

**CONTRACT DOCUMENTS
AND
SPECIFICATIONS**

DIVISION OF WATER QUALITY

FOR

**2019 LARGE DIAMETER
CURE IN PLACE PIPE AND MANHOLE REHAB**

Bid No. 14-2019

PREPARED BY:

**DIVISION OF WATER QUALITY
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT**

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2019 LARGE DIAMETER CIPP AND MANHOLE REHAB

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PART I

ADVERTISEMENT FOR BIDS

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ADVERTISEMENT FOR BIDS

1. INVITATION

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

2. DESCRIPTION OF WORK

The project includes providing all construction supervision, labor, materials, tools, test equipment necessary for Bid #14-2019 **2019 Large Diameter Cure in Place Pipe and Manhole Rehab**.

3. OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Plans, Specifications, and Contract Documents may be obtained from <https://lexingtonky.ionwave.net>.

4. METHOD OF RECEIVING BIDS

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

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

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

5. METHOD OF AWARD

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

6. BID WITHDRAWAL

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

7. BID SECURITY

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

8. SUBMISSION OF BIDS

CONTRACTORS shall submit their bids to the Lexington-Fayette Urban County Government, Division of Purchasing, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. Bids shall be submitted in a sealed envelope not later than 2:00 p.m., local time Monday, February 25, 2019. Sealed proposals shall be clearly marked on the outside of the container as follows: Company Name and Address, Bid Invitation Number, and Project Name to be opened at 2:00 p.m. local time Monday, March 4, 2019. Bids received after the scheduled closing time for receipt of bids will not be considered and will be returned unopened.

9. RIGHT TO REJECT

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

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

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

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

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

All submissions should be directed to:

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

11. NOTICE CONCERNING MWDBE GOAL

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

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

For assistance in locating Disadvantaged Business Enterprises Subcontractors contact:

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

12. PRE-BID MEETING

A non-mandatory pre-bid meeting will be held at 10:00 a.m. local time on February 19th at 125 Lisle Industrial Ave. (The Division of Water Quality in Lexington Kentucky)

13. CONSENT DECREE REQUIREMENTS

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

The **BIDDER** shall familiarize itself with and shall at all times comply with the **CONSENT DECREE**, and all federal, state and local laws, ordinances, and regulations that in any manner

affect the **PROJECT**. Time is of the essence in the performance of this **PROJECT**. **BIDDER** is aware that the **OWNER** is subject to penalties for non-compliance with the **CONSENT DECREE** deadlines.

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

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

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

14. **STATE REVOLVING LOAN REQUIREMENTS**

This project may be partially or entirely funded by the Kentucky Infrastructure Revolving Loan Fund.

Bidders must comply with Title VI of the Civil Rights Act of 1964, the Anti-Kickback Act, and the Contract Work Hours Standard Act.

Bidders must comply with the President's Executive Order No. 11246 as amended, which prohibits discrimination in employment regarding race, creed, color, sex, or national origin.

Successful bidder shall comply with 41 CFR 60-4, in regard to affirmative action, to insure equal opportunity to females and minorities and will apply the time tables and goal set forth in 40 CFR 60-4.

Successful bidder shall make positive efforts to use small, minority, women-owned, and disadvantaged businesses.

Attention of bidders is particularly called to the conditions of employment to be observed and minimum wage rates to be paid under the Contract, Section 3, Segregated Facility, Section 109 and E.O. 11246 and Title VI. Minority bidders are encouraged to bid.

Successful bidder is required to employ the six "Good Faith Efforts" as listed in EPA's Disadvantaged Business Enterprise Program when soliciting subcontractors and suppliers. Documentation of these efforts will be a required submittal prior to Contract Award.

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

END OF SECTION

PART II
INFORMATION FOR BIDDERS

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PART II

INFORMATION FOR BIDDERS

1. RECEIPT AND OPENING OF BIDS

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

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

2. PREPARATION OF BID

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

3. SUBCONTRACTS

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

4. QUALIFICATION OF BIDDER

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

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

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

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

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

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

5. BID SECURITY

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

6. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT

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

7. TIME OF COMPLETION AND LIQUIDATED DAMAGES

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

8. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

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

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

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

9. ADDENDA AND INTERPRETATIONS

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

obligation under his bid as submitted. All addenda so issued shall become part of the Contract Documents.

10. SECURITY FOR FAITHFUL PERFORMANCE

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

11. POWER OF ATTORNEY

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

12. TAXES AND WORKMEN'S COMPENSATION

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

13. LAWS AND REGULATIONS

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

14. EROSION AND SEDIMENT CONTROL AND PERMITS

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

15. PREVAILING WAGE LAW AND MINIMUM HOURLY RATES

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

16. AFFIRMATIVE ACTION PLAN

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

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

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

All submissions should be directed to:

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

17. CONTRACT TIME

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

18. SUBSTITUTE OR "OR-EQUAL" ITEMS

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

19. ALTERNATE BIDS

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

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

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

20. SIGNING OF AGREEMENT

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

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

A. Outreach for MWDBE(s)

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

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

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

B. Bid Bond Assistance for MWDBE(s)

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

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

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

Sherita Miller, Minority Business Enterprise Liaison
Division of Central Purchasing
Lexington-Fayette Urban County Government
200 East Main Street, Room 338

Lexington, Kentucky 40507
smiller@lexingtonky.gov

D. MWDBE and Veteran Subcontractors

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

For a list of eligible subcontractors, please contact:

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

PART III

Invitation to Bid No. 14-2019

Large Diameter Cure In Place Pipe

1. FORM OF PROPOSAL

Place: Lexington, Kentucky

Date: March 11, 2019

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

This Proposal Submitted by SAK Construction, LLC

864 Hoff Road, O'Fallon, MO 63366

(Name and Address of Bidding Contractor)

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

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

Gentlemen:

The Bidder, in compliance with your Invitation for Bids for 2019 Large Diameter Cure in Place Pipe and Manhole Rehab Project having examined the Plans and Specifications with related documents, having examined the site for proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the lump sum and/or unit prices stated hereinafter. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this proposal is a part. The OWNER will issue work orders for work to be performed under this Contract.

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

The Bidder hereby acknowledges receipt of the following addenda:

Addendum No. 1 Date 02/14/19

Addendum No. 2 Date 02/20/19

Addendum No. 3 Date 02/21/19

Addendum No. Date

Addendum No. Date

Addendum No. Date

Addendum No. Date

Addendum No. Date

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

 **AIA Document A310™ – 2010**

Bid Bond

CONTRACTOR:
(Name, legal status and address)
SAK CONSTRUCTION, LLC
864 Hoff Road
O'Fallon, MO 63366

SURETY:
(Name, legal status and principal place of business)
Travelers Casualty And Surety Company Of
America
One Tower Square
Hartford, CT 06183

This document has
important legal
consequences.
Consultation with an
attorney is encouraged
with respect to its
completion or
modification.

OWNER:
(Name, legal status and address)
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507

Mail Notices To:
Travelers
Attn: Surety Claim Dept.
One Tower Square 2S1A
Hartford, CT 06183

Any singular reference to
Contractor, Surety,
Owner, or other party
shall be considered plural
where applicable.

BOND AMOUNT: Five Percent of the Amount Bid ----- dollars (\$ 5% of Amount Bid)

PROJECT: Bid No. 14-2019; 2019 Large Diameter Cure in Place Pipe and Manhole Rehab, Lexington, KY
(Name, location or address, and Project number, if any)

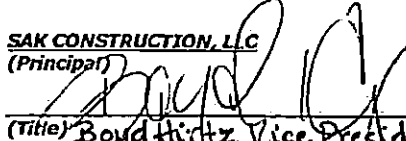
The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.


When this Bond has been furnished to comply with a statutory or other legal requirement in the location of the Project, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

Signed and sealed this 11th day of March, 2019.


(Witness) Thurocott Messer, witness

SAK CONSTRUCTION, LLC
(Principal)  *(Seal)*
(Title) Boyd Hirtz, Vice President


(Witness) Andrea McCaffrey, Witness

Travelers Casualty And Surety Company Of America
(Surety)  *(Seal)*
(Title) Ashley Miller, Attorney-In-Fact

ACKNOWLEDGEMENT FOR CONTRACTOR

ACKNOWLEDGEMENT FOR CONTRACTOR, IF LIMITED LIABILITY COMPANY

STATE OF Missouri }
COUNTY OF St. Charles }

ON THE 11th DAY OF March, 2019, BEFORE ME
PERSONALLY APPEARED Boyd Hirtz TO ME KNOWN AND
KNOWN TO ME TO BE THE Vice President OF SAK Construction, LLC,
A LIMITED LIABILITY COMPANY, DESCRIBED IN AND WHO EXECUTED THE
FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE
EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT
HE EXECUTED THE SAME AS AND FOR THE ACT AND DEED OF SAID LIMITED
LIABILITY COMPANY.



THERESA H. MESSER
My Commission Expires
March 30, 2019
St. Charles County
Commission #15634377

Theresa H. Messer
Notary Public

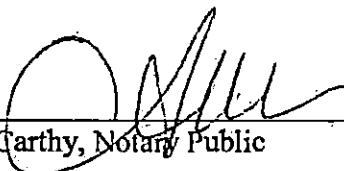
State of Missouri
County of St. Louis

On 3/11/2019, before me, a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared Ashley Miller known to me to be Attorney-in-Fact of

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

the corporation described in and that executed the within and foregoing instrument, and known to me to be the person who executed the said instrument in behalf of said corporation, and he duly acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year stated in this certificate above.



Andrea McCarthy, Notary Public

ANDREA
Notary Public - Notary Seal
State of Missouri, St. Louis County
Commission # 15636518
My Commission Expires July 30, 2019

My Commission Expires: _____



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

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Ashley Miller** of **Chesterfield Missouri**, their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.
IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this 3rd day of February, 2017.



State of Connecticut

City of Hartford ss.

