payment shall be determined as set forth in Section 6.5, "DISPUTES" of this Agreement.

# Unit Pricing

If Additional Services are requested, the base contract may be increased and/or decreased on the basis of these proposed unit rates. No price adjustments will be made, unless mutually agreed to in advance through the Change Order process to the contract, or as a result of temporary conditions (defined as 30 days or less from the date of the last invoice).

All Unit Pricing Hourly Rates shall include without limitation all direct labor and supervision necessary to complete the item in a manner that meets or exceeds the customer's satisfaction, labor payroll costs, overhead (such as unemployment taxes, general liability insurance, rent, utilities, phones, supplies, administrative salaries, F.I.C.A., sick and vacation leave, etc.), disposal fees, tool allowances, equipment fees, materials, profits, and all other costs used on, for, or in association with the job.

Hourly Rate
\$/HR

Additional Services may require procurement beyond the base contract. Procurement shall comply with the specifications set forth herein. The **CONSULTANT** markup over the invoiced price shall be  $\_0$ \_\_\_\_%

# 5.2. Times of Payment.

**5.2.1.** For any month in which the **CONSULTANT** provides services in connection with this Agreement, the **CONSULTANT** shall submit to the **OWNER** a written statement reasonably identifying the percentage of each task, listed in Section 5.1.1., above, as may be amended by the parties from time to time, that has been completed to date, the total amount to be billed for each task, the amount previously billed for each task, and the total amount due and owing for each task at the time the statement is issued. Within thirty (30) days of the **OWNER's** receipt of such statement, the **OWNER** shall pay to the **CONSULTANT** all amounts due and owing as indicated thereon, unless the **OWNER** has in good faith contested the same.

# 5.3. Other Provisions Concerning Payments.

**5.3.1.** In the event the Agreement is terminated by the **OWNER** without fault on the part of the **CONSULTANT**, the **CONSULTANT** shall be paid for the work performed or services rendered an amount bearing the same ratio to the total Agreement fee as the amount of work completed or partially completed and delivered to the **OWNER** is to the total amount of work

provided for herein, as determined by mutual agreement between the **OWNER** and the **CONSULTANT**.

**5.3.2.** In the event the services of the **CONSULTANT** are terminated by the **OWNER** for fault on the part of the **CONSULTANT**, the **CONSULTANT** shall be paid reasonable value of the work performed or services rendered and delivered, and the amount to be paid shall be determined by the **OWNER**.

**5.3.3.** In the event the **CONSULTANT** shall terminate the Agreement because of gross delays caused by the **OWNER**, the **CONSULTANT** shall be paid as set forth in Section 5.3.1. above.

# SECTION 6 – ADDITIONAL GENERAL CONSIDERATIONS

# 6.1. Termination

**6.1.1.** The obligation to provide further services under this Agreement may be terminated by either party upon ten (10) days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party, provided the non-terminating party fails to cure such default within ten (10) days of receiving notice of such default.

**6.1.2.** The **OWNER** reserves the right to terminate the Agreement for any reason at any time upon seven (7) days written notice to the **CONSULTANT**.

# 6.2. Ownership and Reuse of Documents.

All documents, including hardcopies and original digital format, including but not limited to Drawings and Specifications, prepared by the **CONSULTANT** pursuant to this Agreement shall be delivered to and become the property of the **OWNER**. The **OWNER** shall have the right to reuse same without restriction or limitation, but without liability or legal exposure to **CONSULTANT**.

# 6.3. Legal Responsibilities and Legal Relations.

**6.3.1.** The **CONSULTANT** shall familiarize himself with and shall at all times comply with all federal, state and local laws, ordinances, and regulations which in any manner affect the services of this Agreement.

**6.3.2.** In performing the services hereunder, the **CONSULTANT** and its **CONSULTANTS**, employees, agents and representatives shall not be deemed or construed to be employees of **OWNER** in any manner whatsoever. Except as otherwise provided in this Agreement, the **CONSULTANT** shall be acting as an independent contractor. The **CONSULTANT** shall not hold itself out as, nor claim to be, an officer or employee of **OWNER** by reason hereof and shall not make any claim, demand or application to or for any right or privilege applicable to an officer or employee of **OWNER**. The **CONSULTANT** 

shall be solely responsible for any claims for wages or compensation by **CONSULTANT'S** employees, agents and representatives, including **CONSULTANTS**, and shall save, defend, and hold **OWNER** harmless therefrom.

**6.3.3.** The parties hereto agree that causes of actions between the parties shall be governed by applicable provisions of the Kentucky Revised Statues. Any action arising from or in relation to this Agreement shall be brought in Fayette County, Kentucky.

# 6.4. Successors and Assigns.

**6.4.1. CONSULTANT** binds itself and its partners, successors, executors, administrators, assigns and legal representatives to this Agreement in respect to all covenants, agreements and obligations of this Agreement. **CONSULTANT** shall not assign any interest, obligation or benefit in this Agreement. **CONSULTANT** shall not assign any interest, obligation or benefit in this Agreement nor transfer any interest in the same, whether by assignment or novation, without prior written consent of **OWNER**.

**6.4.2.** The **CONSULTANT** shall not subcontract more than fifty percent (50%) of the work, based upon dollar value, to be provided under this Agreement. The **CONSULTANT** shall obtain written approval prior to subletting or assigning any services contained in this Agreement, and consent to sublet or assign any part of this Agreement shall not be construed to relieve the **CONSULTANT** of any responsibility for compliance with the provisions of this Agreement.

**6.4.3.** Nothing herein shall be construed to give any rights or benefits hereunder to anyone other than **OWNER** and **CONSULTANT**.

# 6.5. Disputes.

Except as otherwise provided in this Agreement, any dispute concerning the amount of payment due the **CONSULTANT** or any dispute concerning any question of fact of any act to be performed under this Agreement, which is not disposed of by agreement between the Urban County Division of Central Purchasing and the **CONSULTANT**, shall be submitted to the Commissioner of the Department of General Services, Lexington-Fayette Urban County Government, for review. The decision of the Commissioner as to the determination of such dispute 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 **CONSULTANT** shall proceed diligently with the performance of the Agreement in accordance with the directions of the **OWNER**.

# 6.6. Accuracy of CONSULTANT'S Work.

The **CONSULTANT** shall be required to perform this Agreement in accordance with the degree of ordinary and reasonable skill and care usually exercised by professional architects

and engineers prevailing at the time, place and under similar conditions as the services hereunder are rendered.

The **CONSULTANT** shall be responsible for the accuracy of all work, even though Drawings and Specifications have been accepted by the **OWNER**, and shall make any necessary revisions or corrections resulting from errors and/or omissions on the part of the **CONSULTANT**, without additional compensation. By submission of reports, soils and subsurface information, quantities estimates, calculations and Drawings and Specifications to the **OWNER**, the **CONSULTANT** has made a statement that, to the best of its belief and knowledge, the information is accurate. Failure on the part of **CONSULTANT** to provide the expected level of accuracy may be grounds for the **OWNER** to disqualify **CONSULTANT** from consideration for future **CONSULTANT** service agreements.

# 6.7. Security Clause.

The **CONSULTANT** certifies that it shall not at any time release or divulge any information concerning the services covered by this Agreement to any person or any public or private organization except the **OWNER** without prior approval of the **OWNER**.

# 6.8. Access to Records.

The **CONSULTANT** and its sub-**CONSULTANTS** shall maintain all books, documents, papers, and accounting records, and make such materials available at their respective offices at all reasonable times during the contract period and for three (3) years from the date of final payment under the contract for inspection by the **OWNER**, and copies thereof shall be furnished if requested. Failure to maintain such records for three (3) years after the date of final payment may be grounds for the **OWNER** to disqualify the **CONSULTANT** from consideration for future **CONSULTANT** service agreements.

# 6.9. Required Risk Management Provisions.

The Risk Management Provisions of RFP No. 16-2025 are incorporated herein by reference as if fully stated. Copies of the required Certificates of Insurance shall be provided to **OWNER** as required therein.

# SECTION 7 - EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this service agreement, the **CONSULTANT** agrees as follows:

7.1. The **CONSULTANT** will not discriminate against any employee or application for employment because of race, color, religion, national origin, sex, age or handicap. The **CONSULTANT** will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, sex, age or handicap. Such action shall include, but not be limited to the following: employment upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training,

including apprenticeships. The **CONSULTANT** agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.

**7.2** The **CONSULTANT** will, in all solicitations or advertisements for employees placed by or on behalf of the **CONSULTANT**, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, sex, age (between forty and seventy), or handicap.

# **SECTION 8 - SPECIAL PROVISIONS**

**8.1.** This Agreement is subject to the following provisions.

**8.1.2.** Pursuant to subparagraph 3.4 of this Agreement, **OWNER** has assigned the appropriate Lexington-Fayette Urban County Government employee (the "**OWNER'S** Agent"), as the authorized agent of **OWNER**, to monitor, direct and review the performance of work of the **CONSULTANT**. Documents, data, reports and all matters associated with carrying out this Agreement shall be addressed to the **OWNER'S** Agent or their designee. Questions by the **CONSULTANT** regarding interpretations of the terms, provisions and requirements under this Agreement shall be addressed to the **OWNER'S** Agent or their designee. The **CONSULTANT** shall look only to the **OWNER'S** Agent or their designee for direction in its performance under this Agreement; no other direction shall be binding upon **OWNER**. **OWNER** shall respond to written requests by **CONSULTANT** within thirty (30) days.

**IN WITNESS WHEREOF**, the parties hereto have made and executed this Agreement as of the day and year first above written.

<b>OWNER:</b>	CONSULTANT:

Task	D	uration	Start	Finish
RFP	50	Days	5/14/2025	7/3/2025
RFP Advertisement	28	Days	5/14/2025	6/11/2025
Pre-Proposal Meeting	1	Day	5/21/2025	5/21/2025
RPF - Responses Due	1	Day	6/11/2025	6/11/2025
RFP Evaluation and A/E Recommendation	7	Days	6/11/2025	6/18/2025
Approved in Legistar Date	1	Days	6/23/2025	6/23/2025
Council WS	1	Day	6/24/2025	6/24/2025
Council 1st Reading (Double Reading)	1	Day	7/1/2025	7/1/2025
N.T.P. & P.O.	0	Days	7/3/2025	7/3/2025
Design	107	Davs	7/7/2025	10/22/2025
Design Kick Off Meeting	1	Dav	7/7/2025	7/7/2025
Schematic Design Phase	30	Davs	7/7/2025	8/6/2025
Schematic Design 98% Submission	1	Dav	8/6/2025	8/6/2025
Owner Review of SD Phase	2	Davs	8/6/2025	8/8/2025
Final Schematic Design Deliverables Due	0	Davs	8/13/2025	8/13/2025
Design & Development Phase	28	Davs	8/13/2025	9/10/2025
Design & Development 98% Submission	1	Day	9/10/2025	9/10/2025
Owner Review of DD Phase	0	Days	9/12/2025	9/12/2025
Final Design Development Deliverables Due	0	Days	9/17/2025	9/17/2025
Construction Document Phase	28	Days	9/17/2025	10/15/2025
Construction Document 98% Submission	1	Day	10/15/2025	10/15/2025
Owner Review of CD Phase	2	Days	10/15/2025	10/17/2025
Owner's Construction Documents' Comments Incorporated	5	Days	10/17/2025	10/22/2025
100% Construction Documents Ready to Advertise Submission	1	Day	10/22/2025	10/22/2025
Advertisement & Award	49	Days	TBD	TBD
Compile Bid Documents	7	Days	TBD	TBD
Advertise for Bids	28	Days	TBD	TBD
Pre-Bid Meeting	1	Day	TBD	TBD
Bids Due	1	Day	TBD	TBD
Bid Review & Selection	7	Days	TBD	TBD
Approved in Legistar Date	1	Days	TBD	TBD
Council WS	1	Day	TBD	TBD
Council 1st Reading	1	Day	TBD	TBD
Council 2nd Reading	1	Day	TBD	TBD
Construction Contract Execution/ P.O.	7	Days	TBD	TBD
Anticipated Construction	275	Days	TBD	TBD
Pre-Construction Meeting	1	, Day	TBD	TBD
Construction to SC	275	, Davs	TBD	TBD
Substantial Completion (SC)	1	Dav	TBD	TBD
Close Out- Construction to FC	14	, Davs	TBD	TBD
Final Completion (FC)	1	Dav	TBD	TBD











Legend: 1 - Public Parking 2 - Covered Staff Parking















Legend: 1 - Public Parking 2 - Covered Staff Parking







# LEXINGTON LFUCG Fire Training Study







Lexington Fire Training Center Feasibility Report Lexington, Kentucky

#### Representatives

#### Lexington Fayette Urban County Government Council

Mayor Linda Gorton Council At-Large and Vice Mayor, Dan Wu Council At-Large, James Brown Council At-Large, Chuck Ellinger II Council District 1, Tayna Fogle Council District 2, Shayla Lynch, J.D. Council District 3, Hannah LeGris Council District 4, Brenda Monarrez Council District 5, Liz Sheehan Council District 6, Denise Gray, JD Council District 7, Preston Worley Council District 8, Fred Brown Council District 9, Whitney Elliott Baxter Council District 10, Dave Sevigny Council District 11, Jennifer Reynolds Council District 12, Kathy Plomin

#### **Department of General Services**

Jamshid Baradaran, P.E., Director Josh Ives, AIA, LEED AP, CID

#### Lexington Fire Department

Jason Wells, Fire Chief Gary Harris, Assistant Chief Jeremy Poynter, Battalion Chief

#### **Consultant Team**



2360 Chauvin Drive Lexington, Kentucky 40517 (859) 268-1933 VOICE Project No. 24057 November, 2024 Eric M. Chambers, AIA, LEED, GA, CDT, CID, Vice President Division Principal William Quillen, Public Safety Project Manager Jonathan Chesser, Public Safety Designer/Asst. Project Manager Charlie Schneider, P.E., Vice President / Division Principal



880 Sparta Court, Suite 200 Lexington, Kentucky 40504 (859) 255-9034 (859) 252-3130 Fax



Paladin, Inc. 121 Old Lafayette Avenue Lexington, Kentucky 40502 (859) 470-2798

Robert Pass & Associates, Inc. 309 E Market Street,t Suite 302 Louisville, Kentucky 40202 (502) 797-2540 (502) 589-7632

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Chris Kelly, P.E., President Brian Scott, P.E., Vice President

Dave Stapleton, P.E., Mechanical Engineer Mark Zoller, P.E., CxA, LEED AP, CEM, Principal

Robert G. Pass

ii





ΕX	ECUTIVE SUMMARY	VII
1	INTRODUCTION	1
	1.1 History	1
	1.2 Demographic Analysis	2
	1.3 Methodology	2
	1.4 Objectives	2
2	FACILITY ASSESSMENT	5
	2.1 Standards	5
	2.2 Key Exterior Issues Identified	6
	2.3 Key Interior Issues Identified	7
	2.4 Operational Assessment	10
	2.5 Energy Efficiency	16
3	FACILITY SPACE NEEDS	17
	3.1 Design	17
	3.2 Public Spaces	17
	3.3 Administration	17
	3.4 Rehabilitation, Fitness, and Staff Support	18
	3.5 Classrooms and Training Support Spaces	
	3.6 Apparatus/Vehicle Bays	19
	3.7 Bay Support	19
	3.8 Storm Shelter	19
4	FACILITY PROGRAM	21
5	CONCEPTS	25
	5.1 Concept 1 – Renovation and Expansion Training Center Building	25
	5.2 Concept 2 – New Fire Department Training Center Building	25
	5.3 Concept 3 – New Support Building	
	5.4 DIAGRAMS	26
6	SITE CONSIDERATIONS	37
	6.1 Introduction	
	6.2 Site Conditions	

7	OPINION OF COSTS	41
	7.1 Deferred Maintenance and Improvement Costs	41
	7.2 Opinion of Probable Cost	41
	7.3 Probable Construction Cost	
	7.4 Contingency and Soft Costs	
	7.5 Owner Costs	
8	FACILITY RECOMMENDATIONS	
	8.1 Recommendation 1: New Training Facility.	
	8.2 Phasing	61
9	CONSTRUCTION DELIVERY METHODS	
	9.1 INTRODUCTION	65
	9.2 Delivery Methods	65
10	NEXT STEPS	69
11	CONCLUSION	
API	PENDIX A - EXISTING CONDITIONS	A-1
API	PENDIX B - DEMOGRAPHIC PROFILE	B-1
API	PENDIX C - PRELIMINARY SPACE PROGRAM	C-1
API	PENDIX D - CONCEPTS	D-1
API	PENDIX E - OPINION OF COSTS	E-1
API	PENDIX F - MISCELLANEOUS INFORMATION	F-1
API	PENDIX G - CONFERENCE MEMORANDUMS	G-1
List	of Tables	
Tak	ole 4.1: Preliminary Concept Space List - Training Center	21
Tak	ole 5.1: Comparison Chart	
Tak	ble 7.1: Opinion of Probable Cost Renovation and Expansion	
Tak	ble 7.2: Opinion of Probable Cost New Fire Training Center	
Tak	ble 7.3: Opinion of Probable Cost Support Building	52
Tak	ole C.1: Preliminary Concept Space List - Training Center	C-1
Tak	ble C.2: Preliminary Concept Space List - CPAT & WPE Facility	C-5
Tak	ole C.3: Preliminary Concept Space List - Outdoor Training Areas	C-6
Tak	ole E.1: LFUCG Fire Training Center Study Site Plan Concept Option	E-1
Tak	ole E.2: LFUCG Fire Training Center Study New Facility	E-3
Tak	ole E.3: LFUCG Fire Training Center Study Renovation & Addition	E-7
Tak	ble E.4: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Station 13	E-11
Tak	ble E.5: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Training Center	E-13
Tak	ble E.6: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Training Center Renovation	E-15
Tak	ble E.7: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Maintenance Facility	E-17
Tak	ble E.8: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Outdoor Training Areas	E-19
Tak	ble E.9: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Components	E-21
Tak	DIE E.10: LFUCG FIRE Training Center Study New Facility	E-23

LFUCG FIRE TRAINING STUDY

iv

List of Figures	
Figure 5.1: Renovation and Expansion - Concept Diagram, First Floor	
Figure 5.2: Renovation and Expansion - Concept Diagram, Second Floor	
Figure 5.3: Renovation and Expansion – Hot and Cold Floor Plan	
Figure 5.4: New Training Center – Concept Diagram, First Floor	
Figure 5.5: New Training Center - Concept Diagram, Second Floor	
Figure 5.6: New Training Center – Hot and Cold Floor Plan	
Figure 5.7: New Support Building – Concept Diagram	
Figure 6.1: Site Diagram Renovation and Expansion	
Figure 6.2: Site Diagram New Build	
Figure 8.1: New Building Site Diagram	
Figure 8.2: New Building Plan Diagram First Floor	
Figure 8.3: New Building Plan Diagram 2nd Floor	
Figure 8.4: New Support Building Diagram	
Figure 8.5: Phasing Diagram New Concept Site Plan	63
Figure 8.6: Phasing Diagram New Concept Floor Plan	64
Figure A.1: Existing Facility Condition Analysis	A-1
Figure A.2: Existing Floor Plan	A-57
Figure A.3: Floor Plan Field Measurements	A-58
Figure A.4: 24057 Floor Plan Dimensions	A-59
Figure A.5: Historical Maps and Photographs	A-60
Figure A.6: 2022-05-09 Fire Training Center Five Year Review report - AI 52695	A-69
Figure A.7: 2022-05-10 Five Year Review Report Approval from KDWM	A-101
Figure A.8: 2024-03-20 Fire Training Center Compliance Certification A! 52695	A-103
Figure A.9: Roy Mardis Drive over Town Branch	A-105
Figure A.10: Site and Exterior Photos	A-145
Figure A.11: Roof Photos	A-167
Figure A.12: Interior Photos	A-181
Figure B.1: Demographic Profile	B-1
Figure D.1: Option 01 Concept Site Plan	D-1
Figure D.2: Option 1 First Floor	D-2
Figure D.3: Option 1 First Floor Hot Zones	D-3
Figure D.4: Option 02 Site Plan	D-4
Figure D.5: Option 2 First Floor	D-5
Figure D.6: Option 2 Second Floor	D-6
Figure D.7: Option 2 First Floor Hot Zones	D-7
Figure D.8: Site Plan Concept Option 1 - Renovation & Addition	D-8
Figure D.9: Floor Plan Concept Option 1 - Renovation & Addition	D-9
Figure D.10: Hot Zones Plan Concept Option 1 - Renovation & Addition	D-10
Figure D.11: Site Plan Concept Option 2 - New Build	D-11
Figure D.12: Floor Plan Concept Option 2, First Floor - New Build	D-12
Figure D.13: Floor Plan Concept Option 2 , Second Floor - New Build	D-13
Figure D.14: Hot Zones Plan Concept Option 2 - New Build	D-14
Figure D.15: Site Plan Concept Option 1 - Renovation & Addition	D-15

Figure D.16: Floor Plan concept Option 1, First Floor - Renovation & Addition
Figure D.17: Floor Plan concept Option 1, Second Floor - Renovation & AdditionD-17
Figure D.18: Hot Zones Plan Concept Option 1 - Renovation & AdditionD-18
Figure D.19: Site Plan Concept Option 2 - New Build
Figure D.20: Floor Plan Concept Option 2, First Floor - New BuildD-20
Figure D.21: Floor Plan Concept Option 2, Second Floor - New Build
Figure D.22: Hot Zones Plan Concept Option 2 - New Build
Figure D.23: Fire Training Center Site Improvement Plan
Figure D.24: Site Plan Concept Option 3 - New Build
Figure D.25: Site Plan Concept Option 1 - Renovation & Addition - Phasing PlanD-25
Figure D.26: Floor Plan Concept Option 1 - Renovation & Addition - Phasing PlanD-26
Figure D.27: Site Plan Concept Option 3 - Phasing Plan
Figure F.1: LFUCG Fire Training Center Study Topography Survey with Aerial Photo Overlay
Figure F.2: LFUCG Fire Training Center Study Topography Survey with Aerial Photo Overlay
Figure F.3: LFUCG Fire Training Center Study Initial Geotechnical Findings
Figure F.4: LFUCG Fire Training Center Study Preliminary Geotechnical Evaluation
Figure F.5: Lexington Fire Department 2024 Organizational Structure
Figure F.6: Lexington Fire Department Fire Training Academy Campus Presentation
Figure G.1: LFUCG Fire Training Facility and Space Needs Analysis Kickoff Meeting AgendaG-1
Figure G.2: LFUCG Fire Training Facility and Space Needs Analysis Kickoff MeetingG-3
Figure G.3: LFUCG Fire Training Facility and Space Needs Analysis - July 10, 2024 Conference MemorandumG-7
Figure G.4: LFUCG Fire Training Facility and Space Needs Analysis - July 19, 2024 Conference MemorandumG-11
Figure G.5: LFUCG Fire Training Facility and Space Needs Analysis - September 25, 2024 Conference MemorandumG-15
Figure G.6: LFUCG Fire Training Facility and Space Needs Analysis - October 21, 2024 Conference MemorandumG-19

vi





# How to Use this Report

The intent of the study is to evaluate existing fire facilities against industry standards (such as NFPA 1710 and 1500) and provide recommendations on infrastructure/development that will address the changing training needs of the Lexington Fire Department (Fire Department) as it continues to grow.

This study is used to share this information and build consensus on the direction for Lexington (City) to pursue in fulfilling the needs of the City and Fire Department. The study included four primary objectives or tasks: Evaluation of Current Conditions, Facility Space Needs, Conceptual Design Scenarios, and the potential cost for each of the conceptual scenarios. Each of these objectives provides key information to be considered for planning for the City.

# INTRODUCTION

The Lexington Fayette Urban County Government Council and Lexington Fire Department contracted with Brandstetter Carroll, Inc. (BCI) in June 2024 to complete a comprehensive facility feasibility report for the Lexington Fire Training Center. The City's Team, consisting of Josh Ives, AIA, Jason Wells, Fire Chief, Gary Harris, Assistant Chief, Jeremy Poynter, Battalion Chief, and others coordinated the efforts of the Consultant Team with the resources of the City. The City Team assisted in the collection of data and provided support, including escorting the Consultant Team on tours of the facilities and setting up meetings with major stakeholders.

This Executive Summary is formatted around significant information discussed throughout the report. During the Summer and Fall of 2024, BCI visited the existing Training Center building to perform and conduct a building analysis noting in particular: code compliance, accessibility, and damage or maintenance problems. The Consultant Team then developed recommendations for the facilities. After these tasks were completed, the final recommendations were then identified and completed. What follows is a brief synopsis of the analysis and recommendations addressing the deficiencies and pertinent recommendations for the Lexington Fire Department Training Center.

# BACKGROUND

For over 150 years, Lexington Fire Department has served the community from 24 stations providing progressive, allhazard services to meet the needs of the community. The Fire Department responds to over 60,000 local emergencies annually. The Fire Department consists of 607 sworn personnel and 34 non-sworn personnel. The organizational chart is in the Appendices for reference and hierarchy. All firefighters are IFSAC I/II, EMT-B, and HazMat Ops certified. Additionally, they provide full-time fire prevention, education, and investigation programs, as well as structural and ARFF firefighting, advanced life support EMS, hazardous materials, and technical rescue services.

The Lexington Fire Department typically runs 607 sworn members through the Training Center annually and often many of them multiple times a year. The department typically has two recruiting classes annually which consist of approximately 25 to 45 recruits per class. They also have a paramedic class annually consisting of approximately 36 students. They also have a company officer academy class annually consisting of approximately 15 company officers.

The Lexington Fire Department uses the Training Center for other events besides just department training. They also have many other public outreach events they host or would like to host and have many outside agencies that request to use the facility. The Fire Department hosts a Citizen Fire Academy semi-annually with class sizes of about 30 students. They have the graduation event for these at the Training Center which ranges from 75 to 85 people. The department also has LFUCG Council Field Day consisting of 30 people, an American Red Cross event consisting of 75 to 100 people, Metro Employees Credit Union Event consisting of 75 people, and Leadership Lexington visit consisting of approximately 30 people. The department currently hosts Kentucky State Fire School in June, Army National Guard training exercises two to three times a year. They host CSEPP Training Exercises, Lexington Police Training, Columbia Gas employee training, and car seat installation classes.

# **FACILITY ASSESSMENT**

The Facility Assessment for the existing facilities considered both the physical facility as well as the operational aspects of the facility. The existing facility, while in most cases is structurally sound, the facilities are inefficient and, in many cases, not conducive to the use of the building for modern operations. The current building does not meet the current requirements of modern building codes or best practices as they relate to public safety training facilities. The existing building includes 16,400 square feet of space.

# **FACILITY SPACE NEEDS**

The Facility Space Needs Assessment consisted of discussions with the Lexington Fire Department and Lexington Staff, and observation of current operations. This information, along with the information received from the Study Committee and Consultant tours of the facility and the Consultant's knowledge of design guidelines, best practices, and regulations, contributed to the development of the Facility Space Needs Program. These program documents identify an approximate total of 49,000 square feet of space for the Training Center.

# **CONCEPTUAL PLAN**

The Facility Space Needs Program was used to create conceptual plan options as follows:

- 1. Renovation and Expansion of Existing Building
- New Training Center Building 2.

These are merely conceptual plans for study purposes and should not be considered finalized floor plans at this stage. These include the necessary spaces for the Fire Department and training operations and represent appropriate space relationships. The site was then diagrammed with the proposed building footprints, parking needs, and vehicular circulation to evaluate the feasibility of using the existing property.

# **R**ECOMMENDATIONS

The recommendations of the Consultant Team listed in this report include the following:

Recommendation 1: Construct a new Fire Training 1. Center for an approximate cost of \$49.4 million dollars.

# FINANCING

Most public safety projects for municipalities are funded through a combination of available cash on hand, General Obligation Bonds, plus some level Federal or State funding. There may be an opportunity for an external source. It is very unlikely that State and Federal resources will be available for the entirety of the project, so the City must be prepared to provide matching funds. The most likely source would be General Obligation bonds. The City of Lexington should be in a good position to leverage its bond rating and capacity to fund this project even if it is done over multiple phases.

# NEXT STEPS

There are a series of steps to move forward from this study towards the development of improved operations and facilities for the most efficient training space and service delivery. These recommendations, if implemented, will enhance the Lexington Fire Department training operations and facilities with improved operational improvements due to more space and more space efficiencies.

# 

In conclusion, the City of Lexington and Lexington Fire Department are in the early stages of planning for the next steps for the Fire Training Center and site improvements. The information in this report is offered to help in making those difficult decisions and determinations.

The recommendations in this study also give greater flexibility to the Fire Department so that implementation can take place as quickly as possible or as funds become available. The project can be broken into multiple phases and funded over multiple years, if necessary, or it can be done as one project with localized phasing to maintain operations.

The Consultant Team is pleased to have been asked to perform this report and to work with the Fire Department to improve their operations and training center to continue to deliver a high level of training services to the Fire Department personnel, agencies, and citizens of the City and surrounding areas

viii


## **INTRODUCTION**

## 1.1 HISTORY

Lexington is in Fayette County, Kentucky. Lexington is in the Bluegrass Region and is known as the "Horse Capital of the World" due to the large number of horse farms. The City was originally named in 1775 before Kentucky became a state. Then Lexington was established in 1780 as a town in the County of Kentucky. The land area is 285.5 square miles of which 284.5 square miles is land and 1.0 square miles is water. The City has grown rapidly causing the City to adopt or develop the first urban growth boundary. Lexington is near major interstate corridors that access 14 major United States cities in 11 states.

For over 150 years, Lexington Fire Department has served the community from 24 stations providing progressive, all-hazard services to meet the needs of the community. The Fire Department responds to over 60,000 local emergencies annually. The Fire Department consists of 607 sworn personnel and 34 non-sworn personnel. The organizational chart is in Appendix F for reference and hierarchy. All firefighters are IFSAC I/II, EMT-B, and HazMat Ops certified. Additionally, they provide full-time fire prevention, education, and investigation programs, as well as structural and ARFF firefighting, advanced life support EMS, hazardous materials, and technical rescue services.

The Fire Department has multiple divisions which make up the department which are Administration/Finance, Logistics, Operations, Planning, and Office of the Chief. The Training Center houses 16 people that consist of the Training Team under the Planning Division. The 16 personnel consist of 12 Training personnel, 2 EMS Educators, 2 Recruiting and Hiring personnel. Due to the growth of the City and Fire Department, the Training Center needs many enhancements and improvements to meet current and future building codes and to provide adequate space for their daily training operations and department needs both now and in the future.

The Lexington Fire Department has the Training Center and Training Grounds located at 1375 Old Frankfort Pike. It currently houses Engine 37, Engine 38, Engine 39, Ladder 18, Ford F550 Work Truck, (2) UTV's, and a Training Van. Other vehicles stored on site consist of (2) Passenger Vans, (7) Small Fleet Vehicles, (1) Utility Trailer. Due to the need to store the quantity of vehicles and equipment at the Training Center, improvements and enhancements are necessary to properly house and maintain these assets.

The Lexington Fire Department typically runs 607 sworn members through the Training Center annually and often many of them multiple times a year. The department typically has two recruiting classes annually which consist of approximately 25 to 45 recruits per class. They also have a paramedic class annually consisting of approximately 36 students. They also have a company officer academy class annually consisting of approximately 15 company officers. Due to the quantity of personnel that must be trained on the department and the fact that it is mandatory, the existing Training Center, does not have the parking or space to provide for the needs of the Department. Due to existing conditions and constraints, the class size is restricted to a maximum of 50 students or personnel per class. The recruiting class graduation is held at another venue due to the number of people that attend which the current facility cannot accommodate. The typical graduation consists of approximately 300 people. There are other events for the department such as Command Staff Meetings, hiring and promotional events, Paramedic Class Graduation which range from 30 to 100 people. The Training Center needs improvements and enhancements to allow for larger class sizes which allow for more personnel and students to process through the training requirements and allows for opportunity to open the facility for outside agencies and other public outreach events to utilize the facility and would allow for additional training for their own personnel and even opportunity to bring in new training options because of the improved and larger facility.

The Lexington Fire Department uses the Training Center for other events besides just department training. They also have many other public outreach events they host or would like to host and have many outside agencies that request to use the facility. The Fire Department hosts a Citizen Fire Academy semi-annually with class sizes of about 30 students. They have the graduation event for these at the Training Center which ranges from 75 to 85 people. The department also has LFUCG Council Field Day consisting of 30 people, an American Red Cross event consisting of 75 to 100 people, Metro Employees Credit Union Event consisting of 75 people, and Leadership Lexington visit consisting of approximately 30 people. The department currently hosts Kentucky State Fire School in June, Army National Guard training exercises two to three times a year. They host CSEPP Training Exercises, Lexington Police Training, Columbia Gas employee training, and car seat installation classes. Due to the existing conditions, class sizes are limited or in the case of Kentucky State Fire School they must use offsite classrooms and training areas due to limited space and availability at the facility. The Fire Department would also like to accommodate other requests that they receive but due to limited space and parking, these requests are not able to be fulfilled or accommodated because of the existing facility deficiencies. It is important that the Training Center be enhanced and improved to provide more opportunities to the community but also other agencies.

## 1.2 DEMOGRAPHIC ANALYSIS

Lexington has a population of 324,981 (2024) people, with daytime population increasing to 357,197. The median age of the City is 35 years of age. The recent trends in population change show growth in the past, with slight growth in 2029. Most of the population is between the ages of 25 and 64.

There are 15,708 businesses (2024) in Lexington with a total employment population of 267,929 (2024). Most of the businesses in the city, approximately 69%, are white collar jobs. The unemployment rate is at 4.7% for the city, which is slightly higher than the national average of 4.1% (Sept. 2024).

The median home value in Lexington is \$318,531 (2024) which is 20.6% higher than the Kentucky median home value of \$264,100 (2024). The typical household size is 2.29 people (2024).

There are 136,900 households in Lexington, with an anticipated slight increase in 2029 to 139,115. Median household income is currently \$67,248. The recent trends in median household income show growth to \$80,360 in 2029. This represents income growth of nearly 3.63%. By contrast, nationally, the median household income is \$79,068 (2024) and will increase to \$91,442 in 2029. Recent changes in income and growth have been affected by COVID 19, but the trends show that both population and income in Lexington will continue to grow.

More detailed information regarding Lexington demographics is provided in the Appendices.

## **1.3 METHODOLOGY**

The Lexington Fayette Urban County Government Council and Lexington Fire Department contracted with Brandstetter Carroll, Inc. (BCI) in June 2024 to complete a comprehensive facility feasibility report for the Lexington Fire Training Center. The City's Team, consisting of Josh Ives, AIA, Jason Wells, Fire Chief, Gary Harris, Assistant Chief, Jeremy Poynter, Battalion Chief, and others coordinated the efforts of the Consultant Team with the resources of the City. The City Team assisted in the collection of data and provided support, including escorting the Consultant Team on tours of the facilities and setting up meetings with major stakeholders.

The existing Training Center facility consisting of 16,400 square feet was analyzed in detail from both an architectural and operational perspective. The City requested that the Consultant Team review the existing facilities and identify any recommendations and potential costs for renovation, expansion, or new buildings. This would allow the City and Fire Department to develop a comprehensive understanding of the needs and identify and strategically plan for future improvements for the Training Center and Fire Department with respect to the services and functions offered by the Department at this facility. In 2024, BCI reviewed and analyzed the Training Center operations, resources, facilities and completed this comprehensive report. This report is the culmination of that analysis and feedback.

## **1.4 O**BJECTIVES

This report had four major objectives. First, it was to analyze the existing facilities and identify key issues of concern, including maintenance deficiencies, code deficiencies, material degradation, structural concerns, HVAC and electrical systems' useful life, departmental capacity and needs, operational requirements, and future needs.

The second objective was to conduct a Facility Space Needs Study. This Needs Study will utilize Best Practices and Industry Standards, as well as the current and future needs required by the Fire Department for their daily training operations.

The third objective was to review a variety of scenarios or options to provide direction on enhancing the services for the



Training Center and Fire Department that would produce an economic solution with the greatest positive impact on the site and for the operations of the Fire Department.

The fourth objective was to conduct a third-party Opinion of Probable Cost for each of the scenarios. These cost opinions would help officials to understand the overall economic and investment needed to renovate and/or expand the existing facilities or to build a new facility on the existing site.

Based on this information, recommendations could be made on how best to provide proper facilities and ultimately better training.







## FACILITY ASSESSMENT

## 2.1 STANDARDS

The assessment of the existing Lexington Fire Department Training Center included both the physical building and systems, as well as the operational efficiency. The assessment was based on Best Practice Industry Standards from many codes and standard which a few of the major ones are listed below:

- 1. International Association of Fire Chiefs (IAFC)
- 2. International Association of Fire Fighters (IAFF)
- 3. National Fire Chiefs Council (NFCC)
- 4. International Association of Police Chiefs (IACP)
- 5. Commission on Accreditation for Law Enforcement Agencies (CALEA)
- 6. National Institute for Occupational Safety and Health (NIOSH)
- 7. National Fire Protection Agency (NFPA)
  - NFPA 1 Uniform Fire Code
  - NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Service Communication Systems
  - NFPA 1500 Standard on Fire Department Occupational Safety and Health Program
  - NFPA 1581 Standard on Fire Department Infection Control Program
  - NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments
- 8. Safety and Health Considerations for the Design of Fire and Emergency Medical Services Stations
- 9. Whole Building Design Guide (WBDG) National Institute of Building Sciences
- 10. Kentucky Building and Plumbing Code
- 11. International Mechanical Code
- 12. National Electrical Code
- 13. American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE)
- 14. ADA Standards for Accessible Design
- 15. Federal Emergency Management Agency (FEMA)
- 16. Department of Justice (DOJ)
- 17. Occupational Safety and Health Administration (OSHA)

## 2.2 Key Exterior Issues Identified

#### 2.2.1 Site

- 1. There are no identifiable handicap parking spots in the parking lot for staff or the public.
- 2. The public has access to the entire site via the roadways through the site. This is not ideal because it leaves the Fire Department's vehicles susceptible to vandalism and damage. There is a main front entry to the building. However, there are multiple doors that could be mistaken as entry locations and are not well marked.
- 3. The existing asphalt is in need of repair in many areas of the site drives and parking lots.
- 4. The existing bridge is not available for vehicular traffic due to structural concerns and narrowness.
- 5. Utilities on the site are available but many are not sized adequately or haphazardly installed due to the need for maintenance or other projects in the area.
- 6. Storm water control is minimal and needs to be addressed in any new work conducted.
- 7. There is evidence of the site being a filled site with trash and other rubble and materials buried below ground. These may be an issue for any future construction.
- 8. There are many foundations, bins, gravel, soils, mulch, brick, and other items on the northern side of Town Branch Creek which will need to be removed.
- 9. There is an old concrete structure and water tank that may need to be removed.
- 10. There is an area at the southern side of Town Branch Creek which has an EPA Covenant due to soil contamination that is still under monitoring. This should be remediated or avoided in the event of future work.
- 11. There is not a designated grilling area. There is a designated outdoor seating area that is on the opposite side of the building from the current grilling area. Outdoor activities must take place in the way of the sidewalk and parking spots.
- 12. There are no drains at the aprons and the aprons drain to the streets on both sides.
- 13. There are potentially hazardous materials and fire equipment that are scattered around the site unprotected and potentially hindering site movement. There is an air unit behind the Apparatus Bays on a concrete pad next to the pull through bays.
- 14. The location of the vehicle drives cause potentially serious conflict between pedestrians, parked cars, and emergency vehicles.

#### 2.2.2 Façade

- 1. Exterior doors are metal frames with single pane glazing providing minimal insulating value.
- 2. Joints and sealants need repair.
- 3. The windows are single pane glazing providing minimal insulation value. The sealants are deteriorated in places. These should be replaced in their entirety.
- 4. The existing roof utilizes primarily gutters and downspouts. The downspouts are in good condition.
- 5. The concrete façade has cracks in it from building settlement which has led to unwanted openings in the walls and needs repairs.
- 6. The mortar joints of the CMU walls are primarily in good condition but have some areas in need of maintenance and repair.
- 7. No exterior wall insulation was found. Insulation will be required to meet current energy codes

#### 2.2.3 Roof

6

- 1. The roof is in bad condition. If this building is renovated or expanded, the roof should be replaced in its entirety. There are some visible signs of leaks in the building due to staining of ceilings.
- 2. The emergency generator for the facility is located on the roof. This makes it difficult to access for maintenance.
- 3. The air units are located on the roof and have faded materials and warps from the weather.
- 4. The skylights on the upper roof are sun faded with popped sealants.
- 5. Fall protection will need to be provided at all roof top equipment within ten feet of roof edges.
- 6. The existing roof structure consists of cantilevered double tee concrete beams that extend beyond the exterior walls. No thermal breaks were found at the intersection of exterior wall to beams, this can lead to condensation and mold concerns.



## 2.3 Key Interior Issues Identified

#### 2.3.1 Structure

- 1. The facility, if expanded and renovated, would need to meet the requirements of the building code to withstand a weather event. The structure itself does not comply with those requirements and would need to be remediated to meet those requirements.
- 2. The existing facility constructed in 1969 consists of one-story load bearing concrete block for all exterior and bearing walls with the exception of the front wall which is pre-cast concrete tees. The roof over the high bay (vehicle bay) consists of steel bar joists 36" deep @ 5' 0.c. clear spanning the bay and bearing on 12" concrete block walls. The roof decking over the high bay area is steel roof decking.
- 3. The lower roof areas (classrooms, offices and lobby area) consist of exterior 8" load bearing concrete block, and the roof structure is pre-cast concrete double tees (approximately 18" deep with ribs at 2' on center. These concrete double tees cantilever past the exterior block wall creating an overhang.
- 4. There are two additions to the low roof areas along the west end. The oldest addition consists of concrete block walls and wood roof framing. This addition has a foundation and to have been constructed to commercial standards from a structural standpoint. The more recent addition does not have a foundation and appears to be a slab poured on asphalt. This newer addition does not appear to have been constructed in accordance with the Kentucky Building Code and should be considered a temporary structure for storage only.
- 5. The existing precast concrete bridge over the town branch creek to the rear of the property is in poor structural condition and needs to be replaced. The abutments could potentially be re-used if the same size and location works for a potential replacement precast concrete bridge.
- 6. There is some minor cracking of the concrete block, especially over and around openings. It is likely none of the concrete blocks are grouted or reinforced. This was acceptable and met the structural loading requirements of the Kentucky Building Code in 1969. The cracking areas of the concrete block should be tuck-pointed and partially grouted.
- 7. The added space inside the high-bay area was constructed with wood and does not appear to be in compliance with the Kentucky Building Code. This area would need to be replaced and reconstructed with non-combustible materials if any renovations occur.

#### 2.3.2 Fire Training Center

#### General

There is typically a maximum of seventy-seven (77) people at the Training Center each day. The personnel currently consist of (16) Full-Time Employees. There are typically recruit classes at the Training Center.

#### Lobby / Vestibule

- There is no vestibule.
- The lobby is open to the public with no reception area and is not secure to keep the public out of the rest of the training center.
- The lobby is in good condition and is used for displaying miscellaneous Lexington Fire Department memorabilia. More space is needed to display all the Fire Department's items.
- The exterior wall of the lobby is a precast concrete wall system, no insulation was noted.

#### **Public Restrooms**

- Restrooms are limited in the building. The restrooms are small and do not meet current building and plumbing codes for size and quantity needed to comply with the codes.
- There is limited ADA required clearances and turning radiuses. These do not meet current ADA accessibility codes.
- The restrooms and showers have general cosmetic needs like new fixtures, tile, etc.

#### **EMS Office and Storage**

- The EMS Office is crowded with little area for desk space.
- The room is used mainly for storage, which severely limits the operational use of the office.
- The EMS storage room is small and does not accommodate the needs of the department.

- A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- The walls are not sound rated.

#### **Training Officer Office**

- The area is a shared common area with several desks that are overcrowded and require more space for filing and gear.
- A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- The office walls are not sound rated.

#### **Conference Rooms**

- There is limited conference room space in the building. The room has miscellaneous storage in it and is small for a conference room.
- The technology in the room is outdated.
- There are general cosmetic needs in the room such as flooring, wall base, ceiling systems, painting, etc.
- A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- The walls are not sound rated.

#### Administrative Offices

- The offices are limited in size for typical administration office use but do accommodate a desk and chair and some other amenities. The lack of storage has caused many of the offices to be used for storage and office space.
- There are cosmetic needs such as ceiling systems, flooring, paint, and wall base, etc.
- Storage and filing for these offices are severely limited and additional space is needed for the department.
- There is not a dedicated room for an administrative conference room. The common space between the administration offices is used as a small conference room.
- The administrative suite is located directly off the apparatus bay. A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- The administrative suite currently does not have direct viewing of the entry doors or lobby area.
- The administrative suite walls are not sound rated.

#### **Vehicle Bays**

- Storage for miscellaneous equipment is along the exterior walls of the bay. There is also a small stage in the bay used for presentations.
- There are gear lockers in the bay because there is not enough space in the gear room.
- The bay is not large enough for the size of the apparatus. With the additional amount of equipment stored in the bays this limits the maneuverability of staff and ability to open and close vehicles.
- The bay utilizes one (1) overhead sectional door while storing up to four (4) vehicles at a time. This makes vehicle maneuverability severally limited and greatly increases the likelihood of an accident damaging the trucks.
- The bay does not have any floor drains. There is limited ability to keep the bay floor dry during rain or snow events since the drainage is minimal. This is dangerous for the crew and inefficient for them to have to manually evacuate water and debris from the bay floor.
- The pendant lights are old but seem to be in good condition. The lights are not the correct fixtures for this environment.
- The floor slab has several cracks in it due to the weight of the vehicles. The joint at the lobby flooring is deteriorated.
- The vehicle bays are separated from the living and office areas by a CMU wall with no vestibules. It is not evident if the 2-hour separation is achieved due to current conditions. It is assumed that this is not achieved per today's building code. This is not the best practice for apparatus bays.
- The vehicle bay area currently has no vehicle exhaust extraction system. This should be added to protect the occupants within the building and to meet current codes.



#### Bay Storage

- The Storage Room is small and additional storage capacity is needed for the bays.
- There are a few storage shelves around the bay. These are not sizable for any significant storage, so the bays are being used for storage of a variety of equipment, supplies, furniture, vehicles, and other miscellaneous items.
- Some gear lockers are in bay which is not preferred due to the UV degradation and exposure to contaminates and vehicle exhaust.
- The Gear Room has general cosmetic needs such as ceiling systems, flooring, paint, and wall base, etc.

#### Washroom / Electrical

- The gear wash area is located away from the Apparatus Bay through the kitchen. This is not best practice because it requires contaminated gear to be brought through an eating area to be cleaned.
- The washer and dryer are in the electrical room and are inadequate in number for the size and number of staff at the Training Center. Per Best Practices it is advised to add a decontamination room, and laundry room dedicated to the Apparatus Bay for staff convenience and to keep contaminated areas separated.

#### Cascade and Tool Rooms

- The Cascade Room is small and needs more space to adequately accommodate the needs of the department.
- The Tool Room is small and has limited space to perform maintenance duties.
- The rooms are used for additional building and janitorial storage.
- Access to these rooms requires personnel to exit the main building. The adjacencies of these rooms are not ideal and should be better located.

#### **Kitchen and Dining**

- The kitchen area is small and cramped. There is limited dining space.
- The kitchen is a residential grade with solid surface counters and wood cabinets.
- Lighting in this area is old fluorescent lights.
- The overall quantity of storage space and appliances for staff and trainees is not adequate for current needs.
- A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.

#### **Restrooms and Locker Rooms**

- Restrooms are limited in the station. The restrooms and showers are undersized and do not meet the current building
  and plumbing codes for size and quantity needed to comply with the codes.
- There is limited ADA required clearances and turning radiuses. These do not meet current ADA accessibility codes.
- The restrooms and showers have general cosmetic needs like new fixtures, tile, etc.

#### Bedrooms/Bunk Room

- The bunk room is located upstairs. The stairs are not compliant with the codes for treads and railing requirements.
- The room is too small for the standard needs of the staff. The rooms have limited storage.
- The rooms are adjacent to the Apparatus Bay with no vestibule. This can cause exhaust to enter the living areas which is against NFPA standards. The walls are not soundproof, which causes issues for staff sleeping. This is a community sleeping room which has its own problems with the snoring and use of C-Pap machines. A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- The lighting in this room is not efficient and is not tied to the station alerting for adjustable light levels for those coming out of sleep when a call comes. This is per industry Best Practices for health and safety of the firefighters.
- There are general cosmetic needs in the room such as flooring, wall base, ceiling systems, painting, etc.
- This area is currently not accessible and would require an elevator to meet current code requirements.
- The walls are not sound rated.
- No elevator currently installed, would require adding an elevator to meet current code requirements

#### Classrooms

- Classrooms are located off the bay with access also from the exterior. A two-hour fire-rated separation with a
  vestibule should be added to keep contaminated areas separated and to meet current codes.
- The classrooms are small for the number of trainees and other staff that use the classrooms daily.
- There is not proper storage accommodation for the classrooms and training props and other equipment must stay out in the bays.
- The technology in the rooms is outdated.
- The classroom walls are not sound rated.

### 2.4 OPERATIONAL ASSESSMENT

#### 2.4.1 General Analysis

The existing Training Center does not provide an ideal or functional layout for a modern Fire Training Center with modern staffing requirements, vehicles, equipment, and apparatus that is utilized in the 21st century. The configuration of the spaces affects the operational efficiency and resulting response times. The facility does not have adequate separation of public and staff spaces.

#### 2.4.2 Exhaust and Carcinogen Systems

Protection of First Responders from exhaust carcinogens and contaminates is a critical concern in today's work environment. The various standards address these concerns and provide requirements for proper safety and precautions that should be adhered to for the safety of First Responders. Exposure to these elements is a significant contributing factor for the high rate of cancer in Fire Fighters.

#### 2.4.3 Threat Mitigation Deficiencies

The following items affect the way the building inhabitants are secure within the complex perimeter and how they interface with the public. The three threat scenarios that need to be mitigated are Technological, Man made, and Natural.

- 1. **Technological Threats:** Threats resulting from the man made environment but are unintentional or accidental in initiation. These include hazardous materials releases, utility failure, transportation incidents, and other events that originate due to human intervention.
- 2. Man made Threats: Threats based upon the intentional actions of individuals to cause harm to others and/or the destruction of property. This category includes criminal acts of violence, terrorism, and civil unrest.
- 3. **Natural Threats:** Natural phenomena that place individuals and the built environment at risk. These include both geophysical (e.g., severe weather, earthquake, flooding) and biological, such as naturally occurring diseases (e.g., pandemic influenza, Ebola).
  - Natural hazards represent the primary threats to public safety facilities. Weather-related events such as severe storms, lightning, tornadoes, and flooding have the highest potential of occurrence and impact on the delivery of public safety services.

#### **Deficiencies of the Existing Facility**

- Technological Threats
  - Structure Fire Moderate Probability with Major Impact
  - Hazardous Materials Release (Fixed Site) Low Probability with Limited Impact
  - Hazardous Materials Release (In-Transit) Moderate Probability with Major Impact
  - Interruption of Primary Electric Delivery Moderate Probability with Major Impact
  - Interruption of Secondary Electrical Systems Low Probability with Moderate Impact
  - Interruption of Telephone Service Low Probability with Moderate Impact
  - Train Derailment Low Probability with Major Impact
  - Aircraft Crash Low Probability with Major Impact
- Man made Threats
  - Active Assailant (Firearm) Low Probability with Major Impact

10

- Explosives
- Package Device Low Probability with Major Impact
- Person Borne Device (Suicide Bomber) Low Probability with Major Impact
- Vehicle Borne Device Low Probability with Major Impact
- Chemical Agents Low Probability with Major Impact
- Biological Agents Low Probability with Major Impact
- Criminal Mischief / Vandalism Moderate Probability with Moderate Impact
- Vehicle Ramming Low Probability with Moderate/Major Impact
- Personal and Property Protection Moderate Probability with Major Impact
- Natural Threats
  - Severe Thunderstorms (high winds and hail) High Probability with Major Impact
  - Lightning High Probability with Major Impact
  - Tornado High Probability with Major Impact
  - Flooding High Probability with Major Impact
  - Ice Storm, Snow, and Extreme Cold Moderate Probability with Moderate/Major Impact
  - Subsidence Low Probability with Moderate Impact
  - Disease (pandemic) Moderate Probability with Major Impact
  - Drought Moderate Probability with Limited Impact
  - Wildland Fire Low Probability with Limited Impact

#### 2.4.4 Exterior

- 1. The roof has minimal insulation thickness. The current energy code requires a minimum rating of R25 to R30 for roof insulation value. The efficiency of the mechanical systems and the energy efficiency of the building is greatly compromised.
- 2. The exterior windows of the facility are single glass pane windows. These windows do not meet the current Building and Energy Codes. They are very inefficient and cause a tremendous amount of heat loss and heat load for the building. This also puts undue stress on the HVAC system creating energy inefficiencies.
- 3. The exterior walls appear to have no thermal insulation, selective demolition would be needed to confirm.

#### 2.4.5 General Interior

#### Lobby / Main Entry

- The main entry is good size but does not have a vestibule or access to a receptionist. A window should be in the vestibule to allow for direct communication between the Fire Department Administration and the Public.
- The main lobby allows for access to the entire building. Access points should be installed to restrict public access to the rest of the building. The current situation makes access to the building inadequate for public use, but access to employee areas unrestricted and unsafe.
- There should be adequate restrooms off the Lobby that are ADA compliant and meet all the requirements of the current building code.
- There should be general signage for public use.

#### **Vehicle Bays**

- The Vehicle Bays are not only used for vehicle storage, but they are also utilized for storage of gear and other equipment. Due to the limited storage and support areas of the Bay, the Bay itself is unable to provide adequate maneuverability for equipment and Staff. This causes an undue burden on daily operations and can result in higher response times and potential injury to staff.
- The Bays do not have proper NFPA clearances for equipment. The bay widths are not adequate per current standards. The width does not allow for maintenance of the apparatus from the sides or access to equipment in the vehicles.

- There are no drains in the Bay. This makes it difficult for vehicles to be cleaned and maintained during inclement weather.
- There is one apparatus bay that is not a drive-thru bay. This allows for the potential for accidents from backing into the bays causing significant damage and cost to equipment and the building. The bay can accommodate multiple vehicles if parked properly. Bays should be drive-through, if at all possible, per NFPA Standards and Best Practices. This may not be possible in the current building but should be explored.
- Gear is housed in the Bays. Gear should be housed in a separate Storage Area to protect from carcinogen contamination through off-gassing.
- Lockers should be sized at a minimum of 24" x 24" x 72".
- The Apparatus Bay utilizes a sectional door. These doors create maintenance and safety issues for the Department. The use of newer technology such as bi-fold or four-fold doors would be beneficial, not only from a maintenance and operation perspective, but also from a response time perspective. If these are not economical, the sectional doors should be modified to heavy-duty commercial sectional doors with higher use cycles and safety features.
- There is no Decontamination Room in the facility. A Decontamination Room should be provided that allows for decontamination of gear and staff. This should also allow for quick access to a shower. Per NFPA Standards and Best Practices, this will minimize the tracking of contaminations into the living areas.
- There is not a restroom in the Bay area. There should be a restroom facility provided in the Bay adjacent to the Decon Room. Per best practices, this is highly recommended to minimize tracking of contaminates into the living areas.
- A two-hour fire-rated separation should be added at all walls and openings shared with the apparatus bay.

#### Bedrooms / Bunk Room

- The dorm room is a community area with beds and personal storage units for the firefighters. This arrangement is acceptable but in industry best practices and modern trends, these are going to individual bunk rooms due to C-Pap and snoring issues and privacy. It also does not allow for gender separation.
- If individual bunk rooms were pursued these should have adequate space to accommodate a small desk, bed, nightstand, and a set lockers or closet.
- The dorm rooms do not have windows to the exterior. As a means of health, safety, and welfare of the staff, there should be means of natural light and the use of black out shades can help darken the room.

#### Offices

- The office arrangement at the station is not desirable as the offices are shared spaces.
- NFPA Standards and Best Practices for Fire Station design locate all offices in a general Administration Area. This
  would minimize duplication of spaces and services such as the need for copy machines, filing cabinets, etc. This
  will also prevent the public from entering the workspace of the staff.
- Office(s) should have visibility to exit and entry aprons, which currently is not possible.
- Office(s) should have full walls for privacy and less distractions while working.
- There should be separate rooms with adequate space for a reports room, a fire prevention office, and a code review area which is not available now.

#### Storage

12

- The storage capacity of this building is woefully short of the needs of the station. As aforementioned, the Bays are being utilized for storage as are other Staff spaces.
- The bay storage is also inadequate for the storage of supplies.

#### **Kitchen and Dining Room**

- There is no true dining room, but an eating area is located in the kitchen.
- The Kitchen is too small for the use of the facility. The kitchen should be larger to accommodate the proper clearances around the equipment, appliances, and cook top.