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

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

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

My Commission expires the 30th day of June, 2021



Marie C. Tetreault
Marie C. Tetreault, Notary Public

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

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

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

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

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

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

Dated this 11 day of March, 2019



Kevin E. Hughes
Kevin E. Hughes, Assistant Secretary

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

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
HARTFORD, CONNECTICUT 06183
FINANCIAL STATEMENT AS OF DECEMBER 31, 2017
CAPITAL STOCK \$ 6,480,000

ASSETS	LIABILITIES & SURPLUS
CASH AND INVESTED CASH	\$ 137,626,346
BONDS	3,372,829,386
STOCKS	328,030,613
INVESTMENT INCOME DUE AND ACCRUED	39,230,403
OTHER INVESTED ASSETS	2,641,903
PREMIUM BALANCES	235,709,636
NET DEFERRED TAX ASSET	40,322,453
REINSURANCE RECOVERABLE	23,906,019
SECURITIES LENDING REINVESTED COLLATERAL ASSETS	20,555,872
RECEIVABLES FROM PARENT, SUBSIDIARIES AND AFFILIATES	21,468,218
ASSUMED REINSURANCE RECEIVABLE AND PAYABLE	626,835
OTHER ASSETS	5,795,705
TOTAL ASSETS	\$ 4,232,760,598
	UNEARNED PREMIUMS
	\$ 920,416,346
	LOSSES
	820,933,897
	LOSS ADJUSTMENT EXPENSES
	181,114,296
	COMMISSIONS
	42,188,100
	TAXES, LICENSES AND FEES
	13,242,950
	OTHER EXPENSES
	42,889,178
	CURRENT FEDERAL AND FOREIGN INCOME TAXES
	1,313,124
	REMITTANCES AND ITEMS NOT ALLOCATED
	62,545,367
	AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS
	35,924,038
	RETROACTIVE REINSURANCE RESERVE ASSUMED
	783,039
	POLICYHOLDER DIVIDENDS
	9,857,423
	PROVISION FOR REINSURANCE
	5,066,341
	ADVANCE PREMIUM
	1,256,758
	ESCHEAT LIABILITY
	637,143
	PAYABLE FOR SECURITIES LENDING
	20,655,872
	CEDED REINSURANCE NET PREMIUMS PAYABLE
	36,704,062
	OTHER ACCRUED EXPENSES AND LIABILITIES
	686,469
	TOTAL LIABILITIES
	\$ 2,216,124,273
	CAPITAL STOCK
	\$ 6,480,000
	PAID IN SURPLUS
	433,803,760
	OTHER SURPLUS
	1,676,352,567
	TOTAL SURPLUS TO POLICYHOLDERS
	\$ 2,016,636,327
	TOTAL LIABILITIES & SURPLUS
	\$ 4,232,760,598

STATE OF CONNECTICUT)
COUNTY OF HARTFORD) SS.
CITY OF HARTFORD)

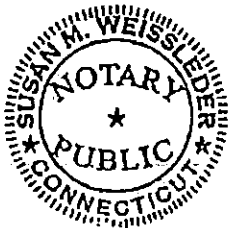
MICHAEL J. DOODY, BEING DULY SWORN, SAYS THAT HE IS SECOND VICE PRESIDENT, OF TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA, AND THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT STATEMENT OF THE FINANCIAL CONDITION OF SAID COMPANY AS OF THE 31ST DAY OF DECEMBER, 2017.

Michael J. Doody
SECOND VICE PRESIDENT

Susan M. Weissleder
NOTARY PUBLIC

SUBSCRIBED AND SWORN TO BEFORE ME THIS
16TH DAY OF MARCH, 2018

SUSAN M. WEISSELEDER
Notary Public
My Commission Expires November 30, 2022



2. LEGAL STATUS OF BIDDER

Bidder SAK Construction, LLC

Date March 11, 2019

* 1. A ~~corporation~~ ^{LLC} duly organized and doing business under the laws of the State of Missouri, for whom Boyd Hirtz, bearing the official title of Vice President, whose signature is affixed to this Bid/Proposal, is duly authorized to execute contracts.

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

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

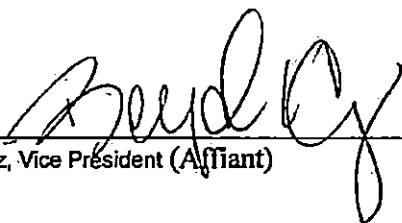
*(The Bidder shall fill out the appropriate form and strike out the other two.)

3. **BIDDERS AFFIDAVIT**

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

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

Further, Affiant sayeth naught.



 Boyd Hirtz, Vice President (Affiant)

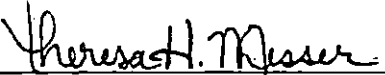
STATE OF Missouri
 COUNTY OF St. Charles

The foregoing instrument was subscribed, sworn to and acknowledged before me by
Boyd Hirtz on this the 8th day of March, 2019.

My Commission expires: March 30, 2019



• THERESA H. MESSER
 My Commission Expires
 March 30, 2019
 St. Charles County
 Commission #15634377


 _____ / Theresa H. Messer
 NOTARY PUBLIC, STATE AT LARGE - Missouri

4. BID SCHEDULE – SCHEDULE OF VALUES

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

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

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

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

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

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

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

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

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

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
1.	Bypassing Pumping for the project THREE HUNDRED FIFTY THREE THOUSAND THREE HUNDRED Dollars and Cents (Entire Project)	1	Each	\$ <u>353,300⁰⁰</u>	\$ <u>353,300⁰⁰</u>
2.	Cure in Place pipe 36 inch diameter <u>TWO HUNDRED FORTY</u> Dollars and Cents (per linear foot)	668	LF	\$ <u>240⁰⁰</u>	\$ <u>160,320⁰⁰</u>
3.	Cure in place pipe 48 inch diameter <u>TWO HUNDRED FIFTY</u> Dollars and Cents (per linear foot)	2629	LF	\$ <u>250⁰⁰</u>	\$ <u>657,250⁰⁰</u>
4.	Spray Roq manhole 72 inch diameter <u>ONE THOUSAND THIRTY FIVE</u> Dollars and Cents (per vertical foot)	113	VF	\$ <u>1,035⁰⁰</u>	\$ <u>116,955⁰⁰</u>

Item No.	Description w/Unit Bid Price Written in Words	Estimated Quantity	Unit	Unit Price	Total Bid Amount
5.	HDPE Manhole lid and casting replacement <u>Two Thousand Five Hundred</u> — Dollars and Cents (per Each)	14	Each	<u>\$ 2,500⁰⁰</u>	<u>\$ 35,000⁰⁰</u>
6.	Cone removal and resealing <u>One Thousand Five Hundred</u> — Dollars and Cents (per Each)	14	Each	<u>\$ 1,500⁰⁰</u>	<u>\$ 21,000⁰⁰</u>
7.	Spray Roq manhole 96 inch diameter <u>One Thousand Five Hundred</u> — Dollars and Cents (per vertical foot)	14	VF	<u>\$ 1,500⁰⁰</u>	<u>\$ 21,000⁰⁰</u>
8.	Heavy Cleaning of the sanitary sewer <u>Three Hundred</u> — Dollars and Cents (per hour)	40	Hour	<u>\$ 300⁰⁰</u>	<u>\$ 12,000⁰⁰</u>

TOTAL OF ALL BID PRICES FOR PART A THROUGH E IN FIGURES AND WORDS.

\$ 1,376,825⁰⁰

In case of discrepancy, the amount shown in words will govern.

ONE MILLION, THREE HUNDRED SEVENTY SIX THOUSAND, EIGHT HUNDRED

Twenty Five Dollars And Cents

The quantities indicated in the Bid Schedule reflect those anticipated for this project. Estimated quantities are the best estimate of the information we have currently. If there are any discrepancies between GIS distances and CCTV distances, the CCTV distances will govern. Final quantities will be paid from the CCTV distances and manhole measurements made during the project. The CONTRACTOR shall specify the unit price for each item in the Bid Schedule without regard to quantity. The CONTRACTOR will not be permitted to alter the unit price identified in the Bid Schedule for changes in estimated quantities for any Item No.

Submitted by:

SAK Construction, LLC

Firm

864 Hoff Road

Address

O'Fallon, MO 63366

City, State & Zip

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


Signature of Authorized Company Representative – Title

Boyd Hirtz, Vice President

Representative/s Name (Typed or Printed)

636-385-1000 - ext 1013
Area Code -- Phone -- Extension

636-385-1100
Fax #

bidcippe@sakcon.com
E-Mail Address

OFFICIAL ADDRESS:

864 Hoff Road

O'Fallon, MO 63366

(Seal if Bid is by ^{LLC} Corporation)

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

5. STATEMENT OF BIDDER'S QUALIFICATIONS

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

1. Name of Bidder: SAK Construction, LLC
2. Permanent Place of Business: 864 Hoff Road, O'Fallon, MO 63366
3. When Organized: 1/27/2006
4. Where Incorporated: Missouri
5. Construction Plant and Equipment Available for this Project:

Please see attachment labeled "Major Cured-in-Place Pipe Equipment"

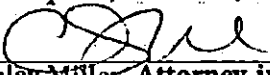
(Attach Separate Sheet If Necessary)

6. **Financial Condition:**

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

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

Travelers Casualty and Surety Company of America
One Tower Square, Hartford, CT 06183 (Surety)

Signed:  (Representative of Surety)
Ashley Miller, Attorney-in-Fact

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

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>
<u>Please see attachment labeled "Completed Project List"</u>		
<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>
<hr/>	<hr/>	<hr/>

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

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

Please see attachment labeled "Current Project List"

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

<u>NAME</u>	<u>POSITION DESCRIPTION</u>	<u>NO. OF YEARS WITH BIDDER</u>
<u>Please see attachment labeled "Southeast Region Letter of Experience"</u>		

11. DBE Participation on current bonded projects under contract:

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

See answer on next page.

In the past five years, SAK has utilized over 10,000 subcontractors and suppliers. A large amount of the subcontractors and suppliers are either DBE, MBE or WBE certified, therefore there are too many to list here. Additional information/references can be provided upon request.

(USE ADDITIONAL SHEETS IF NECESSARY)

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



MAJOR CURED-IN-PLACE EQUIPMENT

Boiler System

Water Boiler
Steam Boiler

Inversion System

Shooter
Air Compressor
A-Frame (Water Inversion)

Jetter Unit

Jetter Truck/Trailer
Vactor Truck

TV Inspection Unit

CCTV Truck W/ Robotic Video Camera and Cutter System

Support Trucks

3/4 Ton Pickup
1 1/2 Ton Pickup

Wet-Out Tube Transport

Road Tractors
Refrigerated Trailers

By-Pass Pumps and Piping 2"-4" for Small Diameter CIPP

Larger Bypass Equipment up to 12" Pumps/HDPE discharge (only when necessary)

Traffic Control (Cones, Barricades, Flexible Drums, Signs, & Changeable Message Signs)