#### Locker Rooms and Restrooms

NFPA Standards require that Locker Rooms be accommodated in a facility and be provided for both sexes. These can be provided as gender specific which includes the restroom and shower facilities in individual rooms and the lockers are in a gender neutral room. The current facilities are not adequate for the size of this department or per the Plumbing Code. These facilities should be enlarged and provide ADA accessible fixtures.



- Lockers should be sized at a minimum of 24" x 24" x 72".
- The lockers should accommodate current ADA accessibility codes and provide adequate facilities for the number of first responders and staff who use the facility.

#### Classrooms

- Classrooms should be large enough and flexible to accommodate the many recruit classes that use the Training Center daily.
- Classrooms should have adequate storage for the tables and chairs used by the classes.

#### **Miscellaneous Support**

- There should be two laundry areas. A Laundry Area in the Living Area separate from a laundry area in the bays to minimize contamination in the Living Areas.
- There is not a true fitness area in the facility which does not meet NFPA Standards or best practices. The fitness area should be near the living areas away from the bays and dirty areas of the facility.
- The fitness room is a vital part of the firefighter conditioning and overall health. Due to the duties of their positions, they need to be in top physical shape and a fitness room would allow them to use it while on duty and not have to go to another location. This encourages fitness and is beneficial to both the Fire Department and the firefighters.
- A Rehabilitation Room is not available in the current facility. This area allows those in the department to recover from injury or other ailments to be able to work on their rehabilitation process both on and off duty. It also allows them to have monitoring by the wellness coordinator. This area should be near the fitness area to allow for use of equipment and a graduated process.
- The Tool Room should have adequate storage and a work bench to accommodate all department maintenance needs.
- The Cascade Room should have adequate space for all the SCBA equipment and for future storage needs.

#### 2.4.6 Building Systems

#### **HVAC**

- The air handling equipment consists of seven packaged rooftop units (RTUs). Four of these rooftop units serve the large bay area while two serve the east wing and one serves the west wing. The west wing RTU is the most recently replaced unit, which occurred in 2016. The RTUs serving the east wing were replaced in 2008. The four RTUs serving the Bay were replaced in 2001.
- It was found that the majority of spaces were outside of the desired space temperature. The facility operator has installed multiple temporary air conditioning units in an attempt to bring the space temperature down to a more accommodating level.
- Many pieces of equipment and systems were found to be operating beyond the typical service life. The type of
  equipment and systems that were originally selected are no longer performing at their peak efficiencies and show
  signs of wear.
- According to ASHRAE's life expectancy for the RTUs, all the RTUs except the west wing unit are beyond their typical life expectancy. Although the RTU serving the west wing has approximately five years of operational life remaining, replacement of this unit to a higher tonnage would help serve the spaces. The west wing typically is further off zone setpoint than the other areas in the facility. This is further exemplified by the multiple temporary air conditioning units installed in the west wing.
- The ductwork for the rooftop units appears to be original. Above ceiling, it appears that the supply ductwork is externally insulated while the return ductwork is internally lined. Due to the age of the ductwork and internal conditions
- The new addition of the office spaces and bunks is served by a mini-split system heat pump. This features one outdoor unit mounted on the roof and four indoor units serving each of the four newly added spaces. This system and addition were installed in 2023, so the mechanical equipment has effectively its whole operating life remaining.
- Classroom 2 and the adjacent EMS Room are each served by a packaged terminal air conditioner (PTAC) unit. The PTAC units are estimated to have been installed in 2001. According to ASHRAE's life expectancy for the PTAC units, both are almost a decade past their life expectancy.
- The Bay is currently served by three high volume low speed (HVLS) fans. The estimated installation date for the HVLS fans was 2016. The ASHRAE life expectancy for these fans indicates that they have twelve years of operating life remaining. With over half of their lifetime remaining, it is Paladin's recommendation that these fans continue

operating unchanged. Even if the air distribution is altered for the Bay, these fans will continue to combat thermal stratification that can more easily affect an area like the Bay with high ceilings.

- The Bay is also served by a singular wall mounted exhaust fan. It is estimated that this exhaust fan's installation date was 2001. The ASHRAE life expectancy for this fan indicates that it is three years past its operational life expectancy. Furthermore, it is reported that diesel fumes accumulate when the fire engines are in the Bay. The purpose of this fan was to assist with engine exhaust, and it is no longer able to fulfill its purpose effectively.
- The men's and women's restrooms each have a ceiling mounted electric unit heater. It is estimated that these were installed when the restrooms were renovated in 2009. The ASHRAE life expectancy for these heaters indicates that they are past their operational life expectancy by two years.
- The three restroom areas: men's, women's, and Chief's, all include ceiling mounted exhaust fans. It is estimated that these fans were installed when the restrooms were renovated in 2009. The ASHRAE life expectancy for these fans indicates that they have approximately five years of remaining operational life.
- The fans are nearing the end of their 20-year life expectancy and replacing them during the upcoming project is safer than allowing them to exceed their life expectancy and replace them as they fail.
- The Kitchen includes a kitchen hood exhaust fan. This exhaust fan has been estimated to have been installed in 2019. The ASHRAE life expectancy for a fan of this type is 20 years. The hood and fan seem to be in acceptable condition for continued operation.
- An exhaust system should be installed. There are multiple types of systems, and two forms of exhaust are preferred. The options are building exhaust which exhausts air out of the bays due to sensors or switch. The direct-connect has a hose that connects directly to the apparatus exhaust system. The other system is an air purifier also known as scrubber. They take the air into them and clean it and then redistribute it to the bays.
- Since these systems are older and the quality of air required per the Building Code and per NFPA Standards has increased, they should be replaced in their entirety.

#### **Plumbing and Fire Sprinkler**

- Plumbing fixtures were replaced in approximately 2009. Two domestic water heaters serve the building: one tankless and the other traditional tank style. The domestic water heaters were replaced in 2015 and 2023, respectively.
- The building's domestic hot water is generated by two sources: an electric tank-style water heater and an instantaneous gas water heater. Each of these water heaters serves a different side of the building. The electric water heater serves the west side of the building. This includes the men's restroom and the chiefs' office restroom.
- The gas water heater serves the east side of the building. This includes the women's restroom, the laundry room, and the kitchen. The electric water heater was replaced in 2023. The gas water heater was installed in 2015. Both pieces of equipment are in good condition, and both also have over ten years of operable life remaining.
- The building underwent a restroom renovation in 2009. During this renovation, the plumbing fixtures were updated into more efficient fixtures as well as becoming more uniform fixtures. There are three restrooms in the facility: a men's restroom, a women's restroom, and an individual restroom serving the chiefs' offices. In the men's restroom, there are three urinals, a water closet, and two lavatories. In the women's restroom, there are two water closets and two lavatories. In the individual chief restroom, there is one water closet, one lavatory, and one shower.
- The building is equipped with two water fountains in the Lobby. In the east side of the Lobby, an Elkay water fountain with bottle filler has been installed. This installation occurred in 2019. The Elkay water fountain is in good condition, and it has approximately ten years of expected operational life remaining. The west side of the Lobby is served by an Oasis water fountain. This water fountain is estimated to have been installed in 2001. With this being the case, the water fountain is well beyond its expected operational life.
- The current facility does not have a fire sprinkler system, which is required for an essential facility. NFPA recommends a sprinkler system as there are approximately 100 to 150 fires in EMS and Fire Stations annually.
- The use of automatic control fixtures in the Restrooms would help conserve water. It is good practice for a public entity to conserve water.
- The building has limited cleanouts and access panels. This is not in violation of the building code but for maintenance purposes, additional cleanouts and access panels are recommended.
- Isolation water valves should be provided for maintenance purposes. Shutting water off is difficult without affecting the entire building.
- Vehicle bays have limited drainage. It is recommended that a trench drain be placed in each bay length wise to allow better drainage when vehicles come in with rain or snow.



#### Electrical

- The lighting in the facility has been replaced at various points in the past. The latest partial replacement occurred in 2017. Prior to the 2017 lighting replacement, an upgrade to LED fixtures occurred in approximately 2010. The electrical distribution system has been upgraded as necessary at varying intervals. The main switchboard is original to the building, while the majority of the electrical distribution panels are estimated to have been replaced in 2008. A backup generator serves the west side of the building and was installed in 2015.
- The electrical distribution system consists of one main 600 Amp switchboard, ten electrical distribution panels, and two large disconnect switches. The main switchboard is original to the building. The ten electrical distribution panels all vary in age. However, most are from approximately 2001-2008. The two large isconnect switches each serve a distribution panel on the roof for the east and west wings respectively. These disconnect switches appear to be from 2008.
- The main switchboard serves the entire building. The typical operational lifespan of a main switchboard is expected to be thirty years. Since this switchboard is original to the building, that puts the current life of this equipment at almost twice what it was expected to achieve. Furthermore, the main switchboard is a Federal Pacific model which is outdated. These are often recommended for replacement regardless of their age.
- The electrical distribution panels can be separated into two categories based upon manufacturer: Square D panels and non-Square D panels. There are two non-Square D panels. There is an ITE panel that serves the men's restroom and a Cutler-Hammer panel that serves the computer room. The ITE panel appears to be from 1977 and was not replaced with the restroom renovation project. The ITE panel is almost two decades past its expected operational life. The Cutler-Hammer panel has approximately 5 years of expected operational life remaining. Replacing both panels with updated Square D panels would allow for increased versatility in the spaces, increased capacity, and a safer environment.
- The eight Square D panels are generally in a similar good condition with approximately half of their thirty-year operational life expectancy remaining. The exceptions to this are the newly added panel to serve the 2023 office addition and the panels that are located on the roof to serve the RTUs. The new panel has its entire operational life remaining. The roof panels appear to be in acceptable condition; however, it cannot be determined when these panels were installed. The earliest estimate for the roof panels is 2001, while they could have been upgraded with the remaining panels in approximately 2008. The roof panels' enclosures have shown signs of aging but the equipment itself appears to be in acceptable condition.
- The two large disconnect switches each serve a roof distribution panel. These disconnect switches were both made by Square D and approximately installed in 2008. There appears to be no significant signs of distress or failures.
- The backup generator serving the building was installed in 2015. It has been reported that it serves only the west half of the building. The expected life span of the generator is thirty years. Reports show that the generator is up to date on regularly scheduled maintenance.
- The lighting in the building has been replaced at various points, causing lighting color and fixtures to be non-uniform throughout the facility. The majority of the lighting fixtures were reported to be replaced with LED fixtures in approximately 2010. A separate replacement project was implemented for the lighting fixtures in approximately 2017 for a small number of fixtures in the office spaces. The 2017 replacement project featured another upgrade of lighting fixtures to LED fixtures. Finally, the 2023 addition included its own new LED fixtures as well. The exception to this would be if uniform lighting fixtures were desired. This conformity would require a replacement of lighting fixtures.
- The lighting fixtures for the facility are not all LED fixtures. There are metal halide lights in the Bay, incandescent can lights in the Lobby, Computer Room, and Chief's Restroom, and incandescent exterior light fixtures. To increase energy efficiency, Paladin recommends replacing all lighting fixtures that are not LED to be updated to LED fixtures.
- The Kentucky Building Code for "essential facilities" requires that the building be able to withstand an event and be able to fully function during a weather or catastrophic event if power has been lost. Typical time requirements for fully operational essential facilities during a power failure should be a minimum of 72 hours.
- Surface mounted conduit and outlets are noticeable throughout the facility. The facility has limited technological, communication and electrical capabilities to meet the technological needs for a modern facility. It is extremely difficult to add future technology and communication systems to the building, resulting in inefficient operations.
- The building is not equipped with a whole building fire alarm and has minimal smoke detectors.
- Smoke detectors are provided in the facility. These should be upgraded and tied to a fire alarm system. There is no evidence the consultants could find to show if the HVAC system has duct detectors. The HVAC system should have duct detectors provided to verify smoke transfer in and through the HVAC system ductwork to avoid unsafe conditions or disasters.

- It is recommended that ceiling fans be utilized throughout the facility in major spaces.
- The generator is minimal and does not meet the requirements of a facility of this size. The power needs to be updated to allow for more circuits and for adequate power for modern appliances and equipment.

#### Technology

- The detailed investigation of communications and technology was beyond the scope of this assessment.
- At the time in which this building was built, technology was not as great a concern for computer and phone access, however, over time, technology demands have required installation of phone and data jacks throughout the building. These have been done during the life of the facility and they have been surface-mounted where needed for use.
- There are multiple locations that were viewed during the review where technological equipment has been installed in spaces which are not dedicated to technological equipment. Many of these areas do not have the proper HVAC components to maintain humidity and temperature control. The equipment is also unsecure and the opportunity for vandalism or damage exists.
- There is a limited access control and surveillance system provided for the building. Security is limited.
- In many instances, proper labeling is not provided on wiring, jacks, or boards.
- There should be dedicated rooms with adequate space for the Department's technology storage needs.

### 2.5 ENERGY EFFICIENCY

- 1. As noted throughout the Operational Assessment, there are various items that have energy implications, such as the roof, HVAC, lighting, and plumbing fixtures. These items can be addressed to increase the energy efficiency of the facility. These decisions are beneficial and will also increase the quality of life of the facility.
- 2. Other items for consideration are as follow:
  - Install a building automation system with night setbacks. This will help reduce energy consumption. Understanding that this building is primarily a 24/7 facility, the energy reduction is minimal in comparison to typical public facilities, however, it would still provide operational cost savings over the life of the building.
  - Install a lighting control system. Lighting will be turned off by occupation or motion sensors if rooms are not being utilized.
  - Automatic flush valves and faucets will reduce water usage.
  - New energy efficient windows and daylight harvesting controls in the facility will reduce energy consumption. This will also benefit the HVAC system, reducing the load on the system, and therefore decreasing energy use and operation costs.
  - The use of ceiling fans throughout the facility will minimize the energy consumption of the HVAC system.
  - Utilization of proper exhaust methods and the creation of positive and negative pressure areas in the facility will deter a "sick building syndrome". This will also benefit the health and welfare of the staff.
  - Increasing insulation on the roof will mitigate heat loss in the building. This will reduce the load on the HVAC system, making it more efficient and reducing operational costs.
  - The use of an energy recovery unit would be a benefit to the facility. This would allow for energy generated by the HVAC and exhaust systems to be recaptured and converted to heat or a tempered distribution.

16





## FACILITY SPACE NEEDS

A few strategies were employed to determine the recommended space/size for a new Fire Training Center building housing all the functions including, but not limited to apparatus and equipment bays, classrooms, storage areas, locker rooms, bunk rooms, offices, cafeteria, kitchen, fitness, rehabilitation areas, bay support spaces, and building support space. A new building along with a renovation and expansion were explored as separate options. Multiple meetings were held with Fire Department personnel. The Consultant also toured the existing facility to analyze the existing conditions and to understand the good, bad, and ugly with the existing facility and to understand operations and efficiencies. Finally, the Consultant utilized the analysis and data gathered and applied their knowledge of Design Standards, Best Practices and Safety Recommendations and Guidelines to generate the programmatic needs of the Fire Department.

Design Standards, Best Practices and Guidelines are utilized to evaluate the required spaces needed to officially function and operate in a new facility. Some of these standards, best practices, and guidelines are noted throughout other sections of this report.

## 3.1 DESIGN

The design of a facility must account for these functions and guidelines to achieve the most efficient operation and delivery of service possible. All decisions in arrangement, size, and location of these spaces can affect efficiency in operations.

## 3.2 PUBLIC SPACES

The Fire Department Training Center like many other public facilities, provide a public service, and therefore, become a public building. The Fire Department offers many classes and public outreach events at this facility that make it incumbent on the public entity developing the facility to include public spaces. This is usually accomplished in the design of a public entry with access to a restroom(s), a community or large meeting room, or at a minimum lobby seating where a person can be seated as they wait for their meeting or class to start. The public spaces must be accessible and accommodating for people of all ages and abilities.

However, with today's growing security concerns, it is critical to consider maintaining safety for the staff. Therefore, the Lobby is the only area the public has access to directly, and all other circulation is controlled via access control or other secure means to maintain the security of the facility. The public areas are used for public interaction such as meetings, community training, fire prevention demonstrations, car seat installation, and many other uses.

There are also areas provided in the public parking lot that are well lit and have camera coverage that can be used for various uses and especially parking and training.

## 3.3 ADMINISTRATION

Administrative functions such as offices, files, storage, and other similar spaces are a necessary requirement for all departments. These functions should be maintained around the other functions of the building. They can, however, be more remote from the major support spaces. It should be noted that Administrative Spaces, are known as "clean areas", and should be kept separate from the Fire Apparatus Bays and Bay Support Spaces, known as "dirty areas", both mechanically and physically, to limit and prevent contamination of the harmful carcinogens and other hazardous materials encountered

in the daily functions of a First Responder. The office spaces for employees are similar across the department but there are some intricacies for each department that are unique to them that must be accommodated in the design. This facility specifically needs areas for training instructors and recruiting and retention staff. These areas need to be located adjacent to the training classrooms and the lobby respectively.

## 3.4 REHABILITATION, FITNESS, AND STAFF SUPPORT

The Training Center and Fire Department need to a Rehabilitation room which must be a flexible multi-purpose space so that various rehabilitation activities can be performed whether stretching, use of machines, and other treatment and therapy. This room must be large enough to accommodate the various uses and be flexible enough for the variety of uses with adequate storage and the necessary amenities. The room should be located near the Wellness Coordinator and Fitness room so that monitoring can be done. As the person makes progress in their rehabilitation, access to the Fitness Room is valuable to be able to start increasing their activity and exercise needs.

Staff Support spaces are vitally important to the success and vitality of the department. Accommodation for Fire Department needs such as Bunk/Sleeping Rooms, Locker Rooms, Kitchen, Breakrooms, Cafeteria, and Fitness rooms provide for the daily needs, but also the ability to get away from the stress of their job duties and assist in recruiting and retention for the department along with enhancements in the training experience. Some of these areas are important but in the fire department specifically they must be located near the Bays for response and operational efficiency but separated for the safety of the personnel. It should be noted that Living, training, and fitness spaces, known as "clean areas", should be kept separate from the fire Bays and Bay Support Spaces, known as "dirty areas", both mechanically and physically, to limit and prevent contamination of the harmful carcinogens and other hazardous materials encountered in the daily functions of a First Responder. NFPA 1583, Standard on Health-Related Fitness Programs for Fire Department Members - requires fitness rooms for fire stations.

Cardiovascular health and Strength Training Areas should be open and inviting with emergency/safety measures in the room. With the physically demanding nature of fire service activities, it is essential to incorporate these spaces into heavily used areas so the departments can maintain health and fitness standards and requirements. Many times, these rooms are available for the entire department and are in a location that allows users to access it without having to go into the main areas.

The locker rooms, restrooms, and showers for the staff is important and with the increase in female officers and fire fighters, the need for larger female and male areas is important and must be considered in the design. There are many facilities going to a gender neutral concept for the locker rooms with individual banks of lockable restrooms and showers to limit space since these spaces are quite large and are significant costs to construct.

As a means of staff support, a secure parking area should be provided separate from the public parking areas. This allows staff to be in a secure area when coming in or leaving the building. This area is typically fenced and gated. The area is well lit and has camera coverage. The lot is usually accessed via access control/keypad by staff to open the gates upon arrival.

All areas for staff must be accessible and accommodating for people of all ages and abilities.

## 3.5 CLASSROOMS AND TRAINING SUPPORT SPACES

Training opportunities such as classrooms, large meeting rooms, breakout rooms, or other similar accommodation allow the department to meet their required training requirements, but also allow the training to be conducted on site and become a part of their daily operations. This also allows the department to bring the public in for training courses on various topics, citizen fire academy, and other type events. It also allows for other public services such as CPR classes.

Furthermore, these rooms can be a potential revenue generation by allowing other municipalities to attend training classes or allow the public to rent the space. The training areas must also be flexible as the nature of the training fire departments do, which is quite different. Fire training also requires spaces to throw ladders, stair training with hoses, climbing through doors and windows, close quarter training, and rappelling training is all necessary for their jobs. These spaces need to be accommodated in unique ways to minimize the cost of having all these facilities separate from the other program elements.

Classrooms need to be flexible to allow for varied training scenarios such as a classroom, presentation, hands-on activities, demonstration areas, etc. These rooms also need to be technologically advanced to allow for webinars, video conferencing, presentations, videos, audio and visual aids, etc. There is also a need to do EMS and Fire type training. These rooms are necessary and are very particular in how they are constructed and where they are in the building. These rooms are required to be soundproof and be constructed of durable materials due to the nature of the use.

Breakout rooms are for the ability for an instructor to break out teams to do specific training activities or hands-on training



with smaller groups. It also allows for the ability to have smaller and more frequent training and does not require a larger room. These are situated in and around the main classrooms for convenience and to avoid taking people to the other areas of the building and disturbing other work occurring elsewhere. The report rooms are set up like small classrooms and usually have similar technology setups.

Typically, the classrooms have storage closets adjacent or attached to the room for chair and table storage, audio/ visual, technology equipment, and training props. These may be one large room or multiple smaller rooms for the ability to segregate the various storage needs of the room.

## 3.6 APPARATUS/VEHICLE BAYS

Vehicle Bays are vitally important to the operation of a Fire Station and Training Facility. The Bays house emergency apparatus and vehicles and other equipment. The design of the space is key in facilitating daily functions and proper response time in a station setup. Industry Standards for the Bays are to have adequate maneuverability around and between all vehicles. It is typical to have 5'-0" between the rear and front of vehicles and the doors, 7'-0" between vehicles (side by side), 6'-0" between vehicles and the Station's structure, and 8'-0" between vehicles (rear to rear).

Bay ceilings should provide adequate clearance between the top of the largest vehicle and the Station's structure. The ability to stand on top of a vehicle and not be impeded by the structure of the facility should be considered.

Bay doors should be a minimum of 13'-0" wide with a height able to accommodate the largest vehicle size. Typical practice is 14'-0" to 16'-0" high. These doors can be sectional or hi-speed overhead type. Bi-fold doors should be seriously considered over the other doors. Bi-fold doors do have a higher first cost than the other doors. However, they open in approximately 4 seconds, which is faster than most sectional or overhead doors. They are maintenance friendly and have significantly less maintenance than overhead or sectional doors, which is where the value becomes significantly less than the other door types.

Bays should have proper exhaust to eliminate contamination from diesel fumes and off-gassing of equipment and gear. This should be done with a two-phase system consisting of exhaust fans tied to carbon monoxide detectors and an air purifying system or a direct-connect system, whichever is preferred by the department.

Bays should be drive-through if property allows as they are most economical and flexible, due to the ability to have double the Bay space in a more compact arrangement, with easier maneuverability of the trucks. It also allows for dual exit by parking vehicles rear to rear.

## 3.7 BAY SUPPORT

Bay Support should be located adjacent to and near the Bays for efficient operation and quicker response times in a fire station setup. These spaces include the Bunker Gear Room, Decontamination Room, Maintenance Workshop, Storage, Self-Contained Breathing Apparatus (SCBA) Room, and Medical Storage. These spaces should not be within the Bays, to avoid interference with the Bays' intended use and to minimize contamination. These spaces should allow for proper ventilation and ventilation of off gases of all stored items and should have minimal direct sunlight or UV lights to avoid degradation of materials.

## 3.8 STORM SHELTER

The storm shelter is required by the building code for all public safety facilities. The shelter is required to meet the ICC 500 requirements. This area is Zone 4 which must be able to withstand wind speeds of 250 miles per hour. The shelter is required to protect the first responders for 2 hours so they can respond to the public need following the event. The storm shelter should be an existing program space that is used for another function so that the shelter does not sit empty and dark. The shelter must have access to restrooms, water, venting, and lighting.

A storm shelter can be provided in the basement of a facility if a basement is available or possible. If located in a basement the storm shelter would require a direct means of egress to the exterior. The storm shelter is only for the occupancy load of the facility and not for the public. It can be established for the public if the municipality desires to provide that function, but an occupant load must be established on how many public citizens will be let into the shelter. This is often the reason that they are not provided to the public because how does the municipality determines who is in and who is out. If they try to accommodate a large population the construction of that shelter would be too costly to build.







## FACILITY PROGRAM

Based upon the information collected from the Lexington Fire Department staff, and the existing Building Analysis, the results of this data were used to develop Preliminary Concept Programs for the proposed facilities as defined during these interviews and analysis.

The Building Program is a listing of all rooms and spaces required for the facility to house the intended main program spaces and all supporting spaces, such as mechanical rooms, circulation, and other support functions in a facility. The program includes estimated space requirements for the various areas such as the classrooms, offices, kitchen, apparatus bays, bay support spaces, etc. The total area of the program is intended to portray the approximate area needed to accommodate functions of a modern 21st Century Fire Training Center.

BCI met with Fire Department Staff and Officials to assess current working conditions, relationships between functional spaces, and discuss future growth. During these interviews, staff were asked to address current needs, as well as future needs in terms of both training spaces, staffing, and equipment. In addition, adjacent space requirements were discussed to ascertain a functional layout for a more efficient operation. The goal of this process was to capture information that would allow the Architect to develop a program which would address the following:

- 1. Training space requirements
- 2. Storage requirements
- 3. Equipment and technology requirements
- 4. Physical relationships and adjacencies
- 5. Future growth

The Building Programs have been utilized to develop Concept Diagrams and estimate construction costs, using cost figures based on recent experience and historical data with similar types of projects.

#### Table 4.1: Preliminary Concept Space List - Training Center

SPACE DESCRIPTION		NOTES		PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
"Dirty" Areas					
1.00	Apparatus/Equipment				
1.01	Vehicle Bays	Trench Drains / Bi-Fold Doors / Fans / Electric & Water / Plymovent / 80 x 20 / Anchors and Training Props	4	1,600	6,400
1.02	POV Bays	Trench Drains / Bi-Fold Doors / Fans / Electric & Water / Plymovent / 80 x 20 / Anchors and Training Props	1	1,600	1,600
Subtotal Net Square Footage					

SPACE DESCRIPTION		NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
2.00	Bay Support Areas				
2.01	Gear Room	100 Gear Lockers / Exhaust / Fans / Floor Drains	1	500	500
2.02	Tool Room	Workbench / Floor Drains	1	200	200
2.03	Decon/Laundry	Shower / Sink / Floor Drains / Emergency Eye	1	200	200
2.04	Gear Wash	2 Gear Washers / 2 Linear Drying Racks / Regular Washer and Dryer	1	200	200
2.05	Storage Rooms	Fire and EMS Storage / Access Control	2	300	600
2.06	SCBA	Workbench / Bottle Storage / SCBA Machine / 24-Hour Access / Access Control	1	180	180
2.07	SCBA Maintenance	Workbench / 100 Bottle Storage / SCBA Machine	1	250	250
2.08	Technical Rescue Training	Combined in Bay Spaces / Landing Area	1	100	100
2.09	Auditorium Storage	Table and Chair / Portable Stage Storage	1	200	200
2.10	General Storage Room	Shelving	1	200	200
2.11	Dirty Restroom	Sink / Water Closet / Hose Bib / Near Decon	1	75	75
		Subtotal	Net S	quare Footage	2,705
3.00	Classrooms/Labs				
3.01	Large Classrooms	A/V / Monitors/ Markerboards / Air Walls for Division (Structure at a Minimum) / 60 Seats	1	1,800	1,800
3.02	Classroom Storage Room	Shelving / Table and Chair / Training Props	2	200	400
3.03	Medium Classroom	A/V / Monitors/ Markerboards / Air Walls for Division / 45 Seats / Shared with Fire and EMS	1	2,000	2,000
		Subtotal	Net S	quare Footage	4,200
		Total Net Square Footag	e of	"Dirty" Areas	14,905
"Clean	" Areas				
4.00	Entry				
4 01	Vestibule	ADA Accessible	1	70	70
4.02	Lobby	ADA Accessible / Displays / Historic Truck	1	800	800
4.02	Rublic Postroom	Water Closets / Sinks / Fountains / ADA Accessible	2	200	600
4.03		Water Closets/ Jinks/ Fountains/ ADA Accessible	2	300	000
	1	Subtotal	Net S	guare Footage	1 470
E 00	Eiro Training Aroas				1,470
5.01	Auditorium	Air Walls for Dividing Space into multiple rooms / 400 People / A/V / Stage / Screens / Monitors / Projectors / Acoustical Panels / Shared with Bays	0	0	0
5.02	Classroom Storage Room	Shelving / Table and Chair / Training Props	2	200	400
		Subtotal	Net S	quare Footage	400
6.00	EMS Training Rooms				
6.01	Breakout Rooms	A/V / Monitors/ Markerboards	4	360	1,440
6.02	Large Classroom	A/V / Monitors/ Markerboards / Air Walls for Division / 60 Seats	1	2,700	2,700
6.03	Classroom Storage Room	Shelving / Table and Chair / Training Props	3	100	300
6.04	Simulation Lab	Multi-Purpose / Access Controlled	1	625	625
6.05	Climate Controlled Storage	Climate Controlled / Access Control	1	300	300

#### Table 4.1: Preliminary Concept Space List - Training Center (Continued)

Table 11.	Droliminon	Concontin	a a a List T	raining Ca	ntor (Continued)	١.
1 a Die 4.1:	Preliminary	Conception	ace List - I	raining Ce	nier (Continuea	)

SPACE DESCRIPTION		NOTES		PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
6.06	Cold Storage Area	Access Control	1	300	300
		Subtotal	Net S	quare Footage	5 665
7.00	Administration Areas	Jubiolar	VCI J	quare rootage	5,000
7.00		Desk/File Cohinet/Desk/Cose /Maniter	1	200	200
7.01	Executive Officer	Desk/ File Cabinet / Book Case / Monitor	1	200	200
7.02	Admin Specialist	Desk/ File Cabinet / Book Case / Monitor	1	120	120
7.03	Admin. specialist	Jesk/ File Cabilitet / Book Case / Moriton	1	120	120
7.04	Large Conference	Mailboyos / Capier / Work Coupter / Cabinets	1	000	000
7.05		12 Workstations 8v6 / Monitors / Book Case	12	90 60	720
7.00		Desk/File Colored (Desk Case / Mariter	12	100	120
7.07	A/V Office	Desk/ File Cabinet / Book Case / Monitor	1	120	120
7.08	Video Production/ Multimedia	Soundproof/ Quiet Area / A/V Equipment / Graphic Preparation Area / Laptop Cart Storage	1	250	250
7.09	Records Storage	Lockable / Fire Proof / Access Control	1	200	200
7.10	Recruiting Offices	Desk/ File Cabinet / Book Case / Monitor	2	120	240
7.11	Background Investigators	3 Workstations 8x6 / Monitor / Book Case	3	60	180
7.12	Admin. Specialist	Desk/ File Cabinet / Book Case / Monitor	1	120	120
7.13	Recruiting & Hiring Entry	Seating / Monitor	1	70	70
7.14	EMS Instructor Offices	Desk/ File Cabinet / Book Case / Monitor	4	120	480
7.15	Wellness Coordinator	Desk/ File Cabinet / Book Case / Monitor / Near Fitness / Future Growth for Workstations for Future Staff	1	250	250
	1	Subtotal I	Net S	quare Footage	3,760
8.00	Staff Support Areas				
8.01	Locker Room	120 1/2 Size 2x2 Metal Lockers/ Benches	1	400	400
8.02	Locker Room	15 Full Size 2x2 Metal Lockers / Benches	1	400	400
8.03	Gender Neutral Restroom	w/ Showers	19	90	1,710
8.04	Laundry	Laundry Equipment with Hookups / Venting / Shelving / Near Staff Locker Room	1	80	80
8.05	Custodial Closet	Mop Sink/ Shelving	1	36	36
8.06	Linen Closet	Shelving	2	20	40
8.07	Fitness	Exercise and Training Equipment / 24-Hour Access / Near Locker Rooms and Showers / Fans / Monitors	1	4,500	4,500
8.08	Kitchen	Commercial Kitchen & Appliances / Pantry / Near Cafeteria	1	600	600
8.09	Food Storage	Dry / Freezer / Coolers	1	200	200
8.10	Cafeteria	Seating for 60 people / Microwaves / 2 Reffrigerators	1	2,300	2,300
8.11	Bunk Rooms	12 Bunks / Night Stands / Monitors / Fans	12	50	600
8.12	Quarter Master Room	Shelving / Racks / Electronic Tracking / Access Control / 24-Hour Access / Exterior Access Point	1	600	600
8.13	Rehabilitation Area	Near Fitness Room / Limited Access / Monitors	1	1,500	1,500
		Subtotal	Vet S	quare Footage	12 966
0.00	Physical Plant				12,700
9.00			_	500	
9.01		Hoor Drain / HVAC Equipment	1	500	500
9.02	Electrical	IVIDP/ SWITCINGEAR / PANEIS / FIRE Alarm / Floor Drain		500	500
9.03	vvater	Oil water Separator / Water and Fire Entry / Water Heaters	1	150	150
9.04	MDF/Server Room	Fiber Entry / Grounding / Servers/ Floor Drain / Comm Equipment/ Cable Tray	1	300	300

Table 4.1:	Preliminary	Concept S	pace List -	Training	Center (	Continued)
				- 3		

SPACE DESCRIPTION		NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
9.05	Antennae Room	Floor Drain/ Antennae Equipment and Entry/ Grounding/ Station Alerting	1	80	80
9.06	I.T./IDF	Comm Equipment/ Cable Tray	1	80	80
Subtotal Net Square Footage					
Total Net Square Footage of "Clean" Areas					25,871
Total Net Square Footage					40,776

TOTAL NET BUILDING SQUARE FOOTAGE	40,776	
CIRCULATION, WALLS, AND CORRIDORS GROSSING FACTOR OF 20%	8,155	
TOTAL GROSS SQUARE FOOTAGE	48,931	

OUTD	OUTDOOR AMENITIES						
1.00	STAFF AMENITIES						
1.01	Staff Parking	Secure Fencing / Gate / Loop Detectors / Access Control or Transmitters / Electric and Charging Stations / Electrical / Covered Parking for Trailers	20	350	7,000		
1.02	Outdoor Courtyard	Secure / Adjacent to Breakroom / Gas Connections / Electrical / Tables and Chair and Umbrellas	1	1,500	1,500		
1.03	Secondary Access to Site	Secure / Gate / Access Control	1		0		
1.04	Training Ground with Props	Extraction, Rail Car, Tunnel, Drafting Pit, Tower, etc.	1		0		
1.05	Bridge	Loading for Apparatus / Pedestrian Access	1		0		
1.06	Apparatus Parking	Secure Fencing / Gate / Loop Detectors / Access Control or Transmitters / Electric and Charging Stations / Electrical / Near Bays	10	800	8,000		
1.07	Driving Pad	Training Pad 250x200	1	50,000	50,000		
		Subtotal	Net So	quare Footage	66,500		
2.00	PUBLIC AMENITIES						
2.01	Public Parking	ADA Compliant Stalls / Public Parking	200	350	70,000		
2.02	Civic Space	Civic Space for Public / Threat Mitigation Tactics	1	1,000	1,000		
		Subtotal	Net So	quare Footage	71,000		



24





## CONCEPTS

During the Consultant's review and analysis, the Consultant studied and reviewed potential scenarios for improving the training efficiencies and service delivery. It was apparent, due to the size of the existing facility, that it could not achieve all these goals. BCI analyzed the various needs and BCI along with the Fire Department was able to quickly ascertain that the building would need to maintain a fire component for response should a station need to be taken offline or if an emergency response would be needed. The recruits also need to have the department component for training purposes. To do a thorough analysis, the Consultant reviewed a variety of scenarios from an entirely new facility and a renovation and expansion of the existing building.

The following scenarios and concept diagrams identify various opportunities to achieve these goals.

### 5.1 CONCEPT 1 - RENOVATION AND EXPANSION TRAINING CENTER BUILDING

The first scenario analyzed renovating and expanding the existing building by "unpacking" and "repacking" the existing building and expanding the building where required for the needs of the Fire Department to provide adequate training space and address other needs of the department to obtain the necessary space to accommodate modern training center best practices and requirements. This allows for better service to the department who come to the building to attend to their variety of training needs and requirements of their profession, This will help to create new organizational efficiencies for the Fire Department.

This scenario though would be a cheaper option. However, a concern is that the existing building has significant deficiencies that will not be entirely eradicated such as HVAC and Plumbing systems. There will be compromises that will have to be made to utilize the existing structure and walls of the building.

## 5.2 CONCEPT 2 - NEW FIRE DEPARTMENT TRAINING CENTER BUILDING

The second scenario studied and analyzed the demolition of the existing facility and the construction of a completely new Training Center. Currently, the existing facility is not large enough to accommodate the modern needs of a fire department training center, therefore, it was quickly ascertained that a new facility would be a necessary option to consider.

This new building would be designed to be large enough to adequately serve the Fire Departments current and future training needs that is designed specifically for public safety best practices and requirements for training. This option also provides for a future shell space on the upper level which would allow the Fire Department to have future expansion that could potentially consolidate some other divisions or expand the department to add additional divisions or staff that they currently do not have in the department. A few other added benefits to a new facility are that compromises are not necessarily due to existing structure and other conditions. The building systems such as HVAC and plumbing will be all new systems without any inherited issues from an old existing facility.

The one negative of this scenario would be the total cost would be more than the renovation and expansion.

## 5.3 CONCEPT 3 - NEW SUPPORT BUILDING

The third scenario is a general analysis as this building has been covered briefly in the other concepts mentioned above. The concepts show a driving skills pad for apparatus driving training and some extraction, railroad, and over-the-road training props. These features are located across Town Branch Creek which means it is away from the Training Center location and main training grounds. This limits the support for the recruits or other personnel who may be using these props. There would be no access to restrooms, storage, etc. without walking or driving to the training center on the other side of the creek.

The third scenario looks at the potential for future support building that would consist of additional bay space for storage of vehicles for training or vehicles for the fire department from their city-wide fleet. There would also be access to the storage of training equipment, gear, and props, and provide restrooms which would support the training activities on that side of the Town Branch Creek. This would also allow for some gathering and instructional space. The training services would be enhanced and more fully address the goals and objectives of the Study Committee.

Through discussion, this building was intended to be a future building, however, in looking at the need to maintain operations during the construction of the new or expanded facility, this building could be built first which would allow that continued operation. The facility would give them a place to move and house equipment, vehicles, gear, and a potential space for training activities.

The only negative to this being done as an initial phase is the additional cost of the facility, which would require some potentially significant utility work.

## 5.4 DIAGRAMS

The diagrams below represent the scenarios above and all meet the basic program requirements identified in the report. These plans are conceptual in nature and would need to be refined and modified as the City Officials decide on which option(s) to move forward to design and construction. Also, contained below is a comparison of the new space versus the existing space for each function of the building. As you can quickly see from the comparison chart, the existing facility does not adequately provide the space as identified in the program document or in the new concepts for renovation and expansion or a new building. It is also clear that many of the spaces, even though they may be provided, are not large enough to adequately serve the function and service of the individual departments. Please note that the Comparison Chart does not compare all concepts or programs with existing facilities. The existing was compared to the Renovated and Expanded Training Center and the New Training Center Building.





Figure 5.1: Renovation and Expansion - Concept Diagram, First Floor

### **FLOOR PLAN CONCEPT OPTION 1 - RENOVATION & ADDITION**



FIRST FLOOR



# LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024



Figure 5.2: Renovation and Expansion - Concept Diagram, Second Floor

## FLOOR PLAN CONCEPT OPTION 1 - RENOVATION & ADDITION



SECOND FLOOR



## LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024



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Existing Wall New Wall

### HOT ZONES PLAN CONCEPT OPTION 1 - RENOVATION & ADDITION



FIRST FLOOR



## LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024



## FLOOR PLAN CONCEPT OPTION 2 - NEW BUILD



FIRST FLOOR



## LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024

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#### LFUCG FIRE TRAINING STUDY



Figure 5.5: New Training Center - Concept Diagram, Second Floor

## FLOOR PLAN CONCEPT OPTION 2 - NEW BUILD



SECOND FLOOR



## LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504

November 18th, 2024





Figure 5.6: New Training Center – Hot and Cold Floor Plan

## HOT ZONES PLAN CONCEPT OPTION 2 - NEW BUILD



SECOND FLOOR



## LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024





LFUCG FIRE TRAINING STUDY



Figure 5.7: New Support Building – Concept Diagram

## FLOOR PLAN CONCEPT 3 - SUPPORT BUILDING



FIRST FLOOR



## LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024

Program Legend

Apparatus Bays

Training Center Support

TOTAL SQUARE FOOTAGE: 6,346 SF







LFUCG FIRE TRAINING STUDY

#### Table 5.1: Comparison Chart

Space Description	Existing	Renovation & Addition	New
Vestibule	Not Currently Present	86 SF	88 SF
Public Lobby	687 SF	840 SF	868 SF
Men's Public Restroom	214 SF	300 SF	290 SF
Women's Public Restroom	128 SF	300 SF	290 SF
Reception Admin Specialist	250 SF	120 SF	120 SF
Recruiting & Hiring Waiting Area	Not Currently Present	92 SF	105 SF
Background Investigators	Not Currently Present	187 SF	194 SF
Recruiting Office	Not Currently Present	120 SF	120 SF
Recruiting Office	Not Currently Present	120 SF	120 SF
Executive Officer Office	184 SF	250 SF	211 SF
Training Officer Office	93 SF	192 SF	144 SF
Admin Specialist	Not Currently Present	127 SF	120 SF
EMS Office	90 SF	132 SF	120 SF
EMS Office	Not Currently Present	132 SF	120 SF
EMS Office	Not Currently Present	132 SF	120 SF
EMS Office	Not Currently Present	132 SF	120 SF
Admin Restroom	61 SF	N/A	N/A
Records Storage	152 SF	358 SF	237 SF
Large Conference Room	457 SF	645 SF	647 SF
Work/ Copy/ Mail Room	Combined with Reception	230 SF	144 SF
Video Production/ Multimedia Room	Not Currently Present	298 SF	264 SF
A/V Office	Not Currently Present	127 SF	120 SF
Training Instructors Office	424 SF	726 SF	735 SF
Large Fire Classroom	1170 SF	1,997 SF	2,227 SF
Classroom Storage	171 SF	209 SF	190 SF
Medium Fire Classroom	1117 SF	1,750 SF	1767 SF
Classroom Storage	Not Currently Present	209 SF	220 SF
EMS Classroom	654 SF	2,884 SF	2,625 SF
Classroom Storage	Not Currently Present	360 SF	292 SF
Breakout Room	476 SF	369 SF	363 SF
Breakout Room	Not Currently Present	347 SF	363 SF
Breakout Room	Not Currently Present	355 SF	360 SF
Breakout Room	Not Currently Present	355 SF	360 SF
Breakout Room	Not Currently Present	333 SF	N/A
Breakout Room Storage	Not Currently Present	77 SF	N/A
Simulation Lab	Not Currently Present	608 SF	619 SF
Climate Controlled Storage	Not Currently Present	299 SF	293 SF
Cold Storage Room	Not Currently Present	291 SF	293 SF
Cafeteria	Combined with Kitchen	2,474 SF	2,636 SF
Kitchen	313 SF	634 SF	622 SF
Food Storage	Combined with Kitchen	252 SF	212 SF
Men's Bunk Room	396 SF	1,051 SF	1,113 SF
Women's Bunk Room	276 SF	Combined with Men's Bunk Room	Combined with Men's Bunk Room
Shift Linen Storage	Not Currently Present	77 SF	77 SF
Laundry Room	84 SF	241 SF	195 SF

#### Table 5.1: Comparison Chart (Continued)

Space Description	Existing	Renovation & Addition	New
Linen Storage	Not Currently Present	55 SF	72 SF
Locker Room	Not Currently Present	1,732 SF	1,918 SF
Restrooms w/ Showers (19)	Not Currently Present	1,432 SF	1,544 SF
Janitor	Combined with Men's Restroom	53 SF	47 SF
Fitness Room	Not Currently Present	4,866 SF	4,409 SF
Rehabilitation Area	Not Currently Present	1,419 SF	1,611 SF
Wellness Coordinator Office	Not Currently Present	299 SF	252 SF
Staff Men's Restroom	Not Currently Present	N/A	128 SF
Staff Women's Restroom	Not Currently Present	N/A	128 SF
Gender Neutral Staff Restroom (2)	Not Currently Present	N/A	151 SF
Apparatus Bays	6188 SF	8,891 SF	8,891 SF
Apparatus Bay Restroom	Not Currently Present	90 SF	84 SF
Decontamination	Not Currently Present	490 SF	617 SF
Gear Wash Room	Combined with Laundry	188 SF	190 SF
Tool Room	186 SF	217 SF	205 SF
SCBA Room	165 SF	188 SF	188 SF
SCBA Maintenance	Combined with Tool Room	256 SF	256 SF
Fire Storage	556 SF	303 SF	303 SF
EMS Storage	224 SF	303 SF	303 SF
Quarter Master	301 SF	620 SF	614 SF
Gear Room	228 Sf	1,117 SF	1,194 SF
Auditorium Storage	Combined with Apparatus Bays	217 SF	205 SF
General Building Storage	266 SF	1,079 SF	374 SF
Training Tower	N/A	N/A	408 SF
Stairs	N/A	N/A	204 SF
Elevator	N/A	N/A	90 SF
MDF/ Server Room	Combined with Laundry	342 SF	300 SF
Mechanical Room	Combined with Laundry	518 SF	503 SF
Electrical Room	Combined with Laundry	518 SF	503 SF
IT/ IDF Room	Not Currently Present	127 SF	123 SF
Antennea Room	Combined with Laundry	117 SF	135 SF
Water Room	Combined with Laundry	150 SF	154 SF
Mezzanine Storage	Not Currently Present	2,656 SF	1,127 SF



LFUCG FIRE TRAINING STUDY

36


# SITE CONSIDERATIONS

### 6.1 INTRODUCTION

Site selection for public buildings involves many factors such as size, location, cost, site restrictions, utilities, and soil. Many of these are common for most projects, however, since the Fire Department is involved, they require size, location, and access to be more important than other factors. The site for a training center has similar requirements but also must account for many people and vehicles to be present which must allow for proper vehicle turning, multiple buildings and structures, parking, access to main roads, accessibility, pedestrian use. This is not often possible, and a smaller lot size would contribute to many compromises which can affect cost, response time, and safety. A simple compromise is to use a two-story building which affects all factors mentioned and as you will see it is used in our new building concept scenario to assist with some of the site constraints which isn't as feasible for the renovation and expansion concept.

In training facility design this requirement for more land to provide adequate space for the factors already discussed above is critically important since the training involves both classroom and outdoor spaces along with the ability to use apparatus, vehicles, and other equipment that is vitally important to the everyday tasks that these men and women are required to perform. The Fire Department fortunately has existing property that can be and is used for these services. Though there are site constraints such as Town Branch Creek cutting through the site, a new Town Branch Trail being installed across the right-of-way of the site, soil conditions, EPA covenant on a portion of the property, and a variety of utility challenges, this site does provide adequate opportunities to meet the requirements noted above.

This site as it is redeveloped for the expansion of the training center as outlined in this report must account for the variety of events and uses the Fire Department will continue to use it for along with those that they intend on adding as they have the space to accommodate those events. In so doing, public circulation and security control is required not to jeopardize the safety and security of the staff or the ability for the public to achieve a quality level of service. However, the public must have the ability to park, have access to pedestrian friendly walkways, and enter the building. This extends into the areas they can access in the building once they are inside the facility. The Zoning Ordinance changed to not require parking minimums for a property. However, in looking at current codes and the previous LFUCG Zoning Ordinance, parking requirements will be met with the expanded parking including the required number of accessible parking spots.

The access to main thoroughfares is critically important for emergency response and access to the site. Safe and efficient vehicle travel through site is critically important and the ability to reach the major thoroughfare is important. It is also important not to create conflicts with pedestrians and public uses. There are some existing conditions that will predefine the vehicular traffic, however, limiting issues are important and were addressed in the conceptual designs. One critical component of the site is the bridge access to the northern side of Town Branch Creek. This existing bridge is not structurally sound and must be replaced. It is the Consultant Team recommendation as shown in the concepts to replace this bridge with a bridge that supports two-way traffic and a pedestrian walkway. This bridge will be able to support apparatus moving across in both directions and pedestrians walking across it at the same time. There have been accommodations in the concepts for a future access bridge from the training ground to the northern side of Town Branch Creek to provide small vehicular and pedestrian access across the creek to allow for quicker access to either side for expediency of the personnel for training activities on both sides of the creek.

After review, a Facility and Site Development Diagram was prepared for each, to see how the facility could operate on this site. Consideration was given to maintaining the existing building and expanding in its current location. A consideration was given to building a new building in the existing location as a two-story component to minimize site impacts. There was another consideration of relocating the building to the northern side of Town Branch Creek to try and avoid some of the site constraints on the southern side such as utilities, grading, and trail. This consideration was not desired but is available in the Appendices.

These options were explored to analyze how they might meet the needs of the department, provide additional development, and ultimately better service opportunities for the Fire Department. Other sections of the report discuss these options in more detail. The options presented will provide the Fire Department with enhanced and improved service delivery.

# 6.2 SITE CONDITIONS

The subject property is located on Old Frankfort Pike. This site is currently owned by the City of Lexington and is currently serving as the Lexington Fire Department training center. Building size and location affects the vehicle parking, training grounds, pedestrian access, and storage of equipment. This property has adequate space for the amount of equipment, vehicles, apparatus, props, and staff.

An updated property topographic and boundary survey was conducted along with a new geotechnical exploration report. These are located in the Appendices for full review. In summary, the survey information located the major utilities and topography and other site appurtenances. The surveyor also located the EPA covenant location that must be considered in building location and site development.

The geotechnical exploration report shows a large amount of building rubble, and fill around the property. The summary of this report establishes that further testing and exploration will need to be conducted upon moving forward with the project. This will include test pits and further drilling. It also identifies the need for deep foundations to be installed for the building to avoid the removal of all the fill material. The pavement locations currently have little to no sub-base or thickness to accommodate the weight of the vehicles and equipment used on this property. Moving forward an adequate sub-base and pavement thickness must be used to handle the vehicle, equipment, and apparatus that will be frequenting this site on a daily basis.

The utilities are available at this location but in the case of the existing facility they may need to be upgraded due to age and the current need for a larger facility. In the event of expansion or a new building, there are a few utilities that will need to be relocated and others that will need to be improved. At the time of the report, we did not know the extents or requirements of what those relocations or improvements of the existing utilities entail from the governing agencies and needs of the design of the facilities. However, based on the survey, most of the utility information is known and many are owned by the City. New easements may be required once the new development is determined, and agencies are engaged during the design process.

The main road to the parcel is two-way traffic. With the new development of the trail and platting of the site, there may be a new ultimate ROW that will need to be dedicated. The primary connection of the ingress/egress for the site seems to be staying in their current locations with the possibility of one of these being closed for trail construction. These will need to be aligned with the development of the property. At this time, we do not anticipate a traffic study will be required.

The existing zoning of the properties should not require any major amendments or zoning changes since the use of the existing property will remain as it is currently used and zoned.

The storm water and water quality issue has not been studied in this report. It is anticipated that due to the consent decree the City has on storm water, the site will need to improve the storm water drainage and water quality which is not up to current LFUCG Division of Engineering standards. Due to the large amount of previous area being added to this property, it is anticipated that the storm water and water quality will be dependent on underground detention chambers. Other means can be explored during the course of the design process, however, for the purposes of this report the underground detention was assumed in the cost estimates.

38



# SITE PLAN CONCEPT OPTION 1 - RENOVATION & ADDITION





# LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024

- Legend: 1 Civic Space 2 Existing Flag Pole 3 Apparatus Parking 4 Generator 5 Outdoor Courtyard 6 Covered Staff Parking 7 Public Parking 8 Driving Pad 9 Future Support Building 10 EPA Covenent Area 11 Future Town Branch Trail Extension
- Extension 12 Relocated Extraction Training
- 13 Relocated Wild Fire Training
  14 Relocated Urban Search & Rescue Training

- 15 Relocated Metal Sheds 16 Future Bridge

<u>Total Parking:</u> Staff - 20 Spots Public - 200 Spots Public ADA - 7 Spots







# SITE PLAN CONCEPT OPTION 2 - NEW BUILD





# LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024



#### LFUCG FIRE TRAINING STUDY



- Legend: 1 Civic Space 2 Existing Flag Pole 3 Apparatus Parking 4 Generator 5 Outdoor Courtyard 6 Covered Staff Parking 7 Public Parking 8 Driving Pad 9 Future Support Building 10 EPA Covenent Area 11 Future Town Branch Trail Extension Extension 12 - Relocated Extraction Training 13 - Relocated Wild Fire Training 14 - Relocated Urban Search & Rescue Training 15 - Relocated Metal Sheds
  - 16 Future Bridge

<u>Total Parking:</u> Staff - 20 Spots Public - 200 Spots Public ADA - 7 Spots





# **OPINION OF COSTS**

# 7.1 DEFERRED MAINTENANCE AND IMPROVEMENT COSTS

The Consultant has identified approximately \$8,676,000 in deferred maintenance and improvement items.

Investment in these items will improve the building envelope, code deficiencies, and building systems, site deficiencies, and some improvements to the existing space. However, it will not address the need for additional space and operational inefficiencies, both within the building, and on the site; nor will it provide the spaces that a modern fire training center facility would require to meet the current and future needs. For those reasons, it is recommended that the funds needed to address these deferred maintenance and improvement costs for the existing building be invested instead into the Consultant recommendations identified in the report. These recommendations will support current and future training operations for the department.

Recommended immediate maintenance and improvements for the existing facility and site includes:

•	Interior Building Improvements	\$1,100,000
•	Exterior Building Improvements	\$776,000
•	Building Structural Repairs	\$ 56,000
•	Building Roof Repairs	\$625,000
	Building Mechanical Upgrades	\$764,500
•	Building Electrical Upgrades	\$820,000
•	Building Plumbing Upgrades	\$125,000
	Building Fire Protection Upgrades	\$ 65,000
	Building Telecomm, Safety, and Security	\$ 45,000
•	Site Parking and Improvements	\$3,000,000
	Bridge Replacement	<u>\$1,300,000</u>
	Total	\$8,676,000

# 7.2 OPINION OF PROBABLE COST

Opinion of Probable Costs have been prepared by the Consultant Team's Third-Party Estimator to indicate the potential funding required for the construction of a variety of scenarios that are identified in the report. Probable costs are broken down for construction costs, contingency and soft costs, and Owner costs. The intent is to represent a full project cost, not just a construction cost.

# 7.3 PROBABLE CONSTRUCTION COST

The primary areas of construction are represented by the physical elements of the proposed facility. This includes the general building, building systems, and site development.

# 7.4 CONTINGENCY AND SOFT COSTS

Furniture, Fixtures, and Equipment (FF&E) is an allowance for all "loose" items in the building. This includes all furniture, kitchen equipment, and appliances, laundry appliances, support equipment, and office equipment such as printers and copiers.

There are separate contingencies that are covered in the contingency line item listed. The Design Contingency accounts for the fact that this is an opinion that is based solely on a space program, and a concept design. Once the actual design process is initiated, there may be many changes in the size, configuration, and/or materials desired, which will affect the overall construction cost. At this conceptual stage, a 2% to 5% contingency is allowed. Once the facility has been fully designed and Construction Cost Estimates are prepared based on that design, the Design Contingency can be eliminated.

The Construction Contingency is an allowance for unforeseen items that occur during construction. This may include unknown site conditions that are uncovered once excavation begins, errors, omissions, or last-minute design changes or additions directed by the Owner. The Construction Contingency is maintained throughout construction. Currently the Construction Contingency is combined with the Design Contingency at 5%. Many projects carry a contingency amount of 10% through construction.

The Escalation Contingency accounts for the potential for cost escalations that may occur during the time lapse of the project from when the report is finalized to the actual bidding of the project where a contractor is selected to start the actual construction and proceeds to about the half-way point of construction duration. This contingency has become very important over the last three years due to the construction cost surge we have experienced since the pandemic of 2020 and the post-pandemic world we now live in. The construction market has seen pricing climb over these last three years at about a 40% increase from 2020 pricing. The escalation contingency is important for municipalities to be aware of so that they are not surprised as they move forward. This contingency has been provided as part of the total project cost that should be considered by the City as they determine their course of action and budget.

Phasing costs is an allowance for costs associated with phasing a project as it typically causes a contractor to provide higher level of safety, accommodations for the entity, protection of the existing conditions and occupants and staging and remobilization of the contractor(s) to stage and organize work efforts around an entity and/or appurtenances over having full control of the project site.

# 7.5 OWNER COSTS

There are a series of costs that the Owner will bear beyond the construction and other costs listed above. These include Professional Design Fees, Testing Fees, Administrative and Legal Fees, Utility Connection and relocation fees, Special Inspections during construction, and many others. These should be considered in the budgeting process and are not shown in the total project costs as many times these are paid outside of the project funds.

Based on the Study, it is anticipated that the City may have phasing and relocation costs to maintain training operations for the Fire Department. There are some costs assumed in the project costs included at this point, but this cost may not account for all the intricacies of the relocation such as specific needs to make the temporary settings usable for the purpose of the department. Some additional costs may be necessary beyond the costs shown and should be considered in the budgeting process. The Fire Department has some initial estimates for portable classrooms and offices. It is an approximate cost of \$118,000 annually. In the Renovation and Expansion and New Building options it is anticipated that they may need to rent these temporary facilities for a minimum of 2 years but a 3-year term may be necessary and should be at least initially considered in the budgeting process.