Confined Space Entry Equipment

SAK - Current Project List



Contract Number	Description	Description	Project Manager	Customer	Start Month	Contract Amt	Percent Complete
10804.31	Palm Springs, FL - CIPP & MH Rehab, R170802, RFP 17-08	CIPP - FL	Stan Kreuse	Village of Palm Springs	08/18	\$135,164.25	0.00%
10804.32	Wentzville, MO - 18-112, NIPA R170802, Amendment 1	CIPP - MO	Nick Pryor	City of Wentzville	10/18	\$168,133.90	78.41%
10804.33	O'Fallon, MO - 2018 Sanitary Sewer Lining/Rehab Program	CIPP - MO	Travis Jerrels	City of O'Fallon	11/18	\$999,990.00	0.00%
10804.34	O'Fallon, MO - 2019 Sanitary Sewer Lining/Rehab Program	CIPP - MO	Travis Jerrels	City of O'Fallon	01/19	\$0.00	0.00%
12162.11	WSSC, MD - C15218A11, Sligo Creek, TO #11	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	01/18	\$3,771,859.75	57.24%
13042.	WSSC, MD - C15300A11, Northwest	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	04/13	\$15,000,000.00	0.00%
13042.04	WSSC, MD - C15300A11, Northwest, TO #4	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	09/15	\$1,155,660.73	73.97%
13042.05	WSSC, MD - C15300A11, Northwest, TO #05	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	06/18	\$1,220,207.49	46.49%
13042.18	WSSC, MD - C15300A11, Northwest, TO #18	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	06/18	\$148,775.30	17.25%
13104.	WSSC, MD - PM5295A11, Western Branch	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	08/13	\$20,000,000.00	0.00%
13104.16	WSSC, MD - PM5295A11, Western Branch, TO #16	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	12/16	\$2,342,228.49	76.08%
13104.90	WSSC, MD - PM5295A11, Western Branch, TO #10A	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	02/17	\$603,593.10	62.31%
13104.92	WSSC, MD - PM5295A11, Western Branch, TO #2A	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	01/17	\$1,328,787.86	80.42%
13109.	WSSC, MD - PM5337A12, Watts Branch	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	08/13	\$8,750,000.00	0.00%
13109.04	WSSC, MD - PM5337A12, Watts Branch, TO #04	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	10/15	\$3,120,186.17	31.57%
13109.12	WSSC, MD - PM5337A12, Watts Branch, TO #12	CIPP - MD	Bob Quackenbush	Washington Suburban Sanitary Commission	05/18	\$2,322,407.88	70.28%
13151.	Phoenix, AZ - 4108JOC112, Contract 137025 Small Dia SS Rehab	CIPP - AZ	David Burbank	City of Phoenix	12/13	\$0.00	0.00%
13151.17	Phoenix, AZ - 4108JOC112, 137025, JOA017	CIPP - AZ	David Burbank	City of Phoenix	12/17	\$1,399,539.14	72.74%
13151.18	Phoenix, AZ - 4108JOC112, 137025, JOA018	CIPP - AZ	David Burbank	City of Phoenix	05/18	\$549,888.54	84.19%
13151.19	Phoenix, AZ - 4108JOC112, 137025, JOA019	CIPP - AZ	David Burbank	City of Phoenix	12/18	\$649,876.47	0.00%
14035.08	Johnson County, KS - Auth 8, CMSD 18, Term 2016-2017	CIPP - KS	Brent Adams	Johnson County Wastewater	04/17	\$1,214,952.65	82.52%
14035.09	Johnson County, KS - Auth 9, CMSD 18, Term 2017-2018	CIPP - KS	Brent Adams	Johnson County Wastewater	04/18	\$1,370,426.85	88.81%
14091.	St. Louis, MO - MSD, Black Creek, 20183, 11889-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	08/14	\$5,423,844.51	72.91%
14091.01	St. Louis, MO - MSD, Black Creek, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	09/14	\$0.00	0.00%

14117.	St. Louis, MO - MSD, B-C-M-M, FY15, D, 20173, 11871-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	10/14	\$4,809,082.63	76.29%
14117.01	St. Louis, MO - MSD, B-C-M-M, FY15, D, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	10/14	\$0.00	0.00%
14121.	St. Louis, MO - MSD, B-C-M-M, FY15, E, 20180, 11824-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	10/14	\$2,359,226.85	89.57%
14121.01	St. Louis, MO - MSD, B-C-M-M, FY15, E, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	10/14	\$0.00	0.00%
14133.	St. Louis, MO - MSD, IR2015, Contract A, 20181, 11708-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	11/14	\$4,850,307.64	84.11%
14133.01	St. Louis, MO - MSD, IR2015, Contract A, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	11/14	\$0.00	0.00%
14137.01	Baltimore, MD - SC 920, Laterals	CIPP - MD	Travis Ewing	City of Baltimore	07/16	\$0.00	0.00%
15009.	St. Louis, MO - MSD, COUNTY, IR2015, B, 20208, 11866-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	03/15	\$6,322,004.67	77.53%
15009.01	St. Louis, MO - MSD, CITY, IR2015, B, 20208, 11866-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	03/15	\$0.00	0.00%
15040.	Baltimore County, MD - 14037 SXO, Herring Run	CIPP - MD	Travis Ewing	Baltimore County Dept of Public Works	05/15	\$2,062,461.40	80.44%
15043.	Washington, DC - 140160, G100 Local Sewer Rehab 1	CIPP - DC	Bob Quackenbush	District of Columbia Water and Sewer Authority	05/15	\$7,521,508.40	75.54%
15059.	St. Louis, MO - MSD, Forest Brook, 20259, 11944-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	07/15	\$3,364,322.00	72.83%
15059.01	St. Louis, MO - MSD, Forest Brook, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	07/15	\$0.00	0.00%
15059.02	St. Louis, MO - MSD, Forest Brook, Laterals 2	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	05/18	\$0.00	0.00%
15084.	St. Louis, MO - MSD, B-C-M-M, FY16, A, 20283, 12060-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	09/15	\$3,694,308.71	81.42%
15084.01	St. Louis, MO - MSD, B-C-M-M, FY16, A, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	09/15	\$0.00	0.00%
15093.	St. Louis, MO - MSD, University City, 20282, 12063-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	09/15	\$4,216,881.09	68.93%
15093.01	St. Louis, MO - MSD, University City, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	03/16	\$0.00	0.00%
15093.02	St. Louis, MO - MSD, University City, Laterals 2	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	11/18	\$0.00	0.00%
15112.	St. Louis, MO - MSD, Florissant Public, 20324, 11932-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	12/15	\$2,906,418.95	91.05%
15112.01	St. Louis, MO - MSD, Florissant, 20324, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	09/16	\$0.00	0.00%
15113.	Kerr Transit, Alberici Hauling, Dolphin Stadium	Tunneling - MO	Shano Barbagallo	Kerr Transit LLC	12/15	\$0.00	0.00%
15121.	Baltimore, MD - SC 937 Improvements to HR07 & Chesterfield A	CIPP - MD	Travis Ewing	City of Baltimore	12/15	\$6,590,680.00	87.67%
16004.	Baltimore County, MD - 14245 SXO, Jones Falls BC04	CIPP - MD	Travis Ewing	Baltimore County Dept of Public Works	02/16	\$1,391,265.00	91.80%
16005.	Baltimore County, MD - 16084 SXO, Dead Run Sewershed DR11&12	CIPP - MD	Travis Ewing	Baltimore County Dept of Public Works	02/16	\$1,820,121.00	88.00%
16016.	St. Louis, MO - MSD, Goodwin, Matine Creek, 11656-015.1	Tunneling - MO	Loren Goens	SAK/Goodwin Joint Venture	03/16	\$44,724,117.59	85.67%
16016.01	St. Louis, MO - MSD, SAK, Matine Creek, 11656-015.1	CIPP - MO	Travis Jerrels	SAK Construction, LLC	11/17	\$299,080.00	0.00%
16054.	St. Louis, MO - MSD, University City E (Bel Nor) 20389;12435	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	06/16	\$2,373,927.56	80.16%
16054.01	St. Louis, MO - MSD, University City East (Bel Nor) Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	09/16	\$0.00	0.00%
16054.02	St. Louis, MO - MSD, University City, Non CIPP Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	03/17	\$0.00	0.00%
16073.01	St. Louis, MO - MSD, Lemay Watershed, 20416, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	10/16	\$0.00	0.00%
16073.02	St. Louis, MO - MSD, Lemay, 20416, Non CIPP Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	10/17	\$0.00	0.00%
16079.	Nashville, TN - 385313, Cowan Rehab Area 4	CIPP - TN	Deborah Bartley	Metro Nashville Davidson County Government	07/16	\$6,935,339.64	81.55%

16098.	Hilton Head, SC - Sewer Rehabilitation	CIPP - SC	Randy Hansbrough	South Island Public Service District	09/16	\$2,411,461.00	47.25%
16098.01	Hilton Head, SC - Sewer Rehabilitation Change Order	CIPP - SC	Stan Krause	South Island Public Service District	08/17	\$0.00	0.00%
16098.02	Hilton Head, SC - Sewer Rehab CO 3	CIPP - SC	Deborah Bartley	South Island Public Service District	11/18	\$0.00	0.00%
16106.	Hartford, CT - 2016B-04, Rehab of Rocky Hill Outfall	CIPP - CT	Travis Ewing	The Metropolitan District	09/16	\$3,772,436.00	93.62%
16112.	St. Louis, MO - MSD, Lemay Public, C, 20432, 12050-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	10/16	\$2,133,732.60	80.51%
16112.01	St. Louis, MO - MSD, Lemay Public, C, 20432, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	06/17	\$0.00	0.00%
16112.02	St. Louis, MO - MSD, Lemay Public, C, 20432, Laterals 2	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	12/17	\$0.00	0.00%
16119.01	St. Louis, MO - MSD, Lemay Public, A, 20481, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	08/17	\$0.00	0.00%
16119.02	St. Louis, MO - MSD, Lemay Public, A, 20481, Laterals 2	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	01/19	\$0.00	0.00%
16127.	Kansas City, MO - Kissick, Mid Blue River Basin Outfall 063	CIPP - MO	Brent Adams	Kissick Construction Company	11/16	\$495,521.50	80.41%
16140.	St. Louis, MO - MSD, Jefferson Barracks, 11711-015.1, 20489	Tunneling - MO	KC Hildenbrand	Metropolitan STL Sewer District	11/16	\$64,609,776.04	38.66%
16141.	Washington, DC - 150200, Watts Branch 3 & Spring Valley	CIPP - DC	Bob Quackenbush	District of Columbia Water and Sewer Authority	11/16	\$2,998,624.00	20.81%
16145.01	St. Louis, MO - MSD, B-C-M-M, FY17, C, 20471, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	06/17	\$0.00	0.00%
16145.02	St. Louis, MO - MSD, B-C-M-M, FY17, C, 20171, Laterals 2	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	03/18	\$0.00	0.00%
16149.	Shreveport, LA - Cedar Grove Basin Sewer Rehab 3, I, F14006	CIPP - LA	Dan Swidrak	City of Shreveport	12/16	\$11,577,177.98	64.22%
16149.01	Shreveport, LA - Cedar Grove Basin, Change Order 1	CIPP - LA	Dan Swidrak	City of Shreveport	03/17	\$0.00	0.00%
16149.02	Shreveport, LA - Cedar Grove Basin, Laterals	CIPP - LA	Dan Swidrak	City of Shreveport	03/17	\$0.00	0.00%
17010.	Nashville, TN - SBW, 0117-001, Smith Springs Rehab	CIPP - TN	Deborah Bartley	SBW Constructors, LLC	02/17	\$1,569,610.00	80.37%
17011.	St. Louis, MO - MSD, B-C-M-M, FY17, A, 20504, 12023-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	02/17	\$2,726,839.66	80.65%
17011.01	St. Louis, MO - MSD, B-C-M-M, FY17, A, 20504, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	06/17	\$0.00	0.00%
17011.02	St. Louis, MO - MSD, B-C-M-M, FY17, A, 20504, Laterals 2	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	04/18	\$0.00	0.00%
17013.	St. Louis, MO - Bates, 996, Woodsmill Sanitary (SKME-020)	CIPP - MO	Travis Jerrels	Bates Utility Company, Inc.	03/17	\$72,630.90	78.81%
17018.	Baltimore County, MD - 16093 SXO, Herring Run Sewershed	CIPP - MD	Travis Ewing	Baltimore County Dept of Public Works	03/17	\$4,657,070.00	81.66%
17018.01	Baltimore County, MD - 16093 SXO, Chemical Grout	CIPP - MD	Travis Ewing	Baltimore County Dept of Public Works	11/17	\$0.00	0.00%
17021.	St. Louis, MO - MSD, Lemay Public, B, 20487, 12049-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	03/17	\$4,151,475.18	73.67%
17021.01	St. Louis, MO - MSD, Lemay Public, B, 20487, Laterals	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	06/17	\$0.00	0.00%
17021.02	St. Louis, MO - MSD, Lemay Public, B, 20487, Laterals 2	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	12/17	\$0.00	0.00%
17025.	Indianapolis, IN - Citizens, Large Dia Sewer Rehab Program	CIPP - IN	Tim Bussen	Citizens Energy Group	04/17	\$0.00	0.00%
17025.11	Indianapolis, IN - 92TU00125, Lower Pogues	CIPP - IN	Chris Vogt	Citizens Energy Group	06/17	\$4,118,561.00	88.35%
17025.13	Indianapolis, IN - 92RR02678, Merrill Street	CIPP - IN	Chris Vogt	Citizens Energy Group	08/17	\$3,037,764.35	81.06%
17025.21	Indianapolis, IN - 92RR02688, East 30th Street	CIPP - IN	Chris Vogt	Citizens Energy Group	09/18	\$1,912,448.50	58.35%
17025.23	Indianapolis, IN - EPRPSD, East Pleasant Run	CIPP - IN	Chris Vogt	Citizens Energy Group	01/19	\$0.00	0.00%
17025.24	Indianapolis, IN - 10th Street	CIPP - IN	Chris Vogt	Citizens Energy Group	01/19	\$0.00	0.00%
17028.	St. Louis, MO - MSD, Deer Creek Sanitary Tunnel, 11731-015.1	Tunneling - MO	Brent Duncan	Metropolitan STL Sewer District	04/17	\$148,127,777.77	24.95%