42



Table 7.1: Opinion of Probable Cost Renovation and Expansion

RENOVATION	16,000	sf
ADDITION	39,200	sf
GROSS SQ. FT.	55,200	sf

SUMMARY:	COST/SF \$/SF	TOTAL COST \$
EXISTING CONDITIONS	2.31	127,760
SUBSTRUCTURE	26.93	1,486,800
SUPERSTRUCTURE	46.62	2,573,400
EXTERIOR ENCLOSURE	43.50	2,401,400
ROOFING	31.27	1,726,200
INTERIOR CONSTRUCTION	97.57	5,385,750
FIRE PROTECTION	7.50	414,000
PLUMBING	11.33	625,385
HVAC	56.85	3,138,300
ELECTRICAL	60.00	3,312,000
COMMUNICATIONS	6.00	331,200
SECURITY	10.00	552,000
EXTERIOR IMPROVEMENTS	58.68	3,238,915
SITE UTILITIES	7.55	416,550
TOTAL DIRECT COST	\$466.12	25,729,660
GENERAL REQUIREMENTS (8%) G.C.'S FEE (5%) DESIGN CONTINGENCY (15%) PHASING (5%)		2,058,373 1,389,402 4,376,615 1,677,702
TOTAL ESTIMATED COST	\$638.41	\$35,240,000

October 20, 2024

DATE:

#### Table 7.1: Opinion of Probable Cost Renovation and Expansion (Continued)

#### SUBSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>033000</u>	CONCRETE WORK				
033000/010	Concrete slab on grade	39,200	SF	18.00	705,600
033000/020	Concrete grade beams	1,300	LF	200.00	260,000
033000/030	Concrete footings	25	EA	2,900.00	72,500
					1,038,100
316300	PILES AND CAISSONS				
316300/010	Auger cast piles	39,200	SF	11.00	431,200
316300/020	Mobilization	1	LS	17,500.00	17,500
					448,700
	SUBSTRUCTURE TOTAL				\$1,486,800

#### SUPERSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>033000</u>	CONCRETE WORK				
033000/010	Concrete storm structure	6,400	SF	35.00	224,000
					224,000
051000	STRUCTURAL METAL FRAMING				
051000/010	Structural steel framing	150	TONS	8,400.00	1,260,000
051000/020	Floor and roof joists	75	TONS	8,200.00	615,000
051000/030	Roof deck	36,800	SF	8.00	294,400
051000/040	Miscellaneous steel framing	20	TONS	9,000.00	180,000
					2,349,400
	SUPERSTRUCTURE TOTAL				\$2,573,400

#### EXTERIOR ENCLOSURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>042113</u>	BRICK MASONRY				
042113/010	Facing brick	22,400	SF	70.00	1,568,000
042113/020	Brick details, sills, etc	1	LS	392,000.00	392,000
					1,960,000
<u>081113</u>	HOLLOW METAL DOORS AND FRAMES				
081110/010	Metal doors	8	EA	2,400.00	19,200
					19,200
083300	SPECIAL DOORS				
083300/010	Overhead doors, 14' x 14' (No Glass)	10	EA	12,400.00	124,000
					124,000
084110	STOREFRONT SYSTEMS				
084110/010	Aluminum framed windows	3,500	SF	75.00	262,500
084110/020	Aluminum storefront	300	SF	75.00	22,500
084110/030	Entrance doors, double	2	EA	6,600.00	13,200
					298,200
	EXTERIOR ENCLOSURE TOTAL				\$2,401,400



### Table 7.1: Opinion of Probable Cost Renovation and Expansion (Continued)

#### ROOFING

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
074113	ROOFING				
074113/010	Single ply memebrane roofing, including flashing, fascia and access	39,200	SF	30.00	1,176,000
074113/020	Replace roofing	16,000	SF	30.00	480,000
074113/030	Caulking and sealants	55,200	SF	1.00	55,200
074113/040	Canopies	1	LS	15,000.00	15,000
					1,726,200
	ROOFING TOTAL				\$1,726,200

#### INTERIOR CONSTRUCTION

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
099000	INTERIOR CONSTRUCTION				
099000/010	Aministration	4,245	SF	80.00	339,600
099000/020	Apparatus Bay	13,420	SF	110.00	1,476,200
099000/030	Building Systems	1,830	SF	50.00	91,500
099000/040	Circulation	6,495	SF	40.00	259,800
099000/050	Fire Training	4,815	SF	70.00	337,050
099000/060	Fitness	6,275	SF	60.00	376,500
099000/070	Lobby	1,585	SF	120.00	190,200
099000/080	Training support	9,765	SF	140.00	1,367,100
099000/090	EMS training	6,770	SF	140.00	947,800
					5,385,750
	INTERIOR CONSTRUCTION TOTAL				\$5,385,750

#### MECHANICAL - PLUMBING

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>221400</u>	STORM DRAINAGE				
221400/010	Storm drainage system	55,200	SF	1.50	82,800
					82,800
<u>221600</u>	GAS PIPING				
221600/010	Pipe & fittings	55,200	SF	0.75	41,400
					41,400
<u>221400</u>	COMPRESSED AIR				
221400/010	Pipe & fittings, air compressor, & hose reels	55,200	SF	0.50	27,600
					27,600
<u>223000</u>	PLUMBING EQUIPMENT				
223000/010	Water heater, pumps, backflow, etc	55,200	SF	1.50	82,800
					82,800
<u>224000</u>	PLUMBING FIXTURES & PIPING				
224000/010	Water Closet	20	EA	5,900.00	118,000
224000/020	Lavatories	20	EA	5,900.00	118,000
224000/030	Urinals	6	EA	5,900.00	35,400
224000/040	Shower	19	EA	2,415.00	45,885
224000/050	Emergency station	1	EA	2,300.00	2,300
224000/070	Kitchen sink, with grease trap	1	EA	19,000.00	19,000
224000/040	Sinks	4	EA	5,900.00	23,600
224000/050	Mop sinks	2	EA	5,900.00	11,800
224000/060	Washer box	3	EA	400.00	1,200
224000/060	Water coolers	2	EA	7,800.00	15,600
					390,785
	PLUMBING TOTAL				\$625,385

#### Table 7.1: Opinion of Probable Cost Renovation and Expansion (Continued)

#### MECHANICAL - HVAC

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
238220	HVAC SYSTEM				
238220/010	Training facility	44,540	SF	65.00	2,895,100
238220/020	Truck bays	10,660	SF	20.00	213,200
238220/030	Kitchen hood	1	EA	30,000.00	30,000
					3,138,300
	HVAC TOTAL				\$3,138,300

#### **DIVISION 32 EXTERIOR IMPROVEMENTS**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>321213</u>	ASPHALT PAVING				
321213/010	Asphalt paving, heavy duty	2,300	SY	44.00	101,200
321213/010	Asphalt paving, apparatus	3,700	SY	44.00	162,800
321213/020	Asphalt paving	12,000	SY	36.00	432,000
					696,000
<u>321313</u>	CONCRETE PAVING				
321313/010	HD Concrete paving	58,630	SF	18.00	1,055,340
321313/020	Courtyard	1,500	SF	24.00	36,000
321313/030	Civic space	1,400	SF	30.00	42,000
					1,133,340
<u>323100</u>	SITE IMPROVEMENTS				
323100/010	Monumental sign base	1	EA	3,500.00	3,500
323100/020	Covered parking	4,400	SF	40.00	176,000
323100/030	Concrete steps	450	LF	75.00	33,750
323100/030	Retaining walls	840	SF	55.00	46,200
323100/030	Two lane bridge with pedestrian access	1,400	SF	750.00	1,050,000
					1,309,450
329000	LANDSCAPING				
329000/010	Trees	20	EA	950.00	19,000
329000/020	Shrubs	75	EA	175.00	13,125
329000/030	Landscaped beds	4,500	SF	8.00	36,000
329000/040	Seeding	4,000	SY	8.00	32,000
					100,125
	EXTERIOR IMPROVEMENTS TOTAL				\$3,238,915

**DIVISION 33 SITE UTILITIES** 

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>334000</u>	SITE UTILITIES				
334000/010	Domestic water & fire water	300	LF	75.00	22,500
334000/020	Fire hydrant	1	EA	2,300.00	2,300
334000/030	Water hook ups	3	EA	2,100.00	6,300
334000/040	Relocate force main	650	LF	95.00	61,750
					92,850
<u>334100</u>	STORMWATER				
334100/010	Storm drains	2,100	LF	45.00	94,500
334100/020	Headwalls	6	EA	2,900.00	17,400
334100/030	Catch basin	8	EA	2,100.00	16,800
					128,700
337000	SITE ELECTRICAL				
337000/010	Underground electric	150	LF	350.00	52,500
337000/020	Pole lightings	20	EA	4,500.00	90,000
337000/030	Bollard lights	15	EA	3,500.00	52,500
					195,000
	UTILITIES TOTAL				\$416,550



46

Table 7.2: Opinion of Probable Cost New Fire Training Center

<b>GROSS SQ. FT.</b> 68,730 sf	DATE:	October 20, 2024
SUMMARY:	COST/SF \$/SF	TOTAL COST \$
EXISTING CONDITIONS	2.79	191,640
SUBSTRUCTURE	20.36	1,399,450
SUPERSTRUCTURE	68.71	4,722,250
EXTERIOR ENCLOSURE	47.98	3,298,000
ROOFING	18.02	1,238,730
STAIRS AND CONVEYING	1.81	124,500
INTERIOR CONSTRUCTION	86.94	5,975,150
FIRE PROTECTION	7.50	515,475
PLUMBING	12.34	847,848
HVAC	50.72	3,485,950
ELECTRICAL	54.47	3,743,800
COMMUNICATIONS	6.00	412,380
SECURITY	10.00	687,300
EXTERIOR IMPROVEMENTS	46.95	3,226,815
SITE UTILITIES	5.85	402,300
TOTAL DIRECT COST	\$440.44	30,271,588
GENERAL REQUIREMENTS (8%) G.C.'S FEE (5%) DESIGN CONTINGENCY (15%) PHASING (5%)		2,421,727 1,634,666 5,149,197 1,973,859
TOTAL ESTIMATED COST	\$603.23	\$41,460,000

#### Table 7.2: Opinion of Probable Cost New Fire Training Center (Continued)

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
033000	CONCRETE WORK				
033000/010	Concrete slab on grade	38,550	SF	18.00	693,900
033000/020	Concrete grade beams	955	LF	200.00	191,000
033000/030	Concrete footings	20	EA	2,900.00	58,000
033000/040	Elevator pits	1	EA	15,000.00	15,000
					957,900
316300	PILES AND CAISSONS				
316300/010	Auger cast piles	38,550	SF	11.00	424,050
316300/020	Mobilization	1	LS	17,500.00	17,500
					441,550
	SUBSTRUCTURE TOTAL				\$1,399,450

#### SUPERSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>033000</u>	CONCRETE WORK				
033000/010	Concrete suspended slabs	29,500	SF	15.00	442,500
033000/020	Concrete storm structure	4,200	SF	35.00	147,000
					589,500
051000	STRUCTURAL METAL FRAMING				
051000/010	Structural steel framing	275	TONS	8,400.00	2,310,000
051000/020	Floor and roof joists	120	TONS	8,200.00	984,000
051000/030	Floor deck	29,500	SF	8.50	250,750
051000/040	Roof deck	28,500	SF	8.00	228,000
051000/050	Miscellaneous steel framing	40	TONS	9,000.00	360,000
					4,132,750
	SUPERSTRUCTURE TOTAL				\$4,722,250

#### EXTERIOR ENCLOSURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>042113</u>	BRICK MASONRY				
042113/010	Facing brick	32,400	SF	70.00	2,268,000
042113/020	Brick details, sills, etc	1	LS	567,000.00	567,000
					2,835,000
<u>081113</u>	HOLLOW METAL DOORS AND FRAMES				
081110/010	Metal doors	17	EA	2,400.00	40,800
					40,800
083300	SPECIAL DOORS				
083300/010	Overhead doors, 14' x 14' (No Glass)	10	EA	12,400.00	124,000
					124,000
<u>084110</u>	STOREFRONT SYSTEMS				
084110/010	Aluminum framed windows	3,500	SF	75.00	262,500
084110/020	Aluminum storefront	300	SF	75.00	22,500
084110/030	Entrance doors, double	2	EA	6,600.00	13,200
					298,200
	EXTERIOR ENCLOSURE TOTAL				\$3,298,000

#### Table 7.2: Opinion of Probable Cost New Fire Training Center (Continued)

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
074113	ROOFING				
074113/010	Single ply memebrane roofing, including flashing, fascia and access	38,500	SF	30.00	1,155,000
074113/020	Caulking and sealants	68,730	SF	1.00	68,730
074113/030	Canopies	1	LS	15000.00	15,000
					1,238,730
	ROOFING TOTAL				\$1,238,730

#### STAIRS AND CONVEYING SYSTEMS

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>055100</u>	METAL STAIRS				
055100/010	Metal pan stairs with metal railings	2	FLT	13,500.00	27,000
055100/020	Mezzanine stair	1	FLT	7,500.00	7,500
					34,500
142100	ELEVATORS				
142100/010	Passenger elevator, 2 stop	1	EA	90,000.00	90,000
					90,000
	STAIRS AND CONVEYING SYSTEMS TOTAL				\$124,500

#### INTERIOR CONSTRUCTION

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>099000</u>	INTERIOR CONSTRUCTION				
099000/010	Aministration	3,635	SF	80.00	290,800
099000/020	Apparatus Bay	14,600	SF	110.00	1,606,000
099000/030	Building Systems	2,315	SF	50.00	115,750
099000/040	Circulation	8,190	SF	40.00	327,600
099000/050	Fire Training	4,210	SF	70.00	294,700
099000/060	Fitness	6,190	SF	60.00	371,400
099000/070	Lobby	1,685	SF	120.00	202,200
099000/080	Training support	10,635	SF	140.00	1,488,900
099000/090	EMS training	7,770	SF	140.00	1,087,800
099000/100	Shell space	9,500	SF	20.00	190,000
					5,975,150
	INTERIOR CONSTRUCTION TOTAL				\$5,975,150

### Table 7.2: Opinion of Probable Cost New Fire Training Center (Continued)

#### **MECHANICAL - PLUMBING**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>221400</u>	STORM DRAINAGE				
221400/010	Storm drainage system	68,730	SF	1.50	103,095
					103,095
221600	GAS PIPING				
221600/010	Pipe & fittings	68,730	SF	0.75	51,548
					51,548
<u>221400</u>	COMPRESSED AIR				
221400/010	Pipe & fittings, air compressor, & hose reels	68,730	SF	0.50	34,365
					34,365
<u>223000</u>	PLUMBING EQUIPMENT				
223000/010	Water heater, pumps, backflow, etc	68,730	SF	1.50	103,095
					103,095
224000	PLUMBING FIXTURES & PIPING				
224000/010	Water Closet	31	EA	5,900.00	182,900
224000/020	Lavatories	32	EA	5,900.00	188,800
224000/030	Urinals	6	EA	5,900.00	35,400
224000/040	Shower	23	EA	2,415.00	55,545
224000/050	Emergency station	1	EA	2,300.00	2,300
224000/070	Kitchen sink, with grease trap	1	EA	19,000.00	19,000
224000/040	Sinks	6	EA	5,900.00	35,400
224000/050	Mop sinks	2	EA	5,900.00	11,800
224000/060	Washer box	3	EA	400.00	1,200
224000/060	Water coolers	3	EA	7,800.00	23,400
					555,745
	PLUMBING TOTAL				\$847,848

#### MECHANICAL - HVAC

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>238220</u>	HVAC SYSTEM				
238220/010	Training facility	47,330	SF	65.00	3,076,450
238220/020	Truck bays	11,700	SF	20.00	234,000
238220/030	Shell space	9,700	SF	15.00	145,500
238220/040	Kitchen hood	1	EA	30,000.00	30,000
					3,485,950
	HVAC TOTAL				\$3,485,950



#### Table 7.2: Opinion of Probable Cost New Fire Training Center (Continued)

#### **DIVISION 32 EXTERIOR IMPROVEMENTS**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>321213</u>	ASPHALT PAVING				
321213/010	Asphalt paving, heavy duty	2,300	SY	44.00	101,200
321213/010	Asphalt paving, apparatus	3,700	SY	44.00	162,800
321213/020	Asphalt paving	12,000	SY	36.00	432,000
					696,000
<u>321313</u>	CONCRETE PAVING				
321313/010	HD Concrete paving	58,630	SF	18.00	1,055,340
321313/020	Courtyard	1,500	SF	24.00	36,000
321313/030	Civic space	1,400	SF	30.00	42,000
					1,133,340
<u>323100</u>	SITE IMPROVEMENTS				
323100/010	Monumental sign base	1	EA	3,500.00	3,500
323100/020	Covered parking	4,400	SF	40.00	176,000
323100/030	Concrete steps	450	LF	75.00	33,750
323100/030	Retaining walls	620	SF	55.00	34,100
323100/030	Two lane bridge with pedestrian access	1,400	SF	750.00	1,050,000
					1,297,350
<u>329000</u>	LANDSCAPING				
329000/010	Trees	20	EA	950.00	19,000
329000/020	Shrubs	75	EA	175.00	13,125
329000/030	Landscaped beds	4,500	SF	8.00	36,000
329000/040	Seeding	4,000	SY	8.00	32,000
					100,125
	EXTERIOR IMPROVEMENTS TOTAL				\$3,226,815
<b>DIVISION 33</b>	SITE UTILITIES				

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
334000	SITE UTILITIES				
334000/010	Domestic water & fire water	300	LF	75.00	22,500
334000/020	Fire hydrant	1	EA	2,300.00	2,300
334000/030	Water hook ups	3	EA	2,100.00	6,300
334000/040	Relocate force main	500	LF	95.00	47,500
					78,600
<u>334100</u>	STORMWATER				
334100/010	Storm drains	2,100	LF	45.00	94,500
334100/020	Headwalls	6	EA	2,900.00	17,400
334100/030	Catch basin	8	EA	2,100.00	16,800
					128,700
337000	SITE ELECTRICAL				
337000/010	Underground electric	150	LF	350.00	52,500
337000/020	Pole lightings	20	EA	4,500.00	90,000
337000/030	Bollard lights	15	EA	3,500.00	52,500
					195,000
	UTILITIES TOTAL				\$402,300

Table 7.3: Opinion of Probable Cost Support Building		
<b>GROSS SQ. FT.</b> 6,000 sf	DATE:	October 20, 2024
SUMMARY:	COST/SF \$/SF	TOTAL COST \$
SUBSTRUCTURE	58.25	349,500
SUPERSTRUCTURE	50.00	300,000
EXTERIOR ENCLOSURE	21.47	128,800
INTERIOR CONSTRUCTION	20.00	120,000
FIRE PROTECTION	7.50	45,000
PLUMBING	8.28	49,700
HVAC	10.00	60,000
ELECTRICAL	15.00	90,000
TOTAL DIRECT COST	\$190.50	1,143,000
GENERAL REQUIREMENTS (8%) G.C.'S FEE (5%) DESIGN CONTINGENCY (15%) PHASING (5%)		91,440 61,722 129,616 71,289
TOTAL ESTIMATED COST	\$250.00	\$1,500,000



#### Table 7.3: Opinion of Probable Cost Support Building (Continued)

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
033000	CONCRETE WORK				
033000/010	Concrete slab on grade	6,000	SF	18.00	108,000
033000/020	Concrete grade beams	500	LF	200.00	100,000
033000/030	Concrete footings	20	EA	2,900.00	58,000
					266,000
316300	PILES AND CAISSONS				
316300/010	Auger cast piles	6,000	SF	11.00	66,000
316300/020	Mobilization	1	LS	17,500.00	17,500
					83,500
	SUBSTRUCTURE TOTAL				\$349,500

#### SUPERSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>051000</u> 051000/010	<u>STRUCTURAL METAL FRAMING</u> PEMB	6,000	SF	50.00	300,000
					300,000
	SUPERSTRUCTURE TOTAL				\$300,000

#### EXTERIOR ENCLOSURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
081113	HOLLOW METAL DOORS AND FRAMES				
081110/010	Metal doors	2	EA	2,400.00	4,800
					4,800
<u>083300</u>	SPECIAL DOORS				
083300/010	Overhead doors, 14' x 14' (No Glass)	10	EA	12,400.00	124,000
					124,000
	EXTERIOR ENCLOSURE TOTAL				\$128,800

#### **MECHANICAL - PLUMBING**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>221400</u> 221400/010	COMPRESSED AIR Pipe & fittings, air compressor, & hose reels	6.000	SF	0.50	3.000
		-,	-		3,000
<u>223000</u>	PLUMBING EQUIPMENT				
223000/010	Water heater, pumps, backflow, etc	6,000	SF	1.50	9,000
004000					9,000
224000	PLUMBING FIXTURES & PIPING			<b>5</b> 000 00	44.000
224000/010	Water Closet	2	EA	5,900.00	11,800
224000/020	Lavatories	2	EA	5,900.00	11,800
224000/030	Urinals	2	EA	5,900.00	11,800
224000/040	Emergency station	1	EA	2,300.00	2,300
					37,700
	PLUMBING TOTAL				\$49,700







# FACILITY RECOMMENDATIONS

Facility recommendations are outlined below. The purpose of the recommendations is for the City and Fire Department to consider various options pertaining to their current facility and potential next steps per the analysis and review that the Consultant has performed.

The facility recommendations are formulated around what to do with the existing facilities; are there facilities that can be reused/repurposed for services; or are the services better served in a new building that better improves services to a more modern and efficiently designed facility.

In terms of options, it is very clear from the analysis and review that the Consultant has concluded that many of the existing facilities do not and cannot accommodate the space requirements for the Training Center without expansion or a new building without severe compromises which will not provide modern fire training best practices for needs and design standards.

The following recommendations have been given along with cost data (reference detailed cost data in other sections) based on the Consultant Team's historic cost information and experience with similar projects.

## 8.1 RECOMMENDATION 1: NEW TRAINING FACILITY.

During the Consultant's analysis and review, it became very clear that the existing training center is inefficient and does not have enough space in the existing building to meet the needs of the department. The current facilities are not large enough to improve the space or services at this location. The building is inefficient in the layout of space and does not provide an adequate size to house the various sundry equipment that the department maintains and utilizes daily at this location for recruits and training purposes.

It became clear that a new building would be the best course of action for the Fire Department to improve efficiency and service to the department. The Consultant reviewed various scenarios for a new training building. The Consultant recommends this facility because the new training center building will achieve many of the desired objectives and goals of the department and enhance the training service delivery to the department in whole.

This recommendation also provides for site improvements. One such improvement is the consolidation of the driving training to this site which is now offsite at various locations. The recommendation and design concept also provides adequate parking for apparatus, staff parking, and public parking lots. It is also understood and required that a new bridge crossing Town Branch Creek is required as the current bridge is not structurally sound especially for the vehicular traffic and weight of the apparatus to cross over to the other side of the creek to utilize all of the property available. This bridge is shown as part of this concept and is shown large enough to have two-way traffic with adequate structure to handle the weight of the apparatus and provide for a pedestrian walk component. These site improvements will also allow this facility to handle the variety of events and training accommodation that the department provides annually and noted earlier in the study report.

This recommendation would also address the facility and operational efficiencies identified by the Consultant Team. The total project cost for this scenario is approximately \$49.4 million dollars. This does not include any alternatives, temporary relocation, or escalation costs.

The Consultant Team tried to answer the question what are potential future needs that could be provided to further enhance the Fire Department's Training Facility which included a second access bridge and a future support building. The Consultant Team and department discussed that due to the Fire Department need to maintain operations, the building of the future support building would allow them to utilize the space in the building for equipment storage and temporary training spaces along with any portable classroom trailers that they would rent for the duration of the construction. It was also discussed that the building could be used once the training center is complete for fleet storage and as a support building for the driving training and extraction area for the recruits and staff. The total project cost for this scenario is approximately \$1.5 million dollars. This does not include any alternatives, temporary relocation, or escalation costs. This recommendation would also address the storage deficiency for equipment and apparatus of the department city wide identified by the Consultant and Fire Department.



# SITE PLAN CONCEPT OPTION 2 - NEW BUILD 7 Page 3 10 R New Training Facility N 8 11 14"



# LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024

- Legend: 1 Civic Space 2 Existing Flag Pole 3 Apparatus Parking 4 Generator 5 Outdoor Courtyard 6 Covered Staff Parking 7 Public Parking 8 Driving Pad 9 Future Support Building 10 EPA Covenent Area 11 Future Town Branch Trail Extension
- Extension 12 Relocated Extraction Training 13 Relocated Wild Fire Training 14 Relocated Urban Search & Rescue Training 15 Relocated Math. Shada

- 15 Relocated Metal Sheds 16 Future Bridge

<u>Total Parking:</u> Staff - 20 Spots Public - 200 Spots Public ADA - 7 Spots







## FLOOR PLAN CONCEPT OPTION 2 - NEW BUILD



FIRST FLOOR



# LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024



#### LFUCG FIRE TRAINING STUDY



Figure 8.3: New Building Plan Diagram 2nd Floor

### FLOOR PLAN CONCEPT OPTION 2 - NEW BUILD



SECOND FLOOR



# LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504

November 18th, 2024





Figure 8.4: New Support Building Diagram

## FLOOR PLAN CONCEPT 3 - SUPPORT BUILDING



FIRST FLOOR





Apparatus Bays

Training Center Support

TOTAL SQUARE FOOTAGE: 6,346 SF



LFUCG FIRE TRAINING STUDY

# 8.2 PHASING

If the City pursues this option, there are phasing and temporary relocation expenses that need to be considered. The Consultant Team has estimated that these costs could be approximately \$400,000 dollars. This does not include any alternatives or escalation costs. Phasing is possible with this concept and the Consultant Team has put together a simple phasing diagram for the site development and building for consideration.





# SITE PLAN CONCEPT OPTION 2 - NEW BUILD - PHASING PLAN





# LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024





## FLOOR PLAN CONCEPT OPTION 2 - NEW BUILD - PHASING PLAN



SECOND FLOOR



FIRST FLOOR



# LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 November 18th, 2024



Phase 3 - New Building



LFUCG FIRE TRAINING STUDY



# **CONSTRUCTION DELIVERY METHODS**

# 9.1 INTRODUCTION

Construction projects can be complex and difficult for a municipality to manage. There are many forms of construction delivery available for a municipality to utilize. The Commonwealth of Kentucky and the various Architect, Engineering, and Construction organizations have also provided guidance to municipalities by outlining and providing some common regulatory requirements. Typically, the three main construction delivery methods that are utilized in municipal work are the following:

- 1. Design Bid Build
- 2. Design Build
- 3. Construction Management
  - Advisor
  - At Risk

For the most part, these are the easiest to procure and to monitor because the contracts are very straight forward and define each entities responsibility clearly. For this study, we will identify each of these methods and provide pros and cons of each method. Once the City leadership decides on the recommendations provided, a delivery method can be pursued based on the size and complexity of the recommended path forward.

There are some additional nuances to these delivery methods along with a few other delivery methods such as Private, Public, Partnerships (P3) and Crowd funding but these are more difficult to manage and are more complex contractually. For this study, we will not provide any information pertaining to these other methods.

# 9.2 DELIVERY METHODS

#### 9.2.1 Design – Bid – Build

This method is the most common method whereby there are three entities involved in the project. The owner, architect, and general contractor. The municipality (owner) hires an architect/engineer to design the project. Once the project is designed then it is bid on by local general contractors. Once a general contractor is selected the project is then built. The contract is held by the owner with the contractor and the architect is contracted directly with the owner and there is no contract between the architect and contractor.

The general contracting can be defined as constructing and managing an entire public improvement project, including the branches or classes of work specified, under the award of a single aggregate lump sum contract.

The architect prepares plans and specifications, cost estimates, and is liable to redesign the project if the public bids are over the owner's budget. The architect provides construction administration services as the owner's representative during construction and must enforce contract conditions and provisions.

The general contractor holds all contracts with subcontractors that do work on the project and is solely responsible for the project and assumes construction and financial risk.

The success of this method depends on the quality of the general contractor and architect. It is advisable for the owner to have an in-house project manager.

This method is good for projects under \$10 million with minimal owner relocation. It is also beneficial if local subcontractor involvement is necessary. This can be used with any level of project complexity.

Advantages:

- 1. Contractors bid competitively based on complete documents.
- 2. Owner selects Architect on basis of qualifications or ability.
- 3. Architect is active in Construction Administration.
- 4. Design and Construction roles are clearly defined.
- 5. The owner is an active participant in the design process.

Disadvantages:

- 1. Phases are sequential and may require more time.
- 2. The owner is at risk for final construction cost.

#### 9.2.2 Design Build

This method has become a popular method over the last 10 to 15 years in the municipal construction market. Typically, there is a Criteria Architect hired by the owner to help develop the program, preliminary design, conduct site analysis, preliminary cost data, assist in development of the financial plan, and parameters for the design build procurement package for the project.

Then the owner issues a request for qualifications and then shortlists those received and receives proposals from those shortlisted entities. They then select a Design Build Team consisting of a contractor and architect team based on the "best value". The municipality (owner) hires the design-build team to finalize the design of the project. The contractor can begin construction earlier as the project is designed and can control costs through the process. The contract is held by the owner with the design-build contractor and the architect is contracted directly with the design build contractor. The owner is contracted with the Criteria Architect.

Design-Build services can be defined as services that form an integrated delivery system for which a person is responsible to a public authority for both the design and construction, demolition, alteration, repair, or reconstruction of a public improvement.

The design-build architect prepares plans and specifications for permitting, final costing, final contract, and construction.

The Criteria Architect provides construction administration services as the owner's representative during construction and must enforce contract conditions and provisions.

The design-build contractor holds all contracts with subcontractors that do work on the project and is solely responsible for the project and assumes construction and financial risk.

The owner takes on the negotiation risk and has less control during construction.

This method is good for projects that are simple buildings and there is less stringent quality control or if the construction marketplace is limited. It is also good when the design-build team is the lessor on the project, for example, university housing or utility companies.

#### Advantages:

- 1. Perceived to be the fastest project delivery system.
- 2. Single source responsibility.
- 3. Early cost and scheduling.
- 4. Conflicts occur internally and may not involve Owner.

#### Disadvantages:

- 1. Construction costs may not be competitive.
- 2. Owner has little involvement.
- 3. Reductions in quality are possible.



- 4. Documents generally are not complete when GMP is executed.
- 5. Conflict of interest in role as designer and contractor.
- 6. No objective agent to represent Owner's interests.
- 7. Construction processes are generally not monitored.

#### 9.2.3 Construction Management at Risk (CMAR)

This method is a very common method whereby there are three entities involved in the project. The owner, architect, and construction manager. The municipality (owner) hires an architect/engineer to design the project.

Then the owner issues a request for qualifications and then shortlists those received and receives proposals from those shortlisted entities. They then select a Construction Manager based on the "best value". They hire the construction manager to assist in pre-construction activities. The construction manager is also responsible for the bidding and construction of the project which is very similar to the general contractor. The contract is held by the owner with the construction manager and the architect is contracted directly with the owner and there is no contract between the architect and construction manager.

CMAR can be defined as a person with substantial discretion and authority to plan, coordinate, manage, direct, and construct all phases of a project for the construction, demolition, alteration, repair, or reconstruction of any public building, structure or other improvement and who provides the public authority with a guaranteed maximum price.

The architect prepares plans and specifications. The architect provides construction administration services as the owner's representative during construction.

The construction manager provides pre-construction services such as constructability, sequencing, owner phasing, relocation, and costing during design. Following an agreed upon percentage of completion of design, the CMAR is responsible for providing a guaranteed maximum price (GMP). The CMAR will then seek bids for multiple bid packages (typically 15 to 20 packages). They review the bids, and the contracts are held between the CMAR and the contractors. The CMAR provides on site management and is responsible for schedule and cost.

This method is good for projects over \$10 million or complex projects with phasing or owner relocation.

#### Advantages:

- 1. Architect still acts as agent for Owner.
- 2. Early cost commitment gives Owner project cost security.
- 3. Reduce Owner's burden in management of project.
- 4. The Construction Manager is responsible for managing the process and has more control of subcontractors.
- 5. Fast tracking and multiple prime contracts may speed up construction.

#### **Disadvantages:**

- 1. Added Cost due to fees for services. Like professional service fees (4-8%, plus expenses)
- 2. Bidding may be widespread and not as many local contractors.
- 3. GMP can vary and can be amended.

#### 9.2.4 Construction Management Advisor

This method is like the CMAR however, the advisor does not have any "risk" as they are more of a mediator or advisor on project. The CM Advisor establishes the budget and schedule but does not control it.

The Advisor does not hold the contracts with the contractors. The owner holds all the contracts with the contractors.

This method is good for projects under \$10 million or complex projects with phasing or owner relocation.

#### Advantages:

- 1. Provides additional expertise to Owner.
- 2. May fast-track to speed process.
- 3. Initial cost estimating will help control construction costs.

#### Disadvantages:

- 1. Added Cost due to fees for services. Like professional service fees (4-8%, plus expenses).
- 2. Multiple prime contracts add burden to Owner.
- 3. Less control serves only as mediator.







There are a series of steps to take moving forward from this study towards the development of new facilities for the City of Lexington and Lexington Fire Department.

- 1. Council Approval of this Report
  - City to decide which recommendations to pursue in the short term and long term.
  - City to develop a capital plan for improvements, equipment and staff allocation, and other recommendations.
- 2. City to decide which facility option should be pursued, and these steps would be necessary:
  - Phase 1 & 2 Environmental Assessment, if applicable
  - Geotechnical Investigations (Soil Borings) Completed Initial report but additional investigation is necessary.
  - Topographic and Property Boundary Survey Completed
  - Identify financing options.
  - Determine if Phasing is required and begin logistics planning
  - City to pursue temporary classrooms and office space
- 3. Contract Design Services for the facility(s) and phase(s)
- 4. Construction Delivery Method decision.







# CONCLUSION

In conclusion, the City of Lexington and Lexington Fire Department are in the early stages of planning for the next steps for the Fire Training Center and site improvements. The information in this report is offered to help in making those difficult decisions and determinations.

As noted earlier in the report, the current facility is heavily used for a variety of training opportunities for the Lexington Fire Department, including staff training, recruiting classes, Citizen Fire Academy, fire department banquets, dinners, and other internal events. The facility is also used for a variety of other events for the City of Lexington, local organizations, and Community outreach. The need for the improvement and enhancement of this facility is a great need for the Fire Department and should be a priority for the City. The delivery of fire services to the community is an essential and critical service that requires hours of training center, if enhanced, provides better and more frequent training opportunities for the department, which provides an intrinsic value to the community because the more well-trained the department is the better service they receive in their greatest times of need. The training and could be a revenue source for the City and Fire Departments.

It is the recommendation of the Consultant, that at a minimum the City and Fire Department should renovate and expand the existing facility to improve and maximize the goals and objectives of the department by providing modern and more space for the Training Center. It is the Consultants recommendation that the best option for the City and Fire Department long term, is to construct a new Fire Training Center to not only provide them with a modern facility that enhances their training operations but ultimately improves their service delivery to their growing department which intrinsically brings better service to the community.

These recommendations in the report will create opportunities for the City and Fire Department to provide adequate services for several decades and provide the necessary modernization for its facilities and operations that will meet the current and future needs of the Fire Department. The recommendations in this study also give greater flexibility to the City and Fire Department so that implementation can take place as funds become available.

The Consultant Team is pleased to have been asked to perform this report and to work with the Fire Department to improve their operations and training center to continue to deliver a high level of training services to the Fire Department personnel, agencies, and citizens of the City and surrounding areas.




## **APPENDIX A - EXISTING CONDITIONS**

## Figure A.1: Existing Facility Condition Analysis

EXISTING FACILITY CONDITION ANALYSIS LFUCG FIRE TRAINING CENTER LEXINGTON, KENTUCKY PROJECT NO. 24057



July 5, 2024

## 1.1 Standards

The assessment of the existing fire training center included both the physical building and systems, as well as the operational efficiency. The assessment was based on Best Practice Industry Standards from the following codes or standards:

- A. International Association of Fire Chiefs (IAFC)
- B. International Association of Fire Fighters (IAFF)
- C. National Fire Chiefs Council (NFCC)
- D. National Institute for Occupational Safety and Health (NIOSH)
- E. National Fire Protection Agency (NFPA)
  - i. NFPA 1- Uniform Fire Code
  - ii. NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Service Communication Systems
  - iii. NFPA 1500 Standard on Fire Department Occupational Safety and Health Program
- iv. NFPA 1581 Standard on Fire Department Infection Control Program
- v. NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments
- F. Safety and Health Considerations for the Design of Fire and Emergency Medical Services Stations
- G. Whole Building Design Guide (WBDG) National Institute of Building Sciences
- H. Kentucky Building Code (KBC)
- I. ADA Standards for Accessible Design
- J. Federal Emergency Management Agency (FEMA)
- K. Occupational Safety and Health Administration (OSHA)

## 1.2 Key Exterior Issues Identified

## 1.2.1 Site

- 1. There are no identifiable handicap parking spots in the parking lot for staff or the public. Accessibility is provided to the facility via the sidewalk in front of the building.
- 2. The public has access to the entire site via the roadways through the site. This is not ideal because it leaves the Fire Department's vehicles susceptible to vandalism and damage.
- 3. There is not a designated grilling area. There is a designated outdoor seating area that is on the opposite side of the building from the current grilling area. Outdoor activities must take place in the way of the sidewalk and parking spots.

- 4. There are potentially hazardous materials and fire equipment that are scattered around the site unprotected and potentially hindering site movement.
- 5. The location of the emergency vehicle aprons causes potentially serious conflict between pedestrians, parked cars, and emergency vehicles.

## 1.2.2 Façade

- 1. Exterior doors are metal frames with single pane glazing providing minimal insulating value.
- 2. Joints and sealants need repair.
- 3. The windows are single pane glazing providing minimal insulating value. The sealants are deteriorated in places. These should be replaced in their entirety.
- 4. The concrete façade has cracks in it from building settlement which has led to unwanted openings in the walls and needs repairs.
- 5. The mortar joints of the CMU walls are primarily in good condition but have some areas in need of maintenance and repair.
- 6. No exterior wall insulation was found. Insulation will be required to meet current energy codes.

## 1.2.3 Roof

- 1. The existing roof is in okay condition. It is a ballasted roofing system over modified bitumen. The flashing is weathered with the sealant cracking.
- 2. The roof utilizes primarily gutters and downspouts. The downspouts are in relatively good condition.
- 3. The upper roofs utilize gutters and downspouts that drain down onto the lower roofs. This should be corrected as this method is prone to leaks.
- 4. The emergency generator for the facility is located on the roof. This makes it difficult to access for maintenance.
- 5. The air units are located on the roof and have faded materials and warps from the weather.
- 6. The skylights on the upper roof are sun faded with popped sealants.
- 7. Fall protection will need to be provided at all roof top equipment within ten feet of roof edges.
- 8. The existing roof structure consists of cantilevered double tee concrete beams that extend beyond the exterior walls. No thermal breaks were found at the intersection of exterior wall to beams, this can lead to condensation and mold concerns.

## 1.3 Key Interior Issues Identified

## 1.3.1 Fire Training Center

## 1.3.1.1 General

- 1. There is typically a maximum of seventy-seven (77) people at the Training Center each day. The personnel currently consist of (17) Full-Time Employees. There are typically two (2) recruit classes at the Training Center.
  - a. (20-40) Firefighter Recruits that are split into two (2) 6-month classes per year.
  - b. (20-40) Paramedic Students that are in a one (1) 9-month class per year.
- 2. The Training Center currently houses:
  - a. (3) Fire Engines All stored in the Bay
  - b. (1) Ladder Truck Stored in the Bay

pg. 2

- c. (3) 15-Passanger Vans Stored on Site
- d. (9) Small Fleet Vehicles 2 stored in the Bay, 7 stored on Site
- e. (2) UTVs All stored in the Bay
- f. (1) Utility Trailer Stored on Site

## 1.3.1.2 Vehicle Bays

- 1. Storage for miscellaneous equipment is along the exterior walls of the bay. There is also a small stage in the bay used for presentations.
- 2. There are gear lockers in the bay because there is not enough space in the gear room.
- 3. The bay is not large enough for the size of the apparatus. With the additional amount of equipment stored in the bays this limits the maneuverability of staff and ability to open and close vehicles.
- 4. The bay utilizes one (1) overhead sectional door while storing up to four (4) vehicles at a time. This makes vehicle maneuverability severally limited and greatly increases the likelihood of an accident damaging the trucks.
- 5. The bay does not have any floor drains. There is limited ability to keep the bay floor dry during rain or snow events since the drainage is minimal. This is dangerous for the crew and inefficient for them to have to manually evacuate water and debris from the bay floor.
- 6. The pendant lights are old but seem to be in good condition. The lights are not the correct fixtures for this environment.
- 7. The floor slab has several cracks in it due to the weight of the vehicles. The joint at the lobby flooring is deteriorated.
- 8. The vehicle bays are separated from the living and office areas by a CMU wall with no vestibules. It is not evident if the 2-hour separation is achieved due to current conditions. It is assumed that this is not achieved per today's building code. This is not the best practice for apparatus bays.
- 9. The vehicle bay area currently has no vehicle exhaust extraction system. This should be added to protect the occupants within the building and to meet current codes.

## 1.3.1.3 Lobby / Vestibule

- 1. There is no vestibule.
- 2. The lobby is open to the public with no reception area and is not secure to keep the public out of the rest of the training center.
- 3. The lobby is in good condition and is used for displaying miscellaneous Lexington Fire Department memorabilia. More space is needed to display all the Fire Department's items.
- 4. The exterior wall of the lobby is a precast concrete wall system, no insulation was noted.

## 1.3.1.4 Public Restrooms

- 1. Restrooms are limited in the building. The restrooms are small and do not meet current building and plumbing codes for size and quantity needed to comply with the codes.
- 2. There is limited ADA required clearances and turning radiuses. These do not meet current ADA accessibility codes.
- 3. The restrooms and showers have general cosmetic needs like new fixtures, tile, etc.

#### 1.3.1.5 Administrative Suite

- 1. The offices are limited in size for typical administration office use but do accommodate a desk and chair and some other amenities. The lack of storage has caused many of the offices to be used for storage and office space.
- 2. There are cosmetic needs such as ceiling systems, flooring, paint, and wall base, etc.
- 3. Storage and filing for these offices are severely limited and additional space is needed for the department.
- 4. There is not a dedicated room for an administrative conference room. The common space between the administration offices is used as a small conference room.
- 5. The administrative suite is located directly off the apparatus bay. A two-hour firerated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- 6. The administrative suite currently does not have direct viewing of the entry doors or lobby area.
- 7. The administrative suite walls are not sound rated.

#### 1.3.1.6 Classrooms

- 1. Classrooms are located off the bay with access also from the exterior. A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- 2. The classrooms are small for the number of trainees and other staff that use the classrooms daily.
- 3. There is not proper storage accommodation for the classrooms and training props and other equipment must stay out in the bays.
- 4. The technology in the rooms is outdated.
- 5. The classroom walls are not sound rated.

#### 1.3.1.7 Training Officers Office

- 1. The EMS Office is a shared common area with several desks that are overcrowded and require more space for filing and gear.
- 2. A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- 3. The office walls are not sound rated.

#### 1.3.1.8 Bunk Room

- 1. The bunk room is located upstairs. The stairs are not compliant with the codes for treads and railing requirements.
- 2. The room is too small for the standard needs of the staff. The rooms have limited storage.
- 3. The rooms are adjacent to the Apparatus Bay with no vestibule. This can cause exhaust to enter the living areas which is against NFPA standards. The walls are not soundproof, which causes issues for staff sleeping. This is a community sleeping room which has its own problems with the snoring and use of C-Pap machines. A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.

- 4. The lighting in this room is not efficient and is not tied to the station alerting for adjustable light levels for those coming out of sleep when a call comes. This is per industry Best Practices for health and safety of the firefighters.
- 5. There are general cosmetic needs in the room such as flooring, wall base, ceiling systems, painting, etc.
- 6. This area is currently not accessible and would require an elevator to meet current code requirements.
- 7. The walls are not sound rated.

## 1.3.1.9 Kitchen

- 1. The kitchen area is small and cramped. There is limited dining space.
- 2. The kitchen is a residential grade with solid surface counters and wood cabinets.
- 3. Lighting in this area is old fluorescent lights.
- 4. The overall quantity of storage space and appliances for staff and trainees is not adequate for current needs.
- 5. A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.

## 1.3.1.10 Conference Room

- 1. There is limited conference room space in the building. The room has miscellaneous storage in it.
- 2. The technology in the room is outdated.
- 3. There are general cosmetic needs in the room such as flooring, wall base, ceiling systems, painting, etc.
- 4. A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- 5. The walls are not sound rated.

## 1.3.1.11 EMS Office & Storage

- 1. The EMS Office is crowded with little area for desk space.
- 2. The room is used mainly for storage, which severely limits the operational use of the office.
- 3. The EMS storage room is small and does not accommodate the needs of the department.
- 4. A two-hour fire-rated separation with a vestibule should be added to keep contaminated areas separated and to meet current codes.
- 5. The walls are not sound rated.

## 1.3.1.12 Bay Storage

- 1. The Storage Room is small and additional storage capacity is needed for the bays.
- 2. There are a few storage shelves around the bay. These are not sizable for any significant storage, so the bays are being used for storage of a variety of equipment, supplies, furniture, vehicles, and other miscellaneous items.
- 3. Some gear lockers are in bay which is not preferred due to the UV degradation and exposure to contaminates and vehicle exhaust.
- 4. The Gear Room has general cosmetic needs such as ceiling systems, flooring, paint, and wall base, etc.

#### 1.3.1.13 Cascade & Tool Rooms

- 1. The Cascade Room is small and needs more space to adequately accommodate the needs of the department.
- 2. The Tool Room is small and has limited space to perform maintenance duties.
- 3. The rooms are used for additional building and janitorial storage.
- 4. Access to these rooms requires personnel to exit the main building. The adjacencies of these rooms is not ideal and should be better located.

#### 1.3.1.14 Electrical / Washroom

- 1. The gear wash area is located away from the Apparatus Bay through the kitchen. This is not best practice because it requires contaminated gear to be brought through an eating area to be cleaned.
- 2. The washer and dryer are in the electrical room and are inadequate in number for the size and number of staff at the Training Center. Per Best Practices it is advised to add a decontamination room, and laundry room dedicated to the Apparatus Bay for staff convenience and to keep contaminated areas separated.

## 1.3.2 Structure

A-6 TRINGTON

- 1. The existing facility constructed in 1969 consists of a one-story load bearing concrete block for all exterior and bearing walls with the exception of the front wall which is precast concrete. The roof over the high bay (vehicle bay) consists of steel bar joists 36" deep @ 5' 0.c. clear spanning the bay and bearing on 12" concrete block walls. The roof decking over the high bay area is steel roof decking.
- The lower roof areas (classrooms, offices and lobby area) consist of exterior 8" load bearing concrete block and the roof structure is pre-cast concrete double tees (approximately 18" deep with ribs at 2' on center. These concrete double tees cantilever past the exterior block wall creating an overhang.
- 3. There are two additions to the low roof areas along the west end. The oldest addition consists of concrete block walls and wood roof framing. This addition appears to have a foundation and to have been constructed to commercial standards from a structural standpoint. The more recent addition does not have a foundation and appears to be a slab poured on asphalt. This newer addition does not appear to have been constructed in accordance with the Kentucky Building Code and should be considered a temporary structure for storage only.
- 4. The existing precast concrete bridge over the town branch creek to the rear of the property was briefly reviewed and agree with the provided report from DLZ that the bridge itself is in poor structural condition and needs to be replaced. The abutments could potentially be re-used if the same size and location works for a potential replacement precast concrete bridge.
- 5. In general the overall structural condition of the original building appears to be sound and suitable for renovations/reuse. The few items noted were some minor cracking of the concrete block, especially over and around openings. It is likely none of the concrete blocks are grouted or reinforced. This was acceptable and met the structural loading requirements of the Kentucky Building Code in 1969. I recommend the cracking areas of the concrete block be tuck-pointed and partially grouted in the areas of cracks.
- 6. The added apartments inside the high-bay area were constructed with wood and do not appear to be in compliance with the Kentucky Building Code. It is most likely these apartments would need to be replaced and reconstructed with non-combustible materials.

## 1.4 Operational Assessment

## 1.4.1 General Analysis

 The existing Training Center does not provide an ideal or functional layout for a modern Fire Training Center with modern staffing requirements, vehicles, equipment, and apparatus that is utilized in the 21<sup>st</sup> century. The configuration of the spaces affects the operational efficiency and resulting response times. The facility does not have adequate separation of public and staff spaces.

## 1.4.2 Exhaust and Carcinogen Systems

1. Protection of First Responders from exhaust carcinogens and contaminants is a critical concern in today's work environment. The various standards address these concerns and provide requirements for proper safety and precautions that should be adhered to for the safety of First Responders. Exposure to these elements is a significant contributing factor for the high rate of cancer in Fire Fighters.

## 1.4.3 Exterior

- 1. The roof has minimal insulation thickness. The current energy code requires a minimum rating of R25 to R30 for roof insulation value. The efficiency of the mechanical systems and the energy efficiency of the building is greatly compromised.
- 2. The exterior windows of the facility are single glass pane windows. These windows do not meet the current Building and Energy Codes. They are very inefficient and cause a tremendous amount of heat loss and heat load for the building. This also puts undue stress on the HVAC system creating energy inefficiencies.
- 3. The exterior walls appear to have no thermal insulation, selective demolition would be needed to confirm.

## 1.4.4 General Interior

## 1.4.4.1 Lobby / Main Entry

- 1. The main entry is good size but does not have a vestibule or access to a receptionist. A window should be in the vestibule to allow for direct communication between the Fire Department Administration and the Public.
- 2. The main lobby allows for access to the entire building. Access points should be installed to restrict public access to the rest of the building. The current situation makes access to the building inadequate for public use, but access to employee areas unrestricted and unsafe.
- 3. There should be adequate restrooms off the Lobby that are ADA compliant and meet all the requirements of the current building code.
- 4. There should be general signage for public use.

## 1.4.4.2 Bays

- 1. The Vehicle Bays are not only used for vehicle storage, but they are also utilized for storage of gear and other equipment. Due to the limited storage and support areas of the Bay, the Bay itself is unable to provide adequate maneuverability for equipment and Staff. This causes an undue burden on daily operations and can result in higher response times and potential injury to staff.
- 2. The Bays do not have proper NFPA clearances for equipment. The bay widths are not adequate per current standards. The width does not allow for maintenance of the apparatus from the sides or access to equipment in the vehicles.
- 3. There are no drains in the Bay. This makes it difficult for vehicles to be cleaned and maintained during inclement weather.

pg. 7

- 4. There is one apparatus bay that is not a drive-thru bay. This allows for the potential for accidents from backing into the bays causing significant damage and cost to equipment and the building. The bay can accommodate multiple vehicles if parked properly. Bays should be drive-thru, if at all possible, per NFPA Standards and Best Practices. This may not be possible in the current building but should be explored.
- 5. Gear is housed in the Bays. Gear should be housed in a separate Storage Area to protect from carcinogen contamination.
- 6. Lockers should be sized at a minimum of 24" x 24" x 72".
- 7. The Apparatus Bay utilizes a sectional door. These doors create maintenance and safety issues for the Department. The use of newer technology such as bi-fold or four-fold doors would be beneficial, not only from a maintenance and operation perspective, but also from a response time perspective. If these are not economical, the sectional doors should be modified to heavy-duty commercial sectional doors with higher use cycles and safety features.
- 8. There is no Decontamination Room in the facility. A Decontamination Room should be provided that allows for decontamination of gear and staff. This should also allow for quick access to a shower. Per NFPA Standards and Best Practices, this will minimize the tracking of contaminations into the living areas.
- 9. There is not a restroom in the Bay area. There should be a restroom facility provided in the Bay adjacent to the Decon Room. Per best practices, this is highly recommended to minimize tracking of contaminates into the living areas.
- 10. A two-hour fire-rated separation should be added at all walls and openings shared with the apparatus bay.

## 1.4.4.3 Bedrooms / Dorm Room

- 1. The dorm room is a community area with beds and personal storage units for the firefighters. This arrangement is acceptable but in industry best practices and modern trends, these are going to individual bunk rooms due to C-Pap and snoring issues and privacy. It also does not allow for gender separation.
- 2. If individual bunk rooms were pursued these should have adequate space to accommodate a small desk, bed, nightstand, and a set lockers or closet.
- 3. The dorm room does not have windows to the exterior. As a means of health, safety, and welfare of the staff, there should be means of natural light and the use of black out shades can help darken the room.

## 1.4.4.4 Offices

- 1. The office arrangement at the station is not desirable as the offices are shared spaces.
- 2. NFPA Standards and Best Practices for Fire Station design locate all offices in a general Administration Area. This would minimize duplication of spaces and services such as the need for copy machines, filing cabinets, etc. This will also prevent the public from entering the workspace of the staff.
- 3. Office(s) should have visibility to exit and entry aprons, which currently is not possible.
- 4. Office(s) should have full walls for privacy and less distractions while working.
- 5. There should be separate rooms with adequate space for a reports room, a fire prevention office, EMS offices, conference rooms, and a code review area which is not available now.

## 1.4.4.5 Storage

- 1. The storage capacity of this building is woefully short of the needs of the station. As aforementioned, the Bays are being utilized for storage as are other Staff spaces.
- 2. The bay storage is also inadequate for the storage of supplies.

## 1.4.4.6 Kitchen and Dining Room

- 1. There is no true dining room, but an eating area is located in the kitchen.
- 2. The Kitchen is too small for the use of the facility. The kitchen should be larger to accommodate the proper clearances around the equipment, appliances, and cook top.

## 1.4.4.7 Locker Rooms and Restrooms

- 1. NFPA Standards require that Locker Rooms be accommodated and be gender specific including the restrooms and shower facilities. The current facilities are not adequate for the size of this department or per the Plumbing Code. These facilities should be enlarged and provide ADA accessible fixtures.
- 2. Lockers should be sized at a minimum of 24" x 24" x 72".
- 3. The lockers should accommodate current ADA accessibility codes and provide adequate facilities for the number of first responders and staff who use the facility.

## 1.4.4.8 Classrooms

- 1. Classrooms should be large enough and flexible to accommodate the many recruit classes that use the Training Center daily.
- 2. Classrooms should have adequate storage for the tables and chairs used by the classes.

## 1.4.4.9 Miscellaneous Support

- 1. There should be two laundry areas. A Laundry Area in the Living Area separate from a laundry area in the bays to minimize contamination in the Living Areas.
- 2. There is not a fitness area in the facility which does not meet NFPA Standards or best practices. The fitness area should be near the living areas away from the bays and dirty areas of the facility.
- 3. The fitness room is a vital part of the firefighter conditioning and overall health. Due to the duties of their positions, they need to be in top physical shape and a fitness room would allow them to use it while on duty and not have to go to another location. This encourages fitness and is beneficial to both the Fire Department and the firefighters.
- 4. The Tool Room should have adequate storage and a work bench to accommodate all department maintenance needs.
- 5. The Cascade Room should have adequate space for all the SCBA equipment and for future training and storage needs.

## 1.4.4.10 Technology

- 1. The detailed investigation of communications and technology was beyond the scope of this assessment.
- 2. At the time in which this building was built, technology was not as great a concern for computer and phone access, however, over time, technology demands have required installation of phone and data jacks throughout the building. These have been done during the life of the facility and they have been surface-mounted where needed for use.

- 3. There are multiple locations that were viewed during the review where technological equipment has been installed in spaces which are not dedicated to technological equipment. Many of these areas do not have the proper HVAC components to maintain humidity and temperature control. The equipment is also unsecure and the opportunity for vandalism or damage exists.
- 4. There is a limited access control and surveillance system provided for the building. Security is limited.
- 5. In many instances, proper labeling is not provided on wiring, jacks, or boards.
- 6. There should be dedicated rooms with adequate space for the Department's technology storage needs such as for radio equipment.

## 1.4.5 Energy Efficiency

- 1. As noted throughout the Operational Assessment, there are various items that have energy implications, such as the roof, HVAC, lighting, and plumbing fixtures. These items can be addressed to increase the energy efficiency of the facility. These decisions are beneficial and will also increase the quality of life of the facility.
- 2. Other items for consideration are as follow:
  - a. Install a building automation system with night setbacks. This will help reduce energy consumption. Understanding that this building is primarily a 24/7 facility, the energy reduction is minimal in comparison to typical public facilities, however, it would still provide operational cost savings over the life of the building.
  - b. Install a lighting control system. Lighting will be turned off by occupation or motion sensors if rooms are not being utilized.
  - c. Automatic flush valves and faucets will reduce water usage.
  - d. New energy efficient windows and daylight harvesting controls in the facility will reduce energy consumption. This will also benefit the HVAC system, reducing the load on the system, therefore decreasing energy use and operation costs.
  - e. The use of ceiling fans throughout the facility will minimize the energy consumption of the HVAC system.
  - f. Utilization of proper exhaust methods and the creation of positive and negative pressure areas in the facility will deter a "sick building syndrome". This will also benefit the health and welfare of the staff.
  - g. Increasing insulation on the exterior walls and roof will mitigate heat loss in the building. This will reduce the load on the HVAC system, making it more efficient and reducing operational costs.
  - h. The use of an energy recovery unit would be a benefit to the facility. This would allow for energy generated by the HVAC and exhaust systems to be recaptured and converted to heat or a tempered distribution.