17030.	San Francisco, CA - A&B Const, Bay Coridor	CIPP - CA	Todd Chalk	A & B Construction	04/17	\$153,900.00	95.58%
17047.	Howard County, MD - CA015-2017, S-6232, On-Call Sewer	CIPP - MD	Ken Sprau	Howard County Maryland	06/17	\$7,835,982.00	0.00%
17047.02	Howard County, MD - D1169, Storm Drain Repair	CIPP - MD	Ken Sprau	Howard County Maryland	10/18	\$310,200.00	75.76%
17057.	St. Petersburg, FL - 17048-111 Sanitary Sewer VI Priority	CIPP - FL	Stan Krause	City of St. Petersburg FL	07/17	\$2,250,000.00	35.93%
17057.01	St. Petersburg, FL - 17048-111 Sanitary Sewer Renewal 1	CIPP - FL	Stan Krause	City of St. Petersburg FL	09/18	\$2,330,000.00	18.15%
17059.	Kansas City, MO - Kissick, City Wide Sewer, Waterways	CIPP - MO	Brent Adams	Kissick Construction Company	09/17	\$1,438,192.00	95.25%
17080.	Pima County, AZ - B & F Contracting, Master Agreement	CIPP - AZ	David Burbank	B & F Contracting, Inc.	10/17	\$0.00	0.00%
17080.05	Pima County, AZ - B & F Contracting, Work Order 5	CIPP - AZ	David Burbank	B & F Contracting, Inc.	08/18	\$195,908.00	85.71%
17080.06	Pima County, AZ - B & F Contracting, Work Order 6	CIPP - AZ	David Burbank	B & F Contracting, Inc.	09/18	\$268,696.00	82.86%
17080.07	Pima County, AZ - B & F Contracting, Work Order 7	CIPP - AZ	David Burbank	B & F Contracting, Inc.	11/18	\$299,560.00	0.00%
17084.	St. Louis, MO - MSD, CITY, IR2018, Contract A, 12014-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	10/17	\$1,863,854.01	54.90%
17087.	Kansas City, MO - Kissick, 81000689 & 690/1358 Line Creek	CIPP - MO	Brent Adams	Kissick Construction Company	11/17	\$860,594.25	87.75%
17093.	Baltimore, MD - SC974 Repairs of Sanitary Sewer Mains Zone B	CIPP - MD	Travis Ewing	City of Baltimore	11/17	\$6,776,081.00	70.97%
17093.01	Baltimore, MD - SC974 Work Release-10 CIPP Mainlines	CIPP - MD	Travis Ewing	City of Baltimore	08/18	\$0.00	0.00%
17093.25	Baltimore, MD - SC974 Work Release-14 CIPP Mainlines	CIPP - MD	Travis Ewing	City of Baltimore	10/18	\$0.00	0.00%
17097.	San Antonio, TX - East Sewershed III, CO-00147-01, 16-4520	CIPP - TX	Brian Ackerman	San Antonio Water System	11/17	\$11,760,724.31	88.34%
17097.01	San Antonio, TX - CO 1, East Sewershed, CO-00147-01, 16-4520	CIPP - TX	Brian Ackerman	San Antonio Water System	04/18	\$0.00	0.00%
17098.	Pima County, AZ - KE&G Master Agreement 917003	CIPP - AZ	David Burbank	KE&G Construction, Inc.	12/17	\$0.00	0.00%
17098.05	Pima County, AZ - KE&G, Work Order 05	CIPP - AZ	David Burbank	KE&G Construction, Inc.	01/19	\$169,637.00	0.00%
17103.	Bonner Springs, KS - CIPP 2017	CIPP - KS	Nick Pryor	City of Bonner Springs	12/17	\$136,092.00	59.12%
17105.	Kansas City, MO - 81000784/1354, City-Wide, CITY Limits	CIPP - MO	Brent Adams	City of Kansas City	01/18	\$7,500,000.00	42.31%
17106.	Wyandotte County, KS - 6301, 2017 Sanitary Sewer R&R, #1	CIPP - KS	Nick Pryor	Unified Governmnt of Wyandotte	01/18	\$1,252,023.50	79.49%
18002.	Kansas City, MO - Kissick, 17-117-01, Blue River South	CIPP - MO	Brent Adams	Kissick Construction Company	01/18	\$607,200.00	76.01%
18006.	St. Louis, MO - Bates, 1055, Harlem-Baden, 11770-015.1	CIPP - MO	Travis Jerrels	Bates Utility Company, Inc.	02/18	\$288,986.50	39.55%
18006.01	St. Louis, MO - Bates, 1055, Harlem-Baden, Laterals	CIPP - MO	Travis Jerrels	Bates Utility Company, Inc.	11/18	\$0.00	0.00%
18017.	Montgomery, AL - 2018 CIPP Rehab, 694600	CIPP - AL	Jimmy Witt	City of Montgomery, AL	04/18	\$5,276,865.00	48.18%
18021.	Washington, DC - 120210, Low Area Trunk Sewer Rehab	CIPP - DC	Ken Sprau	District of Columbia Water and Sewer Authority	04/18	\$8,248,710.00	30.62%
18022.	Griffith, IN - Sanitary Interceptor Sewer Improvements	CIPP - IN	Chris Vogt	Town of Griffith	04/18	\$3,931,180.00	81.37%
18028.	Los Angeles County, CA - 5105, San Jose Creek	CIPP - CA	Leo Calverio	County Sanl Dist No 2 of LA	04/18	\$6,183,030.00	84.28%
18029.	Bonner Springs, KS - 2018 Pipe Lining	CIPP - KS	Nick Pryor	City of Bonner Springs	05/18	\$93,450.50	74.28%
18030.	Orinda, CA - Bay Cities Paving, DIR 240589, 3985	CIPP - CA	Todd Chalk	Bay Cities Paving & Grading, Inc.	05/18	\$1,348,518.00	55.92%
18036.	St. Paul, MN - Met Council, 17P030, 807835, Golden Valley	CIPP - MN	Cory Street	Metropolitan Council	05/18	\$2,764,874.00	76.38%
18041.	San Antonio, TX - Eastern Sewershed IV, CO-00149-01, 17-4527	CIPP - TX	Brian Ackerman	San Antonio Water System	05/18	\$3,940,769.56	63.58%
18045.	Philadelphia, PA - Contract 183129, PO XX18000352, Cobbs Crk	CIPP - PA	Bob Quackenbush	City of Philadelphia	06/18	\$3,278,350.00	27.13%

18046.	Stockton, CA - M15001, Alexandria Place Sewer Trunk Line	CIPP - CA	Todd Chaik	City of Stockton	06/18	\$4,746,110.00	0.00%
18048.	North Charleston, SC - Ashley Interceptor Rehab Phase 8	CIPP - SC	Deborah Bartley	North Charleston Sewer District	06/18	\$2,137,642.92	16.16%
18054.	Lawrence, KS - UT1807, 2018 Sanitary Sewer Rehab	CIPP - KS	Nick Pryor	City of Lawrence, KS	06/18	\$1,647,440.60	38.70%
18056.	Los Gatos, CA - University Ave ACP Sewer Rehab	CIPP - CA	Todd Chaik	West Valley Sanitation District	06/18	\$2,481,150.00	29.61%
18060.	San Antonio, TX - 2018 CIPP Small Dia, CO-00166-01, 17-4547	CIPP - TX	Brian Ackerman	San Antonio Water System	07/18	\$2,531,847.00	12.08%
18061.	Jefferson County, MO - Rock Creek PSD, Phase 7, SS Collecto	CIPP - MO	Nick Pryor	Rock Creek Public Sewer District	07/18	\$250,693.16	32.37%
18062.	Lawrence, KS - Kissick, KU, 18-048-01, Sanitary Sewer Rehab	CIPP - KS	Nick Pryor	Kissick Construction Company	07/18	\$84,834.23	0.00%
18063.	Las Vegas, NV - LV Paving, 13603, 2016R3 Annual	CIPP - NV	Leo Calvario	Las Vegas Paving Corp.	07/18	\$318,651.00	0.00%
18066.	Lenexa, KS - Brookwood Place Phase II	CIPP - KS	Nick Pryor	City of Lenexa	07/18	\$1,164,947.80	32.97%
18068.	Caltrans, CA - Hansen Bros, 03-4H4504, Failed Culvert	CIPP - CA	Todd Chaik	Hansen Bros. Enterprises	08/18	\$157,300.00	87.05%
18070.	Lake St. Louis, MO - Sweetens, Yard Dr. Reconstruction	CIPP - MO	Travis Jermels	Sweetens Concrete Services	08/18	\$47,138.00	0.00%
18071.	San Francisco, CA - M Squared, 1000007415, Lombard St	CIPP - CA	Todd Chaik	M Squared Construction, Inc.	08/18	\$1,490,160.00	0.00%
18074.	Fort Riley, KS - FRUS1806PCCRFP5	CIPP - KS	Nick Pryor	Fort Riley Utility Services, Inc.	08/18	\$0.00	0.00%
18074.01	Fort Riley, KS - FRUS1806PCCRFP5, Phase 1	CIPP - KS	Nick Pryor	Fort Riley Utility Services, Inc.	08/18	\$1,727,044.75	82.45%
18074.02	Fort Riley, KS - FRUS1806PCCRFP5, Phase 2	CIPP - KS	Nick Pryor	Fort Riley Utility Services, Inc.	08/18	\$1,711,639.00	6.65%
18075.	San Antonio, TX - Central Sewershed 5, CO-000175-01, 17-4556	CIPP - TX	Brian Ackerman	San Antonio Water System	08/18	\$2,621,988.10	0.38%
18079.	Caltrans, CA - Martin Bros, 03-2F1304, 018-099, Install Sand	CIPP - CA	Todd Chaik	Martin Brothers Construction	08/18	\$207,360.00	0.00%
18083.	Baltimore, MD - Allan Myers, 25-114152001-S, 1525085	CIPP - MD	Travis Ewing	Allan Myers MD, Inc.	09/18	\$623,957.50	0.00%
18084.	Pinellas Park, FL - Renewal 6, Contract 13/014, 2018 Annual	CIPP - FL	Stan Krause	City of Pinellas Park	09/18	\$550,000.00	0.00%
18086.	San Antonio, TX - West Sewershed 1, CO-00196-01, 17-4546	CIPP - TX	Leo Calvario	San Antonio Water System	10/18	\$0.00	0.00%
18087.	Phoenix, AZ - SRP, 8200010390, Camelback & 7th St.	CIPP - AZ	David Burbank	SRP	10/18	\$145,000.00	0.00%
18088.	San Antonio, TX - Multiple Sewershed 2A CO-00148-01, 17-4533	CIPP - TX	Brian Ackerman	San Antonio Water System	10/18	\$22,484,762.00	4.10%
18091.	Dekalb County, GA - Renee Grp-Clifton Run 1068774;17-100810	CIPP - GA	Clayton Washburn	The Renee Group, Inc.	10/18	\$131,950.00	0.00%
18092.	Baltimore, MD - CH2M Hill 14800239, Honeywell, DMT-15th St	CIPP - MD	Cory Street	CH2M Hill Engineers, Inc.	10/18	\$3,606,000.00	91.60%
18093.	Franklin, TN - Cartwright Creek Rehab, Grassland Middle Scho	CIPP - TN	Deborah Bartley	Cartwright Creek, LLC	10/18	\$38,010.00	0.00%
18095.	Fairmont City, IL - CDBG PY17, Cookson SS Rehab Collinsville	CIPP - IL	Travis Jermels	Village of Fairmont City	10/18	\$55,771.00	0.00%
18099.	St. Louis, MO - MSD, COUNTY, Deer Creek, 19A, 12042-015.1	CIPP - MO	Travis Jermels	Metropolitan STL Sewer District	10/18	\$3,967,668.09	0.00%
18099.01	St. Louis, MO - MSD, COUNTY, Deer Creek, 19A, 12042 Laterals	CIPP - MO	Travis Jermels	Metropolitan STL Sewer District	01/19	\$0.00	0.00%
18099.02	St. Louis, MO - MSD, COUNTY, Deer Creek, 19A, 12042 Laterals 2	CIPP - MO	Travis Jermels	Metropolitan STL Sewer District	01/19	\$0.00	0.00%
18099.03	St. Louis, MO - MSD, CITY, Deer Creek, 19A, 12042, Laterals	CIPP - MO	Travis Jermels	Metropolitan STL Sewer District	01/19	\$0.00	0.00%
18099.04	St. Louis, MO - MSD, CITY, Deer Creek, 19A, 12042, Laterals 2	CIPP - MO	Travis Jermels	Metropolitan STL Sewer District	01/19	\$0.00	0.00%
18099.05	St. Louis, MO - MSD, CITY, Deer Creek, 19A, 12042	CIPP - MO	Travis Jermels	Metropolitan STL Sewer District	01/19	\$0.00	0.00%
18102.	Port St. Lucie, FL - 20180187, Rehab Gravity Sewers	CIPP - FL	Stan Krause	City of Port St. Lucie	11/18	\$91,510.00	0.00%
18103.	Baltimore, MD - JW Dell, 7323 Aviation Blvd, Sewer Main Lini	CIPP - MD	Travis Ewing	J. W. Dell Company	11/18	\$206,047.50	59.12%
18104.	Tempe, AZ - 3207101F, Sanitary Sewer Collection Work Area 5	CIPP - AZ	David Burbank	City of Tempe	11/18	\$347,437.00	0.00%

18105.	San Antonio, TX - W-1 Temp Diversion CO-00246-01, 19-0127	CIPP - TX	Brian Ackerman	San Antonio Water System	11/18	\$2,668,459.31	34.81%
18106.	Fort Leavenworth, KS - American Water, Riverside Sewer CIPP	CIPP - KS	Nick Pryor	American Water	11/18	\$74,120.00	74.72%
18107.	San Antonio, TX - Multiple Sewershed 5, CO-00237-01, 17-4551	CIPP - TX	Cory Street	San Antonio Water System	11/18	\$5,730,181.00	0.00%
18108.	Phoenix, AZ - 4108JOC167, Contract 148532 Small Dia SS Rehab	CIPP - AZ	David Burbank	City of Phoenix	11/18	\$0.00	0.00%
18109.	St. Louis, MO - L Keeley, MSD, 11677, Webster Groves Trunk E	CIPP - MO	Travis Jerrels	L. Keeley Construction	11/18	\$13,702.50	0.00%
18110.	St. Louis, MO - MSD, B-C-M-M, FY19, C, 21700, 12026-015.1	CIPP - MO	Travis Jerrels	Metropolitan STL Sewer District	12/18	\$3,927,111.60	0.00%
18111.	Kingsport, TN - Gamey, BAE Systems, Area B Sewer System	CIPP - TN	Deborah Bartley	Gamey Federal, Inc.	12/18	\$2,212,839.00	0.00%
18112.	Shawnee, KS - Wiedenmann, 2019 Stormwater Pipe Repair	CIPP - KS	Nick Pryor	Wiedenmann, Inc.	12/18	\$346,671.00	0.00%
18113.	Trenton, OH - Vortex, MillerCoors Brewery, 2018	CIPP - OH	Bob Quackenbush	Vortex Industrial Solutions, LLC	12/18	\$169,400.00	11.25%
18114.	Stockton, CA - M17025, Della St. Sanitary Sewer Rehab.	CIPP - CA	Todd Chalk	City of Stockton	12/18	\$1,277,410.00	0.00%
18115.	Pottstown, PA - Riggs Distler, ROCC080, Limerick Main Waste	CIPP - PA	Bob Quackenbush	Riggs Distler & Company, Inc.	12/18	\$259,905.00	0.00%
18116.	Fort Maede, MD - Rehab of Existing Sewer MH	CIPP - MD	Bob Quackenbush	American Water Operations and Maintenance, LLC	12/18	\$84,925.00	0.00%
18117.	Wyandotte County, KS - 6301, 2018 Sanitary Sewer Rehab	CIPP - KS	Nick Pryor	Unified Government of Wyandotte	12/18	\$1,039,649.00	0.00%
19001.	Baltimore, MD - CH2M Hill, 148002420, Honeywell, DMT-15th St	CIPP - MD	Cory Street	CH2M Hill Engineers, Inc.	12/18	\$2,762,986.53	0.00%
19002.	Portsmouth, VA - Ryan Const, Norfolk Naval, R17850 Bldg 163	CIPP - VA	Bob Quackenbush	Ryan Construction Company, Inc.	01/19	\$643,510.00	0.00%
19003.	Norco, LA - Turner, Shell, Norco Mig Complex	CIPP - LA	Nick Pryor	Turner Industries Group, LLC	01/19	\$304,280.00	0.00%
19004.	Caltrans, CA - Steve Manning, 02-4H9204, Delta Fire #1804	CIPP - CA	Todd Chalk	Steve Manning Construction, Inc.	01/18	\$0.00	0.00%
19005.	Overland Park, KS - Site Rite, Shamrock Trading	CIPP - KS	Brent Adams	Site Rite Construction Co.	01/19	\$7,875.00	0.00%



SOUTHEAST REGION LETTER OF EXPERIENCE

SAK Construction, LLC (SAK) is comprised of an experienced team, well-known in both the pipeline rehabilitation and tunneling industries. Our core pipeline rehabilitation focus is cured-in-place pipe (CIPP). SAK possesses the experience, expertise, and resources to operate a successful construction company, executing pipeline rehabilitation and tunneling work to the satisfaction of our customers.

Company Headquarters

Our approximately 115,000 square-foot headquarters, equipment fabrication, product manufacturing and CIPP wet-out facility are located near St. Louis, Missouri, approximately 20 miles west on I-70 from Lambert St. Louis Airport. The address and contact information is:

SAK Construction, LLC
864 Hoff Road
O'Fallon, Missouri 63366

(636)385-1000 Telephone
(636)385-1100 Fax

Capabilities

- Cured-in-place pipe lining – 6" to 96" diameter (sewer)
- Tunneling – 4 foot diameter to 32 foot arch
- Large Diameter Sliplining – 36" pipe and above
- Cured-in-place pressure pipe lining - 6" to 48" diameter
- Shotcreting, Grouting and Shaft Excavation

Management and Key Personnel/Experience

Tom Kallishman – Co Founder and Chairman

- Co-Founder and Chairman SAK Construction; 2006 to Present
- Board of Directors, Insituform Technologies, Inc. (ITI) from 1998 to 2005.
- President of United Pipeline Systems (ITI subsidiary) in 1998.
- Director of East Regions, ITI 1997 to 1998. Business unit annual revenues exceeding \$150mm.
- General Manager Southeast Region ITI from 1996 to 1997.
- Operations Manager Southeast Region ITI from 1994 to 1996.
- Operations Management Insituform Mid America from 1991 to 1993
- MBA Northwestern University; Evanston, IL
- B.S. in Economics, Wharton School at the University of Pennsylvania.

Jerry Shaw – Co Founder and President

- Co-Founder and President SAK Construction; 2006 to Present
- Over 39 years' experience in the tunnel and pipeline rehabilitation industry.
- Vice President of Affholder, Inc. (ITI tunneling subsidiary) for 18 years from 1987 to 2005, responsible for the overall operations of the company, which included estimating, field operations, equipment acquisitions and cost projects.
- Day to day management of \$25mm tunneling business which grew to \$120mm annually.
- Project manager of various tunnel projects 1983 to 1987.
- B.S. in Business Administration, Southwest Missouri State University (now Missouri St. Univ.).

Robert Affholder – Vice Chairman

- Board of Directors and Executive Vice President, Insituform Technologies, Inc. 1995 to 2005.
- Board of Directors and President, Insituform Mid-America from 1986 to 1995.



// SOUTHEAST REGION LETTER OF EXPERIENCE

- Formed Affholder, Inc. in 1968 to compete in the tunneling industry. Purchased first Insituform franchise in 1982, and took the company public as Insituform Mid-America, with Affholder, Inc. and six (6) Insituform franchise territories becoming wholly owned subsidiaries. Company revenues exceeded \$125 million.
- 1996 Trenchless Technology Person-of-the-Year.
- 1995 key facilitator of merger between Insituform Mid-America and Insituform Technologies, Inc., resulting in his being put in charge of all North American contracting for the corporation.
- President of Affholder, Inc. from 1968 to 2002.