Kesser 07/0<u>5/2024</u>

Jonathan Chesser, Associate AIA Assistant Project Manager





## A.1 PRELIMINARY BUILDING CODE AND ADA COMPLIANCE REVIEW

A preliminary Building Code and ADA Compliance Review was developed and used during the analysis and assessments to identify any building code or accessibility deficiencies throughout the facility. The building is not subject to compliance with the current codes if no renovations or improvements are undertaken. They would only be required to meet the current codes and guidelines if improvements or renovations are conducted.

The following Building Code review is based on the International Building Code (2015 IBC), and the State of Kentucky Building Code (2018 KBC), and 2010 ADA and ANSI Guidelines.

## A.2 CODE DATA ANALYSIS:

## A.2.1 Building Area (Section 503)

## Area included within exterior walls:

Group B = 7,370 SF Group R-2 = 809 SF Group S-2 = 8,884 SF Total Area = 17,063 SF

## Occupancy Classifications (Chapter 3 and Chapter 10):

Group B Occupancy (Section 304.1, Table 1004.1.2) Business

100 Gross SF/Occupant Maximum = 7,370 SF/100 = 74 Occupants

Group R-2 Occupancy (Section 310, Table 1004.1.2) Residential

200 Gross SF/Occupant Maximum = 809 SF/200 = 5 Occupants

Group S-2 Occupancy (Section 311.3) Low-Hazard Storage

200 Gross SF/Occupant Maximum = 8,884 SF/200 = 45 Occupants

**Occupancy Separation (Table 508.4):** A 1-hour separation is required to separate Group R and Group S-2. A 1-hour separation is not evident per the Existing Building Condition Assessment.

## Allowable Height and Area (Table 503 and 504):

Type IIB – 3 Stories, 23,000 SF/Floor. The existing building is two story which = 17,063 SF. The existing allowable height and area meet the current Building Code.

## Type of Construction (Chapter 5 and Chapter 6):

Type IIB is assumed based on existing materials encountered during the Existing Condition Assessment and existing drawings.

Sprinkler System (Section 903, 904, 905): A sprinkler system is required throughout the building. The existing building does not have a sprinkler system.

Fire Extinguishers (Section 906): Portable Fire Extinguishers are not provided throughout the existing building.

Fire Alarm System (Section 907): A fire alarm system is required throughout the building. The existing building has no fire alarm system.

## Fire Resistance of Building Elements for Type IIB (Table 601):

Structural Frame = 0 hr. Bearing Walls – Exterior = 0 hr. Bearing Walls – Interior = 0 hr. Non-Bearing Walls – Exterior = 0 hr. Non-Bearing Walls – Interior = 0 hr. Floor Construction = 0 hr. Roof Construction = 0 hr.

## Fire-Resistance Rating Requirements for Exterior Walls of Type IIB (Table 602):

Less than 10' (fire separation distance) = 1 hr. Greater than 10' and less than 30' (fire separation distance) = 0 hr. Greater than 30' (fire separation distance) = 0 hr.

## Means of Egress:

Occupant Load = 124 Occupants

Number of Exits (Table 1006.3.1) 2 Required. The existing building has multiple exits. The exits do meet the current code.

Exit Access Travel Distance (Table 1017.2) = 200 feet

Minimum Width of Exit Passage (Section 1005) = 44":

The existing building meets this requirement in most locations; however, any modifications to the building will be needed to meet this code requirement for all exit corridors.

## Minimum Corridor Width (Sections 1005.1 and 1018.2) = 44":

The existing building meets this requirement.

## 2012 R-Values (International Energy Conservation Code)

(ci = continuos insulation) Roof = R-25 ci

Walls Above Grade = R-9.5 ci

Slab-On-Grade = R-10, for 24" below slab and depth of 10' vertically.

The current R-values are not met with the existing building envelope construction. These R-values should be considered if any modifications are pursued to aid in energy efficiency of the building.

## Plumbing Fixture Count (Kentucky State Plumbing Code) – Mixed Occupancy (B, R2, S2)

## Storage (S2) need minimal fixtures and are covered by the more stringent use groups.

## Occupancy 124 = 62 Males and 62 Females

Business (B) Fixture Requirements Water Closets: Male = 4 Required, Have 2 Existing and 2 Existing Urinal Female = 4 Required, Have 2 Existing Unisex = 0 Lavatories: Male = 4 Required, Have 2 Existing Female = 4 Required, Have 2 Existing



## Unisex = 0

Service Sinks = 1 Required, this is met.

## Drinking Fountain:

1:75 = (1) total fountains required, (1) ADA Accessible Unit Required. There is 1 water fountain in the building, but it does not meet the ADA Accessible Unit requirements.

## Showers:

Male = Not Required, have none

Female = Not Required, have none

Residential (R2) Fixture Requirements based on 5 Occupants.

## Water Closets:

Male 1:10 = 1 Required, Have 1 Existing and 2 Existing Urinal

Female 1:10 = 1 Required, Have 2 Existing

Unisex = 0

## Lavatories:

Male 1:10 = 1 Required, Have 2 Existing

Female 1:10 = 1 Required, Have 2 Existing

Unisex = 0

Service Sinks = 1 Required, Have 1 Existing

## Drinking Fountain:

1:75 = (1) total fountains required, (1) ADA Accessible Unit Required. There is 1 water fountain in the building, but it does not meet the ADA Accessible Unit requirements.

## Showers:

Male = 1 Required, have none

Female = 1 Required, have none

## Parking:

Public Stalls = there are 70 existing spots.

Handicap Stalls (Regular and Van Accessible) = Minimum of 3 Required (Table 1106.2), 0 Existing but plenty of parking area to provide the required numbers.

## Restrooms:

- There are not enough total fixtures for the Code Requirements, and ADA accessibility is limited.
- The existing Restrooms have limited ADA accessible toilet fixtures provided; however, the restrooms are not large enough to meet all the current ADA or ANSI accessibility codes with respect to clear floor space and clearances.
  - The restrooms and individual stalls need to have a 60" clear turning radius which they do not have currently.
  - The Restrooms do not have the required clear turning radius or clear floor space in all locations.
- There are no showers located in the building. Showers need to meet ADA accessibility requirements for transfer or pull-in type showers.

## Doors:

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ADA clear floor space and maneuvering clearances do not meet current ADA or ANSI accessibility standards in all cases.

## Egress:

Exiting through adjoining spaces is not acceptable. Currently, there are instances where the second means of egress would need to go through other spaces or through an Apparatus Bay (S-2) which is not admissible by the Building Code in all cases. The second floor Bunk Rooms (R-2) does not have multiple means of egress available which is not admissible by the Building Code in all cases.





## Lexington Fire Training Center PROJECT NO. 24057

Present:

Charlie Schneider, Brandstetter Carroll Inc.

BRANDSTETTER CARROLL INC
ARCHITECTS + ENGINEERS + PLANNERS

10:00 am July 3<sup>rd</sup> , 2024

1. The site is located on the North side of Frankfort Pike. There are three access points into the site. All three are asphalt. The first 25% (east) of the site, Trail Branch has been extended. That project was recently completed. The first entrance has proper traffic control (cross walk, stop sign, etc., the other two are wide and shallow and lack any controls.



2. Moving west on Frankfort Pike there is an old four plank fence that extends the length of the site, it is in need of minor repair and repainting. There are also two dry stacked stone masonry pillars, one of which is in need of repair. It may have been hit by a vehicle at some point.



1

3. In the center entrance there is an asphalt hump installed to divert drainage down to the ditch so that water does not come directly onto Old Frankfort Pike.



4. Moving west on the site there is a fair number of classes going on at the facility today. A lot of vehicles are parked on the grass towards Old Frankfort Pike. If this area is to be used for parking regularly, the area should be paved, or better stabilized with grass pavers.



5. There is an old foundation in that same area that does not appear to be used at this time. It is recommended that the foundation be removed.





6. The drive from the main training facility building to west training areas is in need of replacement, it is evident that the subgrade has failed. The asphalt pavement is cracked and "alligatored".



7. There is an old set of bleachers between the facility. There is some undermining of the foundation occurring due to storm water runoff, if the bleachers are being used, the foundation should be repaired, if they are unused, it is recommended they be removed.



8. The rock wall on the western most entrance is beginning to fail and deteriorates more as you move westward.



9. Moving to the parking lot on the left side of the same building, again the asphalt is older and there is a lot of cracking signifying failure of subgrade. Three is a water storage tank and shed at the end of the lot.



10. Runoff from storms is directed towards one corner of the parking lot and drains directly into Town Branch. It is recommended that storm water runoff be sent through a water quality unit. Storm water quantity should be looked at as well, but as a broader look at the Town Branch Watershed.



11. On the west side of the building there is a small retaining wall adjacent to the parking area. It is in fair condition. The fence/rail on top of it stretches along the parking area and is in good condition. The concrete adjacent to the building is in fair condition.





12. The downspouts are connected to underground storm system. I did not see an indication of where that storm pipe leads, most likely directly to Town Branch.



13. On the west side of the building at the front there is a set of four steps. There are no handrails on these steps. It is recommended that handrails be added to meet current codes.



14. On the front side of the building there is sidewalk about 4' off the face and in fair condition. There is no curb so it is flush with the asphalt, therefore no ADA ramps but there is also no tactile warning strips at the front of the building.



15. Moving to the east side of the building there is a parking lot that is adjacent to the building. Asphalt is again in the same similar condition. May be a little more wear and there is some recent repairs for a gas line installation.



16. The sidewalk on the east side of the building is in similar condition to the other walks. Downspouts again are in good condition and lead to a pipe most likely draining to Towns Branch.



- 17. The sidewalk and asphalt are flush but there are no tactile waring strips as you walk out into the parking area. It is recommended to installing parking bumpers and tactile warning strips at entry/exit points along this walk.
- 18. All the stripping in the parking lots needs to be repainted.





19. Moving on the backside of the building there is an additional asphalt parking area that extends straight up to the building. There is no sidewalk in this area. The rear two doors have a six-inch step down as you exit. There is a downspout here that has been damaged and splashes directly onto the asphalt pavement. It is recommended to install concrete stoops at these locations and repair the downspout.



20. There is a dumpster pad at the rear of the building and a surround, the surround is in poor condition. There are no gates for this and there is no concrete pad for the truck to stop and maneuver on. However, the asphalt has held up remarkably well considering. Location could be improved. At least the angle for the approach of the dumpster should be modified.



21. Moving over into the adjacent parking lot to the east, this parking lot is for using cars for training. Asphalt is in good condition in this area, concrete pads are in fair to good condition considering their intended use.



22. In this parking area there is some remnants of an old foundation. It is used for their training vehicles. It is in poor to fair condition.



23. As we move on down to the bridge crossing into the rear area, the asphalt here is in good condition and was just repaved when they extended the trail.



24. The bridge over Town Branch has been condemned and will need to be replaced.



8



25. Drives leading up to and from the bridge are in fair condition.



26. The property on the back side of Town Branch, between the creek and the railroad is an old storage yard for various materials. Mostly paved asphalt in fair to good condition until you get to the top where it turns more into ashalt in poor condition and then just straight into gravel.





27. Adjacent to the asphalt areas are various concrete foundations and bins. Various types of materials gravel, soils, mulch, bricks and other items. This area slopes rather gently from the bridge, westward up behind the fire training facility. Slope is never great but is probably an estimated 20' rise. At the very top of the upper area is a large soil stockpile and more various materials. Topsoil earth is just old waste material and appears to be rather good soil.



28. Like the main side of the site, there is no storm drainage, no retention, all runoff and goes directly into Town Branch. Again, Water Quantity would require a larger study of the Town Branch Watershed, water quality should be addressed.

10



- 29. Final item on this side to the east of the bridge, as you come across Town Branch to the east there is an old structure with a tank on top, The structure appears to be a water storage tank to fill water trucks.
- 30. There is no access point except for one window area on the west side, about 1/2 way up the wall.



If you should disagree with any information contained herein, please kindly notify our office in writing within 5 days of receipt of this memorandum.

07/01/2024

Charlie Schneider

CLS/lg

C:

File







# FIRE TRAINING ACADEMY MEP STUDY INITIAL REPORT

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT LEXINGTON, KY

SUBMITTED BY

## PALADIN, INC.

121 OLD LAFAYETTE AVENUE LEXINGTON , KY 40502

[859] 252.3047 PALADINENGINEERS.COM

RELEASE | JULY 2024

## TABLE OF CONTENTS

## SECTION 1. EXECUTIVE SUMMARY

## SECTION 2. OVERVIEW OF MEP CONDITIONS

- 1. MEP Study Objectives
- 2. MEP Conditions Overview
- 3. General Physical Condition
- 4. Replacement Options

## SECTION 3. SUMMARY OF FINDINGS

- 1. MEP Inventory Management Log
- 2. Construction Cost Estimate Options





## **EXECUTIVE SUMMARY**



Paladin, Inc. was contracted to perform a Mechanical, Electrical, Plumbing (MEP) Study at the Lexington Fire Department (LFD) Fire Training Academy Campus located at 1375 Old Frankfort Pike, Lexington, KY 40504 for the Lexington-Fayette Urban County Government (LFUCG).

Paladin completed the walk-through of the facility and observed MEP systems on the property on July 3, 2024.

The 1969 property is an approximately 16,400 square foot building that is not served by a physical plant; all mechanical HVAC equipment and systems are stand-alone systems. The MEP systems have been replaced at different stages of the building's life where the HVAC, consisting mostly of packaged Rooftop Units (RTUs), was replaced approximately in 2001.

The lighting in the facility has been replaced at various points in the past. The latest partial replacement occurred in 2017. Prior to the 2017 lighting replacement, an upgrade to LED fixtures occurred in approximately 2010. The electrical distribution system has been upgraded as necessary at varying intervals. The main switchboard is original to the building, while the majority of the electrical distribution panels are estimated to have been replaced in 2008. A backup generator serves the west side of the building and was installed in 2015.

Plumbing fixtures were replaced in approximately 2009. Two domestic water heaters serve the building: one tankless and the other traditional tank style. The domestic water heaters were replaced in 2015 and 2023, respectively.

Finally, an interior addition was added in 2023 that included office and bunk space. The MEP fixtures in the 2023 addition were installed new with the addition.

This report reviews the findings from the MEP conditions walk-through. It also documents Paladin's recommendations and opinion of costs for the identified Facility Improvements Measures (FIMs)

Overall, Paladin's opinion is that there is \$390,000 of MEP work to be performed to reduce the risk posed by MEP systems that are approaching the end of beneficial use as well as reduce the cost of operations.

LEXINGTON FIRE DEPARTMENT - FIRE TRAINING ACADEMY				
SUMMARY OF MEP STUDY COST OPINION				
SYSTEM	GENERAL CONDITION	OPINION OF COST	PRIORITY	
TOTAL		\$ 390,000		
PACKAGED ROOFTOP UNITS	The RTUs (7 total) have exceeded their operational life and are showing increased signs of age. The facility is often outside of the temperature range desired by the occupants, which is largely caused by the failure of these units.	\$285,000	HIGH	
ELECTRICAL DISTRIBUTION	The main switchgear is outdated, and the industry no longer recommends the use of its make and model. There is a high risk to the facility if this equipment were to fail.	\$75,000	HIGH	
LIGHTING FIXTURES	The light fixtures have been replaced at various points over the life of the facility. The majority of fixtures have been converted to LED. Converting or replacing the remainder of the fixtures (48 total) to LED would yield some boost in energy efficiency.	\$10,000	MODERATE	
TERMINAL DEVICES	The packaged terminal air conditioning units (2 total), exhaust fans (4 total), and unit heaters (2 total) have exceeded their operational life or are nearing it closely. To allow for extended use of the facility as it is, a replacement of these units would be necessary.	\$15,000	LOW	
PLUMBING FIXTURES	The plumbing fixtures have been upgraded in 2009 and the fixtures do not show concerning signs of aging. These fixtures are able to continue their use with very little risk. However, one lobby water fountain has well exceeded its operational life, needing replacement.	\$5000	LOW	
HVLS FANS	The HVLS Fans serving the Bay are in good condition and still appear to have the majority of their operational life remaining. Very little benefit would be gained from their replacement at this time.	\$0	LOW	
BACKUP GENERATOR	The generator has been well maintained and is in good condition without showing dramatic signs of aging. Replacement of this unit would be costly with very little gained benefits. Replacement of this unit is not recommended at this time.	\$0	LOW	
DOMESTIC WATER HEATERS	Both domestic water heaters are in good condition and have well over a decade left of remaining operational life. There is little risk of these failing in the near future.	\$0	LOW	
2023 ADDITION	All MEP equipment in the new 2023 addition is unnecessary to replace as it is at the beginning of its operational life.	\$0	LOW	





# **SECTION 2:**

# **OVERVIEW OF MEP CONDITIONS**

## OVERVIEW OF MEP CONDITIONS

## MEP STUDY OBJECTIVES

Paladin was contracted to complete an MEP investigation of the Fire Training Academy. The primary objectives for this project are:

- 1. Evaluating all mechanical, electrical, and plumbing systems for the building. This includes air handling systems, singular equipment such as mini-split systems and unit heaters, electrical distribution panels, and domestic water heaters.
- 2. Determining the prioritization of repairs and replacements needed for the facilities
- 3. Supporting the agency in identifying other improvements that would align with standards and operational requirements.

Paladin has organized this information into an MEP inventory management log and a list of findings and recommendations with estimated costs for performing corrective action.

## MEP CONDITIONS OVERVIEW

During Paladin's initial site visit on July 3, 2024, it was found that the majority of spaces were outside of the desired space temperature. The facility operator has installed multiple temporary air conditioning units in an attempt to bring the space temperature down to a more accommodating level.

A complete list of findings can be found in SECTION 3: SUMMARY OF FINDINGS. The images and descriptions below are intended to provide an overview of the state of the MEP systems as observed during the walk-through.

Many pieces of equipment and systems were found to be operating beyond the typical service life. The type of equipment and systems that were originally selected are no longer performing at their peak efficiencies and show signs of wear. The following is an evaluation of each primary system: mechanical, electrical, and plumbing.



## GENERAL PHYSICAL CONDITIONS

#### **MECHANICAL**

The air handling equipment consists of seven packaged rooftop units (RTUs). Four of these rooftop units serve the large bay area while two serve the east wing and one serves the west wing. The west wing RTU is the most recently replaced unit, which occurred in 2016. The RTUs serving the east wing were replaced in 2008. The four RTUs serving the Bay were replaced in 2001.

According to ASHRAE's life expectancy for the RTUs, all the RTUs except the west wing unit are beyond their typical life expectancy. Although the RTU serving the west wing has approximately five years of operational life remaining, replacement of this unit to a higher tonnage would help serve the spaces. The west wing typically is further off zone setpoint than the other areas in the facility. This is further exemplified by the multiple temporary air conditioning units installed in the west wing. Due to this, Paladin recommends a full replacement of the RTUs.

The ductwork for the rooftop units appears to be original. Above ceiling, it appears that the supply ductwork is externally insulated while the return ductwork is internally lined. Due to the age of the ductwork and internal conditions, it is Paladin's recommendation that the ductwork be replaced.



Images #01 & 02: Rooftop Units

The new addition of the office spaces and bunks is served by a mini-split system heat pump. This features one outdoor unit mounted on the roof and four indoor units serving each of the four newly added spaces. This system and addition were installed in 2023, so the mechanical equipment has effectively its whole operating life remaining. If the programming of this addition does not change, it is not advisable to replace the mechanical systems in the new addition area.



Images #03 & 04: Heat Pump System - Outdoor Unit and Indoor Unit





Classroom 2 and the adjacent EMS Room are each served by a packaged terminal air conditioner (PTAC) unit. The PTAC units are estimated to have been installed in 2001. According to ASHRAE's life expectancy for the PTAC units, both are almost a decade past their life expectancy. Due to this, Paladin recommends the replacement of the PTAC units.



Image #05: PTAC Unit

The Bay is currently served by three high volume low speed (HVLS) fans. The estimated installation date for the HVLS fans was 2016. The ASHRAE life expectancy for these fans indicates that they have twelve years of operating life remaining. With over half of their lifetime remaining, it is Paladin's recommendation that these fans continue operating unchanged. Even if the air distribution is altered for the Bay, these fans will continue to combat thermal stratification that can more easily affect an area like the Bay with high ceilings.



Image #06: HVLS Fans

The Bay is also served by a singular wall mounted exhaust fan. It is estimated that this exhaust fan's installation date was 2001. The ASHRAE life expectancy for this fan indicates that it is three years past its operational life expectancy. Furthermore, it is reported that diesel fumes accumulate when the fire engines are in the Bay. The purpose of this fan was to assist with engine exhaust, and it is no longer able to fulfill its purpose effectively. Paladin recommends the replacement of this exhaust fan.

In the Apparatus Closet attached to Classroom 1, there is a small exhaust fan that discharges directly outside. This exhaust fan is estimated to have been installed in 2001. The ASHRAE life expectancy for this fan indicates that it is three years past its operational life expectancy. Paladin recommends the replacement of this exhaust fan.



Images #07 & 08: Interior and Exterior Views of Bay Exhaust Fan


The men's and women's restrooms each have a ceiling mounted electric unit heater. It is estimated that these were installed when the restrooms were renovated in 2009. The ASHRAE life expectancy for these heaters indicates that they are past their operational life expectancy by two years. Due to this, it is Paladin's recommendation that the unit heaters be replaced.



Image #09: Restroom Unit Heater

The three restroom areas: men's, women's, and Chief's, all include ceiling mounted exhaust fans. It is estimated that these fans were installed when the restrooms were renovated in 2009. The ASHRAE life expectancy for these fans indicates that they have approximately five years of remaining operational life. It is Paladin's recommendation that the restroom exhaust fans be replaced. The fans are nearing the end of their 20-year life expectancy and replacing them during the upcoming project is safer than allowing them to exceed their life expectancy and replace them as they fail.



Image #09: Restroom Exhaust Fan

The Kitchen includes a kitchen hood exhaust fan. This exhaust fan has been estimated to have been installed in 2019. The ASHRAE life expectancy for a fan of this type is 20 years. The hood and fan seem to be in acceptable condition for continued operation. Due to this, it is Paladin's recommendation that the kitchen exhaust fan remain. The exception to this is if the Kitchen is to expand and a higher capacity exhaust fan is required.



Image #10: Kitchen Exhaust Hood



## ELECTRICAL

The electrical distribution system consists of one main 600 Amp switchboard, ten electrical distribution panels, and two large disconnect switches. The main switchboard is original to the building. The ten electrical distribution panels all vary in age. However, most are from approximately 2001-2008. The two large disconnect switches each serve a distribution panel on the roof for the east and west wings respectively. These disconnect switches appear to be from 2008.

The main switchboard serves the entire building. The typical operational lifespan of a main switchboard is expected to be thirty years. Since this switchboard is original to the building, that puts the current life of this equipment at almost twice what it was expected to achieve. Furthermore, the main switchboard is a Federal Pacific model which is outdated. These are often recommended for replacement regardless of their age. Due to this, Paladin recommends that the main switchboard be replaced.



Image #11: Main Switchboard

The electrical distribution panels can be separated into two categories based upon manufacturer: Square D panels and non-Square D panels. There are two non-Square D panels. There is an ITE panel that serves the men's restroom and a Cutler-Hammer panel that serves the computer room. The ITE panel appears to be from 1977 and was not replaced with the restroom renovation project. The ITE panel is almost two decades past its expected operational life. The Cutler-Hammer panel has approximately 5 years of expected operational life remaining. Due to this, Paladin recommends that both panels be replaced. Replacing both panels with updated Square D panels would allow for increased versatility in the spaces, increased capacity, and a safer environment.



Images #12 & 13: ITE Panel (Left) and Cutler-Hammer Panel (Right)





The eight Square D panels are generally in a similar good condition with approximately half of their thirty-year operational life expectancy remaining. The exceptions to this are the newly added panel to serve the 2023 office addition and the panels that are located on the roof to serve the RTUs. The new panel has its entire operational life remaining. The roof panels appear to be in acceptable condition; however, it cannot be determined when these panels were installed. The earliest estimate for the roof panels is 2001, while they could have been upgraded with the remaining panels in approximately 2008. The roof panels' enclosures have shown signs of aging but the equipment itself appears to be in acceptable condition. Due to this, Paladin recommends that all the Square D electrical distribution panels are to remain.



Images #14 & 15: Interior Square D Panel (Left) and Rooftop Panel (Right)

The two large disconnect switches each serve a roof distribution panel. These disconnect switches were both made by Square D and approximately installed in 2008. There appears to be no significant signs of distress or failures. Due to this, Paladin recommends that the large disconnect switches serving the roof are to remain.



Image #16: Disconnect Switches for Roof Panels



The backup generator serving the building was installed in 2015. It has been reported that it serves only the west half of the building. The expected life span of the generator is thirty years. Reports show that the generator is up to date on regularly scheduled maintenance. Due to this, Paladin recommends that the generator remains as is.



Images #17, 18, 19, & 20: Generator Exterior and Interior Components

The lighting in the building has been replaced at various points, causing lighting color and fixtures to be nonuniform throughout the facility. The majority of the lighting fixtures were reported to be replaced with LED fixtures in approximately 2010. A separate replacement project was implemented for the lighting fixtures in approximately 2017 for a small number of fixtures in the office spaces. The 2017 replacement project featured another upgrade of lighting fixtures to LED fixtures. Finally, the 2023 addition included its own new LED fixtures as well. Paladin recommends the LED fixtures to remain. The exception to this would be if uniform lighting fixtures are desired. This conformity would require a replacement of lighting fixtures.



Images #21 & 22: LED Fixture from 2010 Replacement (Left) and LED Fixture from 2017 Replacement (Right)

The lighting fixtures for the facility are not all LED fixtures. There are metal halide lights in the Bay, incandescent can lights in the Lobby, Computer Room, and Chief's Restroom, and incandescent exterior light fixtures. To increase energy efficiency, Paladin recommends replacing all lighting fixtures that are not LED to be updated to LED fixtures.



Images #23 & 24: Metal Halide Fixtures (Left) and Exterior Incandescent Lights (Right)



### PLUMBING

The building's domestic hot water is generated by two sources: an electric tank-style water heater and an instantaneous gas water heater. Each of these water heaters serves a different side of the building. The electric water heater serves the west side of the building. This includes the men's restroom and the chiefs' office restroom. The gas water heater serves the east side of the building. This includes the women's restroom, the laundry room, and the kitchen. The electric water heater was replaced in 2023. The gas water heater was installed in 2015. Both pieces of equipment are in good condition, and both also have over ten years of operable life remaining. Due to this, it is Paladin's recommendation that these units remain.



Images #25 & 26: Tanked Electric Water Heater (Left) and Instantaneous Gas Water Heater (Right)

The building underwent a restroom renovation in 2009. During this renovation, the plumbing fixtures were updated into more efficient fixtures as well as becoming more uniform fixtures. There are three restrooms in the facility: a men's restroom, a women's restroom, and an individual restroom serving the chiefs' offices. In the men's restroom, there are three urinals, a water closet, and two lavatories. In the women's restroom, there are two water closets and two lavatories. In the individual chief restroom, there is one water closet, one lavatory, and one shower. Since all of the fixtures have been recently updated, it is Paladin's recommendation that these fixtures remain.





Images #27, 28, & 29: Typical Water Closet (Top Left), Individual Shower (Top Right), Urinal and Lavatories (Bottom)



The building is equipped with two water fountains in the Lobby. In the east side of the Lobby, an Elkay water fountain with bottle filler has been installed. This installation occurred in 2019. The Elkay water fountain is in good condition, and it has approximately ten years of expected operational life remaining. It is Paladin's recommendation that this fixture is to remain. The west side of the Lobby is served by an Oasis water fountain. This water fountain is estimated to have been installed in 2001. With this being the case, the water fountain is well beyond its expected operational life. It is Paladin's recommendation that the Oasis water fountain be replaced with a fixture that is similar to the Elkay model on the east side of the Lobby. This will offer some energy efficiency enhancement to the building and allow for more flexible service to the occupants of the building.





Images #30 & 31: Oasis Water Fountain (Top) and Elkay Water Fountain (Bottom)

### POTENTIAL REPLACEMENT OPTIONS

## VAV AHUs

Of the mechanical equipment that is recommended to be replaced, the RTUs are the most critical items. The RTU replacement can be a one-for-one replacement as described in the previous section of this report with some notable inclusions: Kentucky Building Code (KBC) stipulates conformance with International Energy Conservation Code 2012 (IECC 2012). Replacement RTUs would require various features such as single zone VAV fan control and outside air economizer features. These features are code-required. However, if further savings and operation efficiencies are desired, other design configurations should be considered.

As an alternative to a one-for-one replacement of the RTUs, Paladin recommends a system that would allow for more versatility in the spaces and increased energy efficiency. Paladin believes that the demolition of the existing RTUs and the installation of two Variable Air Volume (VAV) Air Handlers would fit the programming of the facility. Each VAV Air Handler (VAV AHU) would separately serve a wing. A large, single zone, RTU would be installed to be dedicated to handling the Bay. This would consolidate the seven RTUs into three. The VAV AHUs would include an exhaust fan to allow for the exhaust to be collected before being rejected. This would allow for capture and reuse of the exhausted thermal energy to be used as preheat during cooler months. The installation of VAV AHUs would result in significant improvement to the building's energy efficiency and individual zone temperature control as required by ASHRAE 55.1.

With a new VAV AHU system in mind, the elimination of multiple pieces of terminal equipment would be possible. Instead of replacement, this would allow for the demolition of the PTAC units, the restroom unit heaters, and the general exhaust fans. To allow for enhanced control and conditioning of the zones in the facility, the VAV AHU would supply air to VAV terminal units. Each zone would be equipped with a VAV Box with electric or hot water reheat to allow for individualized cooling and heating control. This allows for further improvements to the building's energy efficiency and quieter operation of mechanical equipment in the area, allowing for a more conducive learning environment.

### Variable Refrigerant Flow (VRF) System

A variable refrigerant flow system may be a practical alternative to the existing direct-expansion (DX) packaged equipment currently installed at the fire training academy. A VRF system is a refrigerant DX system like the traditional rooftop units. However, one key difference is that the indoor air handling units are smaller and distributed to individual rooms. Having indoor air handling units in individual spaces allows for precise zone temperature control and excellent energy efficiency when utilized in a 'heat-recovery' VRF system. Indoor units come in many different varieties and may be ducted or non-ducted, concealed or exposed for flexibility with architectural space programming.

Another key benefit of VRF systems is the consolidation of load to the outdoor unit and the elimination of gas consumption with heat recovery heat pump systems. These types of systems may move heat from one room to another, automatically increasing overall system efficiency.

Key drawbacks of VRF systems are that they are capital-intensive to install, require very meticulous design to perform, and have very specific maintenance and operational requirements. Trained factory service technicians are generally the only people that can appropriately service and maintain the equipment to the standards set forth in most manufacturers' warranties.





## SECTION 3: SUMMARY OF FINDINGS

Fire Training Academy Campus Feasibility Study - Mechanical 7/30/2024
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Inventory Replacement Priority Evaluation

0-5, 0 is good/positive or low priority; 5 is poor/negative or critical

Notes:	Refrigerant R410A	Startup date and cooling capacity both estimated due to	deteriorated into tag.			Tag faded and unable to get all info at unit.			Refrigerant R410A					Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date	Estimated installed date
n cy Risk	2	£	L	0	5	ŝ	2	2	2	2	2	2	2	4	4	e	æ	2	2	2	e	e	2	2	2	e
r Syster Efficien	£	û	L	0	5	2	£	£	2	2	2	2	2	ŝ	£	4	4	e	3	m	4	4	2	2	2	2
g Repai	e	2	L	0	5	ŝ	ŝ	2	1	1	1	1	1	4	4	4	4	e	3	e	4	4	1	1	1	2
Remainin, Life Ratin	e	ŝ	L	0	5	2	ۍ	2	1	1	7	1	1	2	2	ۍ	ۍ	e	3	m	2	ۍ	1	1	1	2
Remaining Life Est (Years)	2	ø	•	φ	ø	4	φ	÷	18	18	18	18	18	ø	ę	-2	-2	2	5	2	ę	ņ	12	12	12	15
ASHRAE Life Expectancy (Years)	15	15		9 :	15	15	15	15	20	20	20	20	20	15	15	13	13	20	20	20	20	20	20	20	20	20
Gas Heating Capacity (BTUH)	130,000	75,000	47 000	000'6/	75,000	72,000	75,000	115,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Cooling Capacity	4.5 Tons	3 Tons		3 1015	3 Tons	4 Tons	3 Tons	4 Tons	3 Tons	0.5 Tons	1 Ton	1 Ton	0.5 Tons	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Start up Date	2016	2001	1000	7007	2001	2008	2001	2008	2022	2022	2022	2022	2022	2001	2001	2009	2009	2009	2009	2009	2001	2001	2016	2016	2016	2019
Phase	e	3	c	n 1	3	т	е	e	1	Ţ	Ţ	1	Ţ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Volts	208/230	208/230	00000000	208/230	208//230	208/230	208/230	208/230	208/230	208/230	208/230	208/230	208/230	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Equipment Location	Rooftop	Rooftop		roontop	Rooftop	Rooftop	Rooftop	Rooftop	Rooftop	1st Floor New Small Office	1st Floor New Large Office	2nd Floor New Dorm	2nd Floor New Office	Classroom 2	EMS	Men's Restroom	Women's Restroom	Men's Restroom	Women's Restroom	Chiefs' Office Restroom	Apparatus	Bay	Bay North	Bay Center	Bay South	Kitchen
Area Served	West Wing	Northwest Bay	0	Southwest Bay	Southeast Bay	Training and Kitchen	Northeast Bay	Classrooms 3&4	New office spaces	1st Floor New Small Office	1st Floor New Large Office	2nd Floor New Dorm	2nd Floor New Office	Classroom 2	EMS	Men's Restroom	Women's Restroom	Men's Restroom	Women's Restroom	Chiefs' Office Restroom	Apparatus	Bay	Bay	Bay	Bay	Kitchen
Serial #	C162830512	L9635-28779	100001	HTUN 2802	Z2125J71H	2008H60426	Z2144F1H	2408G41491	A4UW36GFA0-AWGBEUS	2C1M0759	104KAGS1PU31	203 KAZK3K345	204KCDG06E46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Model #	PGR560130HGS0A1	N/A	100 DO DO DO	TUUUSOFSHUBF	YCC036F3H0BF	N/A	YCC036F3H0BF	48SD-048115511	LM36CHV	LMN079HVT	LSN120HSV5	LSN120HSV5	LMN079HVT	N/A	N/A	F-4004	F-4004	59124-0	59124-0	N/A	N/A	N/A	N/A	N/A	N/A	
Manufacturer	International Comfort Products	Tempster		American Standard/ Irane	American Standard/Trane	Carrier	American Standard/Trane	Carrier	97	10	97 F	97	10	Comfort Aire	Comfort Aire	Marley Engineered Products	Marley Engineered Products	Zephyr	Zephyr	N/A	N/A	N/A	Big Ass Fans	Big Ass Fans	Big Ass Fans	N/A
Equipment Type	Packaged Rooftop Unit with Gas Heat	Packaged Rooftop Unit with Gas Heat		Packaged Roottop Unit with Gas Heat	Packaged Rooftop Unit with Gas Heat	Packaged Rooftop Unit with Gas Heat	Packaged Rooftop Unit with Gas Heat	Packaged Rooftop Unit with Gas Heat	Split System Heat Pump - Outdoor Unit	Split System Heat Pump - Indoor Unit	Packaged Terminal Air Conditioner	Packaged Terminal Air Conditioner	Ceiling Mounted Fan Forced Electric Unit Heater	Ceiling Mounted Fan Forced Electric Unit Heater	Ceiling Exhaust Fan	Ceiling Exhaust Fan	Ceiling Exhaust Fan	Ceiling Exhaust Fan	Wall Mounted Exhaust Fan - 36"	High Volume Low Speed Fan	High Volume Low Speed Fan	High Volume Low Speed Fan	Kitchen Exhaust Fan			
Replacement Priority Composite Rating	4	ß	L	0	5	2	5	5	1.5	1.5	1.5	1.5	1.5	4.5	4.5	4	4	2.75	2.75	2.75	4	4	1.5	1.5	1.5	2.25
uipment Tag	RTU-1	RTU-2	0110	501H	RTU-4	RTU-5	RTU-6	RTU-7	HP-1	HP-A	HP-B	HP-C	0-4H	PTAC-1	PTAC-2	UH-1	UH-2	EF-1	EF-2	EF-3	EF-4	EF-5	HVLS-1	HVLS-2	HVLS-3	KEF-1



Fire Training Academy Campus Feasibility Study - Electrical 7/30/2024
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## Inventory Replacement Priority Evaluation

## 0-5, 0 is good/positive or low priority; 5 is poor/negative or critical

	ated	ated	ated	ated	ated	ated				ated	ated	ated	ated															
Notes:	Install date is estime	Install date is estime	Install date is estime	Install date is estima	Install date is estima	Install date is estimation				Install date is estima	Install date is estime	Install date is estima	Install date is estima															
Risk	ß	0	0	2	m	2	2	4	1	ഹ	ഹ	2	2	7	4	m	2	2	2	2	2	2	2	1	1	m	m	2
System Efficiency	ы	2	2	7	4	0	2	m	1	2	7	1	1	2	1	m	m	1	1	ю	1	m	m	1	1	m	m	1
Repair State	ß	1	1	4	ഹ	4	3	4	7	m	m	7	4	0	2	4	m	m	2	3	3	2	2	1	7	4	ഹ	~
Remaining Life Rating	ы	2	2	7	ы	2	e	4	1	m	m	2	7	7	m	ы	4	2	2	4	2	m	m	1	1	ഹ	4	0
Remaining Life Est (Years)	-25	14	14	14	-17	14	80	9	30	7	7	14	14	21	7	-25	-25	16	16	-25	16	-25	-25	29	23	-25	-25	16
Life Expectancy (Years)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	0E	0E	0E	30	30	0E	30	30	30	30
Startup Date	1969	2008	2008	2008	1977	2008	2002	2000	2024	2001	2001	2008	2008	2015	2001	1969	1969	2010	2010	1969	2010	1969	1969	2023	2017	1969	1969	2010
Count	۲ı	1	1	4	7	÷	1	÷	1	7	1	7	4	1	20	11	15	32	42	2	2	9	0	2	0	10	0	39
Wire	4	N/A	N/A	N/A	m	٨V	Ν/Α	m	Ν/Α	Ν/Α	Ν/Α	Ν/Α	N/A	N/A	N/A	Ν/Α	Ν/A	Ν/Α	N/A	Ν/Α	N/A	Ν/A	Ν/Α	Ν/Α	Ν/Α	Ν/A	Ν/Α	N/A
Phase	m	4	-	-	m	-	٦,	-	4	m	m	m	m	ω	N/A	N/A	ΝΛ	N/A	N/A	N/A	N/A	ΝΛ	N/A	N/A	N/A	N/A	۸V	N/A
Volts	0/208	0/208	0/208	0/208	240	0/208	0/208	0/240	0/208	240	240	240	240	0/208	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
sdu	00 12	00 12	00 12	00 12	25	25 12	25 12	25 12	00 12	50	50	00	00	00 12	A/I	A/I	A/I	A/I	4/A	I/A	I/A	A/I	A/I	I/A	A/I	A/I	A/I	N/
om Ar	© ≥	~ m	~ ~	~ ~	1 1	2	1 1	1	2	Ε 1	N 1	0 0	4	ator 4	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Fed Fr	Ctill	MSE	MSE	MSE	7/N	/N	#/N	7/N	N/P	D-11	D-1/	MSE	MSE	Genera	π/N	7/N	π/N	7/N	/N	#/N	≢/N	π/N	7/N	#/N	7/N	π/N	7/N	7/N
Equipment Location	Elec/Wash	Elec/Wash	Elec/Wash	Elec/Wash	Men's Restroom	Chiefs' Offices	Classroom 2	Computer Room	New Office - Second Floo	Roof East	Roof West	Elec/Wash	Elec/Wash	Roof East	Bay	Bay	Varies	Varies	Varies	Cascade/ Shop	Shop/ Shed	Main Entrance	Main Entrance	Upstairs Bunk Room	Reception	Exterior Sides	Exterior Rear	Varies
Area Served	Building	Kitchen and Bay	New Offices	Computer Room, Kitchen, Wash	Men's Restroom	Chiefs' Offices	Classroom 2 and EMS	Computer Room	New Offices - Second Floor	Roof East	Roof West	Roof	Roof	West Wing	Bay	Bay	Varies	Varies	Varies	Cascade/ Shop	Shop/ Shed	Main Entrance	Main Entrance	Upstairs Bunk Room	Reception	Exterior Sides	Exterior Rear	Varies
Serial #	337317	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9802912	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Model #	OMOB	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	SG0130GG18 0S18HPSYE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Manufacturer	FPE	Square D	Square D	Square D	ITE Imperial Corporation	Square D	Square D	Cutler-Hammer	Square D	Square D	Square D	Square D	Square D	Generac	N/A	Metal Halide	Incandescent	LED	LED	Fluorescent	LED	Incandescent	Incandescent	LED	LED	Incandescent	Incandescent	LED
System Served	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Electrical Distribution	Emergency Power	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting	Lighting
Equipment Type	Main Switch Board	Distribution Panel	Distribution Panel	Distribution Panel	Distribution Panel	Distribution Panel	Distribution Panel	Distribution Panel	Distribution Panel	Distribution Panel	Distribution Panel	Panel Disconnect Switch	Panel Disconnect Switch	Backup Generator	Skylight	Metal Halide	4" Can Light	2'x4' Lay-in	2'x2' Lay-in	1'x8' Surface Mount	1'x4' Surface Mount	Wall Sconce	Wall-Mounted Can Light	18" Round Light	Updated 2'x4' Lay-in	Caged Bulb Light	Exterior Floodlight	4" Can Light
Replacement Priority Composite	2 2 2	1.75	1.75	1.75	4.25	1.75	2.5	3.75	1	3.25	3.25	1.5	1.5	3	2.5	3.75	m	2	1.75	m	2	2.5	2.5	1	1	3.75	3.75	1.75
Equipment Tag	MSB	PNL-A	PNL-B	PNL-C	PNL-MR	PNL-CO	PNL-CL2	PNL-CP	PNL-2NO	PNL-RE	PNL-RW	D-1E	D-1W	Generator	11	L2	5	L4	L5	L7	L8	67	110	111	112	113	114	115

Fire Training Academy Campus Feasibility Study - Mechanical 7/30/2024	
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y Replacement Priority Evaluation	
Inventory	

	Notes:			Estimated startup date	Estimated startup date	1 in Women's RR, 2 in Men's RR	1, Occupancy flush sensor	<ol><li>Automatic flush</li></ol>	1 in each restroom	2 in each restroom	
	Risk	2	m	2	r,	4	r,	-	÷.	1	r,
or low priority; • or critical	System Efficiency	f	1	4	1	7	2	2	2	2	2
is good/positive is poor/negative	Repair State	t	2	4	2	2	2	2	2	2	2
0-5,01 51	Remaining Life Rating	f	2	2	2	7	2	2	33	е	33
	Remainin, Life Est (Years)	14	11	φ	10	15	15	15	10	10	10
	Life Expectanc y (Years)	15	20	15	15	30	30	30	25	25	25
	tartup Date	2023	2015	2001	2019	2009	2009	2009	20.09	2009	20.09
	shase	N/A	1	1	1	N/A	: V/N	: V/N	: V/N	N/A	: V/N
	Volts	208/240	120	115	115	N/A	N/A	N/A	N/A	N/A	N/A
	y Heating s Capacity	4500 Watts	200,000 BTUH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Capacif (Gallon )	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Count	1	1	1	1	4	1	e	2	3	т
	Equipment Location	Men's Restroom	Wash	West Lobby	East Lobby	Men's RR, Women's RR, Chief's Office Restroom	Women's RR	Men's RR	Men's RR, Women's RR	Men's RR, Women's RR, Chief's Office Restroom	Chief's Office Restroom
Replacement Priority Evaluation	Area Served	West Wing Restrooms	Women's Restroom, Kitchen, Wash	West Lobby	East Lobby	Men's RR, Women's RR	Women's RR	Men's RR	Men's RR, Women's RR	Men's RR, Women's RR, Chief's Office Restroom	Chief's Office Restroom
Inventory	Serial #	Q142306984	FF.BA-018760	N/A	160325580	N/A	N/A	N/A	N/A	N/A	N/A
	Model #	PROE50T2RH95	REU-KB3237FFUD-US	N/A	LZS8WSSP	N/A	N/A	N/A	N/A	N/A	N/A
	Manufacturer	Rheem	Rinnai	Oasis	Elkay	Unknown	Sloan	Sloan	Unknown	Unknown	Unknown
	Equipment Type	Electric Water Heater	Instantaneous Gas Water Heater	Water Fountain	Water Fountain and Bottle Filler	Water Closet	Water Closet (Motion sensor)	Urinal (Motion Sensor)	Lavatory Sink (Wall-mounted)	Lavatory Sink (Cabinet)	Walk-in Shower
	Replacement Priority Composite Rating	1.25	2	3.75	1.5	1.75	1.75	1.75	2	2	2
	EquipmentTag	DWH-1	DWH-2	WF-1	WF-2	WC-1	WC-2	UR-1	LAV-1	LAV-2	1-d





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Fire Training Academy Campus Feasibility Study

# Preliminary Construction Cost Opinion

# CONSTRUCTION COST ESTIMATE FOR A ONE-TO-ONE REPLACEMENT OF NECESSARY MEP EQUIPMENT

		Labor Rate (\$/hr):	\$ 85.00	<u> </u>	Ma	aterials Cost I	Breakdown	
PLUMBING		Division Cost	Labor Hrs Materials	Cost Total	Quantity	\$/Each	\$/In.ft.	\$/sq.ft
220523	GENREAL DUTY VALVES FOR PLUMBING PIPING	•	\$ 0		0			
221116	DOMESTIC WATER PIPING	\$ 743	\$	63	25		\$ 2.50	
221119	DOMESTIC WATER PIPING SPECIALTIES	, \$	\$ 0		0			
223300	ELECTRIC WATER HEATER TANK		\$ 0	1	0			
223300	INSTANTANEOUS GAS WATER HEATER	' \$	\$ 0		0			
224713	WATER FOUNTAINS	\$ 2.850	10 \$	2,000	1 \$	2,000.00		
224000	WATER CLOSETS		\$ 0		0			
224000	IIBINALS		C	,	С			
224000	IAVATORIES		+ <del>4</del>		) C			
000422		- -	<del>} (</del>	I	0			
224000	SHOWERS		<del></del>	, L	+ - C			
7.7. NIC	DEMOLITION	\$ 1,430	<del>\$</del>	09/	7 \$	150.00		
		\$ 5,023	26 \$	2,813				
		Labor Rate (\$/hr):	\$ 92.00		Ma	aterials Cost I	Breakdown	
HVAC		Division Cost	Labor Hrs Materials	Cost Total	Quantity	\$/Each	\$/In.ft.	\$/sq.ft
230900	INSTRUMENTATION AND CONTROL	\$ 4,717	50 \$	117	25			\$ 4.66
236213	PACKAGED ROOFTOP UNITS	\$ 221,040	120 \$	210,000	2 \$	30,000.00		
233113	DUCTWORK	\$ 31,040	120 \$	20,000	400		\$ 50.00	
238126	SPLIT SYSTEM HEAT PUMPS - OUTDOOR	•	\$ 0	,	0			
238126	SPLIT SYSTEM HEAT PUMPS - INDOOR	' \$	\$ 0	,	0			
233423	RESTROOM EXHAUST FANS	\$ 1,520	10 \$	600	\$ 0	200.00		
233423	GENERAL EXHAUST FANS	\$ 2,120	10 \$	1,200	8	600.00		
233423	KITCHEN EXHAUST FAN	' \$	\$ 0		0			
233400	HVLS FANS	, \$	\$ 0	1	0			
238200	PTAC UNITS	\$ 5,840	20 \$	4,000	5	2,000.00		
238200	UNIT HEATERS	\$ 2,420	10 \$	1,500	2	750.00		
DIV 23	DEMOLITION	\$ 33,280	120 \$	22,240	2000		\$ 11.12	
		\$ 301,977	460 \$	259,657				
		Labor Rate (\$/hr):	\$ 87.00		Ma	aterials Cost I	Breakdown	
ELECTRICAL		Division Cost	Labor Hrs Materials	Cost Total	Quantity	\$/Each	\$/In.ft.	\$/sq.ft
260519	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES	\$ 10,906	120 \$	466	100		0,	\$ 4.66
262413	SWITCHBOARDS	\$ 40,440	120 \$	30,000	+ +	30,000.00		
262400	DISCONNECT SWITCHES	ج	\$ 0	,	0			
262416	DISTRIBUTION PANELS	\$ 5,480	40 \$	2,000	2	1,000.00		
263213	ENGINE GENERATORS	÷	\$ 0		0			
265100	LIGHTING	\$ 13,080	40 \$	9,600	48 \$	200.00		
DIV 26	DEMOLITION	\$ 13,290	120 \$	2,850	1000		0,	\$ 2.85
		\$ 83,196	440 \$	44,916				
	Paraiting	¢ E0.000						
		201,001 ÷						
	Construction Lotal	\$ 440,195						

PALADIN Gome charger in building systems

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Preliminary Construction	Cost Opinion
	Preliminary Construction

Fire Training Academy Campus Feasibility Study

24\_00\_BCIFTA

			Labor Rate (\$/hr): \$	92.00			Materi	als Cost Brea	akdown	
HVAC			Division Cost	Labor Hrs	Materials Cost Total	Quantity	\$/Each	\$/In.ft.	\$/sd	ft \$/Ton
230900	INSTRUMENTATION AND CONTROL	\$	9,433	100	\$ 233	50			\$ 4.6	
236213	PACKAGED ROOFTOP UNITS	\$	119,040	120	\$ 108,000	18				\$ 6,000.00
236213	VAV AHUS	\$	422,080	240	\$ 400,000	40				\$ 10,000.00
236213	VAV TERMINAL UNITS	¢	33,540	120	\$ 22,500	30	\$ 750.00			
233113	DUCTWORK	\$	31,040	120	\$ 20,000	400		\$ 50.00		
238126	SPLIT SYSTEM HEAT PUMPS - OUTDOOR	\$		0	÷	0				
238126	SPLIT SYSTEM HEAT PUMPS - INDOOR	\$		0	÷	0				
233423	RESTROOM EXHAUST FANS	\$		0	, \$	0				
233423	GENERAL EXHAUST FANS	\$		0	•	0				
233423	KITCHEN EXHAUST FAN	¢		0	, \$	0				
233400	HVLS FANS	\$		0	÷	0				
238200	PTAC UNITS	\$		0	÷	0				
238200	UNIT HEATERS	\$		0	ج	0				
DIV 23	DEMOLITION	\$	33,280	120	\$ 22,240	2000		\$ 11.12		
		\$	648,413	820	\$ 572,973					
		Consulting \$	50,000							
		Construction Total \$	698,413							



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LFUCG FIRE TRAINING STUDY

24\_00\_BCIFTA

Fire Training Academy Campus Feasibility Study

Preliminary Construction Cost Opinion

CONSTRUCTION COST ESTIMATE FOR AN HVAC REPLACEMENT WITH NEW VRF AHU SYSTEM

HVAC     Materials Cost Total     Quantity     \$/Each     \$/In.ft.     \$/sq.ft       230900     INSTRUMENTATION AND CONTROL     \$     9,433     100     \$     2333     50     \$     \$     4.66     \$       236213     VFR FRU     \$     311,040     1120     \$     300,000     50     \$     \$     4.66     \$       238126     VFF CASSETE UNIT     \$     311,040     120     \$     300,000     50     \$ <th></th> <th></th> <th></th> <th>Labor Rate (\$/hr): \$</th> <th>92.00</th> <th></th> <th></th> <th>Materia</th> <th>ils Cost Brea</th> <th>kdown</th> <th></th>				Labor Rate (\$/hr): \$	92.00			Materia	ils Cost Brea	kdown	
230500   INSTRUMENTATION AND CONTROL   \$ 9,433   100   \$ 233   50   \$ 4,66   \$ 4,66     2362.13   VIF RTU   \$ 311,040   120   \$ 300,000   50   \$ 4,66   \$ 4,66     2382.13   VIF RTU   \$ 311,040   120   \$ 300,000   50   \$ 4,66   \$ 4,66     2382.13   RF RTU   \$ 380,600   120   \$ 380,000   30   \$ 5   \$ 4,66   \$ 5     233423   RESTROM EXHAUST FANS   \$ 360,600   120   \$ 380,000   30   \$ 5	HVAC			Division Cost	Labor Hrs	Materials Cost Total	Quantity	\$/Each	\$/In.ft.	\$/sq.ft	\$/Ton
236213   VR RTU   236213   VR RTU   5   311,040   120   \$   300,000   50   \$	230900	INSTRUMENTATION AND CONTROL	\$	9,433	100	\$ 233	50			\$ 4.66	
238126   VRF CASSETTE UNIT   \$ 360,600   30   30   \$ 350,000   30   \$ \$ 350,000   \$ \$ 350,000   \$ \$ \$ 350,000   \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	236213	VRF RTU	\$	311,040	120	\$ 300,000	50				\$ 6,000.00
233423   RESTROOM EXHAUST FANS   \$   0   \$   0	238126	VRF CASSETTE UNIT	\$	360,600	120	\$ 360,000	30				\$ 12,000.00
233423   GENERAL EXHAUST FANS   \$   0   \$   0<	233423	RESTROOM EXHAUST FANS	\$		0	' \$	0				
233423   KiTCHEN EXHAUST FAN     233420   HVLS FANS     233300   HVLS FANS     233300   HVLS FANS     233200   PTAC UNITS     238200   UNIT HEATERS     238200   UNIT HEATERS     238200   UNIT HEATERS     238200   UNIT HEATERS     200   UNIT HEATERS     238200   UNIT HEATERS     238200   UNIT HEATERS     200   1     238200   UNIT HEATERS     200   1     238201   1     238202   1     238203   1     238204   1     238205   1     238206   1     238207   1     238208   1     238209   1     238200   1     238201   1     238202   1     238203   1     238204   1     238205   1     238206   1     238207   1     238244   1	233423	GENERAL EXHAUST FANS	\$		0	ج	0				
233400   HVLS FANS   \$   -   0   \$   -   0   \$   -   0   \$   238200   PTAC UNITS   \$   238200   UNIT HEATERS   \$   5   -   0   \$   -   0   \$   11.12 </td <td>233423</td> <td>KITCHEN EXHAUST FAN</td> <td>\$</td> <td></td> <td>0</td> <td>ج</td> <td>0</td> <td></td> <td></td> <td></td> <td></td>	233423	KITCHEN EXHAUST FAN	\$		0	ج	0				
238200   PTAC UNITS   \$   \$   \$   0   \$   0   \$   0   \$   238200   UNIT HEATERS   \$   \$   33.280   \$   0   \$   \$   11.12   \$   \$   11.12   \$   \$   11.12   \$   \$   \$   \$   \$   \$   11.12   \$	233400	HVLS FANS	\$		0	ج	0				
238200   UNIT HEATERS   \$\$   .   0   \$\$   .   0   \$\$   11.12     DIV 23   DEMOLITION   \$\$   33.280   120   \$\$   22.240   2000   \$\$   11.12     Image: Strain Str	238200	PTAC UNITS	\$		0	ج	0				
DIV 23 DEMOLITION \$ 33,280 120 \$ 22,240 2000 \$ 11.12   \$ 714,353 714,353 460 \$ 682,473   Consulting \$ 50,000 50,000   Construction Total \$ 764,353	238200	UNIT HEATERS	\$		0	- \$	0				
\$     714,353     460 \$     682,473       Consulting \$     50,000     Construction Total \$     764,353	DIV 23	DEMOLITION	\$	33,280	120	\$ 22,240	2000		\$ 11.12		
Consulting \$ 50,000 Construction Total \$ 764,353			\$	714,353	460	\$ 682,473					
Construction Total \$ 764,353			Consulting \$	50,000							
			Construction Total \$	764,353							



Page 3 of 4

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Fire Training Academy Campus Feasibility Study

# Preliminary Construction Cost Opinion

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		Labor Rate (\$/hr):	\$ 85.00			Materials Cost	Breakdown	
PLUMBING		Division Cost	Labor Hrs	Materials Cost Total	Quantity	\$/Each	\$/In.ft.	\$/sq.ft
220523	GENREAL DUTY VALVES FOR PLUMBING PIPING	\$ 1,817	20	\$ 117	25			\$ 4.66
221116	DOMESTIC WATER PIPING	\$ 4,650	40	\$ 1,250	500		\$ 2.50	
221119	DOMESTIC WATER PIPING SPECIALTIES	\$ 11,967	40	\$ 8,567	75	\$ 114.22		
223300	ELECTRIC WATER HEATER TANK	\$ 1,600	10	\$ 750	Ч	\$ 750.00		
223300	INSTANTANEOUS GAS WATER HEATER	\$ 2,850	10	\$ 2,000	1	\$ 2,000.00		
224713	WATER FOUNTAINS	\$ 3,850	10	\$ 3,000	2	\$ 1,500.00		
224000	WATER CLOSETS	\$ 4,200	20	\$ 2,500	IJ	\$ 500.00		
224000	URINALS	\$ 2,350	10	\$ 1,500	m	\$ 500.00		
224000	LAVATORIES	\$ 2,950	20	\$ 1,250	Ŋ	\$ 250.00		
224000	SHOWERS	\$ 625	Ð	\$ 200	1	\$ 200.00		
DIV 22	DEMOLITION	\$ 12,700	120	\$ 2,500	1000		\$ 2.50	
		\$ 49,558	305	\$ 23,633				
		Labor Rate (\$/hr):	\$ 92.00			Materials Cost	Breakdown	
HVAC		Division Cost	Labor Hrs	Materials Cost Total	Quantity	\$/Each	\$/In.ft.	\$/sq.ft
230900	INSTRUMENTATION AND CONTROL	\$ 4,717	50	\$ 117	25			\$ 4.66
236213	PACKAGED ROOFTOP UNITS	\$ 221,040	120	\$ 210,000	7	\$ 30,000.00		
233113	DUCTWORK	\$ 31,040	120	\$ 20,000	400		\$ 50.00	
238126	SPLIT SYSTEM HEAT PUMPS - OUTDOOR	\$ 6,840	20	\$ 5,000	Ч	\$ 5,000.00		
238126	SPLIT SYSTEM HEAT PUMPS - INDOOR	\$ 5,840	20	\$ 4,000	4	\$ 1,000.00		
233423	RESTROOM EXHAUST FANS	\$ 1,520	10	\$ 600	с	\$ 200.00		
233423	GENERAL EXHAUST FANS	\$ 2,120	10	\$ 1,200	7	\$ 600.00		
233423	KITCHEN EXHAUST FAN	\$ 3,920	10	\$ 3,000	H	\$ 3,000.00		
233400	HVLS FANS	\$ 18,100	50	\$ 13,500	m	\$ 4,500.00		
238200	PTAC UNITS	\$ 5,840	20	\$ 4,000	2	\$ 2,000.00		
238200	UNIT HEATERS	\$ 2,420	10	\$ 1,500	2	\$ 750.00		
DIV 23	DEMOLITION	\$ 33,280	120	\$ 22,240	2000		\$ 11.12	
		\$ 336,677	560	\$ 285,157				
		Labor Rate (\$/hr):	\$ 87.00			Materials Cost	Breakdown	
ELECTRICAL		Division Cost	Labor Hrs	Materials Cost Total	Quantity	\$/Each	\$/In.ft.	\$/sq.ft
260519	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES	\$ 10,906	120	\$ 466	100			\$ 4.66
262413	SWITCHBOARDS	\$ 40,440	120	\$ 30,000	Ţ	\$ 30,000.00		
262400	DISCONNECT SWITCHES	\$ 3,870	10	\$ 3,000	0	\$ 1,500.00		
262416	DISTRIBUTION PANELS	\$ 16,960	80	\$ 10,000	10	\$ 1,000.00		
263213	ENGINE GENERATORS	\$ 48,480	40	\$ 45,000	H	\$ 45,000.00		
265100	LIGHTING	\$ 50,440	120	\$ 40,000	200	\$ 200.00		
DIV 26	DEMOLITION	\$ 11,865	120	\$ 1,425	500			\$ 2.85
		\$ 182,961	610	\$ 129,891				

50,000 619,196

Consulting \$ Construction Total \$

7/31/2024











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Figure A.4: 24057 Floor Plan Dimensions



Figure A.5: Historical Maps and Photographs













Photo 1. View looking southwest at fire basin. Low concrete wall of basin is visible in the right foreground. Trackhoe is beginning excavation of the fill gravel.