Harry Miller – Safety Director

- Over 17 years' experience working as a safety consultant and safety manager for firms such as Black & Veatch and The Carpenters District Council of Greater St. Louis & Vicinity, joined SAK as Safety Director in January 2015.
- Division Safety Manager, Black & Veatch Construction Inc. Responsibilities include supervision of safety professionals on projects within the continental US and Alaska.
- Is a Certified Safety Professional (CSP) and Construction Health and Safety Technician (CHST) through the Board of Certified Safety Professionals (BCSP).
- Extensive knowledge of OSHA guidelines has Confined Space Training and Haz-Woper Certification.
- Occupational Safety and Health Administration 500 & 501 trainer.
- Professional Member American Society of Safety Engineers.
- B.A. in Human Resources, Lindenwood University
- MSA in Business, Lindenwood University

Roger Archibald – Chief Financial Officer

- Manages the accounting, finance, information technology and purchasing functions
- Over 35 years' experience in financial management
- Joined SAK Construction in 2011
- Chief financial officer of C.L. Smith Company from 2007-2011
- Partner, CFO and COO of Reproxdigital from 2005-2007
- Vice President, Budgets and Capital Projects, and Government Affairs for Argosy Gaming Company from 1995-2005
- Senior Audit Manager at Arthur Andersen from 1979-1995
- Bachelor of Science in Business, Major in Accounting, Eastern Illinois University
- Certified Public Accountant
- Missouri State Chamber Board of Directors
- East Central College Foundation Board of Directors and Treasurer

Boyd Hirtz – Vice President and General Manager, CIPP Division

- Over 33 years' in the CIPP and tunneling industries.
- Joined SAK in 2007 as Vice President and General Manager, involved in the overall operations and management of the company including tunneling and pipeline rehabilitation.
- Responsible for the day to day operations as well as the overall profitability of the CIPP division.
- Plant Engineer for Independent Concrete Pipe Company from 2006 to 2007.
- Area Manager for Affholder, Inc. (ITI subsidiary) from 2003 to 2006, responsible for the construction of tunneling projects in the Central US.



// SOUTHEAST REGION LETTER OF EXPERIENCE

- Senior Project Executive for Insituform Technologies, Inc. from 2002 to 2003, responsible for all project management activities of \$70 million to \$85 million-dollar region.
- Regional Manager for Insituform Technologies, Inc. from 1997 to 2002, involved in the overall operations and management of the region.
- Lead Project Manager/Estimator for Insituform Technologies, Inc. from 1995 to 1997.
- Project Manager/Estimator for Insituform Mid America from 1992 to 1995.
- Project Engineer for Insituform Mid America from 1987 to 1992.
- Project Engineer for Affholder, Inc. from 1985 to 1987.
- B.S. in Civil Engineering, University of Missouri-Rolla.
- Professional Engineer registered in the State of Missouri and Indiana.

Steve Hirtz – Vice President Rehab Operations

- Over 33 years' experience in the tunneling and pipeline rehabilitation industry
- General Manager for Mid America Pipe Services from November 2007 to May 2009. Responsible for the day to day operations of the pipeline cleaning, CCTV inspection and Assessment work done by the Company's crews.
- Director of Field Operations for Insituform Technologies, Inc. from June 2004 to November 2007. Responsible for North American Field Operations of 65 crews producing \$300 million in revenue annually.
- Senior Operations Manager for Insituform Technologies West Coast Operations from March 2000 to June 2004. Responsible for day to day field operations for the West Coast based in Benicia CA.
- Operations Manager for Insituform Technologies/Insituform Mid-America from March 1990 to March 2000. Responsible for the day to day field operations for the Midwest based in Chesterfield MO.
- Superintendent for Insituform Mid-America from 1985 to March 1990. Directly managed pipe rehabilitation crews in the Midwest.

Charlie Kuhnmuensch – Vice President Business Development

- Over 18 years' experience developing business and working with clients on solutions minimizing surface disruption in the CIPP pipeline rehabilitation industry. Joined SAK in January 2008.
- Sr. Business Developer for Woolpert, specializing in Water Management service. State, Local and Federal market client development and acquisitions.
- Vice President Hanneke Hardware & Industrial Supply. Responsible for leadership of business development team & marketing for a multi-store hardware and industrial supply business, serving the St. Louis construction market.
- Global VP Business Development & Marketing for Insituform Technologies, Inc., June 2004 to May 2005. Responsible for the leadership, strategic communication and skill development of the domestic and international sales and marketing staff comprised of 68 people.
- Director of Sales & Marketing, Insituform Technologies, Inc. from January 2002 to June 2004.
- Director of Strategic Accounts, Insituform Technologies, Inc. from January 2001 to January 2002.
- Central Region Sales Manager, Insituform Technologies, Inc. from January 1999 to January 2001.
- Technical Sales Representative, Insituform Technologies, Inc. from March 1997 to January 1999.
- B.S. in Business Administration, University of Missouri

Jack Boatman – Business Development – Senior Vice President of Government Relations

- Over 14 years' experience in business development, business management, community development, human resources, safety and training in the pipeline rehabilitation industry.
- Vice President Business Development, Insituform Technologies, Inc. from 1998 to 2005.
- Vice President Human Resources, Insituform Technologies, Inc. from 1994 to 1998.



// SOUTHEAST REGION LETTER OF EXPERIENCE

- 27 years with McDonnell Douglas in various engineering and upper management positions.
- B.S. in Electronics Engineering, Tuskegee Institute, Tuskegee, AL
- MBA Webster University, St. Louis, MO
- Member – National Forum of Black Public Administrators
- Economic Advisory Committee – City of Pritchard, AL

James Byrd – Underground Operations Manager, Tunneling

- Over 38 years' experience in the tunneling industry.
- Underground Operations Manager of SAK from 2006 to present, responsible for overseeing the management of underground projects, in charge of project operations including tunneling, shaft excavations, structure construction and subcontractors.
- Area Manager for Affholder, Inc. from 2003 to 2006.
- Responsibility for performance on multiple tunneling projects ranging in size up to \$70 million.
- Project Manager for Affholder, Inc. from 2000 to 2003. Responsible for management and construction of soft ground & hard rock tunnels ranging in size from \$500,000 to \$22 million.
- Superintendent for Seven K Construction from 1995 to 2000.
- Tunnel Foreman/Superintendent for Joe Byrd Boring and Tunneling from 1980 to 1989
- B.S. in Civil Engineering, Texas A&M University.

Anthony Aderhold – Business Development – Industrial Markets

- Joined SAK in August 2015, and is responsible for Business Development in the Industrial Markets.
- Over 10 years' experience in the trenchless rehabilitation industry.
- Area Manager of Business Development for Aegion Corporation with sales team in excess of \$125 million from 2010-2014.
- Business Development Manager for a 5-state region with Insituform Technologies with annual sales ranging from \$12 million to \$22 million, from 2008 to 2010.
- Client Service Manager for regional consulting firm in Upper Midwest, WSB & Associates, Inc., based in Minneapolis/St. Paul from 2000 to 2008.
- Civil Internship with Bonestroo and Associates (now Stantec) from 1997-2000.
- B.S. in Civil Engineering, University of Minnesota, Minneapolis, MN.
- MBA, University of St. Thomas University, Opus College of Business.
- Licensed Engineer in the State of Minnesota.

Clayton Washburn – General Manager - Southeast Region

- Over 28 years' experience in the construction industry including over 18 years' experience in the trenchless rehabilitation industry.
- At Insituform Technologies, Inc., served in progressive leadership roles including operations manager, general manager, and director of project management.
- Management responsibilities included individual project size of \$11.0 million and P&L responsibilities in excess of \$55 million annually.
- 5 years' experience serving as COO and CEO of private equity and venture capital financed energy and construction companies.
- B.S. in Civil Engineering from the University of Tennessee in Knoxville.
- MBA from the Owen Graduate School of Management at Vanderbilt University.
- Registered professional engineer in the State of Tennessee.



SOUTHEAST REGION LETTER OF EXPERIENCE

Randy Hansbrough – Operations Manager – Southeast Region

- Over 31 years' experience in the trenchless pipeline rehabilitation industry.
- Operations Manager and Project Manager for SAK from February 2016 to present.
- Product Development Manager/Product Engineer for Mississippi Textiles Corporation from May 2010 to December 2011.
- Area Manager for Insituform Technologies, Inc. from 2008 to 2010.
- Operations Manager for Insituform Technologies, Inc. from 2007 to 2008.
- Area Business Development Manager for Insituform Technologies, Inc. from 2006 to 2007.
- District Manager for Insituform Technologies, Inc. from 2003 to 2006.
- Area Project Executive for Insituform Technologies, Inc. from 2001 to 2003.
- Regional Operations Manager for Insituform Technologies, Inc. from 1995 to 2001.
- Area Project Manager for Insituform Technologies, Inc. from 1990 to 1995.
- Plant Wet-Out Manager for Insituform Technologies, Inc. from 1987 to 1990.
- B.S. in Civil Engineering, Christian Brothers College, Memphis, TN

Deborah Bartley – Project Manager – Southeast Region

- Over 19 years' experience in the trenchless pipeline rehabilitation industry.
- Project Manager for SAK from April 2016 to present, responsible for managing multiple CIPP projects and maintaining open communication with the clients, inspectors, subcontractors and residents throughout the life of the project.
- Field Engineer for Insituform Technologies, Inc. from 2012 to 2016.
- Project Manager for Insituform Technologies, Inc. from 2007 to 2012.
- Field Engineer for Insituform Technologies, Inc. from 2005 to 2007.
- Administrator for Insituform Technologies, Inc. from 1999 to 2005.

James (Jimmy) Witt – Project Manager – Southeast Region

- Over 33 years' experience in the trenchless pipeline rehabilitation industry.
- Project Manager for SAK from 2011 to present, responsible for managing multiple CIPP projects and maintaining open communication with the clients, inspectors, subcontractors and residents throughout the life of the project.
- Project Manager for Insituform Technologies, Inc. from 2000 to 2005.
- General Superintendent for Insituform Technologies, Inc. in 2000.
- Superintendent for Insituform Technologies, Inc. from 1990 to 2000.
- Laborer for Insituform Gulf South, Inc. from 1985 to 1990.

Jeff Oberhofer – General Superintendent

- Over 34 years' experience in the pipeline rehabilitation industry.
- General Superintendent for SAK from June 2008 to present, responsible for all phases of CIPP installation projects, crew management, coordination with subcontractors and General Contractors.
- Operations Manager for Insituform Technologies, Inc. from September 2006 to May 2008.
- General Superintendent for Insituform Technologies, Inc. from September 2002 to September 2006.
- Superintendent for Insituform Technologies, Inc. from August 1995 to August 2002.
- Foreman for Insituform Technologies, Inc. from September 1990 to July 1995.
- Laborer for Insituform Technologies, Inc. from September 1984 to July 1990.



SOUTHEAST REGION LETTER OF EXPERIENCE

Stan Krause – General Superintendent – Southeast Region

- Over 28 years' experience in the pipeline rehabilitation industry with CIPP.
- General Superintendent for SAK from February 2013 to present, responsible for all phases of CIPP installation projects, crew management, coordination with subcontractors and General Contractors.
- General Superintendent for Lanzo Trenchless Technologies from May 2011 to February 2013.
- General Superintendent for Insituform Technologies, Inc. from 2008 to 1990.

Glenn Spears – General Superintendent – Southeast Region

- Over 19 years' experience in the trenchless pipeline rehabilitation industry.
- General Superintendent for SAK from March 2011 to present, responsible for all phases of CIPP installation projects, crew management, coordination with subcontractors and General Contractors.
- Foreman for PIPEnology, Inc. from 2009 to 2011.
- Project Manager for Southwest Pipeline and Trenchless Technologies from 2006 to 2009.
- Superintendent for Ground and Pipe Technologies from 2005 to 2006.
- Superintendent for Southwest Pipeline and Trenchless Technologies from 2003 to 2005.
- Superintendent for Wesco Infrastructure Technologies from 2001 to 2003.
- Foreman for Gelco Services from 1999 to 2001.

Trenchless Experience

SAK Key Personnel have installed millions of linear feet of cured-in-place pipe and managed the installation of tens of millions of linear feet of cured-in-place pipe. SAK's personnel are among the most experienced and well-known in the industry. SAK as a Company has installed over 10 million feet of CIPP liner since being formed in 2006.

CIPP Liner Materials

SAK provides a CIPP product that is a proven technology. SAK utilizes several proven CIPP materials including Pipenology CIPP Liner, and Applied Felts' AquaCure™.

Pipenology is a registered ISO 9001:2000 company which has produced over 4.2 million feet of SAK's installed CIPP. Pipenology uses several stringent Quality Control measures to ensure an excellent final product.

AquaCure™- Coated Felt Inversion Liner manufactured by Applied Felts, Inc., who, with its parent company, Rawson Textiles, has provided polymer coated felt tubes for use in the CIPP lining industry for more than twenty (20) years. Applied Felts is a registered ISO 9001:2000 company which has produced CIPP tube installed by more than 300 contractors operating in more than 30 countries. More than 60 million linear feet of Applied Felts product has been installed worldwide, of which 35 million linear feet has been successfully installed in the United States. Applied Felts was the sole supplier of coated felt materials worldwide until the late 1980s, when Insituform Technologies, Inc. began manufacturing their own coated felt CIPP tubes.

SAK Construction, LLC is certified by Pipenology and Applied Felts to install their lining materials, follows their recommended installation procedures, and provides engineering support and technical assistance. Accompanying this document is a Qualification & Process License Certification for SAK Construction, LLC.



// SOUTHEAST REGION LETTER OF EXPERIENCE

along with literature on these proven liner materials, and a copy of the ISO 9001:2000 Certificates of Registration.

SAK utilizes cured-in-place pipe resins manufactured by AOC and Interplastics, leaders in the CIPP resin industry, and registered ISO 9001:2000 companies. The third party test results supporting the short-term and long-term performance of the resin products we install are available upon request.

SAK has two permanent wet-out facilities where all of the CIPP liners are wet-out for the United States:

- Headquarters Building – O'Fallon, MO
- West Regional Office – Rocklin, CA

SAK installs cured-in-place pipe in accordance with ASTM F1216 for inversion and curing.

6. LIST OF PROPOSED SUBCONTRACTORS

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

<u>BRANCH OF WORK - LIST EACH Work</u>	<u>SUBCONTRACTOR</u>	<u>DBE</u>	<u>% of</u>
<u>MAJOR ITEM</u> Such as: Grading, bituminous paving, concrete, seeding and protection, construction staking, etc.		<u>Yes/No</u>	
1. <u>MH REHAB</u>	Name: <u>CONCO SPRAY SOLUTIONS</u> Address: <u>PO BOX 36726 INDIANAPOLIS, IN 46237</u>	<u>YES</u> <u>WBE</u>	<u>12.74%</u>
2. _____	Name: _____ Address: _____	_____	_____
3. _____	Name: _____ Address: _____	_____	_____
4. _____	Name: _____ Address: _____	_____	_____
5. _____	Name: _____ Address: _____	_____	_____
6. _____	Name: _____ Address: _____	_____	_____
7. _____	Name: _____ Address: _____	_____	_____

(Attach additional sheet(s) if necessary.)



LFUCG MWDBE PARTICIPATION FORM

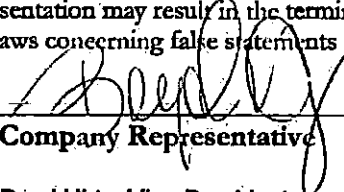
Bid/RFP/Quote Reference # Bid No. 14-2019 / 2019 Large Diameter Cure in Place Pipe and Manhole Rehab

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

MWDBE Company, Name, Address, Phone, Email	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1. CONCO SPRAY SOLUTIONS PO Box 36726 INDIANAPOLIS, IN 46236 PH 317-428-6543 JHOOX@CONCOSPRAY.COM	MH REHAB	\$175,455 ⁰⁰	12.74%
2.			
3.			
4.			

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

SAK Construction, LLC _____
 Company
 March 8, 2019 _____
 Date



 Company Representative
 Boyd Hirtz, Vice President

 Title



MWDBE QUOTE SUMMARY FORM

Bid/RFP/Quote Reference # Bid No. 14-2019 / 2019 Large Diameter Cure in Place Pipe and Manhole Rehab

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

Company Name SAK Construction, LLC	Contact Person Boyd Hirtz
Address/Phone/Email 864 Hoff Road, O'Fallon, MO 63366 636.385.1000 / bidcippe@sakon.com	Bid Package / Bid Date 2019 Large Diameter Cure in Place Pipe and Manhole Rehab March 11, 2019

MWDBE Company Address	Contact Person	Contact Information (work phone, Email, cell)	Date Contacted	Services to be performed	Method of Communication (email, phone meeting, ad, event etc)	Total dollars \$\$ Do Not Leave Blank (Attach Documentation)	MBE * AA HA AS NA Female	Veteran
CONCO SPRAY SOLUTIONS	JENNIFER HOOP	317-428-4543 jhoop@concospray.com	2-20-19	MU	EMAIL	\$175,455 ⁰⁰	WBE	
ROBINSON PIPE CLEANING	BRYAN ROBINSON	602-618-4400 brobinson@robinsonpipe.com	2-20-19	LEGAL	EMAIL	\$145,940 ⁰⁰	WBE	
SEE ATTACHED DOCUMENTATION FOR OTHERS CONTACTED								

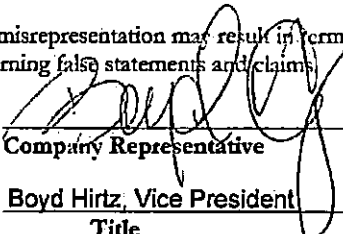
(MBE designation / AA=African American / HA= Hispanic American/AS = Asian American/Pacific Islander/ NA= Native American)

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

SAK Construction, LLC

 Company
 March 8, 2019

 Date



 Company Representative
 Boyd Hirtz, Vice President

 Title

PROPOSAL



To: Prime Contractors

Email: jhoop@concospray.com

From: Jennifer Hoop

Date: 3/8/19

Re: Large Diameter CIPP & Manhole Repair

Bid# 14-2019

Conco Spray Solutions is a certified WBE

Conco Spray Solutions will supply a Sprayroq Spraywall Lining with a ASTM structural design using a 6' water table. Surface will be power washed, cleaned, leaks eliminated, voids or bug holes mortared, and surface dried before spraying the lining. Confined space entry and Mobilization is included.

<i>Bid Item # 4</i>	Sprayroq manhole 72" diameter	113 VF	\$1,035/vf	\$116,955.00
<i>Bid Item # 5</i>	HDPE Manhole Lid & Casting Replacement	14 EA	\$ 2,500/ea	\$ 35,000.00
<i>Bid Item # 7</i>	Sprayroq manhole 96" diameter	14 VF	\$1,500/vf	\$ 21,000.00

Add \$2500.00 For Sales Tax

Prime Contractor needs to provide access to manhole, water, traffic control & bypass when necessary.

Terms:

Thirty (30) Days Net—No Retainage Withheld, Performance or Payment Bond Provided

No bypass pumping, vac truck services or water are included in quote

Quote is valid for 45 days after bid date

Sales Tax is not included and will be charge without a Tax Exempt Certificate

CONCO SPRAY SOLUTIONS • PO BOX 36726, INDIANAPOLIS, IN 46236
PHONE: 317-428-6543 • FAX: 317-888-791-2220

From: Jonathan Moore
To: Diana Sullivan; Terry Adderhold
Subject: RE: SAK Construction - Bid Solicitation: Lexington KY 2019 Large Diameter CIPP and Manhole Rehabilitation
Date: Monday, February 25, 2019 8:27:41 AM

Hi Diana,

Unfortunately, we are no longer a registered WBE.

Good luck on the bid!

JON MOORE
Project Manager/Estimator
CULY CONTRACTING LLC
Cell: 317-697-2024

From: Diana Sullivan <dsullivan@sakon.com>
Sent: Thursday, February 21, 2019 9:02 AM
To: Diana Sullivan <dsullivan@sakon.com>; Terry Adderhold <tadderhold@sakon.com>
Subject: SAK Construction - Bid Solicitation: Lexington KY 2019 Large Diameter CIPP and Manhole Rehabilitation
Importance: High

Good morning,

Attached please find information regarding the above project that SAK Construction is bidding on. Your name was chosen from the LFUCG Certified Subcontractor list for MWDBE enterprises.

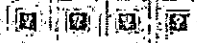
Thank you for your interest. If you have any questions, please contact Terry Adderhold at bid@pe@sakon.com.

Enjoy your day.

Diana Sullivan
Office Administrator



Tel: 615-345-0245 x1555 | Fax: 615-457-2117
47 Fern Ave | Nashville, TN 37207 | www.sakon.com



This email and any files transmitted with it contain confidential information and are intended only for the individual(s) named in the header. If you are not a named recipient, you should not disseminate, distribute or copy this email. If you have received this email by mistake, please notify the sender immediately and delete this email. Although the sender and SAK Construction, LLC have taken reasonable steps to ensure that this email contains no viruses or corrupt attachments, the sender and SAK Construction, LLC cannot accept responsibility for any loss or damage arising from the use of this email or attachments. Unless otherwise confirmed by SAK Construction, LLC this email is not (i) a solicitation or offer to buy or sell any product or service, (ii) an official communication of any financial or (iii) an official statement of the company.



ROBINSON PIPE CLEANING

A Carylton Company

5300 Camp Ground Road
Louisville, KY 40216
P: (502) 618-4400
F: (502) 618-4401
www.robinsontube.com

March 08, 2019

Proposal: 2019-127

SAK Construction
864 Hoff Road
O'fallon, MO 63366

Subject: 2019 Large Diameter Cured-In-Place Pipe and Manhole Rehab

Robinson Pipe Cleaning Company (RPC) is pleased to present our proposal to your company for the services mentioned above. This proposal is based on both information that you provided and our experience with similar projects. This should enable us to meet your goals and objectives in a professional manner while maintaining a timely, cost-effective schedule. RPC has prepared this proposal in accordance with all plans and specifications supplied by the City of Lexington, Kentucky.

SCOPE OF WORK

RPC understands that you are requesting prices for the cleaning and televising of pipelines on the LFUCG 2019 Large Diameter Cured-In-Place Pipe and Manhole Rehab project. The scope of the project includes the cleaning and televising of the items listed below in the "Cost Proposal".