Photo 2. View to the northwest showing trackhoe excavating gravel from the northeast corner of the fire basin. Aboveground tanks are on-site as fire training aids.



Photo 3. View of the southeast corner of the fire basin. The PECCO vacuum tanker is removing water from the basin.



Photo 4. PECCO crew is vacuuming water from the basin. A total of 5,132 gallons water was removed from the basin.



LFUCG FIRE TRAINING STUDY



Photo 5. View to the north of the loading process. The PECCO trackhoe is loading gravel and fill material to the PECCO trailer.



Photo 6. View to the southwest with the fire training center in background. PECCO crew is using the vacuum tanker to remove water and the skid steer to stage gravel.



Photo 7. View east with rail car for fire training prop. The floor at the north end of the fire basin emerges as the vacuum tanker and skid steer remove gravel and water.



Photo 8. View of the southwest corner of the basin after the south end of the basin has been cleaned.





Photo 9. View to the northeast of the north end of the basin after all the gravel and water have been removed.



Photo 10. View to the north of the basin after excavation of all the gravel and water.



Photo 11. View to the southwest of the floor of the basin after excavation and removal of the gravel to a clean dry concrete surface.



Photo 12. Another view to the south of the fire basin after excavation. Old Frankfort Pike is visible in the background.



## Figure A.6: 2022-05-09 Fire Training Center Five Year Review report - AI 52695

MAYOR LINDA GORTON



JENNIFER M. CAREY, P.E. DIRECTOR ENVIRONMENTAL SERVICES

May 9, 2022

Ms. Jennifer Cowen, Environmental Scientist Superfund State Section Department for Environmental Protection Division of Waste Management 300 Sower Blvd. Frankfort, Kentucky 40601

Re: LFUCG Fire Training Center Five Year Review Report - 2022 1375 Old Frankfort Pike, Lexington, Kentucky 40504 Agency Interest Number -52695

Ms. Cowen:

As requested in your March 23, 2022 correspondence, Lexington Fayette Urban County Government (LFUCG) is submitting for your consideration the following Five Year Review Report for the LFUCG Fire Training Center documenting compliance with the Environmental Covenant and evaluating effectiveness of the Site Management Plan. Our five year review has determined that site conditions and controls in place are protective of human health and the environment and that no additional controls are necessary. We will continue to monitor the impacted area at the site to ensure that institutional controls and protective measures specified in the agreement remain in place.

Attached to the review you will find a copy of the environmental covenant that includes the County Court Clerk certification of recording, and photos of the site showing controls in place and a completed Appendix 2 checklist. <u>Please note, this report contains added information for proposed changes to the</u> <u>property for KDWM's consideration</u>. Please feel free to contact me at 859-425-2518 or <u>sdonaldson@lexingtonky.gov</u> if you have questions about this submittal.

Sincerely,

Jarah M. Donaldzoi

Sarah M. Donaldson, CHMM, PG Environmental Compliance Coordinator

 cc: Jason Wells, Fire Chief, LFUCG Division of Fire & Emergency Services Jordan Saas, Battalion Chief, Training
Michael Sanner, Attorney Sr. LFUCG Department of Law
Demetria Kimball Mehlhorn – LFUCG, Division of Environmental Services



200 East Main St., Lexington, KY 40507 / 859.425.2800 Phone / 859.425.2859 Fax / lexingtonky.gov

## **Five Year Review and Proposed Future Use Report**

LFUCG Fire Training Center Agency Interest Number 52695 1375 Old Frankfort Pike Lexington, Kentucky 40504

Prepared for Kentucky Energy and Environment Cabinet Department for Environmental Protection Division of Waste Management Superfund State Section

Prepared by Lexington Fayette Urban County Government Division of Environmental Services

May 2022





Five Year Review and Proposed Future Use Report LFUCG Fire Training Center



## 1.0 Background

The Lexington Fayette Urban County Government (LFUCG) Fire Training Center is located at 1375 Old Frankfort Pike in Lexington, Fayette County, Kentucky. The property is used by the LFUCG Fire Department as a regional training center for new fire recruits. From 1990 to 2001, a Hazmat Training Area was located on the property which included a concrete containment basin built to simulate live fires. In 1998, LFUCG discontinued use of the fire basin and began taking steps to decommission the basin and assess the area for impacts. The LFUCG conducted two subsurface site investigations in an attempt to determine if petroleum contamination was present that could be attributed to hazmat training activities. Low levels of polynuclear aromatic hydrocarbons (PAHs) in excess of allowable residential (unrestricted use) standards were detected in soil samples collected from several borings during these investigations.

Because the depth of some of the impacted soils made excavation not feasible at the time, LFUCG explored the option of managing the impacted soils in place on the property. In order to comply with the Kentucky Department for Environmental Protection, Division of Waste Management (KDWM) managed closure requirements and to ensure LFUCG was being protective of the environment, the portion of the property with elevated PAH concentrations was placed under an Environmental Covenant (also sometimes referred to as deed restrictions, or institutional controls). LFUCG developed a Site Management Plan which documented how the property would be managed to remain in compliance with the covenant. The Environmental Covenant was fully executed on July 3, 2007. Since that time, LFUCG has submitted annual certifications confirming that the property use complies with the environmental covenant and has also submitted Five Year Review reports as required in 2012 and 2017. This report is the third such Five Year Review report.

As outlined in the covenant, the following contaminants were documented to be present in soils on the property in excess of the unrestricted residential use criteria. Both the concentrations documented in the covenant as being present on the site and the current residential use criteria (limits) are listed on the table below. The residential use criteria are derived from the most current version of the United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSLs).

Contaminant	Onsite Concentration (Covenant) – mg/kg	Residential Use Criteria – USEPA RSLs mg/kg
Benz(a)anthracene	1.91	1.1
Chrysene	1.62	110
Benzo(b)fluorenthene	1.47	1.1
Benzo(k)fluoranthene	1.40	1.1
Benzo(a)pyrene	1.80	0.11
Indeno(1,2,3-cd)pyrene	1.38	1.1
Dibenz(a,h)anthraene	0.31	0.11

## 2.0 Site Setting

The Site is located on the north side of Old Frankfort Pike and is bordered by Old Frankfort Pike to the south, Town Branch Creek to the north, the main fire training center parking lot and training building to

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the west and unoccupied land owned by LFUCG to the east (formerly the police dog training and housing facility). The original deed restricted area map is included in **Attachment A** along with a copy of the Environmental Covenant. The area of the site associated with the restrictions (Managed Area) outlined in the covenant is primarily used as a paved driveway.

## 3.0 Current Site Conditions

In the last year no significant changes have occurred to the Managed Area. A photo log of current site conditions is included as **Attachment B**. The Managed Area contains a paved asphalt driveway with ancillary areas along the driveway used for nominal surface storage. A railroad track and railcars have been located within the eastern portion of the Managed Area since the restrictions were in place. A building was historically located outside the western edge of the Managed Area. This building was owned by the Kentucky Fire Commission/State Fire Rescue Training and was moved offsite on September 10, 2021 (building was a pre-manufactured on grade constructed building which was disassembled onsite and reassembled at a different location). No other significant site changes have occurred in the last year. The Managed Area's protective asphalt cap driveway was inspected on April 7, 2022 and remains in good condition.

## 4.0 Annual Environmental Covenant Compliance

Institutional controls (deed restrictions) have been in place on the property since July 2007. The Environmental Covent dated March 22, 2007 and fully executed on July 12, 2007 contains various use restrictions. Based on the use restrictions, the following were the agreed upon goals of site management:

 The LFUCG agreed to enter into an Environmental Covenant with the Cabinet as described in KRS 224.80-100 through KRS 224.80-210 to help ensure that activities at this site do not adversely impact the environment.

Covenant was signed and recorded with the Fayette County Court Clerk on July 12, 2007.

- As specified in the Environmental Covenant, groundwater at the property shall not be used for domestic purposes.
  Groundwater at the property is not being used for domestic purposes.
- 3. As specified in the Covenant, no residences/dwellings shall be permitted on the impacted area. No residences/dwellings have been built or placed on the managed/impacted area.
- As specified in the Covenant, the LFUCG shall not construct any new buildings on the impacted area without prior Cabinet approval.
  No new buildings have been constructed on the managed/impacted area.
- 5. The LFUCG agreed to create a "cap" by paving those portions of the impacted area in the vicinity of borings 9, 10, 12, 13, 16, 17 and 18 to help limit the amount of precipitation percolating through the fill material. Any fill material/soil disturbed during paving activities was to be left on site.

## Cap has been constructed and maintained.

6. The LFUCG agreed to ensure that the pavement and the fill material/soils in the impacted area are not disturbed without prior approval by the Cabinet. The LFUCG did retain the right to conduct additional paving in the impacted area without obtaining Cabinet approval, since this would extend the cap and be more protective of the environment.


#### Pavement cap and soils have remained undisturbed.

- 7. The LFUCG agreed to repair the pavement should it become unserviceable. **Pavement is inspected and maintained. Pavement remains serviceable.**
- The LFUCG agreed to visually inspect the impacted area annually to ensure the pavement (cap) is intact and site conditions have not changed significantly and to send the Cabinet written correspondence summarizing the results of this visual inspection within 30 days of the inspection.
  Impacted area and pavement has been inspected annually with results submitted to Division of Waste Management Superfund Section.

#### 5.0 Five Year Review

Pursuant to KRS 224.01-400(17), the KDWM requires that a review of site environmental conditions be performed at five-year intervals on sites that have been closed under the management option. This section represents the third Five-Year Review for the site. The questions listed on Checklist for Five-Year Reviews, provided by the KDWM, are listed in the table below, followed by the associated answers. The Owner's Certification of this Five-Year Review is included as **Attachment C**.

	Checklist Question	Yes	No	NA
1	Are soils on the site under management, and contain regulated substances	Х		
	above <i>de minimus</i> concentrations? If Yes, go to 2. If No, go to 6.			
	PAH Impacted Soils			
2	If the remedy includes capping, are caps/covers, etc. in good condition?			
3	If buildings or other structures are covering areas of contamination, are they still			Х
	intact and providing an adequate cover?			
4	Are other engineering controls designed to contain and manage soil			Х
	contamination intact, in good condition, and performing as designed?			
5	If applicable, have levels of COCs in soil remained consistent or decreased since			Х
	last review?			
6	Is groundwater at the site under management, and contain regulated substances		Х	
	above <i>de minimus</i> concentrations? If yes, go to 7. If no, got to 10.			
7	Does analysis of monitoring data show significant changes in COC levels since			
	last review?			
8	Does analysis of monitoring data indicate migration of the contaminant plume			
	beyond limits designed in the final remedy or risk management plan since last			
	review?			
9	Have groundwater flow directions/hydraulic gradients significantly changed			
	since last review?			
10	Are engineering controls in use as part of the contain-and-manage remedy at	Х		
	the site? If yes, go to 11. If no, go to 16.			
	Asphalt Protective Cap			
11	If pump-and-treat methods are in use, have water withdrawal rates significantly			Х
	changed since last review?			
12	If groundwater extraction is occurring, have any other stresses on the aquifer in			Х
	the area been introduced that might influence the capture zone, such as			
	installation of additional wells at the nearby locations?			
13	Are engineering systems performing adequately and as designed in the remedy?	Х		

Five Year Review and Proposed Future Use Report LFUCG Fire Training Center



		N		
	Checklist Question	Yes	NO	NA
14	Are there indicates of problems or potential problems in the design and capacity		Х	
	of engineered systems that may compromise the effectiveness of the remedy?			
15	Are maintenance procedures for engineered systems adequate in maintaining	Х		
	system performance?			
16	Have a restrictive covenant or other institutional controls been executed for the	Х		
	property (ies) under management? If yes, <b>please include a copy</b> , and go to 17. If			
	no, got to 20.			
17	Is the restrictive covenant still attached to the deed recorded in the county	Х		
	clerk's office?			
18	Is the current land use consistent with the restrictions placed on the deed? If no,	Х		
	explain the inconsistency.			
19	If applicable, are other controls in place, including site security measures,	Х		
	fencing, signage, etc.?			
20	Has the land use changed since management plan implementation or since last		Х	
	review?			
21	Have toxicity values for COCs changed since management plan implementation		Х	
	or since last review?			
22	Exposure pathways/potential receptors changed since management plan		Х	
	implementation or since last review?			

In Summary:

- Land use has remained the same since the management plan was implemented. •
- Exposure pathways/potential receptors remain unchanged.
- Institutional controls (the Environmental Covenant) remain in place and the property is being used in compliance with those controls.
- Engineering controls (asphalt cap) remain in place. The paved area over most of the managed area has been maintained and cracks have been sealed as necessary to preserve the integrity of the capping material.
- No additional soil or groundwater analysis or monitoring has occurred since implementation of the site management plan and therefore a trend analysis or present contaminant assessment was not performed for this Five Year Review.

#### 6.0 Proposed Planned Future Use of the Managed Area

Outside of the Managed Area along Old Frankfort Pike, a public access paved recreational trail has been planned for and will be constructed along Old Frankfort Pike (the Town Branch Trail). Trail construction on this section of the path is planned to occur in the Fall of 2023 or Spring of 2024. The area where the trail will be located on the larger Fire Training Center Property (outside of the Managed Area) is currently used for overflow parking. Once the trail is constructed, the Fire Training Center will not have enough parking available during times when new recruits are using the property for training activities. Therefore, internally it has been proposed that an area of the property which includes the Managed Area, be turned into an asphalt paved parking lot. A figure depicting both the bounds of the Managed Area and the approximately location of the proposed parking lot is included as Attachment D.

LFUCG believes that a parking area would be in agreement with the Environmental Covenant and would serve a dual purpose, providing more parking on the site while continuing to provide a physical cap barrier over the managed area.



In order to create the larger parking area, current buildings (not located in the Managed Area, but located within the footprint of the proposed parking lot) will be moved. Some grading may need to occur to ensure that the parking lot is level and supports positive drainage. It has not been determined whether the current asphalt cap over the Managed Area can be incorporated into the new larger parking lot (remain undisturbed) or whether the current cap (driveway) will need to be removed and a larger continuous asphalt cap created. Regardless, during the project, some shallow soils (less than two feet below ground surface) in the Managed Area may be disturbed.

It is proposed that if any soils within the Managed Area are disturbed during construction, the following protocols will be followed:

- All soils disturbed, excavated and removed from the Managed Area will be segregated and stored onsite to be characterized.
- Soils excavated from the Managed Area will be inspected for any visual or olfactory evidence of impacts. Any obviously stained or impacted soils will be stored separately from other soil excavated from the Managed Area that don't present obvious evidence of impacts. Regardless, soils will be stored on plastic and covered in plastic while awaiting characterization results.
- Excavated managed areas soil will be characterized by collecting composite samples for the PAH compounds listed in Section 1.0 (Parameters of Concern, or POCs). The number of soil samples to be collected will be based on the actual volume of soil excavated from the Managed Area. Obviously impacted stored piles will be sampled separately from stored piles of soil without obvious impacts.
- Based on the results:
  - If PAH results for the soils are below residential (unrestricted) use standards the soils may be used as fill material on the contiguous adjacent land to the east (also owned by LFUCG). This property is lower in elevation than the Fire Training Center and in order to be usable land in the future, may need to be brought up to grade.
  - If PAH results for stored and characterized soils are above residential use standards, those soils will be profiled and disposed of offsite at an approved disposal facility.

#### 7.0 Summary

LFUCG will continue to keep engineering and institutional controls in place and in good condition and will continue to comply with annual inspection and reporting requirements.

LFUCG would like to proceed with the changes and improvements to the property as summarized in Section 6.0. We are requesting that KDWM provide a formal review and approval of this proposed use.

### **ATTACHMENT A**

### **Environmental Covenant**





LFUCG FIRE TRAINING STUDY

SCALE : 1=30"





Mayor Jim Newberry I UNENGTON-FAYETTE URBAN COUNTY GOVERNMENT Department of Law

July 26, 2007

Bruce Scott, Director Division of Waste Management 14 Reily Road Frankfort, Kentucky 40601

> Re: Environmental Covenant Log No. 13,731

Dear Mr. Scott:

Enclosed please find a copy of the recorded Environmental Covenant for 1375 Old Frankfort Pike Fire Training Center. Please contact me with any additional questions.

Sincerely,

mill R Seine

Michael R. Sanner Attorney Sr.

Cc: Tom Webb

Department of Environmental Quality

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HORSE CAPITAL OF THE WORLD

200 East Main Street

Lexington, KY 40507 (859) 258-3500 Fax: (859) 258-3538

www.lfucg.com



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R-119-2007

#### BOOK 2741 PAGE 660

#### THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL COVENANT PURSUANT TO KRS CHAPTER 224 SUBCHAPTER 80

#### ENVIRONMENTAL COVENANT

The City of Lexington, Kentucky n/k/a Lexington-Fayette Urban County Government grants an Environmental Covenant ("Covenant") this  $\frac{22^{n}}{March}$  day of March, 2007 to the following Holder, the City of Lexington n/k/a Lexington-Fayette Urban County Government, Kentucky Environmental and Public Protection Cabinet, pursuant to KRS Chapter 224 Subchapter 80.

WHEREAS, The City of Lexington, Kentucky n/k/a Lexington-Fayette Urban County Government (hereinafter "Grantor") is the owner of certain real property located at 1375 Old Frankfort Pike, Lexington, Kentucky, (hereinafter "the Property") more particularly described in Deed Book 581 Page 9 of the Fayette County Clerk's office as follows:

> All that tract or parcel of land situated on the northerly side of the Old Frankfort Pike between Lisle Road and the Viley Pike, near Lexington in Fayette County, Kentucky and more fully described and bounded as follows; to wit:

> BEGINNING at a point in the northerly side of the Old Frankfort Pike, corner to the property of Fayette County; thence along the northerly side of the Old Frankfort Pike S 61 deg. 13 min E 348.4 feet to an iron pin; thence N 40 deg. 56 min. E 160.1 feet to an iron pin; thence N 20 deg. 37 min. E 220.8 feet to an iron pin; thence S 69 deg. 05 min. E 500 feet to an iron pin; thence S 11 deg. 00 min. W 320 feet to an iron pin in the northerly side of the Old Frankfort Pike; thence with the northerly side of the Old Frankfort Pike for two calls S 79 deg. 29 min. E 64 feet and S 79 deg. 48 min. E 461 feet; thence leaving the Old Frankfort Pike and parallel to and 30 feet west of the center line of a driveway for three calls N 00 deg. 37 min. W 189 feet, N 4 deg. 50 min. E 130 feet and N 8 deg. 20 min. E 74 feet; thence crossing said driveway N. 76 deg. 29 min. E 69 feet to a point near a fence; thence S 35 deg. 59 min. E 260 feet to an iron pin near a stone fence; thence S 19 deg. 02 min. E 262.3 feet near and along said stone fence to an iron pin near a stone fence; thence S 19 deg. 02

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return to preparer

min. E 262.3 feet near and along said stone fence to an iron pin in the north line of the Old Frankfort Pike; thence with the north line of the Old Frankfort Pike for three calls S 82 deg. 00 min. E 383.5 feet to an iron pin, S 82 deg. 55 min. E 528.5 feet to an iron pin and S 85 deg. 07 min. E 329.7 feet to an iron pin, corner to Mrs. Alverta Ritchey; thence with the line of Mrs. Ritchey and crossing Town Branch N 11 deg. 36 min. E 447 feet to a point 33 feet from the center of the Louisville and Nashville Railroad; thence parallel to and 33 feet south of the center of the Louisville and Nashville Railroad; thence parallel to and 33 feet south of the center line of said railroad for seven calls N 71 deg. 01 min. @ 492 feet, N 69 deg. 05 min. W 288 feet, N 65 deg. 40 min. W 119 feet, N. 61 deg. 20 min. W 327 feet, N 56 deg. 41 min. W 158 feet, N 53 deg. 20 min. W 208 feet and N 49 deg. 11 min. W 218 feet, said point being in the line with the line of Shraberg property on the northerly side of the Louisville and Nashville Railroad; thence crossing Town Branch S 39 deg. 07' W 366 feet; thence N 47 deg. 39 min W 206 feet; thence S 49 deg. 14 min. W 472 feet; thence N 69 deg. 05 min W 40 feet; thence N 40 deg. 46 min. W 471 feet; thence N 49 deg. 14 min. E 398 feet to a point in Town Branch; thence along the south bank of Town Branch for three calls N 65 deg. 01 min. W 138 feet, N 32 deg. 25 min W 170.2 feet and N 22 deg. 27 min. W 72 feet to a point in the line of the Fayette County property; thence with the line of the Fayette County property for two calls

S 21 deg. 53 min. W 693 feet and S 22 deg. 00' W 472.5 feet to the beginning and containing 42.857 acres.

There is reserved across the above described property a 60 foot easement for roadway purposes which is described as follows:

BEGINNING at a point, said point being 30 feet from the center of a driveway and said point being N 00 deg. 37 min. W 189 feet, N 4 deg. 50 min. E 130 feet and N 8 deg. 20 min. E 74 feet from the north line of



the Old Frankfort Pike; thence N 76 deg. 29 min. E 60 feet; thence N 13 deg. 31 min. W 95 feet, N 19 deg. 07 min. W 96 feet, N. 13 deg. 38 min. W 115 feet, N 47 deg. 39 min. W 185 feet; S 39 deg. 07 min. E 93 feet and S 13 Deg. 31 min. E 92 feet to the beginning.

WHEREAS, this instrument is an Environmental Covenant developed and executed pursuant to KRS 224.80-100 through KRS 224.80-210.

WHEREAS, [pursuant to Agreed Order File No. 52695], the Property is the subject of enforcement and/or remedial action pursuant to KRS 224 et seq.; and

WHEREAS, a release/disposal of polynuclear aromatic hydrocarbons has occurred on the Property. The release consisted of an unknown amount. "More specifically, the release occurred on and impacted the area of the Property (hereinafter "the Impacted Area") more particularly described as follows:

> Being a part of a parcel located at 1375 Old Frankfort Pike, as described and record in Deed Book 581 Page 9, in the Fayette County Clerk's Office, and being more particularly described as follows:

> Beginning at Lexington Fayette Urban County Government GPS Monument Station 0073, State Plane Coordinates (SPC) North (N): 203417.75,(feet) East (E): 1559735.44 (feet), see Exhibit "A"; thence N58°45'18"E 313.46 feet, (to an Iron Pin found east of a rock wall) SPC N:203580.34, E:1560003.43; thence S71º42'38"E 962.82 feet, SPC N:203278.19, E:1560917.61, to the Point of Beginning of environmental covenant; thence S82°30'50"E 55.38 feet, SPC N:203270.96, E:1560972.52; thence N02º13'53"E 202.38 feet, SPC N:203473.19, E:1560980.40; thence N87º14'29"E 55.15 feet, SPC N:203473.19, E:1560925.31; thence S02º13'53"W 197.78 feet, SPC N:203270.96, E:1560003.43, to the Point of Beginning and containing 0.253 acres, 11032 square feet.

WHEREAS, Grantor has proposed a Corrective Action Plan of capping the impacted portion of the property (paving) and limiting disturbances (hereinafter "the Plan") to correct the effects of the release/disposal which includes controlling exposure to the hazardous waste, hazardous constituents, hazardous

substances, pollutants, or contaminants by restricting use of and activities on the property.

WHEREAS, An estimated concentration of

- 1.91 ppm Benz[a]anthracene
- 1.62 ppm Chrysene
- 1.47 ppm Benzo[b]fluorenthene
- 1.40 ppm Benzo[k]fluoranthene
- 1.80 ppm Benzo[a]pyrene
- 1.38 ppm Indeno[1,2,3-cd]pyrene

0.31 ppm Dibenz[a,h]anthracene parts per million will remain on the property after implementation of the Plan.

WHEREAS, the purpose of this Covenant is to ensure protection of human health and the environment by placing restrictions on the Property to reduce the risk to human health to below the target risk levels for those hazardous wastes, hazardous constituents, substances, pollutants, or contaminants that remain on the property. In particular, the impacted portion of the property will be capped (paving) and disturbances will be limited.

WHEREAS, further information concerning the release and the activities to correct the effects of the release may be obtained by contacting the Custodian of Records of the Kentucky Division of Waste Management at 14 Reilly Road, Frankfort, Kentucky 40601. Records concerning this property may be found under file number AI 52695 Release.

NOW, THEREFORE, Grantor hereby grants this Environmental Covenant to the Holder, and declares that the Property shall hereinafter be bound by, held, sold, and conveyed subject to the following requirements set forth in paragraphs 1 through 3, below.

#### 1. DEFINITIONS

A. <u>Owner</u>. "Owner" means the Grantor, The City of Lexington n/k/a Lexington-Fayette Urban County Government, his/her/its, successors in interest, and their successors in interest, including heirs and assigns, who at any time hold title to all or any portion of the Property.

#### 2. USE RESTRICTIONS

As part of the remedial actions set forth in the Plan, Owner hereby imposes and agrees to comply with the following activity and use limitations:

- A. <u>Use</u>. No residential use of the Property shall be permitted. This shall include any residence or dwelling, including a house, apartment, or condominium, or other purposes with a similar potential for human exposure.
- B. <u>Groundwater</u>. Groundwater at the Property shall not be used for drinking or other domestic purposes.
- C. Except as necessary to protect human health, safety or the environment, no action shall be taken, allowed, suffered, or omitted on the Property if such action or omission is reasonably likely to:
  - i. Create a risk of migration of hazardous substances, pollutants or contaminants or a potential hazard to human health or the environment; or
  - Result in a disturbance of the structural integrity of any engineering controls designed or utilized at the Property to contain hazardous substances, pollutants or contaminants or limit human exposure to hazardous substances, pollutants or contaminants;
- D. <u>Disturbance of the cap</u>. Prior to any disturbance of any approved cap placed on the Impacted Area, the Owner shall submit to the Director, Kentucky Division of Waste Management a written rationale for the disturbance and detailed plans of the proposed construction for their review and written approval. No such disturbance is permitted without this prior written approval.
- E. <u>Soil Disturbances</u>. Soil at the Impacted Area, shall not be disturbed in any manner without the Owner obtaining prior approval of the Director, Kentucky Division of Waste Management.
- F. <u>Construction</u>. No building shall be constructed on the Impacted Area, without the Owner obtaining prior approval of the Director, Kentucky Division of Waste Management.

#### 3. GENERAL PROVISIONS

A. <u>Restrictions to Run with the Land</u>. This Environmental Covenant runs with the land pursuant to KRS 224.80-140; is perpetual unless modified or terminated pursuant to the terms of this Covenant; is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof, and inures to the benefit of and passes with each and every portion of the Property and binds the Owner(s), the Holder(s), all persons using the land, all persons their heirs, successors and assigns

having any right, title or interest in the Property, or any part thereof, who have subordinated those interests to the Environmental Covenant, and all persons, their heirs, successors and assigns who obtain any right, title or interest in the Property, or any part thereof, after the recordation of this Environmental Covenant.

B. <u>Conveyances of the Property</u>. Owner shall notify the Director, of the Kentucky Division of Waste Management at least thirty (30) days in advance of any proposed grant, transfer, or conveyance of any interest in any or all of the Property. Notice shall include the name address and telephone number of the prospective transferee, a copy of the proposed deed or other documentation evidencing the conveyance, and a survey map that shows the boundaries of the property being transferred.

C. <u>Incorporation into Deeds and Leases</u>. Each instrument hereafter conveying any interest in the Property or any portion of the Property shall contain a notice of the activity and use limitations set forth in this Environmental Covenant, and provide the recorded location of this Environmental Covenant. The notice shall be substantially in the following form:

THE INTEREST CONVEYED HEREBY IS SUBJECT TO AN ENVIRONMENTAL COVENANT, DATED \_\_\_\_\_, 200\_, RECORDED IN THE OFFICIAL RECORDS OF THE \_\_\_\_\_\_ COUNTY CLERK'S OFFICE IN DEED BOOK \_\_\_\_\_\_, Page \_\_\_\_\_.

D. <u>Zoning Changes</u>. Owner shall notify the Director, Kentucky Division of Waste Management simultaneously when any application is submitted to a local government for a building permit for the Property. Owner shall notify the Kentucky Division of Waste Management of any proposed change in the land use for the Property.

E. <u>Compliance Certification</u>. Owner shall submit an annual report to the Director of the Kentucky Division of Waste Management, on the anniversary of the date this Covenant was signed by the Owner, detailing the Owner compliance, and any lack of compliance with the terms of the Covenant.

F. <u>Right of Access</u>. Owner hereby grants the Kentucky Environmental and Public Protection Cabinet, its agents, contractors and employees the right of access to the Property for implementation or enforcement of this Environmental Covenant.



G. <u>Representations and Warranties</u>. Grantor hereby represents and warrants to the other signatories hereto:

1. that the Grantor has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;

2. that the Grantor is the sole owner of the Property and holds fee simple title which is free, clear and unencumbered;

3. that the Grantor has complied with all public notice requirements in KRS § 224.80-110;

4. that this Environmental Covenant will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which Owner is a party or by which Owner may be bound or affected;

5. that this Environmental Covenant will not materially violate or contravene any zoning law or other law regulating use of the Property;

6. that this Environmental Covenant does not authorize a use of the Property that is otherwise prohibited by a recorded instrument that has priority over the Environmental Covenant.

7. no other parties hold an interest in the Property that is the subject of this Environmental Covenant.

H. <u>Compliance Enforcement</u>. The terms of the Environmental Covenant may be enforced by the Kentucky Environmental and Public Protection Cabinet or any person identified in KRS 244.80-200 in accordance with applicable law. Failure to timely enforce compliance with this Environmental Covenant or the use limitations contained herein by any person shall not bar subsequent enforcement by such person and shall not be deemed a waiver of the person's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict the Kentucky Environmental and Public Protection Cabinet from exercising any authority under applicable law.

I. <u>Modifications/Termination</u>. This Environmental Covenant runs with the land and is perpetual, unless modified or terminated in accordance with KRS 224.80-180 or KRS 244.80-190. The term "Amendment" as used in this Environmental Covenant, shall mean any changes to the

Environmental Covenant, including the activity and use limitations set forth herein, or the elimination of one or more activity and use limitations when there is at least one limitation remaining. The term "Termination" as used in this Environmental Covenant, shall mean the elimination of all activity and use limitations set forth herein and all other obligations under this Environmental Covenant.

J. <u>Notices</u>. Any document or communication required to be sent to Kentucky Environmental and Public Protection Cabinet under this Covenant shall be sent to:

> Director, Division of Waste Management Department for Environmental Protection 14 Reilly Road Frankfort, KY 40601

K. <u>Severability</u>. If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

L. <u>Governing Law</u>. This Environmental Covenant shall be governed by and interpreted in accordance with the laws of the Commonwealth of Kentucky.

M. <u>Recordation</u>. Within ten (10) business days after the date of the final required signature upon this Environmental Covenant, Owner shall file this Environmental Covenant in the county clerk's office in each county that contains any portion of the real property subject to this environmental covenant.

N. <u>Effective Date</u>. The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded as a deed record for the Property with the Fayette County Clerk's Office.

O. <u>Distribution of Environmental Covenant</u>. The Owner shall within thirty (30) days of filing this Environmental Covenant in the Fayette County Clerk's Office, distribute a file and date stamped copy of the recorded Environmental Covenant to the following persons: Director, Kentucky Division of Waste Management, Mayor Lexington-Fayette Urban County Government, Fayette County Judge Executive, every Holder of this Environmental Covenant, each person who is in possession of the Property, each person who holds a recorded interest in the Property, each person who signed this Environmental Covenant.

P. <u>Cabinet and Division References</u>. All references to the Kentucky Environmental and Public Protection Cabinet and the Kentucky Division of Waste Management shall include successor agencies/departmental division or other successor entities.

The City of Lexington, n/k/a Lexington-Fayette Urban County Government has caused this Environmental Covenant to be executed pursuant to KRS Chapter 224, Subchapter 80 on this  $\frac{2}{3}$  day of  $\frac{2}{3}$ , 2007.

IN TESTIMONY WHEREOF, the parties have hereunto set their hands this the day and year first above written.

IT IS SO AGREED:

1.00

THE CITY OF LEXINGTON, N/K/A Lexington-Fayette Urban County Government

By: Jim Newberry, Mayor

3/29/07 Date

COMMONWEALTH OF KENTUCKY

COUNTY OF Fayette

The foregoing Environmental Covenant was acknowledged before me this 29th day of March, 2007 by Jim Newberry, Mayor, the City of Lexington, n/k/a Lexington-Fayette Urban County Government, on behalf of the City of Lexington, n/k/a Lexington-Fayette Urban County Government.

10

My Commission expires: \_\_\_\_\_\_ //- 21- 2008



Jujaleth T. Daniel Notary Public, Commonwealth of Kentucky



#### KENTUCKY ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

This Environmental Covenant is hereby approved by the Environmental and Public Protection Cabinet this  $3^{2}$  day of  $3^{2}$ , 2007

Ridzs By:

2.5 . . . .

Bruce Scott, Director, Division of Waste Management

7/3/07 Date

#### COMMONWEALTH OF KENTUCKY

COUNTY OF Frenchlin

	Subscribed, sworn	to and acknowledged before, this day of	me by _, 200 <u>7</u> .
	121 Ar	Dixa Lee Haher Notary Public	
-44	AUBLIC My Commission expires:	My commission expires on 09-15-07	
	47 LARGE KENNEN		

This document prepared by:

What R. Sum

Michael R. Sanner Corporate Counsel Lexington-Fayette Urban County Government Department of Law





#### DEED BOOK 2741 PAGE 671

I, Donald W Blevins, County Court Clerk of Fayette County, Kentucky, hereby certify that the foregoing instrument has been duly recorded in my office.

Blevis malett.

By:	<b>DOUG BRADLEY</b>	, dc
Ly.	DOUG DIGIDLEI	, uc

#### 200707120118

July 12, 2007		10:15:3	0 AM
Fees	\$37.00	Tax	\$.00
	Total Paid	\$37	.00

#### THIS IS THE LAST PAGE OF THE DOCUMENT

12 Pages

660 - 671

. . . . .

### **ATTACHMENT B**

# **Photo Log**







Photographs Taken April 7 2022 Inspection

#### PHOTO 1:

Photograph of the asphalt cap driveway located within the Managed Area at the Fire Training Center. Photograph taken facing southeast from the central portion of the driveway. Evidence of crack repair, which remains in good condition.



#### PHOTO 2:

Photograph of the eastern boundary of the managed area facing north towards Town Branch. This is the area which had railcars stored.



Photographs Taken April 7 2022 Inspection

#### **PHOTO 3:**

Photograph of the asphalt cap driveway facing northwest. Building in the central portion of the photo is located outside the western edge of the Managed Area.



#### PHOTO 4:

Photograph of the asphalt cap in the foreground with the main Fire Training Center building in the background. The area where the Kentucky Fire Commission building was located is to the left of the smaller storage building, just outside the Managed Area.





Photographs Taken April 7 2022 Inspection

#### **PHOTO 5**:

Photograph facing north of the concrete pad where the former Kentucky Fire Commission building was located.



#### PHOTO 6:

View of asphalt crack repairs along the driveway of the Managed Area.



Photographs Taken April 7 2022 Inspection

#### PHOTO 7:

View of the northern edge of the Managed Area, facing west along the driveway.



## **ATTACHMENT C**

# **Certification Statement**

#### Appendix 3 Certification Statement – Five Year Review

The party responsible for the five year review, or an authorized agent, must sign the following certification. Examples of authorized agents include the owner, president, plant manager/engineer, city engineer, or other appropriate person authorized to certify the accuracy of documents submitted.

"I certify under penalty of law that the information contained in this document, including attachments and supporting data, is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information."

Env. Compliance Coordinator Title Sarah Donaldson Applicant or legally authorized representative (print) May 9, 2022 Signature

"I certify under penalty of law that the information contained in this document, including attachments and supporting data, is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information."

Property Owner (if different from Applicant) (print)

Signature

Date



# ATTACHMENT D Proposed Parking Area Map





#### Figure A.7: 2022-05-10 Five Year Review Report Approval from KDWM



ANDY BESHEAR GOVERNOR

#### ENERGY AND ENVIRONMENT CABINET DEPARTMENT FOR ENVIRONMENTAL PROTECTION

REBECCA W. GOODMAN SECRETARY

ANTHONY R. HATTON COMMISSIONER

300 Sower Boulevard FRANKFORT, KENTUCKY 40601 Telephone: 502-564-2150 Telefax: 502-564-4245

May 10, 2022

Sarah Donaldson, CHMM, PG Lexington/Fayette Urban County Government 200 East Main Street Lexington, KY 40507

RE: Acceptance of 3rd Five-Year Review AI 52695: Lexington Fire Training Center Lexington, Fayette County

Dear Ms. Donaldson,

The Kentucky Division of Waste Management (KDWM) Superfund Branch has reviewed the Five Year Report you submitted on May 10, 2022 for the above referenced property. The report evaluates the effectiveness of the engineering and institutional controls used at the site, and whether those controls are, and will continue to be, protective of human health and the environment.

On July 26, 2007, closure Option B of KRS 224.01-400 (18)(b) was granted and the management plan was approved. The current report indicates that the Environmental Covenant remains in place on the subject property. The current land use also remains consistent with the Environmental Covenant, and the engineering and institutional control measures have remained in place.

Based on its review of the submitted report, the Superfund Branch has determined that the site remains in compliance with KRS 224.01-400 (18)(b). The next Five Year Review submittal will be due on or before April 19, 2027.

As a reminder, an environmental covenant states, "Owner shall notify the Director of Kentucky Division of Waste Management at least thirty (30) days in advance of any proposed grant, transfer, or conveyance of any interest in any or all of the property." This notification needs to be a formal letter stating the intended sale date and the name, address and phone number of the potential buyer. A copy of the proposed deed needs to be included with the letter.

An Equal Opportunity Employer M/F/D

Sarah Donaldson Page 2 of 2 May 10, 2022

Thank you for your continued efforts to manage this site in a manner that is protective of human health and the environment. If you have any questions, please contact me at 502-782-1225.

Sincerely, ennity

Jennifer Cowan, Environmental Scientist Superfund State Section Division of Waste Management

Cc: Central File

Ec: Tammi Hudson, DWM Director Todd Mullins, Risk Assessment Manager Christopher Jung, Superfund Section Supervisor Richard Thomas, Supervisor Frankfort Regional Office



#### Figure A.8: 2024-03-20 Fire Training Center Compliance Certification A! 52695

MAYOR LINDA GORTON



JENNIFER M. CAREY, P.E. DIRECTOR ENVIRONMENTAL SERVICES

March 20, 2024

Ms. Jennifer Cowen, Environmental Scientist Superfund State Section Department for Environmental Protection Division of Waste Management 300 Sower Blvd. Frankfort, Kentucky 40601

Re: LFUCG Annual Compliance Certification Lexington Fire Training Center 1375 Old Frankfort Pike, Lexington, Kentucky 40504 Agency Interest Number 52695

Ms. Cowen:

As requested in your March 5, 2024 correspondence, Lexington Fayette Urban County Government (LFUCG) is submitting the following Environmental Covenant Compliance Certification for the LFUCG Fire Training Center documenting compliance with the Environmental Covenant and the Site Management Plan. As you are aware, the Site Management Plan as well as the Environmental Covenant apply to the impacted portion of the site (0.253 acres) as described by the metes and bounds description in the Environmental Covenant. Therefore the below certification is for the managed portion of the property.

#### BACKGROUND

The LFUCG Division of Fire and Emergency Services operates a Fire Training Center at 1375 Old Frankfort Pike. From 1990 to 2001 the Hazmat training area included a concrete containment basin that was built to simulate live fires. In 1998, LFUCG discontinued use of the fire basin and began taking steps to decommission the basin and assess the Hazmat training area to determine whether past training activities had resulted in a release of petroleum to the environment. LFUCG conducted two subsurface site investigations in an attempt to determine if petroleum contamination was present that could be attributable to Hazmat training activities. Low levels of polynuclear aromatic hydrocarbons (PAHs) in excess of allowable residential limits were detected in soil samples collected from several borings during these investigations. In order to comply with the Department of Environmental Protection cleanup requirements and to ensure we are being protective of the environment, LFUCG entered into an Environmental Covenant and developed the Site Management Plan which was subsequently approved by the Division of Waste Management.

#### SITE MANAGEMENT PLAN

LFUCG agreed to manage the PAHs identified at this site through the steps listed below.



200 East Main St., Lexington, KY 40507 / 859.425.2800 Phone / 859.425.2859 Fax / lexingtonky.gov

March 20, 2024 AI 52695 Page 2 of 2

- ➡ LFUCG agreed to enter into an Environmental Covenant with the Cabinet as described in KRS 224.80-100 through KRS 224.80-210 to help ensure that activities at this site do not adversely impact the environment.
- ⇒ As specified in the Environmental Covenant, groundwater at the property shall not be used for domestic purposes.
- As specified in the Covenant, no residences/dwellings shall be permitted on the impacted area.
- As specified in the Covenant, the LFUCG shall not construct any new buildings on the impacted area without prior Cabinet approval.
- ⇒ The LFUCG agreed to create a "cap" by paving those portions of the impacted area in the vicinity of borings 9, 10, 12, 13, 16, 17 and 18 to help limit the amount of precipitation percolating through the fill material. Any fill material/soil disturbed during paving activities was to be left on site.
- ➡ LFUCG agreed to ensure that the pavement and the fill material/soils in the impacted area are not disturbed without prior approval by the Cabinet.
- ⇒ LFUCG agreed to repair the pavement should it become unserviceable.
- ➡ LFUCG agreed to visually inspect the impacted area annually to ensure the pavement (cap) is intact and site conditions have not changed significantly and to send the Cabinet written correspondence summarizing the results of this visual inspection within 30 days of the inspection.

#### COMPLIANCE WITH THE COVENANT

We have reviewed the terms of the Covenant and believe LFUCG is in substantive compliance with the Covenant based on the results of visual inspection of the property completed on March 18, 2024.

The extended parking lot area plan that was summarized in the Five Year Review report submitted on May 9, 2022 is on hold pending a longer term reevaluation of the property layout. Should any plans be solidified which may impact the managed area of the property, LFUCG will notify the Cabinet of any proposed changes during the planning stages of the project.

Please feel free to contact me at 859-425-2518 or <u>sdonaldson@lexingtonky.gov</u> if you have questions about this submittal.

Sincerely,

h M. Donaldzoi

Sarah M. Donaldson, CHMM, PG Environmental Compliance Coordinator, Division of Environmental Services

cc: Jason Wells, Fire Chief, LFUCG Division of Fire & Emergency Services Shane Poynter, Battalion Chief, Training Michael Sanner, Attorney Sr. LFUCG Department of Law



200 East Main St., Lexington, KY 40507 / 859.425.2800 Phone / 859.425.2859 Fax / lexingtonky.gov







### **Table of Contents**

Section	Pages
1 – Introduction and Scope of Work	1.1 to 1.2
2 – Findings and Maintenance Recommendations Summary	2.1 to 2.2
3 – NBI Mini Coding Guide Reference	3.1 to 3.2
4 – Structure Inventory and Appraisal (SIA)	4.1 to 4.5
5 – Photo Report	5.1 to 5.12
6 – Stream Section	6.1 to 6.3




# Section 1

# Introduction and Scope of Work

### Introduction

The Lexington-Fayette Urban County Government (LFUCG) developed an agreement with R.E. Jackson Engineers, PLLC to perform a field inspection and evaluation of the Roy H. Mardis Dr. bridge over Town Branch. This report includes the condition assessments and maintenance recommendations for this structure for use by the LFUCG in maintaining a safe travel network.

### Scope of Work

The work for the structure included a field inspection and documentation through inspection notes and photographs. Structure characteristics such as type, material, and number of spans was recorded along with dimensions from field measurements for span length, structure length, approach roadway width, horizontal clearance, out-to-out width, and approximate skew.

General appraisal ratings were provided for bridge railing, rail transition, approach railing, and end treatments based on meeting current standard railing requirements. Photographic documentation of the structure, channel, and any deficiencies was provided in the photo report included.

Ratings and notes on deficiencies were provided for the deck, superstructure, substructure, and channel as applicable for the structure. Ratings were based on a 0 to 9 scale for NBI Elements 58 through 61 of the National Bridge Inspection Standards. A summary of these ratings can be found in the NBI Mini Coding Guide in Section 3. Notes were also provided for the railings and approach pavement, which do not receive an NBI Rating.

Maintenance recommendations were provided for the structure and channel. The ratings, notes, and maintenance recommendations were compiled in a format consistent with current Structure Inventory and Appraisal (SIA) forms.



Among maintenance needs, the structure was found to have an NBI Rating of 3 for Superstructure (Item 59), which would mandate a 3 ton gross posting for capacity by KYTC, but because of the types and extent of the deficiencies, the superstructure is being recommended for replacement.





### Section 2

Findings and Maintenance Recommendations Summary

### **Findings Summary**

Both the deck (NBI Item 58) and superstructure (NBI Item 59) ratings were found to be a 3, meaning that the structure is in serious condition. Items 58 and 59 were found to be a 3 due to the extensive spalling, cracking, loss of section from advanced corrosion, and failure of numerous primary structural components in the prestressed beams. Evidence of possible other failure of primary structural components that are not currently visible also exist.

Among the major structural deficiencies are deep deck spalls that have exposed stirrups and longitudinal reinforcement. The visible reinforcement shows corrosion and section loss. The sections of the beams that have been patched over with hot mixed asphalt (HMA) have been assumed to have spalls deep enough to expose reinforcement, subjecting the reinforcement to corrosion and section loss similar to that seen in the visible reinforcement. Several other locations throughout the deck not spalled or patched over were found to have unsound concrete that was easily removed with some prodding by an inspection hammer.

From below the bridge, there is clear evidence that the prestressed beams are working independently, rather than as a system as they were designed to. This evidence is seen in the deterioration of the longitudinal shear keys between beams, evident from the heavy leakage through beams and the efflorescence below the beams at the shear keys. Differential sag also exists between the beams, meaning that the shear keys are deteriorated enough to where the beams are working independently.

Most significantly, numerous prestressed strands were found to be completely corroded through or broken. Beam 1 has two strands broken near Abutment 1, two strands broken near mid-span, and two strands that have about 50% section loss near Abutment 2. Beam 2 has two strands broken near midspan. Beam 3 had no strands visible at time of inspection. Beam 4 has two strands broken near Abutment 2 and a strand with about 50% section loss near mid-span. All beams have extensive spalling, delaminations, efflorescence, and



rust staining, suggesting deterioration of structural components and possible other strands with major or complete section loss.

### **Maintenance Recommendations Summary**

Because of the pervasiveness of the structural deficiencies and inability to correct deficiencies such as broken prestressing strands, the superstructure is being recommended for replacement. With the substructure (NBI Item 60) having been found to have a rating of 5 (fair condition), no maintenance recommendations are currently being suggested as all primary structural elements are sound. The substructure would be able to remain for use with only minor structural repairs. The embankment protection systems in place are in fair condition with the exception of the torn gabion basket at the northwest wing wall that is spilling into the stream. It is recommended that the gabion basket be repaired or replaced to prevent further embankment erosion at that quadrant in addition to strengthening embankment protection at the other wing walls.





# Section 3

# **NBI Mini Coding Guide Reference**

#### **NBIP FIELD REVIEW MINI CODING GUIDE**

621CULVERTS

#### 58]DECK, [59]SUPERSTRUCTURE, [60]SUBSTRUCTURE

- N NOT APPLICABLE
- 9 EXCELLENT CONDITION
- 8 VERY GOOD CONDITION no problems noted.
- 7 GOOD CONDITION some minor problems. SATISFACTORY CONDITION - structural elements show some minor 6
- deterioration
- FAIR CONDITION all primary structural elements are sound but may have 5 minor section loss, cracking, spalling, or scour.
- 4 POOR CONDITION advanced section loss, deterioration, spalling, or scour. 3 SERIOUS CONDITION - loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible, Fatigue cracks in steel or shear cracks in concrete may be present.
- 2 CRITICAL CONDITION advanced deterioration of primary structural
- elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken. 1 "IMMINENT" FAILURE CONDITION - major deterioration or section loss present in critical structural components or obvious vertical or horizontal
- movement affecting structure stability. Bridge is closed to traffic but corrective action may put it back in light service.
- 0 FAILED CONDITION out of service beyond corrective action.

#### [41] STRUCTURE OPEN, POSTED OR CLOSED TO TRAFFIC A Open, no restriction

- B Open, posting recommended but not legally implemented (all signs not in place or not correctly implemented)
- D Open, would be posted or closed except for temporary shoring, etc. to allow for unrestricted traffic
- E Open, temporary structure in place to carry legal loads while original
- structure is closed and awaiting replacement or Rehabilitation
- G New structure not yet open to traffic
- K Bridge closed to all traffic
- P Posted for load (may include other restrictions such as temporary bridges which are load posted)
- R Posted for other load-capacity restriction (speed, number of vehicles on bridge, etc.)

#### [43]STRUCTURE TYPE, MAIN

Record the description on the inspection form and indicate the type of structure for the main span(s) with a 3-digit code composed of 2 segments. The first digit indicates the kind of material and/or design and shall be coded using one of the following codes(43A). The second and third digits indicate the predominant type of design and/or type of construction and shall be coded using one of the following codes(43B).

_			
[4]	3A] STRUCTURE TYPE –	[43B	] STRUCTURE TYPE –Des./Constr.
M	aterial/Des.	01	Slab
1	Concrete	02	Stringer/Multi-beam or Girder
2	Concrete continuous	03	Girder and Floorbeam System
3	Steel	04	Tee Beam
4	Steel continuous	05	Box Beam or Girders - Multiple
5	Prestressed concrete *	06	Box Beam or Girders - Single or Spread
6	Prestressed concrete	07	Frame (except frame culverts)
	continuous *	08	Orthotropic
7	Wood or Timber	09	Truss - Deck
8	Masonry	10	Truss - Thru
9	Aluminum, Wrought Iron,	11	Arch - Deck
	or Cast Iron	12	Arch - Thru
C	Other	13	Suspension
* F	Post-tensioned concrete	14	Stayed Girder
sh	ould be coded as	15	Movable - Lift
pre	estressed concrete.	16	Movable - Bascule
		17	Movable - Swing
	Note: all Items listed have	18	Tunnel
	been excerpted from the	19	Culvert (includes frame culverts)
	parts of Item descriptions	20	* Mixed types
	may have been omitted	21	Segmental Box Girder
	from this sheet. See coding	22	Channel Beam
	guide for complete coding	00	Other
	requirements.	* Apr	blicable only to appr. spans - Item 44

#### misalignment and not requiring corrective action. Some minor scouring has occurred near curtain walls, wingwalls, or pipes. Metal culverts have a smooth symmetrical curvature with superficial corrosion and no pitting. 6 Deterioration or initial disintegration, minor chloride contamination, cracking with some leaching, or spalls on concrete or masonry walls and slabs. Local minor scouring at curtain walls, wingwalls, or pipes. Metal culverts have a smooth curvature, non-symmetrical shape, significant corrosion or moderate pitting. Moderate to major deterioration or disintegration, extensive cracking and leaching, or spalls on concrete or masonry walls and slabs. Minor settlement or misalignment. Noticeable scouring or erosion at curtain walls, wingwalls, or pipes. Metal culverts have significant distortion and deflection in one section, significant corrosion or deep pitting. Large spalls, heavy scaling, wide cracks, considerable efflorescence, or opened construction joint permitting loss of backfill. Considerable settlement or misalignment. Considerable scouring or erosion at curtain walls, wingwalls or pipes. Metal culverts have significant distortion and deflection throughout. extensive corrosion or deep pitting. Any condition described in Code 4 but which is excessive in scope. Severe movement or differential settlement of the segments, or loss of fill. Holes may exist in walls or slabs. Integral wingwalls nearly severed from culvert. Severe scour or erosion at curtain walls, wingwalls or pipes. Metal culverts have extreme distortion and deflection in one section, extensive corrosion, or deep pitting with scattered perforations. 2 Integral wingwalls collapsed, severe settlement of roadway due to loss of

This item evaluates the alignment, settlement, joints, structural condition,

be an overall condition evaluation of the culvert.

N Not applicable. Use if structure is not a culvert.

culvert. Insignificant scrape marks caused by drift.

of culverts, consult Report No. FHWA-IP-86-2,

Culvert Inspection Manual, July 1986.

coded N for all culverts.

9 No deficiencies.

5

4

3

scour, and other items associated with culverts. The rating code is intended to

Integral wingwalls to the first construction or expansion joint shall be included in the evaluation. For a detailed discussion regarding the inspection and rating

tem 58 - Deck, Item 59 - Superstructure, and Item 60 – Substructure shall be

8 No noticeable or noteworthy deficiencies which affect the condition of the

Shrinkage cracks, light scaling, and insignificant spalling which does not

expose reinforcing steel. Insignificant damage caused by drift with no

fill. Section of culvert may have failed and can no longer support embankment. Complete undermining at curtain walls and pipes. Corrective action required to maintain traffic. Metal culverts have extreme distortion and deflection throughout with extensive perforations due to corrosion. Bridge closed. Corrective action may put back in light service. 0 Bridge closed. Replacement necessary.

#### [72] APPROACH ROADWAY ALIGNMENT

Code the rating based on the adequacy of the approach roadway alignment. This item identifies those bridges which do not function properly or adequately due to the alignment of the approaches. It is not intended that the approach roadway alignment be compared to current standards but rather to the existing highway alignment. This concept differs from other appraisal evaluations. The establishment of set criteria to be used at all bridge sites is not appropriate for this item. The basic criteria is how the alignment of the roadway approaches to the bridge relate to the general highway alignment for the section of highway the bridge is on. For example, if the highway section requires a substantial speed reduction due to vertical or horizontal alignment, and the roadway approach to the bridge requires only a very minor additional speed reduction at the bridge, the appropriate code would be a 6. This concept shall be used at each bridge site. Speed reductions necessary because of structure width and not alignment shall not be considered in evaluating this item.

3 or	the horizontal or vertical curvature requires a substantial reduction in the
less	vehicle operating speed from that on the highway section
6	A very minor speed reduction
8	a speed reduction is not required
tibh∆	ional codes may be selected between these general values



### NBIP FIELD REVIEW MINI CODING GUIDE

[61]CHANNEL & CHANNEL PROTECTION	[113] SCOUR CRITICAL BRIDGES
This item describes the physical conditions associated with the flow of water	Use a single-digit code as indicated below to identify the current status of the
through the bridge such as stream stability and the condition of the channel,	bridge regarding its vulnerability to scour. Whenever a rating factor of 2 or
riprap, slope protection, or stream control devices including spur dikes. The	below is determined for this item, the rating factor for Item 60 Substructure
inspector should be particularly concerned with visible signs of excessive water	and other affected items (i.e., load ratings, superstructure rating) should be
velocity which may affect undermining of slope protection, erosion of banks,	revised to be consistent with the severity of observed scour and resultant
and realignment of the stream which may result in immediate or potential	damage to the bridge. A plan of action should be developed for each scour
problems. Accumulation of drift and debris on the superstructure and	critical bridge. A scour critical bridge is one with abutment or pier foundation
substructure should be noted on the inspection form but not included in the	rated as unstable due to (1) observed scour at the bridge site (rating factor of 2,
condition rating.	1, or 0) or (2) a scour potential as determined from a scour evaluation study
N Not applicable. Use when bridge is not over a waterway (channel).	(rating factor of 3). It is assumed that the coding of this item has been based on
	an engineering evaluation, which includes consultation of the NBIS field
9 There are no noticeable or noteworthy deficiencies which affect the	inspection findings.
condition of the channel.	N Bridge not over waterway.
8 Banks are protected or well vegetated. River control devices such as spur	U Bridge with "unknown" foundation that has not been evaluated for scour.
ukes and emparisment protection are not required or are in a stable	Until risk can be determined, a plan of action should be developed and
Condition.	implemented to reduce the risk to users from a bridge failure during and
7 Bank protection is in need of minor repairs. River control devices and	immediately after a flood event (see HEC 23).
emparisment protection have a little minor damage. Banks and/or channel	T Bridge over "tidal" waters that has not been evaluated for scour, but
A Real is beginning to slump. Biver centrel devices and embankment	considered low risk. Bridge will be monitored with regular inspection cycle
o parik is beginning to siump, kiver control devices and embankment	and with appropriate underwater inspections until an evaluation is
protection nave widespread minor damage. There is minor stream bed	performed ("Unknown" foundations in "tidal" waters should be coded U.)
For the protection is being graded. Biver control devices and for	9 Bridge foundations (including piles) on dry land well above flood water
s Ballk protection is being eroded. River control devices and/or	elevations.
embankment have major damage. Trees and brush restrict the channel.	8 Bridge foundations determined to be stable for the assessed or calculated
4 Bank and embankment protection is severely undermined. River control	scour condition. Scour is determined to be above top of footing (Example A)
Devices have severe damage. Large deposits of debris are in the channel.	by assessment (i.e., bridge foundations are on rock formations that have
5 Ballk protection has failed. River control devices have been destroyed.	been determined to resist scour within the service life of the bridge4), by
Stream bed aggradation, degradation or lateral movement has changed	calculation or by installation of properly designed countermeasures (see HEC
the channel to now threaten the bridge and/or approach roadway.	23).
collance	7 Countermeasures have been installed to mitigate an existing problem with
Conduct Contractive action may but back in	scour and to reduce the risk of bridge failure during a flood event.
light convice	Instructions contained in a plan of action have been implemented to reduce
0 Bridge closed because of channel failure. Replacement necessary	the risk to users from a bridge failure during or immediately after a flood
o pruge closed because of channel failure. Replacement necessary.	event.
	6 Scour calculation/evaluation has not been made. (Use only to describe case
Code this item to indicate cituations where temperatu structures or conditions	where bridge has not yet been evaluated for scour potential).
evict. This item could be black if not applicable. Tomporary structures of conditions	5 Bridge foundations determined to be stable for assessed or calculated scour
conditions are those which are required to facilitate traffic flow. This may	condition. Scour is determined to be within the limits of footing or piles
occur either before or during the modification or replacement of a structure	(Example B) by assessment (i.e., bridge foundations are on rock formations
found to be deficient. Such conditions include the following:	that have been determined to resist scour within the service life of the
Bridges shored up, including additional temporary supports	bridge), by calculations or by installation of properly designed
I Temporary renairs made to keen a bridge open	countermeasures (see HEC 23).
Temporary structures temporary runarounds or hypasses	4 Bridge foundations determined to be stable for assessed or calculated scour
1 Other temporary measures, such as harricaded traffic lanes to keen the	conditions; field review indicates action is required to protect exposed
hridge open	foundations (see HEC 23).
Any renaired structure or replacement structure which is expected to remain in	3 Bridge is scour critical; bridge foundations determined to be unstable for
place without further project activity other than maintenance for a significant	assessed or calculated scour conditions: -Scour within limits of footing or
period of time shall not be considered temporary. Under such conditions, that	piles. (Example B) -Scour below spread-footing base or pile tips. (Example C)
structure regardless of its type shall be considered	2 Bridge is scour critical; field review indicates that extensive scour has
	occurred at bridge foundations, which are determined to be unstable by: -a
[112] NBIS BRIDGE LENGTH	comparison of calculated scour and observed scour during the bridge
The following definition of a bridge is to be used: A structure including	inspection, or an engineering evaluation of the observed scour condition
supports erected over a depression or an obstruction, such as water, highway,	reported by the bridge inspector in Item 60.
or railway, and having a track or passageway for carrying traffic or other	1 Bridge is scour critical; field review indicates that failure of piers/abutments
moving loads, and having an opening measured along the center of the	is imminent. Bridge is closed to traffic. Failure is imminent based on: -a
roadway of more than 20 feet* between undercopings of abutments or spring	comparison of calculated and observed scour during the bridge inspection,
lines of arches, or extreme ends of openings for multiple boxes; it may also	or –an engineering evaluation of the observed scour condition reported by
include multiple pipes, where the clear distance between openings is less than	the bridge inspector in Item 60.
half of the smaller contiguous opening.	U Bridge is scour critical. Bridge has failed and is closed to traffic.
P(P)P 77711111111	







### Section 4

# Structure Inventory and Appraisal (SIA)



#### **Bridge Inspection Report**

	DENTIFICATION		Hea	ath Index:	82.73
Structure Num (8):	069C00014N	SubStd: No	 Sut	Std Reason	Not Sub-Standa
NBI Number:	069C00014N		Erec (02)		Next Inen
Structure Name:		Routine	12	11/9/2017	11/9/2018
Location (9):	.1 MI S OF JCT KY 698	Element	12	11/9/2017	11/9/2018
Carries (7):	GREASY RIDGE RD	Fracture Critical (A)		1/1/1901	1/1/1901
Type of Service (42A):	1 Highway	Underwater (B)		1/1/1901	1/1/1901
Feature Crossed (6):	GREEN RIVER	Special Insp (C)		2/19/2013	1/1/1901
Type of Service (42B):	5 Waterway		LOAD RAT	ING AND POSTING	
Placecode (4):	Not Applicable	Posting Status(41):		P Posted for loa	d
County (3):	Lincoln (069)	Posting (70):		5 At/Above Lega	al Loads
State (1):	21 Kentucky	Signs Posted Cardir	al:	Yes	
Admin Area:	Inventory	Signs Posted Non-C	ardinal:	Yes Rested Date:	
District:	District 8	Required Posting	e (Tone )	Field Pos	stings (Tons.)
Latituda (16):	27° 26' 46"	Gross:	5 (10115.)	Gross:	15.00
	8/° /2' 9'	Truck Type 1:		Truck Type 1	
Owner (22):	County Hwy Agency	Truck Type 2:		Truck Type 2	
Maint Resp (21)	County Hwy Agency	Truck Type 3:		Truck Type 3	
Veer Built (27):	1970 Border State (98A): Unknown (P)	SUV 5:		SUV 5:	
Year Bocon (106):	0 Border Number (99):	SUV 6:		SUV 6:	
	% Posponsibility (98B):	SUV 7:		SUV 7:	
	/ Responsibility (30b).	EV2: EV3:			
Deck Geometry (68):	4 Tolerable				
Deck Area:	979.52 ft <sup>2</sup>				
Deck Type (107):	2 Concrete Precast Panel				
Wearing Surface (106A):	0 None				
Membrane (108B):	None		DECK CC	ONDITION	
Approach Roadway width (32)	): ft.	Deck Rating (58):			
Width Curb to Curb (51):	19.69 ft.	Bridge Rail (36A):			
O. to O. Width (52):	21.33 ft.	Transition (36B):			
Curb / Sidewalk Width L (50A)	: 0.75 ft.	Approach Rail (36C):			
Curb / Sidewalk Width R (50B)	: 0.75 ft.	Approach Rail Ends (3	6D):		
Median (33):	0 No median				
SUPERS	TRUCTURE GEOMETRY	-			
# of Main Spans (45):	1				
# of Approach Spans (46):	0	6 6 6 6	6 5	5 5 5	5 5 5
Main Material (43 A):	5 Prestressed Concrete				
Main Design (43 B):	05 Multiple Box Beam	<u> </u>			
Max Span Length (48):	43.96 ft.	SU	PERSTRUCT	URE CONDITION	
Structure Lenath (49):	45.93 ft.	Superstructure Rating	ı (59):		
NBIS Length (37):	Long Enough	Structure Evaluation	67):		
Temp Structure (103):	Not Applicable (P)				
Skew (34):	15°				
Structure Flared (35):	0 No flare				
Parallel Structure (101):	No    bridge exists				
Approach Alignment (72):	8 Equal Desirable Crit				
L					

Inspection Report

069C00014N

4.1 Tue 10/30/2018 Page 1 of 6



#### **Bridge Inspection Report**

-										
SUBSTRUCTURE GEOMETRY										
Navigation Control (38	): Pern	nit Not Required								
Nav Vert Clearance (39	)):		7							
Nav Horiz Clearance (4	10):		5 5 5	4 4 4						
Pier Protection (111):	Not /	Applicable (P)	2006 2007 2008 2009 2	2010 2011 2012 2013 20	14 2015 2016 2017					
Lift Bridge Vertical			SUB	STRUCTURE CONDITION						
Clearance (116):			Substructure Rating (60)	: 6 Satisfactor	ry					
Scour Rating (113):	8 Sta	able Above Footing	Channel Rating (61):	5 Bank Prot	Eroded					
Waterway Adequacy (7	<b>71):</b> 7 Ab	ove Minimum								
KYTC FIELDS										
Overlay:	Yes		Scour Observed:	No Scour						
Overlay Type:	Asphalt		Scour Risk :	Low Risk						
Overylay Thickness:	2.00 in.		Scour Analysis/Assessment	: Completed by Ogden						
Overlay Year:			Scour POA : Not Required							
Cross Section:	Yes		Scour POA Date :							
Cross Section Date:	11/15/2016									
ROUTE ON STRUC	TURE: GREASY	RIDGE RD								
ROADWAY L	OCATION	ROADW	AY CLASSIFICATION	CLEARANCES						
Pos Prefix (5A):	Route On Structure	Funct Class (26):	09 Rural Local	Vertical (10):	99.99 ft.					
Kind of Hwy (5B):	4 County Hwy	Level Service (5C):	1 Mainline	Min Vert Over (53):	99.99 ft.					
Route Num (5D):	01202	NHS (104):	0 Not on NHS	Vert Ref (54A):	N Feature not hwy or RR					
LRS Route (13A/B):		Defense Hwy (100)	: 0 Not a STRAHNET hwy	Horizontal (47):	19.36 ft.					
Milepost (11):	0.14 mi	Toll Facility (20):	3 On free road	Min Lat Left (56):	0.00 ft.					
Suffix (5E):	0 N/A (NBI)	ADT (29):	128 Cars/Day	Min Lat Right (55B):	0.00 ft.					
Lanes On (28A):	2	Pct Trucks (109):	11.00%	Horiz Ref (55A):	N Feature not hwy or RR					

2011

Underclearance (69):

N Not applicable (NBI)

#### STRUCTURE NOTES

Detour Length (19):

8.08 mi

ADT Year (30):

**INSPECTION NOTES** 

SCOUR NOTES

LOAD RATING NOTES

**COMPLIANCE NOTES** 

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Inspection Report
```

4.2 Tue 10/30/2018 Page 2 of 6



A-124 The LEXINGTON

#### **Bridge Inspection Report**

ELEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
15	Pre Concrete Top Flange	3	11/09/2017	987.00	sq.ft	787.00	200.00	0.00	0.00
The deck	area between the concrete curb	s and	the asphalt wearing	surface is filled	with dir	t and debris.			

	Asphalt overlay has tr	ansverse	cracking at ends &	longitudinal cra	cks over ti	he shear kevs	hetween hox he	ams	
	3220 Crack (Wearing		3 11/09	/2017 1.0	10 s	sq.ft 1	.00 0.00	0.00	0.00
	Surface)								
NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	QTY CS 1	QTY CS 2	QTY CS 3	QTY CS 4
1	Pre Clsd Box Girder	3	11/09/2017	329.00	ft	149.00	164.00	16.00	0.00
expose escenc	d steel and an a e around the shear keys as	dditiona well	l toot of de						
expose escenc 1080	d steel and an a e around the shear keys as Delamination/Spall/Patche	dditional well	1 <b>toot of de</b>	15.00	ft	0.00	0.00	15.00	0.00
expose escenc 1080	d steel and an a e around the shear keys as Delamination/Spall/Patche d Area	dditional well	1 <b>toot of de</b>	15.00	ft	0.00	0.00	15.00	0.00
expose escenc 1080	nd steel and an a e around the shear keys as Delamination/Spall/Patche d Area 	dditional well 3	1 <b>toot of de</b>	15.00	ft	0.00	0.00	15.00	0.00
expose escenc 1080 1120	d steel and an a e around the shear keys as Delamination/Spall/Patche d Area 	dditional well 3 3	1 <b>toot of de</b>	15.00 65.00	ft	0.00	0.00	0.00	0.00
expose escenc 1080 1120	d steel and an a e around the shear keys as Delamination/Spall/Patche d Area 	dditional well 3 3	1 <b>toot of de</b>	15.00 65.00	ft ft	0.00	0.00	0.00	0.00
expose escenc 1080 1120 on Rej	ed steel and an a e around the shear keys as Delamination/Spall/Patche d Area 	dditional well 3 3	1 <b>toot of de</b>	65.00 069CC	ft	0.00 0.00	0.00	0.00	0.00

2310	Leakage	3	11/09/2017	100.00	ft	0.00	99.00	1.00	0.00
				1					OTV
LEM NBR	ELEMENT NAME	ENV	INSP. DATE	QUANTITY	UNITS	CS 1	CS 2	CS 3	CS 4
215	Re Conc Abutment	3	11/09/2017	86.00	ft	38.00	48.00	0.00	0.00
1130	Cracking (RC and Other)	3	11/09/2017	38.00	ft	0.00	38.00	0.00	0.00
1130	Cracking (RC and Other)	3	11/09/2017	38.00	ft	0.00 	38.00	0.00	0.00 QTY
1130	Cracking (RC and Other)	3 ENV 3	11/09/2017 INSP. DATE 11/09/2017	38.00 QUANTITY 86.00	ft UNITS ft	0.00 0TY CS 1 80.00	38.00 QTY CS 2 6.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00
1130 LEM NBR 220	Cracking (RC and Other)	3 ENV 3	11/09/2017 INSP. DATE 11/09/2017	38.00 QUANTITY 86.00	ft UNITS ft	0.00 <u> </u>	38.00	0.00 QTY CS 3 0.00	0.00 QTY CS 4 0.00
LEM NBR	Cracking (RC and Other)	3 ENV 3	11/09/2017 INSP. DATE 11/09/2017 INSP. DATE	38.00 QUANTITY 86.00	ft UNITS ft	0.00 0.00	38.00 QTY CS2 6.00 QTY CS2	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
1130 LEM NBR 220	Cracking (RC and Other)	3 ENV 3 ENV 3	11/09/2017 INSP. DATE 11/09/2017 INSP. DATE 11/09/2017	38.00 QUANTITY 86.00 QUANTITY 94.00	ft UNITS ft UNITS ft	0.00	38.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
LEM NBR 220	Cracking (RC and Other)	3	11/09/2017 INSP. DATE 11/09/2017 INSP. DATE 11/09/2017 oughout all.	38.00 QUANTITY 86.00 QUANTITY 94.00	ft UNITS ft UNITS ft	0.00	38.00	0.00 QTY CS 3 0.00 QTY CS 3 0.00	0.00 0.00 0.00 0.00 0.00

ue 10/30/2018 4.4 Page 4 of 6



#### **Bridge Inspection Report**

#### Work Candidates Report

BRIDGE ID	WORK ID	DESCRIPTION	DATE RECOMMENDED	DATE COMPLETED	TARGET YEAR	STATUS	PRIORITY	WORK ASSIGNE	SOURCE

Inspection Report

069C00014N

<sub>4.5</sub> Tue 10/30/2018 Page 6 of 6



LFUCG FIRE TRAINING STUDY

### Section 5

# **Photo Report**



















































8/12















10/12

















# Section 6

**Stream Section** 

#### **Stream Cross Section Notes**

Inspector: M. Feltz, J. Agler

Date: 11/20/2018

Bridge ID: N/A

Owner: LFUCG

Notes: Y=0 was taken along top of deck

X=0 was taken at the end of the south abutment beam ends and along the centerline of the bridges for both the upstream and downstream cross-sections: the skew is either or close to 0 degrees.

The upstream and downstream cross sections are looking downstream (west).









 $(\mathbf{\check{}})$ 

6.3
## Figure A.10: Site and Exterior Photos





















8.















15.



17.













20.



<image>













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A-150 TR LEXINGTON

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44.



46.









52.







53.











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81.

















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106.



108.

103.













112.



114.

109.



111.









118.



120.

115.

















124.



126.

121.



















## Figure A.11: Roof Photos



































15.



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20.



22.



































35.













38.

















47.





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49



















58.



55.

















66.

61.



<image>











71.















75.



77.









81.





LFUCG FIRE TRAINING STUDY
### Figure A.12: Interior Photos











3.



5.













A-182 TR LEXINGTON













18.

13.



15.































29.



26.











33.



35.



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41.



38.















45.



47.











51.



53.



50.





<image><image>



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LFUCG FIRE TRAINING STUDY







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112.

















119.



118.















122.











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131.



128.



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135.



137.



134.













142.







# **APPENDIX B - DEMOGRAPHIC PROFILE**

Figure B.1: Demographic Profile



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## Demographic and Income Profile

Fayette County, KY Fayette County, KY (21067) Geography: County

Census 2010 Census 2020 2024 2029 Summary Population 295,803 322,570 324,981 327,854 Households 123,043 134,535 136,900 139,115 75,756 Families 69,661 76,206 76,851 Average Household Size 2.30 2.30 2.29 2.27 68,818 70,740 75,289 77,498 **Owner Occupied Housing Units** Renter Occupied Housing Units 54,225 63,795 61,611 61,617 Median Age 33.8 35.8 35.2 37.2 rends: 2024-2029 Annual Rate State National Area Population 0.18% 0.17% 0.38% Households 0.32% 0.26% 0.64% Families 0.17% 0.15% 0.56% 0.58% 0.58% 0.97% Owner HHs 2.95% Median Household Income 3.63% 3.11% 2024 2029 Households by Income Number Number Percent Percent 10.4% <\$15,000 14,252 13,040 9.4% \$15,000 - \$24,999 10,802 7.9% 8,654 6.2% \$25,000 - \$34,999 7,784 9,485 6.9% 5.6% \$35,000 - \$49,999 16,910 12.4% 14,943 10.7% \$50,000 - \$74,999 22,369 16.3% 21,427 15.4% \$75,000 - \$99,999 14,265 14,218 10.4% 10.3% \$100,000 - \$149,999 20,865 15.2% 23,496 16.9% \$150,000 - \$199,999 12,945 9.5% 17,254 12.4% \$200,000+ 15,054 11.0% 18,252 13.1% Median Household Income \$80,360 \$67,248 Average Household Income \$102,744 \$119,242 Per Capita Income \$43,435 \$50,749 Census 2010 Census 2020 2024 2029 Population by Age Number Percent Number Percent Number Percent Number Percent 0 - 4 19,145 6.5% 18,525 5.7% 18,445 5.7% 18,086 5.5% 18,675 5 - 9 17,746 19,035 5.9% 5.7% 5.3% 6.0% 17,467 10 - 14 16,195 5.5% 19,361 6.0% 18,308 5.6% 18,304 5.6% 15 - 19 20,711 7.0% 23,449 7.3% 23,100 7.1% 22,899 7.0% 29,168 20 - 2430,567 10.3% 29,596 9.2% 29,498 9.1% 8.9% 25 - 34 49,233 16.6% 50,221 15.6% 50,609 15.6% 47,308 14.4% 35 - 44 39,272 13.3% 43,033 13.3% 44,799 13.8% 46,134 14.1% 45 - 54 39,926 13.5% 36,996 11.5% 37,859 11.6% 39,462 12.0% 55 - 64 31,870 10.8% 36,331 11.3% 34,396 10.6% 33,291 10.2% 65 - 74 9.4% 27,916 8.7% 28,919 16,943 5.7% 8.9% 30,694 75 - 84 9,892 3.3% 12,984 4.0% 15,103 4.6% 18,816 5.7% 4,303 1.5% 5,123 1.6% 5,270 1.9% 85+ 1.6% 6,225 Census 2010 Census 2020 2024 2029 Race and Ethnicity Number Percent Number Percent Number Percent Number Percent 223,999 75.7% 220,236 68.3% 65.5% White Alone 217.898 67.0% 214,820 Black Alone 42,972 14.5% 48,076 14.9% 49,651 15.3% 51,093 15.6% American Indian Alone 755 0.3% 1,105 0.3% 1,054 0.3% 1,069 0.3% 14,555 9,553 13,427 4.2% 15,971 4.9% Asian Alone 3.2% 4.5% Pacific Islander Alone 0.0% 0.0% 0.0% 0.1% 141 144 150 173 5.8% Some Other Race Alone 10,949 3.7% 16,732 5.2% 17,838 5.5% 19,168 Two or More Races 7.434 2.5% 22,850 7.1% 23,835 7.3% 25,560 7.8% 9.7% 20,474 6.9% 29,750 9.2% 31,650 34,087 10.4% Hispanic Origin (Any Race)

Data Note: Income is expressed in current dollars.

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 decennial Census in 2020 geographies.

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B-2

Page 1 of 2



## Demographic and Income Profile

Fayette County, KY Fayette County, KY (21067) Geography: County Prepared by Esri

#### Trends 2024-2029









2024 Population by Race



2024 Percent Hispanic Origin:9.7%

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 decennial Census in 2020 geographies.

#### October 25, 2024

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Page 2 of 2



## Site Map

Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place

g Blyd 75 460 Paris Pik Georgetown Rd Georgetown Paris 460 627 1973 1678 Works 421 62 Rd Mi dw ay ille Hutchison Rd Austerlitzed Vers ailles Lexington V Pik 1927 Colby Rd McCh 169 Br Rd Two 1923 we Rd 1965 418 14 nion Mu Re Nichol asville Wilmore 75 2 4 0 1268 mi Frankfort Frankfort Lexin gton 64 Lexington

Page 1 of 1

Prepared by Esri

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TR LEXINGTON

B-4



Source: This infographic contains data provided by Esri (2024, 2029), Esri-Data Axle (2024). © 2024 Esri



### **Executive Summary**

THE SCIENCE OF WHERE®

Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place

Prepared by Esri

	Lexington-Fay
Population	
2010 Population	295,803
2020 Population	322,570
2024 Population	324,981
2029 Population	327,854
2010-2020 Annual Rate	0.87%
2020-2024 Annual Rate	0.18%
2024-2029 Annual Rate	0.18%
2020 Male Population	48.3%
2020 Female Population	51.7%
2020 Median Age	35.2
2024 Male Population	49.0%
2024 Female Population	51.0%
2024 Median Age	35.8

In the identified area, the current year population is 324,981. In 2020, the Census count in the area was 322,570. The rate of change since 2020 was 0.18% annually. The five-year projection for the population in the area is 327,854 representing a change of 0.18% annually from 2024 to 2029. Currently, the population is 49.0% male and 51.0% female.

#### Median Age

. . . . . . .

The median age in this area is 35.8, compared to U.S. median age of 39.3.

Race and Ethnicity	
2024 White Alone	67.0%
2024 Black Alone	15.3%
2024 American Indian/Alaska Native Alone	0.3%
2024 Asian Alone	4.5%
2024 Pacific Islander Alone	0.0%
2024 Other Race	5.5%
2024 Two or More Races	7.3%
2024 Hispanic Origin (Any Race)	9.7%

Persons of Hispanic origin represent 9.7% of the population in the identified area compared to 19.6% of the U.S. population. Persons of Hispanic Origin may be of any race. The Diversity Index, which measures the probability that two people from the same area will be from different race/ethnic groups, is 60.2 in the identified area, compared to 72.5 for the U.S. as a whole.

ſ	Tousenoids	
	2024 Wealth Index	86
	2010 Households	123,043
	2020 Households	134,535
	2024 Households	136,900
	2029 Households	139,115
	2010-2020 Annual Rate	0.90%
	2020-2024 Annual Rate	0.41%
	2024-2029 Annual Rate	0.32%
	2024 Average Household Size	2.29

The household count in this area has changed from 134,535 in 2020 to 136,900 in the current year, a change of 0.41% annually. The fiveyear projection of households is 139,115, a change of 0.32% annually from the current year total. Average household size is currently 2.29, compared to 2.30 in the year 2020. The number of families in the current year is 76,206 in the specified area.

Data Note: Income is expressed in current dollars. Housing Affordability Index and Percent of Income for Mortgage calculations are only available for areas with 50 or more owner-occupied housing units. The Gini index measures the extent to which the distribution of income or consumption among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. Source: U.S. Census Bureau. Esri forecasts for 2024 and 2029. Esri converted Census 2010 into 2020 geography and Census 2020 data.

October 25, 2024

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Page 1 of 2





### **Executive Summary**

Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Prepared by Esri

Geography. Flace	
	Lexington-Fay
Mortgage Income	
2024 Percent of Income for Mortgage	29.7%
Median Household Income	
2024 Median Household Income	\$67,248
2029 Median Household Income	\$80,360
2024-2029 Annual Rate	3.63%
Average Household Income	
2024 Average Household Income	\$102,744
2029 Average Household Income	\$119,242
2024-2029 Annual Rate	3.02%
Per Capita Income	
2024 Per Capita Income	\$43,435
2029 Per Capita Income	\$50,749
2024-2029 Annual Rate	3.16%
GINI Index	
2024 Gini Index	43.4
Households by Income	

Current median household income is \$67,248 in the area, compared to \$79,068 for all U.S. households. Median household income is projected to be \$80,360 in five years, compared to \$91,442 all U.S. households.

Current average household income is \$102,744 in this area, compared to \$113,185 for all U.S. households. Average household income is projected to be \$119,242 in five years, compared to \$130,581 for all U.S. households.

Current per capita income is \$43,435 in the area, compared to the U.S. per capita income of \$43,829. The per capita income is projected to be \$50,749 in five years, compared to \$51,203 for all U.S. households.

Housing	
2024 Housing Affordability Index	83
2010 Total Housing Units	135,160
2010 Owner Occupied Housing Units	68,818
2010 Renter Occupied Housing Units	54,225
2010 Vacant Housing Units	12,117
2020 Total Housing Units	146,142
2020 Owner Occupied Housing Units	70,740
2020 Renter Occupied Housing Units	63,795
2020 Vacant Housing Units	11,607
2024 Total Housing Units	149,250
2024 Owner Occupied Housing Units	75,289
2024 Renter Occupied Housing Units	61,611
2024 Vacant Housing Units	12,350
2029 Total Housing Units	151,607
2029 Owner Occupied Housing Units	77,498
2029 Renter Occupied Housing Units	61,617
2029 Vacant Housing Units	12,492
Socioeconomic Status Index	
2024 Socioeconomic Status Index	51.0

Currently, 50.4% of the 149,250 housing units in the area are owner occupied; 41.3%, renter occupied; and 8.3% are vacant. Currently, in the U.S., 57.9% of the housing units in the area are owner occupied; 32.1% are renter occupied; and 10.0% are vacant. In 2020, there were 146,142 housing units in the area and 7.9% vacant housing units. The annual rate of change in housing units since 2020 is 0.50%. Median home value in the area is \$318,531, compared to a median home value of \$355,577 for the U.S. In five years, median value is projected to change by 2.20% annually to \$355,171.

Data Note: Income is expressed in current dollars. Housing Affordability Index and Percent of Income for Mortgage calculations are only available for areas with 50 or more owner-occupied housing units. The Gini index measures the extent to which the distribution of income or consumption among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. Source: U.S. Census Bureau. Esri forecasts for 2024 and 2029. Esri converted Census 2010 into 2020 geography and Census 2020 data.

#### October 25, 2024

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Page 2 of 2



Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

	Lexington-Fay
Population Summary	
2010 Total Population	295.803
2020 Total Population	322,570
2020 Group Quarters	13 510
2024 Total Population	324 981
2024 Group Quarters	11 891
2029 Total Population	327 854
2024-2029 Annual Rate	0.18%
2024 Total Daytime Population	357 197
Workers	199.042
Residents	158.155
Household Summary	130/133
2010 Households	123 043
2010 Average Household Size	2 30
2020 Total Households	134 535
2020 Average Household Size	2 30
2024 Households	136 900
2024 Average Household Size	2 29
2029 Households	139 115
2029 Average Household Size	2 27
2024-2029 Annual Rate	0.32%
2010 Families	69.661
2010 Average Family Size	2 94
2014 Families	76.206
2024 Average Family Size	2 95
2029 Families	76.851
2029 Average Family Size	2 94
2024-2029 Annual Rate	0.17%
Housing Unit Summary	0.1770
2000 Housing Units	116 167
Owner Occupied Housing Units	51.6%
Renter Occupied Housing Units	41 7%
Vacant Housing Units	6.8%
2010 Housing Units	135 160
Owner Occupied Housing Units	50,9%
Renter Occupied Housing Units	40.1%
Vacant Housing Units	9.0%
2020 Housing Units	146 142
Owner Occupied Housing Units	48.4%
Renter Occupied Housing Units	43.7%
Vacant Housing Units	7.9%
2024 Housing Units	149 250
Owner Occupied Housing Units	50.4%
Renter Occupied Housing Units	41.3%
Vacant Housing Units	8.3%
2029 Housing Units	151.607
Owner Occupied Housing Units	51.1%
Renter Occupied Housing Units	40.6%
Vacant Housing Units	8.2%
5	

**Data Note:** Household population includes persons not residing in group quarters. Average Household Size is the household population divided by total households. Persons in families include the householder and persons related to the householder by birth, marriage, or adoption. Per Capita Income represents the income received by all persons aged 15 years and over divided by the total population.

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2000 and 2010 decennial Census data converted by Esri into 2020 geography.

October 25, 2024

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Page 1 of 8

LFUCG FIRE TRAINING STUDY



Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

024 Households by Income	Lexington-Fa
Household Income Base	136.9
<\$15,000	10.4
\$15,000 - \$24,999	7
\$25,000 \$2,7,555	61
\$25,000 \$34,555 \$35,000 - \$40,000	12
\$JJ,000 - \$49,999	12.
\$30,000 - \$74,333	10.
\$75,000 - \$99,999	10.
\$100,000 - \$149,999	15.
\$150,000 - \$199,999	9.
\$200,000+	11.
Average Household Income	\$102,7
029 Households by Income	
Household Income Base	139,1
<\$15,000	9.
\$15,000 - \$24,999	6.
\$25,000 - \$34,999	5.
\$35,000 - \$49,999	10.
\$50,000 - \$74,999	15.
\$75,000 - \$99,999	10.
\$100.000 - \$149.999	16
\$150,000 \$199,999 \$150,000 - \$199,999	12
\$150,000 \$155,555 \$200 000+	13
Average Heuseheld Income	¢110
Average Household Income	\$119,
	75
	,, ,
<\$50,000	2.
\$50,000 - \$99,999	2.
\$100,000 - \$149,999	4.
\$150,000 - \$199,999	8.
\$200,000 - \$249,999	15.
\$250,000 - \$299,999	11.
\$300,000 - \$399,999	23.
\$400,000 - \$499,999	13.
\$500,000 - \$749,999	11.
\$750,000 - \$999,999	3.
\$1,000,000 - \$1,499,999	1.
\$1,500,000 - \$1,999,999	0.
\$2,000,000 +	0.
Average Home Value	\$378.
029 Owner Occupied Housing Units by Value	\$3707
Total	77 .
	1
	1.
\$100,000 - \$140,000	0.
\$100,000 - \$149,999	2.
\$150,000 - \$199,999	5.
\$200,000 - \$249,999	13.
\$250,000 - \$299,999	11.
\$300,000 - \$399,999	27
\$400,000 - \$499,999	16
\$500,000 - \$749,999	14
\$750,000 - \$999,999	3
\$1,000,000 - \$1,499,999	1
\$1,500,000 - \$1,999,999	0
\$2,000.000 +	1.
Average Home Value	\$477
	J7221

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2000 and 2010 decennial Census data converted by Esri into 2020 geography.

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Page 2 of 8



Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Prepared by Esri

	Geography: Place	
		Lexington-Fay
Median Household Income		
2024		\$67,248
2029		\$80,360
Median Home Value		1 )
2024		\$318,531
2029		\$355,171
Per Capita Income		
2024		\$43,435
2029		\$50,749
Median Age		
2010		33.8
2020		35.2
2024		35.8
2029		37.2
2020 Population by Age		
Total		322,570
0 - 4		5.7%
5 - 9		5.9%
10 - 14		6.0%
15 - 24		16.4%
25 - 34		15.6%
35 - 44		13.3%
45 - 54		11.5%
55 - 64		11.3%
65 - 74		8.7%
75 - 84		4.0%
85 +		1.6%
18 +		/8.9%
2024 Population by Age		
Total		324,981
0 - 4		5.7%
5 - 9		5.7%
10 - 14		5.6%
15 - 24		16.2%
25 - 54		13.0%
35 - 44 AE EA		11.6%
45 - 54 55 - 64		11.0%
65 - 74		8.0%
75 - 84		4.6%
85 +		1.6%
18 +		79.7%
2029 Population by Age		, 51, 76
Total		327.854
0 - 4		5.5%
5 - 9		5.3%
10 - 14		5.6%
15 - 24		15.9%
25 - 34		14.4%
35 - 44		14.1%
45 - 54		12.0%
55 - 64		10.2%
65 - 74		9.4%
75 - 84		5.7%
85 +		1.9%
18 +		80.3%

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2000 and 2010 decennial Census data converted by Esri into 2020 geography.

October 25, 2024

Page 3 of 8

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### **Community Profile**

Lexington-Fayette Urban County, KY Prepared by Esri Lexington-Fayette Urban County, KY (2146027) Geography: Place Lexington-Fay... 2020 Population by Sex Males 155,876 Females 166,694 2024 Population by Sex 159,359 Males 165,622 Females 2029 Population by Sex 159,843 Males Females 168,011 2010 Population by Race/Ethnicity 295,803 Total White Alone 75.7% Black Alone 14.5% American Indian Alone 0.3% Asian Alone 3.2% Pacific Islander Alone 0.0% Some Other Race Alone 3.7% Two or More Races 2.5% Hispanic Origin 6.9% **Diversity Index** 47.9 2020 Population by Race/Ethnicity Total 322,570 White Alone 68.3% Black Alone 14.9% American Indian Alone 0.3% Asian Alone 4.2% Pacific Islander Alone 0.0% Some Other Race Alone 5.2% Two or More Races 7.1% Hispanic Origin 9.2% 58.6 Diversity Index 2024 Population by Race/Ethnicity 324,981 Total White Alone 67.0% Black Alone 15.3% American Indian Alone 0.3% Asian Alone 4.5% Pacific Islander Alone 0.0% Some Other Race Alone 5.5% Two or More Races 7.3% **Hispanic Origin** 9.7% Diversity Index 60.2 2029 Population by Race/Ethnicity 327,854 Total White Alone 65.5% Black Alone 15.6% American Indian Alone 0.3% Asian Alone 4.9% Pacific Islander Alone 0.1% 5.8% Some Other Race Alone Two or More Races 7.8% Hispanic Origin 10.4% **Diversity Index** 62.1

**Data Note:** Persons of Hispanic Origin may be of any race. The Diversity Index measures the probability that two people from the same area will be from different race/ethnic groups.

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2000 and 2010 decennial Census data converted by Esri into 2020 geography.

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Page 4 of 8



Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

	Lexington-Fay
2020 Population by Relationship and Household Type	
Total	322,570
In Households	95.8%
Householder	41.7%
Opposite-Sex Spouse	16.0%
Same-Sex Spouse	0.3%
Opposite-Sex Unmarried Partner	2.9%
Same-Sex Unmarried Partner	0.3%
Biological Child	23.6%
Adopted Child	0.7%
Stepchild	0.9%
Grandchild	1.6%
Brother or Sister	1.0%
Parent	0.9%
Parent-in-law	0.2%
Son-in-law or Daughter-in-law	0.2%
Other Relatives	1.0%
Foster Child	0.1%
Other Nonrelatives	4.3%
In Group Quarters	4.2%
Institutionalized	1.2%
Noninstitutionalized	3.0%
2024 Population 25+ by Educational Attainment	
Total	216,955
Less than 9th Grade	2.4%
9th - 12th Grade, No Diploma	3.8%
High School Graduate	15.2%
GED/Alternative Credential	3.5%
Some College, No Degree	17.0%
Associate Degree	8.3%
Bachelor's Degree	28.2%
Graduate/Professional Degree	21.6%
2024 Population 15+ by Marital Status	
Total	269,553
Never Married	38.1%
Married	46.3%
Widowed	4.7%
Divorced	10.9%
2024 Civilian Population 16+ in Labor Force	
Civilian Population 16+	176,727
Population 16+ Employed	95.3%
Population 16+ Unemployment rate	4.7%
Population 16-24 Employed	15.8%
Population 16-24 Unemployment rate	11.2%
Population 25-54 Employed	65.4%
Population 25-54 Unemployment rate	3.3%
Population 55-64 Employed	13.0%
Population 55-64 Unemployment rate	3.8%
Population 65+ Employed	5.9%
Population 65+ Unemployment rate	2.3%

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2000 and 2010 decennial Census data converted by Esri into 2020 geography.

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Page 5 of 8


# Community Profile

Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

	Lexington-Fay
2024 Employed Population 16+ by Industry	
Total	168,463
Agriculture/Mining	1.3%
Construction	4.6%
Manufacturing	9.8%
Wholesale Trade	1.8%
Retail Trade	11.2%
Transportation/Utilities	4.7%
Information	1.3%
Finance/Insurance/Real Estate	4.8%
Services	57.0%
Public Administration	3.3%
2024 Employed Population 16+ by Occupation	
Total	168,463
White Collar	68.6%
Management/Business/Financial	18.3%
Professional	31.5%
Sales	8.7%
Administrative Support	10.1%
Services	15.2%
Blue Collar	16.1%
Farming/Forestry/Fishing	0.5%
Construction/Extraction	2.9%
Installation/Maintenance/Repair	1.7%
Production	5.0%
Transportation/Material Moving	6.1%
2020 Households by Type	
Total	134,535
Married Couple Households	39.1%
With Own Children <18	15.8%
Without Own Children <18	23.3%
Cohabitating Couple Households	7.6%
With Own Children <18	2.0%
Without Own Children <18	5.7%
Male Householder, No Spouse/Partner	21.5%
Living Alone	15.1%
65 Years and over	3.1%
With Own Children <18	1.5%
Without Own Children <18, With Relatives	2.2%
No Relatives Present	2.7%
Female Householder, No Spouse/Partner	31.8%
Living Alone	18.6%
65 Years and over	7.2%
With Own Children <18	5.7%
Without Own Children <18, With Relatives	5.4%
No Relatives Present	2.2%
2020 Households by Size	
Total	134,535
1 Person Household	33.6%
2 Person Household	33.3%
3 Person Household	14.6%
4 Person Household	11.2%
5 Person Household	4.5%
6 Person Household	1.8%
7 + Person Household	0.9%

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2000 and 2010 decennial Census data converted by Esri into 2020 geography.

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Page 6 of 8



## **Community Profile**

Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

	Lexington-Fay
2020 Households by Tenure and Mortgage Status	
Total	134,535
Owner Occupied	52.6%
Owned with a Mortgage/Loan	37.7%
Owned Free and Clear	14.9%
Renter Occupied	47.4%
2024 Affordability, Mortgage and Wealth	
Housing Affordability Index	83
Percent of Income for Mortgage	29.7%
Wealth Index	86
2020 Housing Units By Urban/ Rural Status	
Total	146,142
Urban Housing Units	97.2%
Rural Housing Units	2.8%
2020 Population By Urban/ Rural Status	
Total	322,570
Urban Population	97.1%
Rural Population	2.9%

**Data Note:** Households with children include any households with people under age 18, related or not. Multigenerational households are families with 3 or more parent-child relationships. Unmarried partner households are usually classified as nonfamily households unless there is another member of the household related to the householder. Multigenerational and unmarried partner households are reported only to the tract level. Esri estimated block group data, which is used to estimate polygons or non-standard geography.

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2000 and 2010 decennial Census data converted by Esri into 2020 geography.

October 25, 2024

Page 7 of 8

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## **Community Profile**

Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

	Lexington-Fay
Top 3 Tapestry Segments	
1.	Bright Young Professionals
2.	Young and Restless (11B)
3.	Up and Coming Families (7A)
2024 Consumer Spending	
Apparel & Services: Total \$	\$311,911,412
Average Spent	\$2,278.39
Spending Potential Index	96
Education: Total \$	\$223,045,840
Average Spent	\$1,629.26
Spending Potential Index	94
Entertainment/Recreation: Total \$	\$506,757,971
Average Spent	\$3,701.67
Spending Potential Index	90
Food at Home: Total \$	\$923,984,269
Average Spent	\$6,749.34
Spending Potential Index	92
Food Away from Home: Total \$	\$505,757,540
Average Spent	\$3,694.36
Spending Potential Index	95
Health Care: Total \$	\$944,835,899
Average Spent	\$6,901.65
Spending Potential Index	90
HH Furnishings & Equipment: Total \$	\$398,359,878
Average Spent	\$2,909.86
Spending Potential Index	92
Personal Care Products & Services: Total \$	\$127,071,706
Average Spent	\$928.21
Spending Potential Index	93
Shelter: Total \$	\$3,344,490,334
Average Spent	\$24,430.17
Spending Potential Index	92
Support Payments/Cash Contributions/Gifts in Kind: Total \$	\$421,797,395
Average Spent	\$3,081.06
Spending Potential Index	88
Travel: Total \$	\$369,661,119
Average Spent	\$2,700.23
Spending Potential Index	89
Vehicle Maintenance & Repairs: Total \$	\$190,290,368
Average Spent	\$1,390.00
Spending Potential Index	94

**Data Note:** Consumer spending shows the amount spent on a variety of goods and services by households that reside in the area. Expenditures are shown by broad budget categories that are not mutually exclusive. Consumer spending does not equal business revenue. Total and Average Amount Spent Per Household represent annual figures. The Spending Potential Index represents the amount spent in the area relative to a national average of 100.

Source: Consumer Spending data are derived from the 2019 and 2020 Consumer Expenditure Surveys, Bureau of Labor Statistics. Esri.

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2000 and 2010 decennial Census data converted by Esri into 2020 geography.

October 25, 2024

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Page 8 of 8



Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

	Lexington-Fay
Census 2020 Summary	
Population	322,570
Households	134,535
Average Household Size	2.30
2024 Summary	
Population	324,981
Households	136,900
Families	76,206
Average Household Size	2.29
Owner Occupied Housing Units	75,289
Renter Occupied Housing Units	61,611
Median Age	35.8
Median Household Income	\$67,248
Average Household Income	\$102,744
2029 Summary	
Population	327,854
Households	139,115
Families	76,851
Average Household Size	2.27
Owner Occupied Housing Units	77,498
Renter Occupied Housing Units	61,617
Median Age	37.2
Median Household Income	\$80,360
Average Household Income	\$119,242
Trends: 2024-2029 Annual Rate	
Population	0.18%
Households	0.32%
Families	0.17%
Owner Households	0.58%
Median Household Income	3.63%

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 in 2020 geographies.

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Page 1 of 5

B-16 TRILEXINGTON



Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

	Geography: Hace		
Lexingto		Lexington-	Fay
2024 Househol	ds by Income	Number	Percent
<\$15,000		14,252	10.4%
\$15,000 - \$24	,999	10,802	7.9%
\$25,000 - \$34	,999	9,485	6.9%
\$35,000 - \$49	9,999	16,910	12.4%
\$50,000 - \$74	,999	22,369	16.3%
\$75,000 - \$99	1,999	14,218	10.4%
\$100,000 - \$1	.49,999	20,865	15.2%
\$150,000 - \$1	.99,999	12,945	9.5%
\$200,000+		15,054	11.0%
Median Housel	hold Income	\$67,248	
Average House	ehold Income	\$102,744	
Per Capita Inc	ome	\$43,435	
2029 Househol	ds by Income	Number	Percent
<\$15,000		13,040	9.4%
\$15,000 - \$24	,999	8,654	6.2%
\$25,000 - \$34	,999	7,784	5.6%
\$35,000 - \$49	1,999	14,943	10.7%
\$50,000 - \$74	,999	21,427	15.4%
\$75,000 - \$99	9,999	14,265	10.3%
\$100,000 - \$1	.49,999	23,496	16.9%
\$150,000 - \$1	.99,999	17,254	12.4%
\$200,000+		18,252	13.1%
Median House	hold Income	\$80,360	
Average House	ehold Income	\$119,242	
Per Capita Inc	ome	\$50,749	

Data Note: Income is expressed in current dollars.

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 in 2020 geographies.

Page 2 of 5

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Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

Geography. Flace		
	Lexington-I	ay
2020 Population by Age	Number	Percent
Age 0 - 4	18,525	5.7%
Age 5 - 9	19,035	5.9%
Age 10 - 14	19,361	6.0%
Age 15 - 19	23,449	7.3%
Age 20 - 24	29,596	9.2%
Age 25 - 34	50,221	15.6%
Age 35 - 44	43,033	13.3%
Age 45 - 54	36,996	11.5%
Age 55 - 64	36,331	11.3%
Age 65 - 74	27,916	8.7%
Age 75 - 84	12,984	4.0%
Age 85+	5,123	1.6%
2024 Population by Age	Number	Percent
Age 0 - 4	18,445	5.7%
Age 5 - 9	18,675	5.7%
Age 10 - 14	18,308	5.6%
Age 15 - 19	23,100	7.1%
Age 20 - 24	29,498	9.1%
Age 25 - 34	50,609	15.6%
Age 35 - 44	44,799	13.8%
Age 45 - 54	37,859	11.6%
Age 55 - 64	34,396	10.6%
Age 65 - 74	28,919	8.9%
Age 75 - 84	15,103	4.6%
Age 85+	5,270	1.6%
2029 Population by Age	Number	Percent
Age 0 - 4	18,086	5.5%
Age 5 - 9	17,467	5.3%
Age 10 - 14	18,304	5.6%
Age 15 - 19	22,899	7.0%
Age 20 - 24	29,168	8.9%
Age 25 - 34	47,308	14.4%
Age 35 - 44	46,134	14.1%
Age 45 - 54	39,462	12.0%
Age 55 - 64	33,291	10.2%
Age 65 - 74	30,694	9.4%
Age 75 - 84	18,816	5.7%
Age 85+	6,225	1.9%

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 in 2020 geographies.

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B-18 TR LEXINGTON



Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

Geography: Place		
	Lexington-F	ay
2020 Race and Ethnicity	Number	Percent
White Alone	220,236	68.3%
Black Alone	48,076	14.9%
American Indian Alone	1,105	0.3%
Asian Alone	13,427	4.2%
Pacific Islander Alone	144	0.0%
Some Other Race Alone	16,732	5.2%
Two or More Races	22,850	7.1%
Hispanic Origin (Any Race)	29,750	9.2%
2024 Race and Ethnicity	Number	Percent
White Alone	217,898	67.0%
Black Alone	49,651	15.3%
American Indian Alone	1,054	0.3%
Asian Alone	14,555	4.5%
Pacific Islander Alone	150	0.0%
Some Other Race Alone	17,838	5.5%
Two or More Races	23,835	7.3%
Hispanic Origin (Any Race)	31,650	9.7%
2029 Race and Ethnicity	Number	Percent
White Alone	214,820	65.5%
Black Alone	51,093	15.6%
American Indian Alone	1,069	0.3%
Asian Alone	15,971	4.9%
Pacific Islander Alone	173	0.1%
Some Other Race Alone	19,168	5.8%
Two or More Races	25,560	7.8%
Hispanic Origin (Any Race)	34,087	10.4%

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 in 2020 geographies.

Page 4 of 5

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Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

#### Lexington-Fay...

Trends 2024-2029



Population by Age



2024 Household Income



2024 Population by Race



Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 in 2020 geographies.

Page 5 of 5

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# Demographic and Income Profile

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Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

666	grupny. Hu							
Summary		Census 20	010	Census 20	20	2024		2029
Population		295,	803	322,5	70	324,981		327,854
Households		123,	043	134,5	35	136,900		139,115
Families		69,	661	75,7	'56	76,206		76,851
Average Household Size		2	2.30	2.	30	2.29		2.27
Owner Occupied Housing Units		68,	818	70,7	'40	75,289		77,498
Renter Occupied Housing Units		54,	225	63,7	'95	61,611		61,617
Median Age		3	33.8	3!	5.2	35.8		37.2
Trends: 2024-2029 Annual Rate	2		Area			State		National
Population			0.18%			0.17%		0.38%
Households			0.32%			0.26%		0.64%
Families			0.17%			0.15%		0.56%
Owner HHs			0.58%			0.58%		0.97%
Median Household Income			3.63%			3.11%		2.95%
						2024		2029
Households by Income				Nu	ımber	Percent	Number	Percent
<\$15,000				1	4,252	10.4%	13,040	9.4%
\$15,000 - \$24,999				1	0,802	7.9%	8,654	6.2%
\$25,000 - \$34,999					9,485	6.9%	7,784	5.6%
\$35,000 - \$49,999				1	6,910	12.4%	14,943	10.7%
\$50,000 - \$74,999				2	2,369	16.3%	21,427	15.4%
\$75,000 - \$99,999				1	4,218	10.4%	14,265	10.3%
\$100,000 - \$149,999				2	0,865	15.2%	23,496	16.9%
\$150,000 - \$199,999				1	2,945	9.5%	17,254	12.4%
\$200,000+				1	5,054	11.0%	18,252	13.1%
Median Household Income				\$6	7,248		\$80,360	
Average Household Income				\$10	2,744		\$119,242	
Per Capita Income				\$4	3,435		\$50,749	
	Ce	ensus 2010	Cer	nsus 2020		2024		2029
Population by Age	Number	Percent	Number	Percent	Number	Percent	Number	Percent
0 - 4	19,145	6.5%	18,525	5.7%	18,445	5.7%	18,086	5.5%
5 - 9	17,746	6.0%	19,035	5.9%	18,675	5.7%	17,467	5.3%
10 - 14	16,195	5.5%	19,361	6.0%	18,308	5.6%	18,304	5.6%
15 - 19	20,711	7.0%	23,449	7.3%	23,100	7.1%	22,899	7.0%
20 - 24	30,567	10.3%	29,596	9.2%	29,498	9.1%	29,168	8.9%
25 - 34	49,233	16.6%	50,221	15.6%	50,609	15.6%	47,308	14.4%
35 - 44	39,272	13.3%	43,033	13.3%	44,799	13.8%	46,134	14.1%
45 - 54	39,926	13.5%	36,996	11.5%	37,859	11.6%	39,462	12.0%
55 - 64	31,870	10.8%	36,331	11.3%	34,396	10.6%	33,291	10.2%
65 - 74	16,943	5.7%	27,916	8.7%	28,919	8.9%	30,694	9.4%
75 - 84	9,892	3.3%	12,984	4.0%	15,103	4.6%	18,816	5.7%
85+	4,303	1.5%	5,123	1.6%	5,270	1.6%	6,225	1.9%
	Ce	ensus 2010	Cer	nsus 2020		2024		2029
Race and Ethnicity	Number	Percent	Number	Percent	Number	Percent	Number	Percent
White Alone	223,999	75.7%	220,236	68.3%	217,898	67.0%	214,820	65.5%
Black Alone	42,972	14.5%	48,076	14.9%	49,651	15.3%	51,093	15.6%
American Indian Alone	755	0.3%	1,105	0.3%	1,054	0.3%	1,069	0.3%
Asian Alone	9,553	3.2%	13,427	4.2%	14,555	4.5%	15,971	4.9%
Pacific Islander Alone	141	0.0%	144	0.0%	150	0.0%	173	0.1%
Some Other Race Alone	10,949	3.7%	16,732	5.2%	17.838	5.5%	19.168	5.8%
Two or More Races	7,434	2.5%	22,850	7.1%	23,835	7.3%	25.560	7.8%
	, · <del>··</del> ·		,		-,		_ /	
Hispanic Origin (Any Race)	20,474	6.9%	29,750	9.2%	31,650	9.7%	34,087	10.4%
to Note: Incomo is ourset of in successful to	llare		-, ->		. ,		- ,	
ta mote: income is expressed in current do	u arc							

Data Note. Income is expressed in current donars.

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 decennial Census in 2020 geographies.

October 25, 2024

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Page 1 of 2



# Demographic and Income Profile

Lexington-Fayette Urban County, KY Lexington-Fayette Urban County, KY (2146027) Geography: Place Prepared by Esri

#### Trends 2024-2029





2024 Household Income



2024 Population by Race



2024 Percent Hispanic Origin:9.7%

Source: Esri forecasts for 2024 and 2029. U.S. Census Bureau 2020 decennial Census in 2020 geographies.

Page 2 of 2

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# APPENDIX C - PRELIMINARY SPACE PROGRAM

Table C.1: Preliminary Concept Space List - Training Center

PRELIMINARY CONCEPT SPACE LIST - TRAINING CENTER LFUCG FIRE TRAINING CENTER LEXINGTON, KENTUCKY PROJECT NO. 24057



	July 15, 2024					
SPACE	DESCRIPTION	NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)	
"Dirty"	Areas					
1.00	Apparatus/Equipment					
1.01	Vehicle Bays	Trench Drains / Bi-Fold Doors / Fans / Electric & Water / Plymovent / 80 x 20 / Anchors and Training Props	4	1,600	6,400	
1.02	POV Bays	Trench Drains / Bi-Fold Doors / Fans / Electric & Water / Plymovent / 80 x 20 / Anchors and Training Props	2	1,600	3,200	
		Letotal	Not S	guare Footage	0.600	
2.00	Day Support Araga	Jubiolai	Net 5		9,000	
2.00	Bay Support Areas	100 Caral a during / Education / Education Design	1	500	500	
2.01	Gear Room	100 Gear Lockers / Exhaust / Fans / Floor Drains	1	500	500	
2.02		workbench / Floor Drains shower / sink / Floor Drains / Emergency Eye	1	200	200	
2.03	Decon/Laundry	Wash /Showor 2 Coar Washers / 2 Linear Drying Packs / Pegular Washer		200	200	
2.04	Gear Wash	and Dryer	1	200	200	
2.05	Storage Rooms	Fire and EMS Storage / Access Control	2	300	600	
2.06	SCBA	Workbench / Bottle Storage / SCBA Machine / 24-Hour Access / Access Control	1	180	180	
2.07	SCBA Maintenance	Workbench / 100 Bottle Storage / SCBA Machine	1	250	250	
2.08	Technical Rescue Training	Combined in Bay Spaces / Landing Area	1	100	100	
2.09	Auditorium Storage	Table and Chair / Portable Stage Storage	1	200	200	
2.10	General Storage Room	Shelving	1	200	200	
2.11	Dirty Restroom	Sink / Water Closet / Hose Bib / Near Decon	1	75	75	
		Subtotal	Net S	quare Footage	2,705	
3.00	Classrooms/Labs		Τ			
3.01	Small Classrooms	A/V / Monitors/ Markerboards / Air Walls for Division / 30 Seats	1	800	800	
3.02	Large Classrooms	A/V / Monitors/ Markerboards / Air Walls for Division / 60 Seats	1	1,800	1,800	
3.03	Classroom Storage Room	Shelving / Table and Chair / Training Props	2	200	400	
		Subtotal	Net S	guare Footage	3,000	
		Total Net Square Footag	e of	"Dirty" Areas	15,305	
"Clean	" Areas			5		
4.00	Entry					
4 01	Vestibule	ADA Accessible	1	70	70	
4.02	Lobby	ADA Accessible / Displays / Historic Truck	1	800	800	
1.02	Public Restroom	Water Closets/ Sinks/ Fountains/ ADA Accessible	2	300	600	
4.00		Water Closels/ JINS/ Foundins/ ADA Accessible	2	300	000	
	<u>.</u>	Subtotal	Net S	quare Footage	1,470	

Table C.1: Preliminar	y Concept Space List -	Training Center (Continued)

SPACE [	DESCRIPTION	NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
5.00	Fire Training Areas				
5.01	Auditorium	Air Walls for Dividing Space into multiple rooms / 400 People / A/V / Stage / Screens / Monitors / Projectors / Acoustical Panels / Shared with Bays	0	0	0
5.02	Small Classrooms	A/V / Monitors/ Markerboards / Air Walls for Division	1	800	800
5.03	Large Classrooms	A/V / Monitors/ Markerboards / Air Walls for Division	1	1,800	1,800
5.04	Classroom Storage Room	Shelving / Table and Chair / Training Props	2	200	400
		Subtotal	Net S	quare Footage	3,000
6.00	EMS Training Rooms				
6.01	Breakout Rooms	A/V / Monitors/ Markerboards	9	360	3,240
6.02	Large Classroom	A/V / Monitors/ Markerboards / Air Walls for Division / 60	1	2,700	2,700
6.03	Medium Classroom	Seats A/V / Monitors/ Markerboards / Air Walls for Division / 45 Seats	1	2,000	2,000
6.04	Classroom Storage Room	Shelving / Table and Chair / Training Props	3	100	300
6.05	Simulation Lab	Multi-Purpose / Access Controlled	1	625	625
6.06	Cadaver Lab	Climate Controlled / Lab Setup	1	625	625
6.07	Climate Controlled Storage	Climate Controlled / Access Control	1	300	300
6.08	Cold Storage Area	Access Control	1	300	300
		Subtotal	Net S	guare Footage	10.090
7.00	Administration Areas		Τ		
7.01	Executive Officer	Desk/File Cabinet / Book Case / Monitor	1	200	200
7.01		Desk/ File Cabinet / Book Case / Monitor	1	120	120
7.02	Admin Specialist	Desk/ File Cabinet / Book Case / Monitor	1	120	120
7.03	Large Conference	Table and Chairs / Meniter / Marker board / 20 Deeple	1	600	600
7.04		Table and Chairs / Monitor / Marker board / 20 Feople	1	200	200
7.05		Mailbayes / Capier / Work Counter / Cabinete	1	200	200
7.00		12 Workstations 9v/ (Manitars / Dack Case	10	90	90
7.07		Monitor	12	120	120
7.00		Dosk/ File Cabinet / Rock Case / Meniter	1	120	120
7.10	Video Production/ Multimedia	Soundproof/ Quiet Area / A/V Equipment / Graphic	1	250	250
7 1 1	Pocords Storago	Preparation Area / Laptop Cart Storage	1	200	200
7.11	Records storage	Lockable / File Ploof / Access Control	2	200	200
7.12	Recluting Offices	2 Workstations 8v6 (Manitar / Book Case	2	120	240
7.13	Advanta file and list	3 WORStations 8x6 / Wonitor / Book Case	3	60	180
7.14	Admin. Specialist	Desk/ File Cabinet / Book Case / Monitor	1	120	120
7.15	Record Storage	LOCKADIE / FILE PLOOL / ACCESS CONTROL		600	600
/.16		Sealing / Wonitor		/0	/0
/.1/		Desk/ File Cabinet / Book Case / Monitor	4	120	480
7.18		Desk/ File Cabinet / Book Case / Monitor		200	200
7.19	weilness Coordinator	Desk/ File Cabinet / Book Case / Monitor / Near Fitness		120	120
7.20	vveiiness Uttice	o workstations 8x6 / wonitors / Book Case / Near Fitness	6	60	360
	<u> </u>	Subtotal	Net S	quare Footage	5,470

SPACE	DESCRIPTION	NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
8.00	Staff Support Areas				
8.01	Locker Room	120 1/2 Size 2x2 Metal Lockers/ Benches	1	400	400
8.02	Locker Room	15 Full Size 2x2 Metal Lockers / Benches	1	400	400
8.03	Gender Neutral Restroom	w/ Showers	19	90	1,710
8.04	Laundry	Laundry Equipment with Hookups / Venting / Shelving / Near Staff Locker Room	1	80	80
8.05	Custodial Closet	Mop Sink/ Shelving	1	36	36
8.06	Linen Closet	Shelving	2	20	40
8.07	Fitness	Exercise and Training Equipment / 24-Hour Access / Near Locker Rooms and Showers / Fans / Monitors	1	6,000	6,000
8.08	Kitchen	Commercial Kitchen & Appliances / Pantry / Near Cafeteria	1	600	600
8.09	Food Storage	Dry / Freezer / Coolers	1	200	200
8.10	Cafeteria	Seating for 60 people / Microwaves / 2 Reffrigerators	1	2,300	2,300
8.11	Bunk Rooms	12 Bunks / Night Stands / Monitors / Fans	12	50	600
8.12	Quarter Master Room	Shelving / Racks / Electronic Tracking / Access Control / 24-Hour Access / Exterior Access Point	1	600	600
8.13	Rehabilitation Area	Near Fitness Room / Limited Access / Monitors	1	3,000	3,000
		Subtotal I	Net S	quare Footage	15,966
9.00	Physical Plant				
9.01	Mechanical	Floor Drain / HVAC Equipment	1	500	500
9.02	Electrical	MDP/ Switchgear / Panels / Fire Alarm / Floor Drain	1	500	500
9.03	Water	Oil Water Separator / Water and Fire Entry / Water Heaters	1	150	150
9.04	MDF/Server Room	Separate HVAC / Facility Wi-Fi Spots / IP Phone System/ Fiber Entry / Grounding / Servers/ Floor Drain / Comm Equipment/ Cable Tray	1	300	300
9.05	Antennae Room	Floor Drain/ Antennae Equipment and Entry/ Grounding/ Station Alerting	1	80	80
9.06	I.T./IDF	Comm Equipment/ Cable Tray	1	80	80
		Subtotal I	Net S	quare Footage	1,610
Total Net Square Footage of "Clean" Areas					37,606
		Total Net	Squ	are Footage	52,911
					F0.044
			20AI		52,911

### Table C.1: Preliminary Concept Space List - Training Center (Continued)

TOTAL GROSS SQUARE FOOTAGE 68,784

## Table C.1: Preliminary Concept Space List - Training Center (Continued)

SPACE	DESCRIPTION	NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
1.00	JOOR AIVIEINITIES				
1.01	Staff Parking	Secure Fencing / Gate / Loop Detectors / Access Control or Transmitters / Electric and Charging Stations / Electrical / Covered Parking for Trailers	20	350	7,000
1.02	Outdoor Courtyard	Secure / Adjacent to Breakroom / Gas Connections / Electrical / Tables and Chair and Umbrellas	1	1,500	1,500
1.03	Secondary Access to Site	Secure / Gate / Access Control	1		0
1.04	Training Ground with Props	Extraction, Rail Car, Tunnel, Drafting Pit, Tower, etc.	1		0
1.05	Bridge	Loading for Apparatus / Pedestrian Access	1		0
1.06	Apparatus Parking	Secure Fencing / Gate / Loop Detectors / Access Control or Transmitters / Electric and Charging Stations / Electrical / Near Bays Training Pad 250x200	10	800	8,000
1.07	Diving Fad		- 1	30,000	50,000
	1	Subtotal	Net S	guare Footage	66,500
2.00	PUBLIC AMENITIES			<u></u>	
2.01	Public Parking	ADA Compliant Stalls / Public Parking	200	350	70,000
2.02	Civic Space	Civic Space for Public / Threat Mitigation Tactics	1	1,000	1,000
Subtotal Net Square Footage					71.000



## Table C.2: Preliminary Concept Space List - CPAT & WPE Facility

PRELIMINARY CONCEPT SPACE LIST - CPAT & WPE FACILITY LFUCG FIRE TRAINING CENTER LEXINGTON, KENTUCKY PROJECT NO. 24057



	AND THE LEVEL AND THE ADDRESS OF THE ADDRESS		_		July 15, 2024
SPACE	DESCRIPTION	NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
WPE &	CPAT BUILDING				
1.00	Staff Areas				
1.01	Open Area		1	3,000	3,000
3.02	Storage Closets	Shelving	2	80	160
		Subtota	Net S	quare Footage	3,160
2.00	Administration Areas				
2.01	Office	(3) Workstations	3	75	225
2.02	Work/Copy Room	Copier/ Work Counter	1	30	30
		Subtota	Net S	quare Footage	255
3.00	Staff Support Areas				
3.01	Locker Room	60 2x2x2 Metal Lockers/ Benches / Ventilation	1	500	500
3.02	Uni-Sex Restroom	w/ Shower	4	90	360
3.03	Laundry	Laundry Equipment with Hookups / Venting / Shelving	1	65	65
3.04	Custodial Closet	Mop Sink/ Shelving	1	36	36
3.05	Linen Closet	Shelving	2	25	50
		Subtota	Net S	quare Footage	1,011
4.00	Physical Plant				
4.01	Mechanical	Floor Drain / HVAC Equipment	1	200	200
4.02	Electrical	MDP/ Switchgear / Panels / Fire Alarm / Floor Drain	1	100	100
4.03	Water	Water and Fire Entry / Water Heaters	1	65	65
4.04	MDF/Server Room	Separate HVAC / Facility Wi-Fi Spots / IP Phone System/ Fiber Entry / Grounding / Servers/ Floor Drain / Comm Equipment/ Cable Tray	1	80	80
		Cubiete		Frank Franks	445
Subtotal Net Square Footage				445	
		Total Net Square Footage of Ad	minist	tration Areas	4,871
		Total Ne	t Squ	are Footage	4.871

TOTAL NET BUILDING SQUARE FOOTAGE	4,871
CIRCULATION, WALLS, AND CORRIDORS GROSSING FACTOR OF 15%	731
TOTAL GROSS SQUARE FOOTAGE	5,602

## Table C.3: Preliminary Concept Space List - Outdoor Training Areas

PRELIMINARY CONCEPT SPACE LIST - OUTDOOR TRAINING AREAS LFUCG FIRE TRAINING CENTER / STATION 13 LEXINGTON, KENTUCKY PROJECT NO. 18158 / 39-2018



				I	vlarch 15, 2019
SPACE	DESCRIPTION	NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
Site A	menities				
1.00	Vehicle Training				
1.01	Emergency Vehicle Operations Course (EVOC)	Driver Training Course / Roadway Training Areas / Cul-de- Sac / Neighborhood Road with (2) Houses	1	100,000	100,000
1.02	Fire Props	Flammable Liquids and Gases / Fuel Distribution / Outdoor Gas-Fired Props / Fuel Spill Fire / Vehicle Fire / Dumpster Fire / LP Tank Fire / Gas Main Break Fire / Christmas Tree Fire / Industrial Fire / Extinguisher Training Area / Bleacher Area	10	800	8,000
1.03	Storage	Portable Equipment / Vehicles / Props	3	1,400	4,200
		Subtotal	Net S	quare Footage	112,200
2.00	Fire Fighter Training				
2.01	Drill Tower	Existing On Site	0	0	0
2.02	Drafting Pit	Pump / Ladder / Hose Testing / Bleacher Area	1	1,500	1,500
2.03	Live Fire Training Structure	Existing House	1	2,500	2,500
2.04	Respiratory Protection Training Lab	Room in Existing Training Tower	0	0	0
2.05	Technical Rescue Area	High Angle / Collapse / Trench / Confined Space / Vehicle Extrication	1	10,000	10,000
2.06	Rail Incident Training		1	7,500	7,500
2.07	Fire Behavior Lab	Flashover Container / Bleacher Area	1	3,000	3,000
2.08	Rapid Intervention Crew (RIC)	Saving your Own Training Prop	1	5,000	5,000
		Subtotal	Net S	guare Footage	29,500
3.00	Site Support				
3.01	Water Distribution	Hydrants / Hook-ups	4	100	400
3.02	Environmental Cleanup	Dumpsters	3	1,000	3,000
3.03	Water Filtration and Reclamation	NFPA Standard / Storage Tank / Connections	1	400	400
3.04	Parking	Daily and Event	300	325	97,500
		Subtotal	Net S	quare Footage	101,300
		Total Net Square Footage	of Si	te Amenities	243,000
Site Str	ructures				
4.00	Outdoor Classrooms				
4.01	Outdoor Classrooms	Pavilion / Open Air Structure / Markerboards / A/V / Bleachers	3	500	1,500
4.02	Storage		1	100	100
4.03	Safety Monitoring and Control Areas	Various Areas around the Site	6	50	300
		Subtotal	Net S	quare Footage	1 900



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## Table C.3: Preliminary Concept Space List - Outdoor Training Areas (Continued)

SPACE	DESCRIPTION	NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)
5.00	Restroom Facilities				
5.01	Locker Room	Metal Lockers/ Benches	1	450	450
5.02	Restroom	w/ 6 Showers	1	500	500
5.03	Restroom	w/ 6 Showers	1	500	500
5.04	Uni-Sex Restroom	w/ Shower	1	90	90
		Subtotal I	I Net Square Footage		1,540
6.00	Hazardous Containment Areas				
6.01	Decontamination Area	Showers / Sinks / Eye Wash	2	200	400
6.02	Hazardous Containment Room		2	400	800
6.03	Laundry / Turnout Gear Extractor		2	100	200
6.04	Uni-Sex Restroom		2	80	160
		Subtotal Net Square Foo		quare Footage	1,560
7.00	Rehabilitation Areas				
7.01	Rehabilitation Areas		2	400	800
		Subtotal I	Vet So	quare Footage	800
Total Net Square Footage of Site Structures					5,800

TOTAL NET BUILDING SQUARE FOOTAGE	5,800
CIRCULATION, WALLS, AND CORRIDORS GROSSING FACTOR OF 20%	1,160
TOTAL GROSS SQUARE FOOTAGE	6,960





# **APPENDIX D - CONCEPTS**

Figure D.1: Option 01 Concept Site Plan





### Figure D.2: Option 1 First Floor









## Figure D.4: Option 02 Site Plan





























FLOOR PLAN CONCEPT OPTION 1 - RENOVATION & ADDITION



Figure D.10: Hot Zones Plan Concept Option 1 - Renovation & Addition







Figure D.11: Site Plan Concept Option 2 - New Build







FLOOR PLAN CONCEPT OPTION 2 - NEW BUILD



LFUCG FIRE TRAINING STUDY









Figure D.16: Floor Plan Concept Option 1, First Floor - Renovation & Addition



BRANDSTETTER CARROLL INC

LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 XMM 2014

Ø








LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington KY 40504 Demonstrate Zea

> BRANDSTETTER CARROLL INC



# Figure D.18: Hot Zones Plan Concept Option 1 - Renovation & Addition



## Figure D.19: Site Plan Concept Option 2 - New Build



FLOOR PLAN CONCEPT OPTION 2 - NEW BUILD

(Č)

FIRST RLOOR SOUMRE FOOT AGE: 38,901 SF SECOND RLOOR SOU ARE FOOT AGE: 23,847 SF TOTAL SOUMRE FOOT AGE: 67,771 SF Proport Lapord Abrait million Abrait Dynass Boys Bubby Dynass Dynass Could no Bob Tarring Par Training Cound S NU MUN a MEANING MEANING LFUCG Fire Training Center Study 1375 Old Frankfort Pike, Lexington, KY 40504 000067 2823 10110 10110 NA W COL 100.000 TLANCE TRACE TONE OF CULO IN NON NON NUMBER OF STREET DUDIN SIN NON NON E CULO NA A REAL PROPERTY AND A REAL T ALL DO AND REAL PROPERTY. NOTAR REPORT 1000 1001SV 12 N IN 1 N IN IN 1 N N NOT REAL PROPERTY AND IN COLUMN VAMAGE MATRICTORS OTTO COTTO VALUES NURSED STORE CLANY DOTRULED SYDBAL 2010/21 BRANDSTETTER CARROLL INC ALICENT R KID IN MARK SECOND FLOOR San S

FLOOR PLAN CONCEPT OPTION 2 - NEW BUILD



## Figure D.22: Hot Zones Plan Concept Option 2 - New Build

D-22 T LEXINGTON



Figure D.23: Fire Training Center Site Improvement Plan



## Figure D.24: Site Plan Concept Option 3 - New Build





## Figure D.25: Site Plan Concept Option 1 - Renovation & Addition - Phasing Plan



# Figure D.26: Floor Plan Concept Option 1 - Renovation & Addition - Phasing Plan





Figure D.27: Site Plan Concept Option 3 - Phasing Plan





# **APPENDIX E - OPINION OF COSTS**

Table E.1: LFUCG Fire Training Center Study Site Plan Concept Option

## DATE: October 14, 2024

SUMMARY:	TOTAL COST \$
EXTERIOR IMPROVEMENTS	3,158,965
SITE UTILITIES	354,800
TOTAL DIRECT COST	3,513,765
GENERAL REQUIREMENTS (10%) G.C.'S FEE (4%) DESIGN CONTINGENCY (10%) ESCALATION (6%) - 2 Years	351,377 154,606 401,975 530,607
TOTAL ESTIMATED COST	\$4,952,329

#### **DIVISION 32 EXTERIOR IMPROVEMENTS**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>321213</u>	ASPHALT PAVING				
321213/010	Asphalt paving, heavy duty	2,300	SY	44.00	101,200
321213/010	Asphalt paving, apparatus	3,700	SY	44.00	162,800
321213/020	Asphalt paving	12,000	SY	36.00	432,000
					696,000
<u>321313</u>	CONCRETE PAVING				
321313/010	HD Concrete paving	58,630	SF	18.00	1,055,340
321313/020	Courtyard	1,500	SF	24.00	36,000
321313/030	Civic space	1,400	SF	30.00	42,000
					1,133,340
<u>323100</u>	SITE IMPROVEMENTS				
323100/010	Monumental sign base	1	EA	3,500.00	3,500
323100/020	Covered parking	4,400	SF	40.00	176,000
323100/030	Two lane bridge with pedestrian access	1,400	SF	750.00	1,050,000
					1,229,500
329000	LANDSCAPING				
329000/010	Trees	20	EA	950.00	19,000
329000/020	Shrubs	75	EA	175.00	13,125
329000/030	Landscaped beds	4,500	SF	8.00	36,000
329000/040	Seeding	4,000	SY	8.00	32,000
					100,125
	EXTERIOR IMPROVEMENTS TOTAL				\$3,158,965

## **DIVISION 33 SITE UTILITIES**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>334000</u>	SITE UTILITIES				
334000/010	Domestic water & fire water	300	LF	75.00	22,500
334000/020	Fire hydrant	1	EA	2,300.00	2,300
334000/030	Water hook ups	3	EA	2,100.00	6,300
					31,100
334100	STORMWATER				
334100/010	Storm drains	2,100	LF	45.00	94,500
334100/020	Headwalls	6	EA	2,900.00	17,400
334100/030	Catch basin	8	EA	2,100.00	16,800
					128,700
337000	SITE ELECTRICAL				
337000/010	Underground electric	150	LF	350.00	52,500
337000/020	Pole lightings	20	EA	4,500.00	90,000
337000/030	Bollard lights	15	EA	3,500.00	52,500
					195,000
	UTILITIES TOTAL				\$354,800



# Table E.2: LFUCG Fire Training Center Study New Facility

**GROSS SQ. FT.** 58,330 sf

**DATE:** October 20, 2024

	COST/SF	TOTAL COST
SUMMARY:	\$/SF	\$
EXISTING CONDITIONS	3.29	191,640
SUBSTRUCTURE	23.99	1,399,450
SUPERSTRUCTURE	45.50	2,654,250
EXTERIOR ENCLOSURE	56.54	3,298,000
ROOFING	21.06	1,228,330
STAIRS AND CONVEYING	2.13	124,500
INTERIOR CONSTRUCTION	97.02	5,659,150
FIRE PROTECTION	7.50	437,475
PLUMBING	13.78	803,648
HVAC	56.49	3,294,950
ELECTRICAL	45.00	2,624,850
COMMUNICATIONS	6.00	349,980
SECURITY	10.00	583,300
TOTAL DIRECT COST	\$388.30	22,649,523
GENERAL REQUIREMENTS (8%) G.C.'S FEE (5%) DESIGN CONTINGENCY (15%) ESCALATION (6%) - 2 Years		1,811,962 1,223,074 3,852,684 3,544,469
TOTAL ESTIMATED COST	\$567.29	\$33,090,000

## NOTES:

Excludes

Emergency generator & UPS Bi-fold doors

# SUBSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
033000	CONCRETE WORK				
033000/010	Concrete slab on grade	38,550	SF	18.00	693,900
033000/020	Concrete grade beams	955	LF	200.00	191,000
033000/030	Concrete footings	20	EA	2,900.00	58,000
033000/040	Elevator pits	1	EA	15,000.00	15,000
					957,900
<u>316300</u>	PILES AND CAISSONS				
316300/010	Auger cast piles	38,550	SF	11.00	424,050
316300/020	Mobilization	1	LS	17,500.00	17,500
					441,550
	SUBSTRUCTURE TOTAL				\$1,399,450

## SUPERSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
033000	CONCRETE WORK				
033000/010	Concrete suspended slabs	29,500	SF	15.00	442,500
					442,500
<u>051000</u>	STRUCTURAL METAL FRAMING				
051000/010	Structural steel framing	120	TONS	8,400.00	1,008,000
051000/020	Floor and roof joists	80	TONS	8,200.00	656,000
051000/030	Floor deck	29,500	SF	8.50	250,750
051000/040	Roof deck	9,000	SF	8.00	72,000
051000/050	Miscellaneous steel framing	25	TONS	9,000.00	225,000
					2,211,750
	SUPERSTRUCTURE TOTAL				\$2,654,250

## EXTERIOR ENCLOSURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>042113</u>	BRICK MASONRY				
042113/010	Facing brick	32,400	SF	70.00	2,268,000
042113/020	Brick details, sills, etc	1	LS	567,000.00	567,000
					2,835,000
<u>081113</u>	HOLLOW METAL DOORS AND FRAMES				
081110/010	Metal doors	17	EA	2,400.00	40,800
					40,800
083300	SPECIAL DOORS				
083300/010	Overhead doors, 14' x 14' (No Glass)	10	EA	12,400.00	124,000
					124,000
<u>084110</u>	STOREFRONT SYSTEMS				
084110/010	Aluminum framed windows	3,500	SF	75.00	262,500
084110/020	Aluminum storefront	300	SF	75.00	22,500
084110/030	Entrance doors, double	2	EA	6,600.00	13,200
					298,200
	EXTERIOR ENCLOSURE TOTAL				\$3,298,000

## ROOFING

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
074113	ROOFING				
074113/010	Single ply memebrane roofing, including flashing, fascia and access	38,500	SF	30.00	1,155,000
074113/020	Caulking and sealants	58,330	SF	1.00	58,330
074113/030	Canopies	1	LS	15000.00	15,000
					1,228,330
	ROOFING TOTAL				\$1,228,330

## STAIRS AND CONVEYING SYSTEMS

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>055100</u>	METAL STAIRS				
055100/010	Metal pan stairs with metal railings	2	FLT	13,500.00	27,000
055100/020	Mezzanine stair	1	FLT	7,500.00	7,500
					34,500
<u>142100</u>	ELEVATORS				
142100/010	Passenger elevator, 2 stop	1	EA	90,000.00	90,000
					90,000
	STAIRS AND CONVEYING SYSTEMS TOTAL				\$124,500

## INTERIOR CONSTRUCTION

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
099000	INTERIOR CONSTRUCTION				
099000/010	Aministration	3,635	SF	80.00	290,800
099000/020	Apparatus Bay	14,600	SF	110.00	1,606,000
099000/030	Building Systems	2,315	SF	50.00	115,750
099000/040	Circulation	8,190	SF	40.00	327,600
099000/050	Fire Training	4,210	SF	70.00	294,700
099000/060	Fitness	6,190	SF	60.00	371,400
099000/070	Lobby	1,685	SF	120.00	202,200
099000/080	Training support	10,485	SF	140.00	1,467,900
099000/090	EMS training	7,020	SF	140.00	982,800
					5,659,150
	INTERIOR CONSTRUCTION TOTAL				\$5,659,150

## **MECHANICAL - PLUMBING**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>221400</u>	STORM DRAINAGE				
221400/010	Storm drainage system	58,330	SF	1.50	87,495
					87,495
<u>221600</u>	GAS PIPING				
221600/010	Pipe & fittings	58,330	SF	0.75	43,748
					43,748
221400	COMPRESSED AIR				
221400/010	Pipe & fittings, air compressor, & hose reels	58,330	SF	0.50	29,165
					29,165
223000		50.000	05	4 50	07 405
223000/010	Water heater, pumps, backflow, etc	58,330	SF	1.50	87,495
004000					87,495
224000	PLUMBING FIXTURES & PIPING		Ξ.	5 000 00	400.000
224000/010	vvater Closet	31	EA	5,900.00	182,900
224000/020	Lavatories	32	EA	5,900.00	188,800
224000/030	Urinais	6	EA	5,900.00	35,400
224000/040	Snower	23	EA	2,415.00	55,545
224000/050	Emergency station	1	EA	2,300.00	2,300
224000/070	Kitchen sink, with grease trap	1	EA	19,000.00	19,000
224000/040	Sinks	6	EA	5,900.00	35,400
224000/050	Mop sinks	2	EA	5,900.00	11,800
224000/060	Washer box	3	EA	400.00	1,200
224000/060	Water coolers	3	ΕA	7,800.00	23,400
					555,745
	PLUMBING TOTAL				\$803,648

## **MECHANICAL - HVAC**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>238220</u>	HVAC SYSTEM				
238220/010	Training facility	46,630	SF	65.00	3,030,950
238220/020	Truck bays	11,700	SF	20.00	234,000
238220/030	Kitchen hood	1	EA	30,000.00	30,000
					3,294,950
	HVAC TOTAL				\$3,294,950



Table E.3: LFUCG Fire Training Center Study Renovation & Addition

RENOVATION	16,000	sf
ADDITION	36,800	sf
GROSS SQ. FT.	52,800	sf

**DATE:** October 20, 2024

SUMMARY:	COST/SF \$/SF	TOTAL COST \$
EXISTING CONDITIONS	2.42	127,760
SUBSTRUCTURE	26.55	1,401,700
SUPERSTRUCTURE	44.50	2,349,400
EXTERIOR ENCLOSURE	49.14	2,594,400
ROOFING	31.28	1,651,800
INTERIOR CONSTRUCTION	97.44	5,144,750
FIRE PROTECTION	7.50	396,000
PLUMBING	11.65	615,185
HVAC	56.79	2,998,500
ELECTRICAL	45.00	2,376,000
COMMUNICATIONS	6.00	316,800
SECURITY	10.00	528,000
TOTAL DIRECT COST	\$388.26	20,500,295
GENERAL REQUIREMENTS (8%) G.C.'S FEE (5%) DESIGN CONTINGENCY (15%) ESCALATION (6%) - 2 Years		1,640,024 1,107,016 3,487,100 3,208,132
TOTAL ESTIMATED COST	\$567.23	\$29.950.000

NOTES:

Excludes

Emergency generator & UPS Bi-fold doors

## SUBSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
033000	CONCRETE WORK				
033000/010	Concrete slab on grade	36,800	SF	18.00	662,400
033000/020	Concrete grade beams	1,220	LF	200.00	244,000
033000/030	Concrete footings	20	EA	2,900.00	58,000
033000/040	Elevator pits	1	EA	15,000.00	15,000
					979,400
<u>316300</u>	PILES AND CAISSONS				
316300/010	Auger cast piles	36,800	SF	11.00	404,800
316300/020	Mobilization	1	LS	17,500.00	17,500
					422,300
	SUBSTRUCTURE TOTAL				\$1,401,700

## SUPERSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>051000</u>	STRUCTURAL METAL FRAMING				
051000/010	Structural steel framing	150	TONS	8,400.00	1,260,000
051000/020	Floor and roof joists	75	TONS	8,200.00	615,000
051000/030	Roof deck	36,800	SF	8.00	294,400
051000/040	Miscellaneous steel framing	20	TONS	9,000.00	180,000
					2,349,400
	SUPERSTRUCTURE TOTAL				\$2,349,400

#### EXTERIOR ENCLOSURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>042113</u>	BRICK MASONRY				
042113/010	Facing brick	24,600	SF	70.00	1,722,000
042113/020	Brick details, sills, etc	1	LS	431,000.00	431,000
					2,153,000
<u>081113</u>	HOLLOW METAL DOORS AND FRAMES				
081110/010	Metal doors	8	EA	2,400.00	19,200
					19,200
083300	SPECIAL DOORS				
083300/010	Overhead doors, 14' x 14' (No Glass)	10	EA	12,400.00	124,000
					124,000
<u>084110</u>	STOREFRONT SYSTEMS				
084110/010	Aluminum framed windows	3,500	SF	75.00	262,500
084110/020	Aluminum storefront	300	SF	75.00	22,500
084110/030	Entrance doors, double	2	EA	6,600.00	13,200
					298,200
	EXTERIOR ENCLOSURE TOTAL				\$2,594,400

#### ROOFING

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
074112	POOFING				
074113/010	Single ply memebrane roofing, including flashing, fascia and access	36,800	SF	30.00	1,104,000
074113/020	Replace roofing	16,000	SF	30.00	480,000
074113/030	Caulking and sealants	52,800	SF	1.00	52,800
074113/040	Canopies	1	LS	15,000.00	15,000
					1,651,800
	ROOFING TOTAL				\$1,651,800



## INTERIOR CONSTRUCTION

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
099000	INTERIOR CONSTRUCTION				
099000/010	Aministration	3,545	SF	80.00	283,600
099000/020	Apparatus Bay	12,820	SF	110.00	1,410,200
099000/030	Building Systems	1,830	SF	50.00	91,500
099000/040	Circulation	6,495	SF	40.00	259,800
099000/050	Fire Training	4,315	SF	70.00	302,050
099000/060	Fitness	6,275	SF	60.00	376,500
099000/070	Lobby	1,585	SF	120.00	190,200
099000/080	Training support	9,165	SF	140.00	1,283,100
099000/090	EMS training	6,770	SF	140.00	947,800
					5,144,750
	INTERIOR CONSTRUCTION TOTAL				\$5,144,750

#### **MECHANICAL - PLUMBING**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
221400	STORM DRAINAGE				
221400/010	Storm drainage system	52,800	SF	1.50	79,200
					79,200
<u>221600</u>	GAS PIPING				
221600/010	Pipe & fittings	52,800	SF	0.75	39,600
					39,600
<u>221400</u>	COMPRESSED AIR				
221400/010	Pipe & fittings, air compressor, & hose reels	52,800	SF	0.50	26,400
					26,400
<u>223000</u>	PLUMBING EQUIPMENT				
223000/010	Water heater, pumps, backflow, etc	52,800	SF	1.50	79,200
					79,200
<u>224000</u>	PLUMBING FIXTURES & PIPING				
224000/010	Water Closet	20	EA	5,900.00	118,000
224000/020	Lavatories	20	EA	5,900.00	118,000
224000/030	Urinals	6	EA	5,900.00	35,400
224000/040	Shower	19	EA	2,415.00	45,885
224000/050	Emergency station	1	EA	2,300.00	2,300
224000/070	Kitchen sink, with grease trap	1	EA	19,000.00	19,000
224000/040	Sinks	4	EA	5,900.00	23,600
224000/050	Mop sinks	2	EA	5,900.00	11,800
224000/060	Washer box	3	EA	400.00	1,200
224000/060	Water coolers	2	EA	7,800.00	15,600
					390,785
	PLUMBING TOTAL				\$615,185

### **MECHANICAL - HVAC**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>238220</u>	HVAC SYSTEM				
238220/010	Training facility	42,500	SF	65.00	2,762,500
238220/020	Truck bays	10,300	SF	20.00	206,000
238220/030	Kitchen hood	1	EA	30,000.00	30,000
					2,998,500
	HVAC TOTAL				\$2,998,500





Table E.4: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Station 13

PRELIMINARY OPINION OF PROBABLE PROJECT COST - STATION 13						
LFUCG FIRE TRAINING CENTER / STATION 13 I FXINGTON, KENTUCKY						
PROJECT NO. 18158 / 39-2018						
CAROLLING	Quantity	l Unit	Cost	Total	March 27, 2019	
Construction Cost - Architectural and Structural	Quantity	<u> 0m</u>	0031	10(01	\$2,810.600	
"Dirtv" Areas	7,072	S.F.	\$150	\$1,060,800	Ψ210101000	
"Clean" Areas	8,749	S.F.	\$200	\$1,749,800		
Construction Cost - Building Systems					\$006 723	
Fire Protection Construction	15.821	S.F.	\$4	\$63.284	\$770,123	
Plumbing Construction	15,821	S.F.	\$10	\$158,210		
HVAC Construction	15,821	S.F.	\$22	\$348,062		
Electrical Construction	15,821	S.F.	\$24	\$379,704		
Safety and Security	15,821	S.F.	\$3	\$47,463		
Construction Cost - Site Development					\$280,000	
Earthwork			±25.000	<b>*</b> 25,000		
(Demolition, Topsoil, Landscape, Erosion Control) Pavements	Т Т	L.S.	\$85,000	\$85,000		
(Curbs, Concrete Walks, Asphalt, Concrete Pavement)	1	L.S.	\$75,000	\$75,000		
Site Amenities (Fence, Gates, Dumpster Area, Bollards)	1	L.S.	\$10,000	\$10,000		
Utilities (Flectric, Phone, Cable, Water, Gas)	1	LS	\$60.000	\$60.000		
Storm Water Management		E.J.	\$00,000	\$00,000		
(Headwalls, Piping, Basins, Manholes, Water Quality, Overflow Structures)	1	L.S.	\$25,000	\$25,000		
Sanitary Sewer (Piping, Manholes, Grease Trap, Cleanouts)	1	L.S.	\$25,000	\$25,000		
					¢ 4 007 222	
			COST PER SQUA	RE FOOT (Rounded)	\$4,087,323	
					¢407.440	
Furniture, Fixtures, & Equipment (FF&E) Cost					\$486,113	
(Estimate)	1	@	\$200,000	\$200,000		
Rock and Soil Contingency (% of Estimated Construction Cost)	1	@	2%	\$81,746		
				#204.277		
(% of Estimated Construction Cost)		@	5%	\$204,366		
Owner Costs and Architect/Engineering						
Plan Review Fees (Estimate & May Be Waived)	1	L.S.	\$5,000	\$5,000		
Architect / Engineer Fees (% of Construction)	1	@	8%	\$326,986		
Commissioning	1	@	1%	\$40,873		
Administrative and Legal Fees	1	L.S.	\$10,000	\$10,000		
Special Inspections (Estimate)	1	L.S.	\$35,000	\$35,000		
TOTAL PROJECT COST						

	Quantity	Unit	Cost	Total	Subtotal		
			<u>C031</u>	<u>10(a)</u>	Subtotal		
Operation and Maintenance Costs							
Preventative Maintenance	15,821	S.F.	\$1.50	\$23,732			
Supplies	15,821	S.F.	\$0.50	\$7,911			
Site Related Maintenance	2.50	acre	\$2,500	\$6,250			
Utilities	15,821	S.F.	\$1	\$15,821			
TOTAL OPERATION AND MAINTENANCE COST							

Notes

1. Contingency will be reduced as project development continues



Table E.5: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Training Center

PRELIMINARY OPINION OF PROBABLE PROJECT COST - TRAINING CENTER							
LFUCG FIRE TRAINING CENTER / STATION 13							
LEXINGTON, KENTUCKY							
PROJECT NO. 18158 / 39-2018							
CARROLL INC					March 27, 2019		
	Quantity	<u>Unit</u>	Cost	Total	Subtotal		
Construction Cost - Architectural and Structural					\$12,238,980		
"Dirty" Areas	13,585	S.F.	\$225	\$3,056,625			
"Clean" Areas	29.621	S.F.	\$310	\$9,182,355			
	27,021		\$610	\$7,102,000			
Construction Cost - Building Systems					\$2,721,978		
Fire Protection Construction	43,206	S.F.	\$4	\$172,824			
Plumbing Construction	43,206	S.F.	\$10	\$432,060			
HVAC Construction	43,206	S.F.	\$22	\$950,532			
Electrical Construction	43,206	S.F.	\$24	\$1,036,944			
Safety and Security	43,206	S.F.	\$3	\$129,618			
		-					
Construction Cost - Site Development					\$295,000		
Earthwork	1	1 5	¢95.000	¢95,000			
Pavements	1	L.3.	\$00,000	\$05,000			
(Curbs, Concrete Walks, Asphalt, Concrete Pavement)	1	L.S.	\$65,000	\$65,000			
Site Amenities (Fence, Gates, Dumpster Area, Material Bins, Wash Bay,							
Bollards)	1	L.S.	\$10,000	\$10,000			
Utilities (Electric Phone Cable Water Cas)	1		¢75.000	¢75.000			
Storm Water Management		L.3.	\$75,000	\$75,000			
(Headwalls, Piping, Basins, Manholes, Water Quality,							
Overflow Structures)	1	L.S.	\$25,000	\$25,000			
(Piping, Manholes, Grease Trap, Cleanouts)	1	L.S.	\$35,000	\$35,000			
		TO	TAL CONSTR	UCTION COST	\$15,255,958		
		COS	t per square f	OOT (Rounded)	\$353.10		
Contingency and Soft Costs					\$1,367,917		
Furniture, Fixtures, & Equipment (FF&E) Cost							
(Estimate)	1	@	\$300,000	\$300,000			
Rock and Soil Contingency (% of Estimated Construction Cost)	1	@	2%	\$305,119			
Construction Contingency (% of Estimated Construction Cost)	1	@	5%	\$762,798			
	· · ·						

			<u>Quantity</u>	<u>Unit</u>	<u>Cost</u>	Total	<u>Subtotal</u>
Ov	Owner Costs and Architect/Engineering     \$						
	Plan Review Fees (Estimate & May Be Waived)		1	L.S.	\$5,000	\$5,000	
	Architect / Engineer Fees (% of Construction)		1	@	8%	\$1,220,477	
	Commissioning		1	@	1%	\$152,560	
	Administrative and Legal Fees		1	L.S.	\$10,000	\$10,000	
	Special Inspections (Estimate)		1	L.S.	\$50,000	\$50,000	
					TOTAL P	ROJECT COST	\$18,061,911

Notes

1. Contingency will be reduced as project development continues

Operation and Maintenance Costs						
Preventative Maintenance	43,206	S.F.	\$1.50	\$64,809		
Supplies	43,206	S.F.	\$0.50	\$21,603		
Site Related Maintenance	3.00	acre	\$2,500	\$7,500		
Utilities	43,206	S.F.	\$1	\$43,206		
		÷				



Table E.6: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Training Center Renovation

PRELIMINARY OPINION OF PROBABLE PROJECT COST LFUCG FIRE TRAINING CENTER / STATION 13	- TRAINING CE	ENTER REN	IOVATION			
LEXINGTON, KENTUCKY						
PROJECTINO. 101507 39-2010						
BRANDSTETTER					March 27 2019	
	<u>Quantity</u>	<u>Unit</u>	Cost	<u>Total</u>	Subtotal	
Construction Cost - Architectural and Structural					\$11,534,325	
"Dirty" Areas	13,585	S.F.	\$225	\$3,056,625		
"Clean" Areas	21,394	S.F.	\$310	\$6,632,140		
"Clean" Areas Renovation	8,227	S.F.	\$180	\$1,480,860		
Selective Demolition	7,294	S.F.	\$50	\$364,700		
Construction Cost - Building Systems	<u> </u>		1 1		\$2,796,021	
Fire Protection Construction	34,979	S.F.	\$4	\$139,916		
Fire Protection Construction Renovation	8,227	S.F.	\$5	\$41,135		
Plumbing Construction	34,979	S.F.	\$10	\$349,790		
Plumbing Construction Renovation	8,227	S.F.	\$12	\$98,724		
HVAC Construction	34,979	S.F.	\$22	\$769,538		
HVAC Construction Renovation	8,227	S.F.	\$24	\$197,448		
Electrical Construction	34,979	S.F.	\$24	\$839,496		
Electrical Construction Renovation	8,227	S.F.	\$26	\$213,902		
Safety and Security	34,979	S.F.	\$3	\$104,937		
Safety and Security Renovation	8,227	S.F.	\$5	\$41,135		
Construction Cost - Site Development	<u>г г</u>		1 1		\$295,000	
(Demolition, Topsoil, Landscape, Erosion Control)	1	L.S.	\$85,000	\$85,000		
Pavements (Curbs Concrete Walks Asphalt Concrete Pavement)	1		¢45,000	¢45.000		
Site Amenities		L.3.	\$00,000	\$00,000		
(Fence, Gates, Dumpster Area, Material Bins, Wash Bay,	1		¢10.000	¢10.000		
Utilities	1	L.3.	\$10,000	\$10,000		
(Electric, Phone, Cable, Water, Gas)	1	L.S.	\$75,000	\$75,000		
Storm Water Management (Headwalls, Piping, Basins, Manholes, Water Quality,						
Overflow Structures)	1	L.S.	\$25,000	\$25,000		
Sanitary Sewer (Piping, Manholes, Grease Trap. Cleanouts)	1	15	\$35,000	\$35 000		
		L.J.	\$33,000	\$33,000		
		TO	TAL CONSTRU	JCTION COST	\$14,625,346	
COST PER SQUARE FOOT (Rounded)						

		Quantity	<u>Unit</u>	Cost	<u>Total</u>	<u>Subtotal</u>
Contingency and Soft Costs	· · · · ·					\$2,055,042
Furniture, Fixtures, & Equipment (FF (Estimate)	E&E) Cost	1	@	\$300,000	\$300,000	
Rock and Soil Contingency (% of Estimated Construction Cost)		1	@	2%	\$292,507	
Construction Contingency (% of Estimated Construction Cost)		1	@	10%	\$1,462,535	
·		•		•		
Owner Costs and Architect/Engineeri	ng					\$1,381,281
Plan Review Fees (Estimate & May Be	Waived)	1	L.S.	\$5,000	\$5,000	
Architect / Engineer Fees (% of Cons	struction)	1	@	8%	\$1,170,028	
Commissioning		1	@	1%	\$146,253	
Administrative and Legal Fees		1	L.S.	\$10,000	\$10,000	
Special Inspections (Estimate)		1	L.S.	\$50,000	\$50,000	
				TOTAL P	ROJECT COST	\$18,061,669

Notes

1. Contingency will be reduced as project development continues

Operation and Maintenance Costs							
Preventative Maintenance	43,206	S.F.	\$1.50	\$64,809			
Supplies	43,206	S.F.	\$0.50	\$21,603			
Site Related Maintenance	3.00	acre	\$2,500	\$7,500			
Utilities	43,206	S.F.	\$1	\$43,206			
TOTAL OPERATION AND MAINTENANCE COST							



Table E.7: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Maintenance Facility

PRELIMINARY OPINION OF PROBABLE PROJECT COST	- MAINTENAN	ICE FACIL	ITY		
LFUCG FIRE TRAINING CENTER / STATION 13					
LEXINGTON, KENTUCKY					
PROJECT NO. 18158 / 39-2018					
BRANDSTETTER					
					March 27, 2019
	Quantity	<u>Unit</u>	Cost	Total	<u>Subtotal</u>
Construction Cost - Architectural and Structural			1		\$5,362,800
Metal Building Structure	28,824	S.F.	\$150	\$4,323,600	
Office Structure	5,196	S.F.	\$200	\$1,039,200	
Construction Cost - Building Systems					\$1,871,100
Fire Protection Construction	34,020	S.F.	\$4	\$136,080	
Plumbing Construction	34,020	S.F.	\$10	\$340,200	
HVAC Construction	34 020	S F	\$18	\$612 360	
	34,020	S F	\$20	\$680,400	
	24,020	ог.	\$20	\$000,400	
	34,020	3.F.	\$3	\$102,060	
Construction Cost - Site Development					\$250,000
Earthwork					
(Demolition, Topsoil, Landscape, Erosion Control) Pavements	1	L.S.	\$75,000	\$75,000	
(Curbs, Concrete Walks, Asphalt, Concrete Pavement)	1	L.S.	\$50,000	\$50,000	
Site Amenities			405.000	* 0 F 0 0 0	
(Fence, Gates, Dumpster Area, Wash Bay, Bollards)	1	L.S.	\$25,000	\$25,000	
(Electric, Phone, Cable, Water, Gas)	1	L.S.	\$50,000	\$50,000	
Storm Water Management					
(Headwalls, Piping, Basins, Mannoles, Water Quality, Overflow Structures)	1	L.S.	\$25,000	\$25.000	
Sanitary Sewer		-			
(Piping, Manholes, Grease Trap, Cleanouts)	1	L.S.	\$25,000	\$25,000	
			IOIAL CONSTR		\$7,483,900
		(	COST PER SQUARE	FOOT (Rounded)	\$219.99
Contingency and Soft Costs					\$548,873
Furniture, Fixtures, & Equipment (FF&E) Cost (Estimate)	1	@	\$25,000	\$25,000	
Rock and Soil Contingency (% of Estimated Construction Cost)	1	@	2%	\$149.678	
Construction Contingency (% of Estimated Construction Cost)	1	@	5%	\$374,195	
	<u> </u>				

		Quantity	<u>Unit</u>	<u>Cost</u>	<u>Total</u>	<u>Subtotal</u>
Ov	wner Costs and Architect/Engineering					
	Plan Review Fees (Estimate & May Be Waived)	1	L.S.	\$5,000	\$5,000	
	Architect / Engineer Fees (% of Construction)	1	@	8%	\$598,712	
	Commissioning	1	@	1%	\$74,839	
	Administrative and Legal Fees	1	L.S.	\$10,000	\$10,000	
	Special Inspections (Estimate)	1	L.S.	\$20,000	\$20,000	
				TOTAL F	PROJECT COST	\$8,741,324

Notes

1. Contingency will be reduced as project development continues

Operation and Maintenance Costs							
Preventative Maintenance	34,020	S.F.	\$1.50	\$51,030			
Supplies	34,020	S.F.	\$0.50	\$17,010			
Site Related Maintenance	4.00	acre	\$2,500	\$10,000			
Utilities	34,020	S.F.	\$1	\$34,020			
TOTAL OPERATION AND MAINTENANCE COSTS							



Table E.8: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Outdoor Training Areas

PRELIMINARY OPINION OF PROBABLE PROJECT COST - OUTDOOR TRAINING AREAS							
LFUCG FIRE TRAINING CENTER / STATION 13							
PROJECT NO. 18158 / 39-2018							
BRANDSTETTER CARROLL INC					March 27, 2010		
	Quantity	<u>Unit</u>	Cost	Total	Subtotal		
Construction Cost - Site Amenities							
Emergency Vehicle Operations Course	1	L.S.	\$900,000	\$900,000			
Storage Building	4,200	S.F.	\$85	\$357,000			
Drill Tower (Existing) - Minor Repairs (If Relocated, cost will be an additional \$1,000,000)	1	L.S.	\$20,000	\$20,000			
Live Fire Training Structure (Existing House)	1	L.S.	\$0	\$0			
Live Fire Training Structure (Class A and B Areas)	1	L.S.	\$25,000	\$25,000			
Technical Rescue (Area)	1	L.S.	\$10,000	\$10,000			
Rail Incident Training (Relocate Existing Rail & Car)	1	L.S.	\$75,000	\$75,000			
Fire Behavior Lab (Area)	1	L.S.	\$10,000	\$10,000			
Rapid Intervention Crew (Area)	1	L.S.	\$10,000	\$10,000			
Drafting Pit (Underground Pit)	1	L.S.	\$200,000	\$200,000			
Construction Cost - Site Structures					\$666.500		
Outdoor Classrooms	1,900	S.F.	\$85	\$161,500	+		
Restroom Facilities	1,540	S.F.	\$150	\$231,000			
Rehabilitation Areas	800	S.F.	\$50	\$40,000			
Hazardous Containment Area	1,560	S.F.	\$150	\$234,000			
Construction Cost - Site Development	·				\$1,235.000		
Earthwork (Demolition, Topsoil, Landscape, Erosion Control)	1	L.S.	\$275,000	\$275,000	+		
Pavements (Curbs, Concrete Walks, Asphalt, Concrete Pavement)	1	21	\$350,000	\$350,000			
Site Amenities		L.0.	\$330,000	\$330,000			
(Fence, Gates, Dumpster Areas, Water Filtration and Reclamation, Bollards)	1	L.S.	\$225,000	\$225,000			
Utilities (Electric, Phone, Cable, Water, Water Distribution (Hydrants), Gas)	1	L.S.	\$125,000	\$125,000			
Storm Water Management (Headwalls, Piping, Basins, Manholes, Water Quality, Overflow Structures)	1	L.S.	\$235,000	\$235,000			
Sanitary Sewer (Piping, Manholes, Grease Trap, Cleanouts)	1	L.S.	\$25,000	\$25,000			
		TO			\$3 508 500		
		COST	PER SQUARE F	OOT (Rounded)	\$350.85		

	<u>Quantity</u>	<u>Unit</u>	<u>Cost</u>	<u>Total</u>	<u>Subtotal</u>	
Contingency and Soft Costs					\$570,595	
Furniture, Fixtures, & Equipment (FF&E) Cost (Estimate)	1	@	\$150,000	\$150,000		
Abatement Allowance	1	@	\$75,000	\$75,000		
Bridge Repair Allowance	1	@	\$100,000	\$100,000		
Rock and Soil Contingency (% of Estimated Construction Cost)	1	@	2%	\$70,170		
Construction Contingency (% of Estimated Construction Cost)	1	@	5%	\$175,425		
Owner Costs and Architect/Engineering	1	1			\$415,680	
Architect / Engineer Fees (% of Construction)	1	@	8%	\$280,680		
Phase 2 Geotechnical Engineering Fees (Estimate)	1	L.S.	\$25,000	\$25,000		
Administrative Legal Fees	1	L.S.	\$10,000	\$10,000		
Plan Review Fees (Estimate & May Be Waived)	1	L.S.	\$15,000	\$15,000		
Special Inspections (Estimate)	1	L.S.	\$85,000	\$85,000		
TOTAL PROJECT COST						

Notes

1. Contingency will be reduced as project development continues

2. Bridge Repair Allowance was given to Consultant Team by City per Structural Assessment Report

Op	peration and Maintenance Costs					
	Preventative Maintenance	10,000	S.F.	\$0.95	\$9,500	
	Supplies	10,000	S.F.	\$0.50	\$5,000	
	Site Related Maintenance	10.50	acre	\$2,500	\$26,250	
	Utilities	10,000	S.F.	\$0.75	\$7,500	
TOTAL OPERATION AND MAINTENANCE COST					\$48,250	



Table E.9: LFUCG Fire Training Center Study Preliminary Opinion of Probable Cost - Components

PRELIN LFUCC	AINARY OPINION OF PROBABL FIRE TRAINING CENTER / STAT	E PROJECT COST - COMPONENTS ION 13				
	GTON, KENTUCKY					
-	CARROLLINC				M	arch 27, 2019
SPACI	EDESCRIPTION	NOTES	QTY	PROGRAM NET (EACH)	PROGRAM NET (TOTAL)	COST
Fire	Station 13				•	
1.00	Dirty Areas					
1.01	Apparatus Bay	Trench Drains / Bi-Fold Doors / Fans	1	1,400	1,400	\$280,000
2.00	Clean Areas					
2.01	Office	Desk/File Cabinet/ Book Case	1	150	150	\$30,000
Trair	ning Center					
1.00	Dirty Areas					
1.01	Apparatus Bay	Trench Drains / Bi-Fold Doors / Fans	1	1,400	1,400	\$350,000
1.02	Small Classrooms	A/V / Monitors/ Markerboards	1	800	800	\$200,000
1.03	Large Classrooms	A/V / Monitors/ Markerboards / Air Walls for Division	1	1,500	1,500	\$375,000
1.04	Small Labs	A/V / Monitors/ Markerboards	1	300	300	\$75,000
1.05	Large Labs	A/V / Monitors/ Markerboards / Air Walls for Division	1	750	750	\$187,500
1.06	Natatorium	Includes Filter Room / Chemical Storage / Storage / Pool	1	5,960	5,960	\$1,490,000
2.00	Clean Areas					
2.01	Office	Desk/File Cabinet/ Book Case	1	200	200	\$50,000
2.02	Auditorium	Air Walls for Dividing Space into multiple rooms / 400 People / A/V / Stage / Screens / Monitors / Projectors / Acoustical Panels	1	8,000	8,000	\$2,000,000
2.03	Small Classrooms	A/V / Monitors/ Markerboards	1	850	850	\$212,500
2.04	Large Classrooms	A/V / Monitors/ Markerboards / Air Walls for Division	1	1,500	1,500	\$375,000
Mai	ntenance Facility				1	
1.00	Maintenance Areas					
1.01	Apparatus Bay	Trench Drains / Bi-Fold Doors / Fans	1	1,400	1,400	\$350,000
2.00	Administration Areas					
2.01	Training Room	Tables and Chairs	1	500	500	\$125,000
2.02	Office	Desk/ File Cabinet	1	200	200	\$50,000

				PROGRAM		
SPACE DESCRIPTION		NOTES	QTY	NET	NET	COST
				(EACH)	(TOTAL)	
Outo	Outdoor Training					
1.00	Site Amenities					
1.01	Drafting Pit	Pump / Ladder / Hose Testing / Bleacher Area	1	1,500	1,500	\$200,000
1.02	Live Fire Training Structure	Class A & B	1	2,500	2,500	\$25,000
1.03	Storage Building	Portable Equipment / Vehicles / Props	1	1,400	1,400	\$119,000
2.00	Site Structures					
2.01	Outdoor Classrooms		1	650	650	\$55,250
2.02	Restroom Facilities	w/ 6 Showers	1	500	500	\$75,000
2.03	Uni-Sex Restroom	w/ Shower	1	90	90	\$13,500
2.04	Storage		1	100	100	\$8,500
2.05	Safety Monitoring and Control Areas	Various Areas around the Site	1	50	50	\$4,250
2.06	Rehabilitation Areas		1	400	400	\$20,000
2.07	Decontamination Area	Showers / Sinks / Eye Wash	1	200	200	\$30,000
2.08	Hazardous Containment Room		1	400	400	\$60,000
2.09	Laundry / Turnout Gear Extractor		1	100	100	\$15,000



<b>GROSS SQ. FT.</b> 68,730 sf	DATE:	October 20, 2024
SUMMARY:	COST/SF \$/SF	TOTAL COST \$
SUBSTRUCTURE	20.36	1,399,450
SUPERSTRUCTURE	68.71	4,722,250
EXTERIOR ENCLOSURE	47.98	3,298,000
ROOFING	18.02	1,238,730
STAIRS AND CONVEYING	1.81	124,500
INTERIOR CONSTRUCTION	86.94	5,975,150
FIRE PROTECTION	7.50	515,475
PLUMBING	12.34	847,848
HVAC	50.72	3,485,950
ELECTRICAL	54.47	3,743,800
COMMUNICATIONS	6.00	412,380
SECURITY	10.00	687,300
EXTERIOR IMPROVEMENTS	117.72	8,090,825
SITE UTILITIES	10.31	708,800
TOTAL DIRECT COST	\$512.88	35,250,458
GENERAL REQUIREMENTS (8%) G.C.'S FEE (5%) DESIGN CONTINGENCY (15%) PHASING (5%)		2,820,037 1,903,525 5,996,103 2,298,506
TOTAL ESTIMATED COST	\$702.31	\$48,270,000

14

# Table E.10: LFUCG Fire Training Center Study New Facility

### SUBSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
033000	CONCRETE WORK				
033000/010	Concrete slab on grade	38,550	SF	18.00	693,900
033000/020	Concrete grade beams	955	LF	200.00	191,000
033000/030	Concrete footings	20	EA	2,900.00	58,000
033000/040	Elevator pits	1	EA	15,000.00	15,000
					957,900
316300	PILES AND CAISSONS				
316300/010	Auger cast piles	38,550	SF	11.00	424,050
316300/020	Mobilization	1	LS	17,500.00	17,500
					441,550
	SUBSTRUCTURE TOTAL				\$1,399,450

#### SUPERSTRUCTURE

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
033000	CONCRETE WORK				
033000/010	Concrete suspended slabs	29,500	SF	15.00	442,500
033000/020	Concrete storm structure	4,200	SF	35.00	147,000
					589,500
051000	STRUCTURAL METAL FRAMING				
051000/010	Structural steel framing	275	TONS	8,400.00	2,310,000
051000/020	Floor and roof joists	120	TONS	8,200.00	984,000
051000/030	Floor deck	29,500	SF	8.50	250,750
051000/040	Roof deck	28,500	SF	8.00	228,000
051000/050	Miscellaneous steel framing	40	TONS	9,000.00	360,000
					4,132,750
	SUPERSTRUCTURE TOTAL				\$4,722,250

#### EXTERIOR ENCLOSURE

E-24 TRINGTON

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>042113</u>	BRICK MASONRY				
042113/010	Facing brick	32,400	SF	70.00	2,268,000
042113/020	Brick details, sills, etc	1	LS	567,000.00	567,000
					2,835,000
081113	HOLLOW METAL DOORS AND FRAMES				
081110/010	Metal doors	17	EA	2,400.00	40,800
					40,800
083300	SPECIAL DOORS				
083300/010	Overhead doors, 14' x 14' (No Glass)	10	EA	12,400.00	124,000
					124,000
084110	STOREFRONT SYSTEMS				
084110/010	Aluminum framed windows	3,500	SF	75.00	262,500
084110/020	Aluminum storefront	300	SF	75.00	22,500
084110/030	Entrance doors, double	2	EA	6,600.00	13,200
					298,200
	EXTERIOR ENCLOSURE TOTAL				\$3,298,000
#### ROOFING

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>074113</u> 074113/010	ROOFING Single ply memebrane roofing, including flashing	38,500	SF	30.00	1,155,000
074113/020	fascia and access Caulking and sealants	68,730	SF	1.00	68,730
074113/030	Canopies	1	LS	15000.00	15,000
					1,238,730
	ROOFING TOTAL				\$1,238,730

#### STAIRS AND CONVEYING SYSTEMS

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>055100</u>	METAL STAIRS				
055100/010	Metal pan stairs with metal railings	2	FLT	13,500.00	27,000
055100/020	Mezzanine stair	1	FLT	7,500.00	7,500
					34,500
142100	ELEVATORS				
142100/010	Passenger elevator, 2 stop	1	EA	90,000.00	90,000
					90,000
	STAIRS AND CONVEYING SYSTEMS TOTAL				\$124,500

#### INTERIOR CONSTRUCTION

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
099000	INTERIOR CONSTRUCTION				
099000/010	Aministration	3,635	SF	80.00	290,800
099000/020	Apparatus Bay	14,600	SF	110.00	1,606,000
099000/030	Building Systems	2,315	SF	50.00	115,750
099000/040	Circulation	8,190	SF	40.00	327,600
099000/050	Fire Training	4,210	SF	70.00	294,700
099000/060	Fitness	6,190	SF	60.00	371,400
099000/070	Lobby	1,685	SF	120.00	202,200
099000/080	Training support	10,635	SF	140.00	1,488,900
099000/090	EMS training	7,770	SF	140.00	1,087,800
099000/100	Shell space	9,500	SF	20.00	190,000
					5,975,150
	INTERIOR CONSTRUCTION TOTAL				\$5,975,150

#### **MECHANICAL - PLUMBING**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
004.400					
221400	STORM DRAINAGE			( = -	
221400/010	Storm drainage system	68,730	SF	1.50	103,095
					103,095
221600	GAS PIPING				
221600/010	Pipe & fittings	68,730	SF	0.75	51,548
					51,548
221400	COMPRESSED AIR				
221400/010	Pipe & fittings, air compressor, & hose reels	68,730	SF	0.50	34,365
					34,365
223000				( = -	
223000/010	Water heater, pumps, backflow, etc	68,730	SF	1.50	103,095
					103,095
224000	PLUMBING FIXTURES & PIPING				
224000/010	Water Closet	31	EA	5,900.00	182,900
224000/020	Lavatories	32	EA	5,900.00	188,800
224000/030	Urinals	6	EA	5,900.00	35,400
224000/040	Shower	23	EA	2,415.00	55,545
224000/050	Emergency station	1	EA	2,300.00	2,300
224000/070	Kitchen sink, with grease trap	1	EA	19,000.00	19,000
224000/040	Sinks	6	EA	5,900.00	35,400
224000/050	Mop sinks	2	EA	5,900.00	11,800
224000/060	Washer box	3	EA	400.00	1,200
224000/060	Water coolers	3	EA	7,800.00	23,400
					555,745
	PLUMBING TOTAL				\$847,848

MECHANICAL - HVAC

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
238220	HVACSYSTEM				
238220/010	Training facility	47,330	SF	65.00	3,076,450
238220/020	Truck bays	11,700	SF	20.00	234,000
238220/030	Shell space	9,700	SF	15.00	145,500
238220/040	Kitchen hood	1	EA	30,000.00	30,000
					3,485,950
	HVAC TOTAL				\$3,485,950

#### DIVISION 32 EXTERIOR IMPROVEMENTS

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
<u>321213</u>	ASPHALT PAVING				
321213/010	Asphalt paving, heavy duty	2,300	SY	44.00	101,200
321213/020	Asphalt paving	12,000	SY	36.00	432,000
					533,200
<u>321313</u>	CONCRETE PAVING				
321313/010	Courtyard	1,500	SF	24.00	36,000
321313/020	Civic space	1,400	SF	30.00	42,000
					78,000
323100	SITE IMPROVEMENTS				
323100/010	Monumental sign base	1	EA	3,500.00	3,500
323100/020	Covered parking	4,400	SF	40.00	176,000
323100/030	Two lane bridge with pedestrian access	9,600	SF	750.00	7,200,000
					7,379,500
329000	LANDSCAPING				
329000/010	Trees	20	EA	950.00	19,000
329000/020	Shrubs	75	EA	175.00	13,125
329000/030	Landscaped beds	4,500	SF	8.00	36,000
329000/040	Seeding	4,000	SY	8.00	32,000
	-				100,125
	EXTERIOR IMPROVEMENTS TOTAL				\$8,090,825

Option 3

#### **DIVISION 33 SITE UTILITIES**

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	TOTAL
334000	SITE UTILITIES				
334000/010	Domestic water & fire water	1,300	LF	75.00	97,500
334000/020	Gas	650	LF	65.00	42,250
334000/030	Sanitary	650	LF	95.00	61,750
334000/040	Fire hydrant	1	EA	2,300.00	2,300
334000/030	Water hook ups	3	EA	2,100.00	6,300
					210,100
334100	STORMWATER				
334100/010	Storm drains	2,100	LF	45.00	94,500
334100/020	Headwalls	6	EA	2,900.00	17,400
334100/030	Catch basin	8	EA	2,100.00	16,800
					128,700
337000	SITE ELECTRICAL				
337000/010	Underground electric	650	LF	350.00	227,500
337000/020	Pole lightings	20	EA	4,500.00	90,000
337000/030	Bollard lights	15	EA	3,500.00	52,500
					370,000
	UTILITIES TOTAL				\$708,800





## **APPENDIX F - MISCELLANEOUS INFORMATION**

Figure F.1: LFUCG Fire Training Center Study Topography Survey with Aerial Photo Overlay









Figure F.3: LFUCG Fire Training Center Study Initial Geotechnical Findings

DESIGN ENGINEER CONSTRUCT

# Initial Geotechnical Findings LFUCG Fire Training Academy Campus

Project No: 240232

**Old Frankfort Pike** 

Lexington, Kentucky 40504

October 8, 2024



October 8, 2024

Mr. Josh Ives LFUCG Capital Project Manager 200 East Main Street Lexington, Kentucky 40507

#### Initial Geotechnical Findings - LFUCG Fire Training Academy Campus

Dear Mr. Ives,

Thoroughbred is in the process of providing a geotechnical evaluation for future expansion at the Lexington Fayette Urban County (LFUCG) Fire Training Academy. This letter is intended to help provide initial findings following completion of our geotechnical field exploration efforts. We have not completed all of our scope of services but wanted to provide you with the information we have to date. Please read over this brief letter and let us know if you have any questions. We anticipate our geotechnical evaluation will be completed in a few weeks.

Project information was provided by Josh Ives via email on August 14, 2024. We understand the project will consist of either a new two-story building or two-story building addition. A site survey completed by Endris Engineering in 2019 which indicated proposed boring locations. A provided concept plan indicated 21 boring locations across the site.

Kentucky 811 call before you dig was contacted prior to mobilizing to the site. Marked sanitary, gas, and water lines were observed onsite. Overhead electric lines were also observed onsite.

Geotechnical exploration consisted of geotechnical drilling. Drilling was conducted at 21 locations shown on page 4. Glass pieces, brick pieces, rock fragments, and other construction material from non-engineered fill was encountered in several borings onsite. Boring B-21 encountered trash bags, bricks, and material constant with landfill material. Conversations with fire academy management indicated the site was a previous landfill and dump site and contained a superfund site.

While water was not encountered in borings during geotechnical drilling, water was however encountered in thirteen borings 24 hours after drilling.

Pavements across the site contained fatigue cracks, potholes, and raveling. Utility trenches were also observed in several locations. Pavements around these trenches were observed to have settled and contain severe cracking. Asphalt thicknesses were found to range from 3 to 6 inches. Base stone was only encountered in four of the thirteen borings conducted in pavement and ranged from 2 to 6 inches thick.

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Page 1 of 6



At this time, the following are observations about the site conditions and preliminary recommendations.

- 1. <u>Non-Engineered Fill</u> The majority of material encountered during geotechnical drilling was not natural material and had been placed at some point. This material contained glass, brick, and rock boulders that are consistent with dumped material. This material does not meet the definition of structural fill and can lead
- 2. <u>Environmental Concerns</u> Conversations with the fire training academy staff indicated the site was a previous landfill and dump site. This included construction debris from a downtown building that was demolished in the 70s or 80s. Trash bags were encountered in boring B-21 during drilling. Academy staff also indicated an old fuel containment area existed onsite that was utilized for fire training and had been capped. Environmental covenants are anticipated to for portions of the site which may effect development potential. An environmental consultant should be consulted in regards to the development/remediated potential for the site area.
- <u>Differential Settlement</u> Given the non-engineered fill onsite, rock boulders, and debris encountered during drilling, differential settlement will occur for foundations that bear on this material. Cracks will form in slabs, masonry, and interior walls. The current fire training building was observed to contain cracks in masonry and misaligning doors.
- 4. <u>Fatigued Pavements</u> Pavements across the site were found to contain fatigue cracks. Alligator cracking, potholes, raveling, and rutting were observed onsite. Pavements over utility trenches onsite contained severe cracking and excessive settlement. Thirteen borings were conducted in pavements which found asphalt to range from 3 to 6 inches. Only four of the pavement borings contained base stone beneath asphalt. The existing pavement sections do not appear to be adequate for traffic loads occurring onsite. Recommendations for heavy duty pavements will be provided in the final report. Improper backfill around utility lines has likely caused the excessive cracking near them. Cracks can allow water to infiltrate subgrade and further degrade the pavement from freezing and thawing conditions.
- 5. <u>Deep Foundations</u> At this time, we anticipate deep foundations will be required for this site to extend through fill material to competent bedrock as existing materials are not anticipated to provide sufficient bearing or be within settlement tolerances. Future geotechnical efforts are likely to include rock core samples to provide more accurate bedrock design criteria for deep foundations as well as test pits to further evaluate the construction debris.
- <u>Utility Lines</u> Marked water, gas, and sanitary sewer lines were observed onsite. Contractors and designers should account for these utility lines. If this lines are infringed, fines and additional cost for repairs could occur. Relocation of these utility lines from building areas may be required.
- <u>Groundwater</u> Thirteen borings were found to contain water 24 hours after drilling. Soils did not appeared to be saturated during drilling, which suggested perched groundwater infiltrated these borings after drilling. Groundwater can cause metal in foundation elements to become corrosive and frictional resistance of soils to decrease causing lower bearing capacities.
- 8. Existing Building Structure During our onsite visit, we observed that the existing building appears to have some settlement issues in which doors do not properly align or close properly. It is anticipated that the buildings was constructed on the fill material encountered on both sides of the building. If additions are constructed on this material, it is anticipated that settlement will be experienced similar to the existing building which maybe outside the tolerance of the structure.

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#### Closing

You should know that our efforts are still ongoing. Laboratory testing of soil samples obtained from the site are underway. This document does not meet nor is intended to be used as a geotechnical evaluation. Statements and engineering recommendations are only for preliminary discussions and shall not be used as design recommendations. Until the final geotechnical evaluation is completed, if you have any questions associated with the project, our services, or information provided in this brief letter, please let us know.

Thank you for having Thoroughbred as a part of this project.

Sincerely,

Thoroughbred

Matthew Kurley

Matthew Hurley, PE Geotechnical Engineer

Jordan Haney, PE Principal Engineer

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Page 3 of 6





	Boring Data Table					
Boring	Boring Elevation (FT-MSL)	Depth of Refusal (FT)	Elevation of Refusal (FT-MSL)	Water Elevation at Time of Exploration (FT-MSL)	Water Elevation 24 Hours After Exploration (FT-MSL)	
B-1*	913.4	23	890.4	NE	Х	
B-2*	911.7	16.5	895.2	NE	Х	
B-3*	915.3	16.5	898.8	NE	х	
B-4*	913.1	16.5	896.6	NE	х	
B-5*	910.1	5.5	904.6	NE	х	
B-6	910.1	6.5	903.6	NE	х	
B-7	909.0	13.5	895.5	NE	901.7	
B-8	908.3	13.8	894.5	NE	900.5	
B-9	908.2	13.4	894.8	NE	х	
B-10	908.4	12.3	896.1	NE	Х	
B-11	899.8	3.8	896	NE	899	
B-12	899.2	3.6	895.6	NE	898.2	
B-13	899.5	3.3	896.2	NE	897.8	
B-14	896.3	7	889.3	NE	893.3	
B-15	896.0	9.2	886.8	NE	893.7	
B-16	901.2	7	894.2	NE	900	
B-17	905.2	7	898.2	NE	902.2	
B-18	906.7	11.6	895.1	NE	898.7	
B-19	914.0	6.5	907.5	NE	909.2	
B-20*	915.1	15	900.1	NE	913.1	
B-21	921.4	13	908.4	NE	919.7	

\* Boring was terminated prior to refusal. NE: Not Encountered

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Page 5 of 6









Figure F.4: LFUCG Fire Training Center Study Preliminary Geotechnical Evaluation



F-12 TRINGTON



























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925	910 <sup>-</sup>		8 8

EMS EDUCATION RECRUITING & HIRING Lt. C. MacFarlane Lt. C. Crowe INFORMATION TECHNOLOGY D. Lindemuth PLANNING DEPUTY Batt. Chief E. Morgan Batt. Chief J. Johnson Batt. Chief J. Poynter Batt. Chief C. Burke INVESTIGATION Asst. Chief C. Traylor INSPECTION TRAINING PLANNING Lt. K. Howell (1<sup>st</sup>) Lt. D. Waters (2<sup>nd</sup>) Capt. G. Work (3<sup>rd</sup>) COMMUNITY PARAMEDICINE Capt. S. Lockard Batt. Chief E. Crews Batt. Chief C. Ward XO Lt. S. Poynter 241 EMS Soc Batt. Chief D. Roberts **LEXINGTON FIRE DEPARTMENT** Asst. Chief S. Whitt PIO **OPERATIONS** 2024 Organizational Structure Dist. Chief M. Swiderski (201) Dist. Chief J. Walters (202) Dist. Chief J. Dee (203) Dist. Chief D. Davis (204) Dist. Chief J. Welch (205) Dist. Chief J. Welch (205) Dist. Chief W. Miracle (201) Dist. Chief W. Miracle (202) Dist. Chief R. Harris (203) Dist. Chief R. Harris (204) Dist. Chief J. Ott (205) Dist. Chief J. Ott (205) Batt. Chief K. Austin Dist. Chief C. Warren (201) Dist. Chief Z. Ferguson (202) Dist. Chief B. Dawson (203) Dist. Chief S. Marshall (204) Dist. Chief J. Tinsley (205) Batt. Chief M. Galati Batt. Chief A. Sorrell 2 m FIRE CHIEF J. Wells Dist. Chief J. Cooper QUARTERMASTER Lt. B. McWhorter M. Robinson S. Wright J. Womack P. Honican SUPPLY Batt. Chief J. Walton Lt. S. Fett J. Evans LOGISTICS DEPUTY RADIO SCBA Batt. Chief T. Cox Batt. Chief J. Saas Asst. Chief J. Harris FACILITIES Capt. J. Elam FLEET LOGISTICS Š FF A. Carter T. James **OPEN RECORDS** PURCHASING INSURANCE **ADMINISTRATION/FINANCE** H. Marcum S. Burdine Batt. Chief J. Bowman HUMAN RESOURCES Batt. Chief D. Roberts **HEALTH & SAFETY** INTERNAL AFFAIRS R. Evans FINANCE/BUDGET Asst. Chief M. Oney COMMUNITY D. Morris SERVICES 

### Figure F.5: Lexington Fire Department 2024 Organizational Structure

Updated: June 2024





Figure F.6: Lexington Fire Department Fire Training Academy Campus Presentation



Through careful planning, how can this facility and campus being reimagined and modernized to serve the expanding Lexington Fire Department for decades to come.



2



Approximately 20 acres of campus area

4





5





7

Fire Training Academy Campus – Feasibility Study

### **Existing Facility Assessment Summary**

#### **High Level Overview:**

- Site: fatigued pavement, no ADA parking, very limited parking, flood plain, non-structural fill, topo, etc.
- Utilities: undersized for future capacity, HVAC equipment about half-life, LED lighting, generator
- Structure: somewhat sound, sits on non-structural fill, cracking, settling, limitations on renovation, not flexible space
- Roof: is in fair condition, ballasted system, gutters need addressed, skylights faded, generator location
- Façade: mostly single width CMU or pre-cast with no insulation, windows single-pane uninsulated
- Classrooms: directly off vehicle bay, no storage, way undersized, no sound rating, not enough, old technology
- Admin Suite: very undersized, no storage, no conference areas, no sound rating, no control of lobby
- Storage: little to no storage, no dedicated storage for each division, needs for storing technology, equipment, etc.
- Bunk Room: not code compliant, built as mezzanine, no fire separation, exhaust from bays, too small, no storage
- Restrooms: are very limited, not ADA compliant, older finishes, don't meet public or staff capacity needs
- Lobby: no vestibule, open to public, no reception or secured entrance, uninsulated, display area
- Apparatus Bay: no vehicle extraction system, no 2-hour separation to the living/office areas, no floor drains, cracking concrete, only 1 entry/exit overhead door, gear lockers in bay no storage, too small





LEXINGTON



Fire Training Academy Campus – Feasibility Study

### **Existing Facility Assessment Summary**



9



10



LEXINGTON

Fire Training Academy Campus – Feasibility Study

### **Existing Facility Assessment Summary**



11

Fire Training Academy Campus – Feasibility Study

### **Existing Site Assessment Summary**

#### Site Survey: (Consultant – Endris Engineering)

- Clarified the land swap boundaries with Landscaper's Corner & Access to Roy H Mardis Drive
- Documented & Resolved the Easements with KY American Water & Columbia Gas
- Documented the EPA Covenant Area and Flood Plain Areas (10/50/100 Year Areas FEMA)
- Documented the Town Branch Trail and Placement on the Fire Training Academy Campus
- All major utilities, trees, topography, outbuildings, roadways, Town Branch, etc.

#### **Geotechnical Exploration: (Consultant – Thoroughbred Engineers)**

- Performed (21) Borings on Campus (front and rear parcel near building and in parking areas)
- Asphalt paving fatigue issues (ranged from 3"-6" thick) majority did not have stone subbase
- Non-structural fill found across site (old building material debris, trash bags, large conc chunks)
- Recommendations of Deep Foundations (higher foundation costs to get down to solid bedrock)
- Test Pits to Confirm Fill Material / Existing Facility on Fill New Construction Differential Settlement










13

LEXINGTON

LEXINGTON

## FACILITY PROGRAMMING

Fire Training Academy Campus – Feasibility Study

SPACE DESCRIPTIONS	SUBTOTAL
"DIRTY AREAS" (apparatus bays, gear decon, laundry, tool room, SCBA, classrooms, etc.)	14,910 SF
"CLEAN AREAS" (lobby, locker room, classrooms, admin offices, wellness, Fire/EMS, etc.)	24,870 SF
"PHYSICAL PLANT" (mechanical, electrical, plumbing, IT server, antennae, MDF/IDF)	1,610 SF
"CIRCULATION FACTOR" (circulation, corridors, walls, etc. grossing factor of 20%)	8,160 SF
TOTAL GROSS SQUARE FOOTAGE OF FACILITY	49,550 SF

The final program was thoroughly vetted by the LFD leadership to determine the current and future needs of the Department







LFUCG FIRE TRAINING STUDY









F-36









# LEXINGTON FIRE DEPARTMENT FIRE TRAINING ACADEMY CAMPUS PHASE 1 – SITE DEVELOPMENT



23



F-38



#### BATTALION CHIEF, SHANE POYNTER



25



LEXINGTON



## Facility & Campus Use

#### **Training Opportunities Hosted:**

Lexington Police Department (Training Structures & Props for Classes)

Kentucky State Fire School (Annually)

Army National Guard Training (2 – 3 Times A Year)

CSEPP Training Exercise / Columbia Gas Employee Training / Car Seat Installation Classes LFUCG Div. of Emergency Management Training / KY Emergency Management Training Bluegrass Emergency Response Team Training

#### **Other Events Hosted:**

Recruit Class Graduation (300) / LFD Command Staff Meeting (50) / LFD Hiring Process (100) / LFD Promotional Process (100) / LFUCG Council Field Day (30) / Paramedic Graduation (100) / American Red Cross Event (75) / Metro Credit Union Event (75) / LFD Christmas Party (200) / Leadership Lexington Event (30) / CFA Graduation (75)



27







F-40

LEXINGTON

Option 1 – Renovation & Addition			
DESCRIPTION	AREA	COST / SF	TOTAL COST
RENOVATION & ADDITION (GROSS AREA IN 2024)	54,000 SF	\$638	\$34,452,000
CONSTRUCTION ESCALATION @ 3% PER YEAR (2026)		6%	<u>\$2,067,120</u>
CONSTRUCTION SUBTOTAL			\$36,519,120
SOFT COSTS (A/E DESIGN FEES, F.F.&E, INSPECTIONS)		15%	\$5,477,868
LFD PORTABLE CLASSROOMS & TRAINING OFFICES		ANNUAL	\$117,780
TOTAL PROJECT COSTS BUDGET			\$42,114,768

\*The cost estimates were prepared by BCI Architect's third-party estimator, Robert Pass, of Robert Pass & Associates.

29

Fire Training Academy Campus – Feasibility Study

## **Option 2 – New Construction**

DESCRIPTION	AREA	COST / SF	TOTAL COST
RENOVATION & ADDITION (GROSS AREA IN 2024)	61,000 SF	\$603	\$36,783,000
CONSTRUCTION ESCALATION @ 3% PER YEAR (2026)		6%	<u>\$2,206,980</u>
CONSTRUCTION SUBTOTAL			\$38,989,980
SOFT COSTS (A/E DESIGN FEES, F.F.&E, INSPECTIONS)		15%	\$5,848,497
LFD PORTABLE CLASSROOMS & TRAINING OFFICES		ANNUAL	\$117,780
TOTAL PROJECT COSTS BUDGET			\$44,956,257

\*The cost estimates were prepared by BCI Architect's third-party estimator, Robert Pass, of Robert Pass & Associates.



LEXINGTON

Phase 1 – Site Development			
DESCRIPTION	AREA	COST / SF	TOTAL COST
EXTERIOR IMPROVEMENTS & UTILITIES (2024)			\$3,513,765
CONSTRUCTION ESCALATION @ 3% PER YEAR (2026)		6%	<u>\$210,825</u>
CONSTRUCTION SUBTOTAL			\$3,724,590
SOFT COSTS (A/E DESIGN FEES, F.F.&E, INSPECTIONS)		15%	\$558,688
TOTAL PROJECT COSTS BUDGET			\$4,283,278
*The cost estimates were prepared by BCI Architect's third-party estimator, Robert Pass, of Robert Pass			

& Associates.



LEXINGTON















## **APPENDIX G - CONFERENCE MEMORANDUMS**

Figure G.1: LFUCG Fire Training Facility and Space Needs Analysis Kickoff Meeting Agenda



## LFUCG Fire Training Facility and Space Needs Analysis Kickoff Meeting

## Agenda

June 12, 2024

## Item 1 Introductions & Housekeeping

- Name
- Organization and Role on Project
- Communication Protocols
- Existing Plans and Previous Studies

### Item 2 Vision, Goals, and Objectives

- What is the vision for Fire?
- What are the goals and objectives of the Study?
- What are the major dislikes and likes of existing training buildings?

### Item 3 Project Scope

- Analyze Existing Building
- Stakeholder Interviews
- Programming
- Renovation/Expansion vs New Build
- Future Needs

## Item 4 Site Options

- Existing Property
- Existing Survey and GIS or Utility Data for properties
- Item 5 Project Schedule
  - Review Schedule for 180 days.
- Item 6 Next Meeting, Interviews, and Facility Analysis





#### Figure G.2: LFUCG Fire Training Facility and Space Needs Analysis Kickoff Meeting

CONFERENCE MEMORANDUM (KICKOFF MEETING) LFUCG FIRE TRAINING STUDY LEXINGTON, KENTUCKY PROJECT NO. 24057

Present: Josh Ives, LFUCG CPM Chief Jason Wells, Lexington Fire Department Chad Traylor, Lexington Fire Department Joey Harris, Lexington Fire Department Steven Buxton, Lexington Fire Department Shane Poynter, Lexington Fire Department J. Scott Whitt, Lexington Fire Department Dave Stapleton, Paladin Engineers Chris Kelly, Poage Engineers Eric Chambers, Brandstetter Carroll Inc. Jay Quillen, Brandstetter Carroll Inc.



June 12, 2024

This meeting was held as a kickoff meeting for the project. Mr. Chambers distributed the agenda and project approach. The agenda and sign-in sheets are attached for reference.

- 1. The group did introductions.
- 2. Mr. Ives discussed the previous feasibility study for the Fire Training Center done by BCI and how new circumstances will make this study differ from the original.
- 3. Mr. Chambers asked if there were any other drawings or studies that have been done for the facility. Mr. Ives stated he sent Mr. Chambers the plans for an additional building on the site carried out by another company.
- 4. Mr. Chambers asked the group who in the Lexington Fire Department should be the point of contact for the project. Chief Harris will be the point of contact with Chief Poynter being the point of contact on site. Mr. Ives noted wanting to be copied on any correspondence that takes place and that the point of contact for the city will be Ms. Sarah Donaldson. It was later noted that Captain Elam will be the point of contact for the Fire Department's facilities maintenance needs.
- 5. Mr. Chambers requested the group to discuss the success, vision, goals, and objectives for the project, and the likes and dislikes or positives and negatives of the existing building and location, and the following items were noted for each:

#### Project Success:

- A. Creating a training center that can sustain growth and future needs
- B. Creating a facility that reflects the accredited institution that is the Lexington Fire Department
- C. Creating a facility that assists in the recruitment and retention of the department

#### Vision:

- A. Increased size to 25,000 square feet 30,000 square feet (currently have 16,000 square feet)
- B. Improved apparatus storage and layout
- C. Moving excess apparatus from other stations to the current site to alleviate the space needs of other stations
- D. A training facility with flexibility in mind
- E. Keeping the current training tower as is
- F. A facility that is used by all in the Lexington Fire Organization
- G. A facility that helps not only the department, but organizations in the region
- H. Double stacking bays with pull through capabilities
- I. An architecturally pleasant building
- J. An operatable fire station to assist other stations
- K. Properly separated spaces for the health and safety of the firefighters

#### Goals & Objectives:

- A. Review Existing MEP and structural infrastructure
- B. Optimize parking on the site
- C. Receive an updated survey
- D. Determine the best course of action with how the site interacts with the new town branch trail passing by the training center
- E. Identify the ideal site
- F. Identify the best option that gives the department the most for their money
- G. Access the site across the creek

#### Likes/Positives of Existing Fire Training Center and Site Location:

- A. The tradition of the building within the department
- B. The location is positive because of the type of training that undergoes here

#### Dislikes/Negatives of Existing Fire Training Center and Site Location:

- A. Limited access to the bay
- B. Inability to change classroom sizes
- C. Inadequate restrooms
- D. Inadequate removal of fumes and waste
- 6. The next item was Project Scope. During the discussion the following items were noted:
  - A. BCI will create schematic site plans and floor plans to assist the department in determining what the best course of action is for the site.
  - B. Paladin will investigate the MEP systems in the existing building and will assist BCI in what work is suggested in the report
  - C. Poage Engineers will investigate the structural components of the existing building as well as the bridge located on the site. They will also assist with the structural work of the schematic plans to assist the third-party cost estimator in making an accurate estimate.
  - D. A geotechnical survey will be conducted by the city to determine the condition of the current site.
- 7. The next item on the agenda was Site Review. During the discussion the following items were noted:
  - A. There is an EPA concern towards the back of the site by the creek, Mr. Ives will work with the city's environmental team to determine if any action is necessary.
  - B. The city will acquire an updated survey and geotechnical investigation and will work with Poage on the number of borings for the geotechnical investigation. The survey will be updated by Endris Engineering.
  - C. The site also has a flood plain component that will need to be considered.
  - D. Mr. Ives stated the new Town Branch Trail will flow next to the training site and will have to be considered in the new schematic site plans. Mr. Ives will work to get the CAD files for the new trail and will send them to BCI.
- 8. The next item on the agenda was Project Schedule and the following items were noted:
  - A. Mr. Chambers noted a 180-day schedule to complete the study.
    - B. Mr. Chambers noted that while the schedule appears to progress linearly, the actual process may happen organically at some points.
    - C. Mr. Chambers requested the group determine who will be interviewed about the training academy and annex building.
  - D. The group approved of the schedule.
- 9. Mr. Chambers will work with the design team to determine dates to start the review of the existing building. Mr. Chambers will send these possible dates to the group to determine the best day this should take place. Mr. Chambers will also interview department leaders and other staff to determine the program for the buildings.

10. The meeting concluded. Mr. Chambers and Mr. Ives will be in touch with the group once interviews are scheduled.

If you should disagree with any information contained herein, please kindly notify our office in writing within 10 days of receipt of this memorandum.

Chesser 06/12/2024 2 nother

Jonathan Chesser, Associate AIA Assistant Project Manager

Cc: Josh Ives Dave Stapleton Charlie Schneider Joey Harris Chris Kelly Jay Quillen Shane Poynter Eric Chambers File





#### Figure G.3: LFUCG Fire Training Facility and Space Needs Analysis - July 10, 2024 Conference Memorandum

CONFERENCE MEMORANDUM LFUCG FIRE TRAINING STUDY LEXINGTON, KENTUCKY PROJECT NO. 24057

Present: Josh Ives, LFUCG CPM Michael Kelly-Waller, Lexington Fire Department Joey Harris, Lexington Fire Department Kevin Deweese, Lexington Fire Department Shane Poynter, Lexington Fire Department Gerald Evans, Lexington Fire Department Dave Stapleton, Paladin Engineers Eric Chambers, Brandstetter Carroll Inc. Jay Quillen, Brandstetter Carroll Inc. Jonathan Chesser, Brandstetter Carroll Inc.



July 10, 2024

This meeting was held to discuss the program for the Fire Training Center and the Annex building.

- 1. Mr. Chambers passed out the program sheets from the previous study for the Fire Training Center done by BCI to help the group think about what program the new buildings need.
- 2. Mr. Chambers noted most of the analysis of the existing building was completed last week during the investigation.
- 3. Mr. Chambers requested the group to discuss the desired program for the Fire Training Center and the following items were noted:
  - A. Bay Space:
    - i. 4 Double Stacked Bays, 80 ft long x 20 ft wide. The ability to drive-thru is preferred. Plymovent was requested for all bays with water, electricity, and drains like a typical station.
    - ii. Room for POV vehicles (3-4 pickup trucks).
    - iii. The roof system should have anchoring points for rappelling and rope training.
    - iv. The bays will also be used as a large auditorium space with a portable stage, tables, and chairs, so a storage area will be required.
  - B. Dirty Areas:
    - i. Gear Storage 75 lockers min with room for growth, 100 lockers are preferred.
    - ii. Tool Room with a work bench.
    - iii. Decon/Laundry Room for 2 extractors and 2 linear drying racks that would be 20 ft long. A regular washer and dryer were requested.
    - iv. SCBA Room Cascade system and SCBA maintenance area for minor repairs. This will be separate from the Tool Area. Storage for 100 cylinders is needed and this room will require 24-hour access with an exterior access point.
    - v. Quartermaster Room for extra gear and equipment. The department is transitioning to use PS Tracks for their equipment and supplies. This room will require 24-hour access with an exterior access point.
    - vi. General Storage Room.
  - C. Fire Classrooms:
    - i. (2) 60-seat classrooms with dividing capabilities; room for tables and chairs.
    - ii. (2) 30-seat classrooms; room for tables and chairs.
    - iii. General Storage Room for tables and chairs.

#### D. EMS Classrooms:

- i. (1-2) 45-60 seat classroom(s); these should be around 2700 sf.
- ii. (9) breakout rooms; these rooms should be around 360 sf each.
- iii. Simulation lab that is multipurpose; the lab should be around 25 ft x 25 ft. This room will be access controlled.
- iv. (5) Offices: 4 for Instructors & 1 for the Medical Director; space integrated into the offices for records storage was requested.
- v. Storage areas that are larger than 200 sf.
- vi. A climate-controlled storage area that is larger than 200 sf with an additional 200 sf cold storage area. These rooms will be access controlled.
- vii. A cadaver lab like what is present at BCTC.
- viii. Around 7,485 sf total is required by the EMS Department.
- E. Fire Administration:
  - i. Vestibule & lobby area; plenty of display space is needed for the Department's memorabilia with the possibility of displaying 1-2 historic trucks.
  - ii. (1) Training Office.
  - iii. (1) Admin specialist.
  - iv. (1) Executive Officer.
  - v. (1) AV Office; in a quiet area that could double as the media room; space for a laptop cart to be stored when not in use.
  - vi. (1) Training Instructors Office with 12 workstations that are 8 ft x 6 ft in size.
  - vii. (1) Conference room (20 seats, one large table).
- viii. Future office space for growth opportunities.
- ix. Recruiting & Hiring:
  - 1. (2) Recruiting Offices
  - 2. (1) Administrative Specialist Office
  - 3. (1) Background investigators office with 3 workstations that are 8 ft x 6 ft in size.
  - 4. Space for records storage that is secured.
  - 5. A smaller entrance for the public, specifically going to the Recruiting & Hiring department.
- F. Training Center Support Spaces:
  - i. A kitchen/small cafeteria; room to seat 40-50 people; a commercial kitchen for many people to work in; area to heat up lunches; 5 fridges 2 for students, others in commercial kitchen.
  - ii. A bunk room with 12 bunks.
  - iii. Locker room with 120 half sized stacked lockers; 10-15 full restrooms with showers.
  - iv. Staff locker room with 15 full-sized lockers; 2-4 full restrooms with showers. An area off the locker room will house washers and dryers with space for growth.
- G. Wellness Center:
  - i. A fitness area that is 6,000 sf is preferred for various fitness, testing, and training uses. This should have 24-hour access. If this is not doable, a 3,000 sf fitness area would be needed. If possible, access to the locker rooms & restrooms with showers is preferred.
  - ii. A WPE/CPAT Building is needed that can handle 30-60 people at a time; The building could be around 75 ft x 50 ft; access to the locker room & restrooms with showers is preferred.
  - iii. A rehabilitation area that is 2,000 sf 3,000 sf; adjacent to the fitness room with limited access.

- iv. (1) Shared Office for 6 people.
- v. (1) Wellness Coordinator office with secure records storage.

H. Site:

- i. 150-200 parking spots were requested.
- ii. 8-10 designated spots for apparatus parking near the apparatus bays were requested.
- iii. A driving pad would be preferred that is separate extrication from parking. The extrication, train derailment, and other training props should be relocated to the training grounds, if possible, to get it closer and in a better area for training.
- iv. There is most likely a need to update the sewer, water, and fiber to the site.
- v. The bridge will need to be replaced with the capability to have vehicles and apparatus access to the back area with a pedestrian component to get across the creek.
- 4. Mr. Chambers requested the group to discuss the desired program for the Fire Annex and the following items were noted:
  - A. It was noted that the group included the program for the Fire Annex in the program for the Fire Training Center since it is preferred to have all the spaces in the same building.
- 5. Mr. Chambers will work to create a program sheet for the study and will send it out for the Fire Department to review.
- 6. The meeting concluded. Mr. Chambers will be in touch to schedule the next meeting at a later date.

If you should disagree with any information contained herein, please kindly notify our office in writing within 10 days of receipt of this memorandum.

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Øonathan Chesser, Associate AIA Assistant Project Manager

Cc: Josh Ives Dave Stapleton Charlie Schneider Joey Harris Chris Kelly Jay Quillen Shane Poynter Eric Chambers File



ATTENDANCE

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G-10 T LEXINGTON

Project: LFUCG Fire	Training Center Study	Date: 7/10/24
Project No.: 24057	5	_ Time:
Name Eric Chambers Jar Quillen Tonatlan Chesser	Company BCI	Phone / E-mail echanbers @ boicge.can iguilla @ boiage.can ichesse-@ boiage.can
Dave Stapleton	Paledin	Stupletond Opaladin-inc.net
Share Payate	Lexinistion Fire	poynterie lexinstanky, por 859-351-9357
Michael Helly-mallar	Lexitston Fire	Kielly wan @Lexiston Hagar 859 397 7735
GEANNE EVATES	Lex. Fite	EVANS9 & Lexington Ky. COV 859.231.5616
Z JOSH IVES	LFUCG CAM	jives & lexingtoley.cal 259.258.3930
Kevin Deweese	Lexington Fire	deweesek@lexington ky.gov 859 705 3429
Joey Han	- Low Fin	haming to Gernation by qu BST 327-0554
	:1	

#### Figure G.4: LFUCG Fire Training Facility and Space Needs Analysis - July 19, 2024 Conference Memorandum

CONFERENCE MEMORANDUM LFUCG FIRE TRAINING STUDY LEXINGTON, KENTUCKY PROJECT NO. 24057

Present: Josh Ives, LFUCG CPM Jason Wells, Chief, Lexington Fire Department Joey Harris, Lexington Fire Department Shane Poynter, Lexington Fire Department Josh Elam, Lexington Fire Department Chris Kelly, Poage Engineers Mark Zoller, Paladin Engineering Eric Chambers, Brandstetter Carroll Inc. Charlie Schneider, Brandstetter Carroll Inc. Jonathan Chesser, Brandstetter Carroll Inc.



July 19, 2024

This meeting was held to discuss the program for the Fire Training Center and the Annex building.

- 1. Mr. Chambers passed out the existing facility condition analysis completed by BCI, Poage, and Paladin.
- 2. Mr. Schneider reviewed the highlights from the site and civil facility analysis and the following items were noted:
  - A. Mr. Schneider noted that with the Town Branch Trail coming to the site in the future, a lot of the observations and issues with the main entry to the site and border along Frankfort Pike will be eliminated.
  - B. Mr. Ives noted that the parking area to the East of the Fire Training Center is under an EPA convenient and would have to be worked through if any changes were made in that area.
  - C. Mr. Ives noted that the land across Town Branch Creek used to be a landfill, and that more information would need to be obtained from the geotechnical report to determine what areas could be an issue. Mr. Chambers questioned the status of the geotechnical report. Mr. Ives stated he sent out an RFP for Geotechnical Exploration Services and received three (3) proposals. He will review the three proposals and notify the group of which proposal will be selected.
  - D. Mr. Ives also noted that the geotechnical report will check for karst on the site. This is important to determine because the building is considered a Level 4 building for the City of Lexington. Mr. Ives will share the findings of the geotechnical report with the group when it is completed.
  - E. Mr. Schneider noted that the work on the Town Branch Trail includes a 60" reinforced concrete pipe (RCP) running from the trail towards Town Branch and suggested that it would make more sense for the pipe to run towards the flood plane to the right. Mr. Ives will review this suggestion and discuss it with the city engineers.
  - F. Mr. Ives noted that on the plans for the Town Branch Trail the main entrance for the Fire Training Center is moved down from its original location. After a discussion with the city engineers, it is likely that the entrance will no longer be relocated. Mr. Ives will confirm this with the city engineers and will update the group so that it is reflected in the schematic plans.
  - G. The group noticed the plans for the Town Branch Trail included a few new roads and the repaving of existing ones on the Fire Training Center's site. Mr. Ives will check with the city about the schedule of the trail's construction and pavement of roads as this will affect the operation of the training center.
- 3. Mr. Chesser reviewed the highlights from the architectural facility analysis and the following items were noted:
  - A. Mr. Ives questioned when the last time the roof was redone. The Fire Department will investigate their records to determine when the roof was last updated.

- B. Mr. Chesser noted the lack of plumbing fixtures required by the building code inside the training center. Mr. Chambers stated the design team will work on occupancy counts for the schematic plans to determine the proper number of fixtures required in the building.
- C. Mr. Chambers noted that an ICC-500 rated Storm Shelter is now required for the training center and that because of the requirements the storm shelter might have to be an addition to the building. Brandstetter Carroll will investigate this in the schematic plans and discuss with the group to determine the best course of action.
- 4. Mr. Kelly reviewed the highlights from the structural facility analysis and the following items were noted:
  - A. Mr. Kelly noted the overall structure of the building is in good condition. The end walls and interior CMU walls are the only structural walls in the building. This allows flexibility with the rest of the available space. The group was pleased to hear this information as it allows for more options in the schematic plans.
  - B. Mr. Ives questioned if curbs could be built on the building's roofs. Mr. Kelly stated it should be no problem adding curbs to the lower roofs but would have to check the higher roof. Mr. Kelly will be in contact with Mr. Ives and the rest of the group about this request.
  - C. Mr. Ives questioned the condition of the bridge crossing Town Branch Creek. Mr. Kelly stated that the bridge is in poor structural condition and would need to be replaced. Mr. Kelly also stated the abutments on the bridge could be reused but the height of the bridge will need to be determined based on the creek and flood plain requirements. Mr. Ives requested the Fire Department to determine what their heaviest piece of equipment is to determine the required loading of the bridge. Mr. Ives questioned how the estimating of a new bridge will be handled. Mr. Chambers stated Brandstetter Carroll and Poage will work with Robert Pass to create parameters for estimating the bridge to try to get the most accurate estimate. Mr. Ives approved of this plan.
- 5. Mr. Zoller reviewed the highlights from the MEP facility analysis and the following items were noted:
  - A. Mr. Zoller noted the size of lines used for the plumbing in the building would need to be enlarged to accommodate any increased fixture count.
  - B. Mr. Ives noted all new city buildings are to be put on an automation system for lights, security systems, etc. Mr. Zoller will add this automation system into the MEP plans.
  - C. Mr. Zoller presented a few options for HVAC replacement for consideration based on current systems and equipment.
- 6. Mr. Chambers review the scope of work for the study, and the following items were noted:
  - A. Mr. Chambers stated the design team will investigate two (2) options:
    - i. An all-new facility with the existing structure being removed.
    - ii. The existing structure being renovated and repurposed with an addition to the building.
  - B. Mr. Chambers stated the first round of schematic plans will focus more on the adjacencies of rooms to determine how the Fire Department wants the building laid out.
  - C. It was questioned if a new addition to the existing structure would be placed on the left or right side. Mr. Chambers stated that until a geotechnical report is obtained, it is unclear which side is a better option. For this first round of schematic plans there will be a floor plan showing an addition to each side of the existing structure. After a geotechnical report is received, one of the plans will be eliminated.
  - D. Mr. Ives noted that if it's decided the existing structure will remain, the design team should investigate renovating the façade so that the existing building and addition have a cohesive appearance and to also investigate roof screening to hide the roof top air units.
- 7. Mr. Chambers asked the group if there were any comments on the revised program. The program was approved as revised and submitted. Brandstetter Carroll will start on the schematic floor and site plans.
- 8. The meeting concluded. Mr. Chambers asked the group to review the assessment and offer any feedback, comments or changes.

9. Mr. Chambers will be in touch with the group in about three (3) weeks once the initial schematic plans are completed.

If you should disagree with any information contained herein, please kindly notify our office in writing within 10 days of receipt of this memorandum.

Chesser 08/19/2024 bonathan

Jonathan Chesser, Associate AIA Assistant Project Manager

Cc: Josh Ives Dave Stapleton Eric Chambers File Joey Harris Mark Zoller Charlie Schneider Shane Poynter Chris Kelly Jay Quillen





#### Figure G.5: LFUCG Fire Training Facility and Space Needs Analysis - September 25, 2024 Conference Memorandum

#### CONFERENCE MEMORANDUM LFUCG FIRE TRAINING STUDY LEXINGTON, KENTUCKY PROJECT NO. 24057

Present: Josh Ives, LFUCG CPM Joey Harris, Lexington Fire Department Shane Poynter, Lexington Fire Department Eric Chambers, Brandstetter Carroll Inc. Johnathan Chesser, Brandstetter Carroll Inc. Jay Quillen, Brandstetter Carroll Inc.



#### September 25, 2024

This meeting was held to review and discuss the conceptual design options for the Fire Training Center. The following items were noted.

- 1. Mr. Ives advised the team that the Geotechnical field work has been completed and the report is underway. Expecting preliminary report towards the end of this week and final report in roughly seven to ten days.
- 2. Mr. Chesser reviewed the conceptual option #1 a proposed renovation and expansion of the existing building.
  - A. Option #1 Site item comments:
    - i. Mr. Poynter asked if the grading related to the proposed public parking is proposed to be regraded to make the site flatter. Mr. Chambers advised that the focus for now will be on the adjacencies of programmatic items and the grading will be determined in a future phase once an option is selected.
    - ii. Mr. Poynter noted that they currently use the site for training purposes where we are proposing new parking. The team discussed and agreed that the following training areas are to be relocated to the back site lot near the training driving pad, Extraction Training, Wild Fire Training, Urban Search and Rescue Training.
    - iii. Mr. Harris and Mr. Ives noted that the east side of the site has a high-pressure gas utility, BCI will investigate this and update site plan for the proposed parking.
    - iv. Mr. Ives noted that the new bridge needs to be sized for two-way traffic and include a pedestrian walkway.
    - v. Mr. Poynter advised that the proposed apparatus parking will only need to accommodate a maximum of eight apparatus, some will be parked within the apparatus bays. The ones stored outside are typically parked along the curb line along the main access drive. Mr. Chambers asked if the proposed apparatus parking area could be used by public and staff for parking, dual purposed. The team decided to swap the proposed staff parking with the proposed apparatus parking.
    - vi. Mr. Harris asked how many apparatus bays are proposed, Mr. Chesser advised that five bays are currently planned.
  - vii. Mr. Chambers asked Mr. Ives if another bridge could be proposed to the west of the site to add more access to the back lot. Mr. Ives advised that this could be feasible and that another project nearby is adding a new bridge. BCI will update the conceptual plan to show this additional bridge.
  - B. Option #1 Floor plan comments:
    - i. Mr. Harris asked if any showers are proposed in the Decon area, Mr. Chambers advised that we will have an emergency shower and a few standard shower in the Decon area.
    - ii. Mr. Poynter asked to have the proposed staff and recruit lockers switched for better adjacencies for staff and recruits.

- iii. Mr. Chambers pointed out the boundary for the proposed storm shelter area. Mr. Ives notes for the team that all new police and fire projects are required by code to have storm shelters.
- iv. Mr. Harris asked if the staff locker room can be adjacent to the bunk rooms. Mr. Chesser agreed and will update the plan accordingly.
- v. Mr. Ives suggested to the team to look at removing the walls at the cafeteria room and open it up to the adjacent corridors.
- vi. Mr. Ives noted to look at an option for vertical operable partitions.
- vii. Mr. Harris noted concern with not enough restrooms and showers near the gear locker room. Mr. Chambers suggested to look at adding additional space off the proposed Decon area. The team discussed adjacencies to the fitness room. BCI will look to reconfigure the floor plan to provide showers and restrooms near the Decon area.
- viii. Mr. Chambers asked about the intent and adjacencies needed for the Rehabilitation Center, Mr. Poynter noted that it does not need to be directly off the fitness room and will be used for physical therapy.
- 3. Mr. Chesser reviewed the conceptual option #2 a proposed new 2-story building option.
  - A. Option #2 Site item comments:
    - i. The team discussed an option to add additional parking on the west side of the proposed building.
    - ii. Mr. Ives noted to potentially look at shifting the building to the west to allow for more parking on the flatter areas of the site.
    - iii. Team discussed how outside training agencies can access the building from the training area to the west. Outside agencies will need access to the locker room showers, recruits will need access to the Decon area. BCI to add walkway to the Decon area from the west side training area.
  - B. Mr. Harris noted that the fire department is planning on a new building near the training tower for WBE (Work Performance Evaluation). Mr. Ives suggested the fire department review this as it could be combined within the proposed new building options.
  - C. Option #2 First Floor plan comments:
    - i. Mr. Chesser reviewed the plan and noted that additional restrooms and showers will be added near the Decon area, similar to comments on the option #1.
  - D. Option #2 Second Floor plan comments:
    - i. Mr. Ives asked if the fire department has any concern with the bunk rooms proposed on the second floor or do they prefer them on the first floor. Mr. Harris and Mr. Poynter will review and follow up with the team.
    - ii. Mr. Chesser reviewed the proposed future expansion/shell space to the northwest of the second-floor plan. Mr. Ives noted that it maybe more economical to add the second-floor shell space for future expansion now as opposed to later. The team discussed this and agreed to show this as shell space.
    - iii. Mr. Harris asked if the three offices on second floor can be relocated to the first floor along the exterior façade of the fitness center. BCI will update the concept accordingly.
- 4. Mr. Chambers noted he will leave the hard copy prints of the two options and asked that the fire department review these and provide any comments by end of the week. We will start updating the options next week.
- 5. Mr. Chambers noted that we will engage Robert Pass for a cost estimate after the next meeting to confirm the concepts are approved for estimating.
- 6. A final presentation meeting will be in November.
- 7. The meeting concluded. Mr. Chambers noted that the next meeting with the group will be in about three (3) weeks once the concept options are updated to setup another review meeting.

If you should disagree with any information contained herein, please kindly notify our office in writing within 10 days of receipt of this memorandum.

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10/01/2024

Jay Quillen Division Coordinator / Sr. Project Manager

Cc:

Josh Ives Dave Stapleton Eric Chambers File Joey Harris Mark Zoller Charlie Schneider Shane Poynter Chris Kelly Jonathan Chesser





#### Figure G.6: LFUCG Fire Training Facility and Space Needs Analysis - October 21, 2024 Conference Memorandum

CONFERENCE MEMORANDUM LFUCG FIRE TRAINING STUDY LEXINGTON, KENTUCKY PROJECT NO. 24057

Present: Josh Ives, LFUCG CPM Jason Wells, Lexington Fire Department Joey Harris, Lexington Fire Department Shane Poynter, Lexington Fire Department Eric Chambers, Brandstetter Carroll Inc. Charlie Schneider, Brandstetter Carroll Inc. Jay Quillen, Brandstetter Carroll Inc. Jonathan Chesser, Brandstetter Carroll Inc.



October 21, 2024

This meeting was held to discuss updates to the concepts for the Fire Training Center.

- 1. Mr. Chambers noted there are three (3) cost estimates from Robert Pass for the project. One (1) for the site, one (1) for the renovation and expansion option, and one (1) for the new build option. Mr. Ives stated City Council wants to try to allocate funding for phase one construction on the site and then allocate money during the next fiscal year for the building.
- 2. Mr. Chambers explained that today's meeting will primarily focus on the updates to the two proposed options. The following items were noted:
  - A. Option 1 Renovation and Expansion option.
    - i. Site plan:
      - Chief Poynter questioned the size of the driving pad shown on the plan. Mr. Chambers stated it should be around 250ft x 200ft. Chief Poynter stated he would compare it to the department's current driving pad to see if it could be smaller and add more parking. Mr. Schneider stated parking could be added to the driving pad with typical striping. Chief Poynter approved of this suggestion.
      - 2. Mr. Schneider noted the bridge as designed is at a low elevation and is the reason the flood plain is so high in the surrounding areas. Mr. Schneider noted that if a new one could be proposed at a higher elevation, the floor plain could be remediated. Mr. Ives stated a lot of work would have to be done to make it work, but that the suggestion is worth considering.
    - ii. First Floor plan:
      - Chief Harris questioned if there was an option switching the locations of the kitchen and locker rooms based on previous discussions. Mr. Chambers stated no version shows the switch locations and that based on the previous meeting it was assumed the locker rooms should stay where they were and to add additional Decon lockers.
      - 2. There was discussion about mirroring the locker rooms with the bunk room or with the Rehabilitation area. It was noted that could be done but wasn't a priority at this time with the addition of the hallway leading back to the locker rooms. It was decided there needs to be doors to keep the public side from seeing folks going down that hallway. BCI will update the floor plan accordingly.
  - B. Option 2 New Building Plan 2 story option.
    - i. Site plan:
      - 1. Mr. Schneider noted with option 2, the building is not cutting into the hill side as much which helps with the site's grading and the size of the retention wall.
    - ii. First Floor plan:

- 1. Chief Poynter questioned if there would be an area outside the fitness for staff to workout outside. Mr. Chambers confirmed there would be an area outside for physical activity.
- iii. Second Floor plan:
  - 1. Mr. Ives questioned if is would be difficult to build the future shell space overtop the storm shelter on the first floor. Mr. Chambers stated it would not be difficult because it would be a new build and could be controlled.
  - 2. Mr. Ives questioned if when the shell space is filled in sometime in the future, if there would be enough plumbing fixtures for the number of rooms on the second floor. Mr. Chambers stated there would be enough code wise, but probably not enough in terms of convenience. Mr. Ives stated if the department reached this issue, more restrooms could probably be added over top of the first-floor locker rooms. The group agreed with this idea.
- C. Option 3 New Building Plan 2 story option.
  - i. Site plan:
    - Mr. Schneider went through the site concept and explained that with all the site's issues, it would be beneficial to investigate moving the training center to the back lot. The site has issues with grading, constrictions, and relocation of the forced water main that would be under the new building location. This feeds the treatment plan further northwest.
    - 2. Chief Poynter stated that moving the building would reduce the aesthetic of the site.
    - 3. Chief Harris stated moving the building would limit access to the site and will require the department to rely on the single bridge on the site too much. Mr. Quillen stated in this option, a second bridge would become important to add to the project. It was also noted that utilities would be required to be brought to the rear of the site.
- 3. Mr. Chambers reviewed the Cost Estimates, and the following items were noted:
  - A. Site:
    - i. Mr. Ives requested adding the site estimate to the two (2) building options. BCI will add the site estimate into the other building estimates.
    - ii. Mr. Ives requested a cost estimate for site option 3 and for it to include the cost to bring utilities to the building.
  - B. Renovation & Addition:
    - i. Mr. Ives questioned if the storm shelter was built into the estimate. Mr. Chambers stated the storm shelter was covered in the estimate, but not specifically noted.
  - C. New Build:
    - i. Chief Harris questioned if soft cost for phasing and keeping the facility operational was added into the estimates. Mr. Chambers stated that phasing was not covered in the estimate and would be a soft cost.
    - ii. Mr. Ives stated that even with the new build option having a higher cost estimate, the department could defend the option because of the efficiency gained with a new building and the increased lifespan of the building.
- 4. Mr. Ives stated the next steps were to review internally how to best present the information to City Council.
  - A. The presentation will consist of a PowerPoint with approximately ten (10) slides. First presented will be the site work, then the needed building space.
  - B. Mr. Ives stated his intention to present to the Administration prior to Thanksgiving and that is was fine to have the report come after the presentation.

- 5. Chief Harris questioned if BCI would like information on what the department needs in a future support building for the cost estimate. Mr. Chambers stated it would help the cost estimate to know what the department needs. The following items were noted:
  - A. A metal building with five (5) bays is requested.
  - B. The building should have several restrooms for convenience.
  - C. A gear storage area for 50 people would be preferred.
- 6. The meeting concluded. Mr. Ives noted that the next meeting with the group will be in the next few weeks and will be held virtually to discuss the presentation to City Council. Mr. Chambers stated he will discuss with Robert Pass adding to the cost estimate and BCI will update the plans and analysis of the building. BCI will also investigate some phasing options to present to the group.

If you should disagree with any information contained herein, please kindly notify our office in writing within 10 days of receipt of this memorandum.

Chesser 10/21/2024 bonathan

Jonathan Chesser, Associate AIA Assistant Project Manager

> Josh Ives Dave Stapleton Eric Chambers File

Cc:

Joey Harris Mark Zoller Charlie Schneider Shane Poynter Chris Kelly Jay Quillen