ROBINSON PIPE CLEANING COMPANY WILL FURNISH

RPC will provide a high-velocity jet/vacuum combination (JC) truck and a CCTV truck with operators to perform the required cleaning and inspection work.

TO BE FURNISHED BY PURCHASER OR OWNER

- Direct truck access and rights of way to all man-ways and pipe openings
- Any site restoration associated with the work
- Exposure of all buried manholes and access points
- Permission to park our truck on the city streets, if necessary, without any special permits
- Any permits, including wetlands encroachment and NPDES discharge, at no additional charge

COST PROPOSAL

RPC will provide mobilization, labor and equipment to perform work as specified herein for the following prices:

Sewer Cleaning and televising for 36" CIPP@.....	\$ 38.25 /LF
Sewer Cleaning and televising for 48" CIPP@.....	\$ 41.00 /LF



ROBINSON PIPE CLEANING
A Carylton Company



GENERAL TERMS AND CONDITIONS
IN ACCORDANCE WITH PROPOSAL

- I. **General Conditions:** These general conditions are incorporated by reference into the proposal and are part of the Agreement under which services are to be performed by the Contractor for the Customer. Contractor will follow Customer's instructions both verbal and written at all times.
- II. **Customer Supplied Labor:** Where the Customer provides labor for the Contractor, the Customer will indemnify the Contractor for liability, loss or expense for work related injuries to those laborers not provided by the Contractor. The Customer agrees to waive all rights of subrogation against the Contractor arising out of the work in this Agreement.
- III. **Customer's Responsibilities:** Customer will provide mechanical services. Operation and control of equipment is the Customer's responsibility. If Contractor cannot continue its work due to circumstance caused or allowed by Customer and of which Contractor was not apprised prior to starting the work, an hourly fee will be charged.
- IV. **Damage Limitations:** Under no circumstances will the Contractor be responsible for indirect, incidental or consequential damages. The Contractor also is not responsible for the rendering of or failure to render architectural, engineering or surveying professional services.
- V. **Pre-existing Conditions:** The Contractor will not be responsible for liability, loss or expense (including damage caused by the backup of basement sewers) where the primary cause of the claim or damage is preexisting conditions including faulty, inadequate or defective design, construction, maintenance or repair of property or contamination of the subsurface where the condition existed prior to the start of the Contractor's work. Customer is responsible for loss of service equipment caused by the pre-existing conditions at the jobsite.
- VI. **Environmental Conditions:** The debris is represented to Contractor to be non-hazardous, requiring no manifesting or special permitting. The Customer will be responsible for any additional costs or claims associated with the treatment, storage, disposal of the removed debris, or breach of the above representation, at any time during or after the completion of this project.
- VII. **Indemnification:** The Customer and Contractor will each indemnify the other in proportion to relative fault for liability, loss and expense incurred by the other party resulting from a negligent act or omission in performance of work under this Agreement. The Customer also will indemnify Contractor for liability, loss and expense resulting from Contractor's services if the Contractor is acting at the direction or instruction of the Customer, or where the primary cause of any damages is due to information provided by the Customer.
- VIII. **Credit Policy:** Regular Terms are Net 30 Days. The company may charge interest at the rate of 1-1/2% per month on all Invoices outstanding 60 days past invoice date.
- IX. **Entire Agreement:** This proposal together with any written documents which may be incorporated by specific reference herein constitutes the entire agreement between the parties and supersedes all previous communications between them, either oral or written. The waiver by Contractor of any term, condition or provision herein stated shall not be construed to be a waiver of any other term, condition or provision hereof.

LFUCG STATEMENT OF GOOD FAITH EFFORTS

Bid/RFP/Quote # Bid No. 14-2019 / 2019 Large Diameter Cure In Place Pipe and Manhole Rehab

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

3/2 Advertis^{ONE}ed opportunities to participate in the contract in at least ~~two~~ (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow MWDBE firms and Veteran-Owned businesses to participate.

3/2 Included documentation of advertising in the above publications with the bidders good faith efforts package

_____ Attended LFUCG Central Purchasing Economic Inclusion Outreach event

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

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

3/2 Requested a list of MWDBE and/or Veteran subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).

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

3/2 Sent written notices, by certified mail, email or facsimile, to qualified, certified MWDBEs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.

3/2 Followed up initial solicitations by contacting MWDBEs and Veteran-Owned businesses to determine their level of interest.

3/2 Provided the interested MWBDE firm and/or Veteran-Owned business with adequate and timely information about the plans, specifications, and requirements of the contract.

3/2 Selected portions of the work to be performed by MWDBE firms and/or Veteran-Owned businesses in order to increase the likelihood of meeting the contract goals. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate MWDBE and Veteran participation,

even when the prime contractor may otherwise perform these work items with its own workforce

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

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

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

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

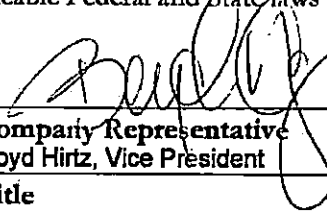
31 Made efforts to expand the search for MWBE firms and Veteran-Owned businesses beyond the usual geographic boundaries.

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

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

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

SAK Construction, LLC
Company
March 8, 2019
Date

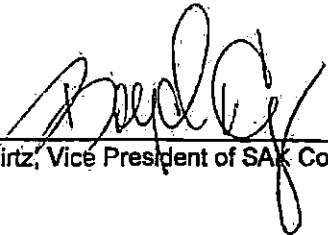


Company Representative
Boyd Hirtz, Vice President
Title

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

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

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



Boyd Hirtz, Vice President of SAK Construction, LLC

9. STATEMENT OF EXPERIENCE

NAME OF INDIVIDUAL: Please see attachment labeled "Southeast Region Letter of Experience"

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

NAME OF INDIVIDUAL: _____

POSITION/TITLE: _____

STATEMENT OF EXPERIENCE: _____

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

10. EQUAL OPPORTUNITY AGREEMENT

The Law

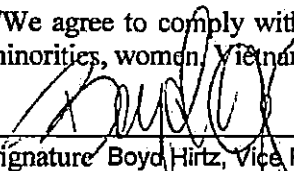
- * Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- * Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and subcontractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- * Section 503 of the Rehabilitation Act of 1973 States:
The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.
- * Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal Contracts.
- * Section 206 (A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:
The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors, and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractor may be declared ineligible for future consideration.

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

Bidders

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



Signature Boyd Hirtz, Vice President

SAK Construction, LLC

Name of Business

The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal

employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

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

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

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

The Act further provides:

KRS 45.610. Hiring minorities – Information required

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

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

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

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

KRS 45.630 Termination of existing employee not required, when

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

KRS 45.640 Minimum skills

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

It is recommended that all of the provisions quoted above to be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

11. EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY

It is the policy of SAK Construction, LLC

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

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

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

12. WORKFORCE ANALYSIS FORM

Name of Organization: SAK Construction, LLC

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African-American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administrators																	
Professionals	72	65		4		1	1					1				71	1
Superintendents	20	24		1								1				20	
Supervisors	42				1	1	1			1		1				40	2
Foremen	39	31		7								1				39	
Technicians	8	7				1										8	
Protective Service																	
Para-Professionals																	
Office/Clerical	30	9	15		1		4									10	20
Skilled Craft	77			8		1				1		1				77	
Service/Maintenance																	
Total:	294	136	15	20	2	4	6			2		5				271	23

Prepared by: Angie Dutz HR Manager
 (Name and Title)

Date: 3.17.19

13. EVIDENCE OF INSURABILITY

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

Names Insured: SAK Construction, LLC

Employee ID: _____

Address: 864 Hoff Road, O'Fallon, MO 63366

Phone: 636-379-2350

Project to be insured: 2019 Large Diameter Cure In Place Pipe/Manhole Rehab Bid No. 14-2019

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

Section Items	Coverage	Minimum Limits and Policy Requirements	Limits Provided To Insured	Name of Insurer	A.M. Best's	
					Code	Rating
SC-3, Section 2, Part 4.1 – see provisions	CGL	\$1,000,000 per occ. And \$2,000,000 aggregate	\$ 2,000,000 Occurrence/ \$4,000,000 Aggregate	Amerisure Mutual Ins Co	23396	A XII
SC-3, Section 2, Part 4.1 – see provisions	AUTO	\$2,000,000/per occ.	\$ 2,000,000	Amerisure Mutual Ins Co	23396	A XII
SC-3, Section 2, Part 4.1 – see provisions	WC	Statutory w/endorsement as noted	\$ 1,000,000	Amerisure Mutual Ins Co	23396	A XII

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

JW Terrill, a Marsh & McLennan Agency

Agency or Brokerage

825 Maryville Centre Drive, Suite 200

Street Address

St. Louis MO 63017

City State Zip

314-594-2700

Telephone Number

John Patterson

Name of Authorized Representative

Senior Vice President

Title



Authorized Signature

3/6/19

Date

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

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

14. DEBARRED FIRMS

PROJECT NAME: 2019 Large Diameter Cure in Place Pipe and Manhole Rehab

BID NUMBER: Bid No. 14-2019

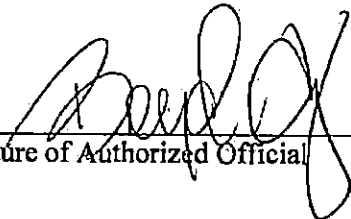
**LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
LEXINGTON, KY**

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

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

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

SAK Construction, LLC
Name of Firm Submitting Bid


Signature of Authorized Official

Boyd Hirtz, Vice President
Title

March 8, 2019
Date

15. DEBARMENT CERTIFICATION

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

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

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

Firm Name: SAK Construction, LLC

Project: 2019 Large Diameter Cure in Place Pipe and Manhole Rehab

Printed Name and Title of Authorized Representative: Boyd Hirtz, Vice President

Signature: 

Date: March 8, 2019

END OF SECTION

15. DEBARMENT CERTIFICATION

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

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

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

Firm Name: SAK Construction, LLC

Project: 2019 Large Diameter Cure in Place Pipe and Manhole Rehab

Printed Name and Title of Authorized Representative: Boyd Hirtz, Vice President

Signature:  _____

Date: March 8, 2019

END OF SECTION

MAYOR LINDA GORTON



LEXINGTON

TODD SLATIN
DIRECTOR
CENTRAL PURCHASING

ADDENDUM #1

Bid#14-2019

Date: February 14, 2019

Subject: Large Diameter Cured In Place Pipe Large Diameter

**Address inquiries to:
Brian Marcum
(859) 258-3320**

TO ALL PROSPECTIVE SUBMITTERS:

Reference Material Attached.

**Todd Slatin, Director
Division of Central Purchasing**

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

COMPANY NAME: SAK Construction, LLC

ADDRESS: 864 Hoff Road, O'Fallon, MO 63366

SIGNATURE OF BIDDER:


Boyd Hirtz, Vice President





ADDENDUM #2

Bid Number: #14-2019

Date: February 20, 2019

Subject: Large Diameter Cured In Place Pipe & Manhole Repair

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

TO ALL PROSPECTIVE SUBMITTERS:

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

Change in CIPP Liner thickness.

After reviewing the CCTV for the entire project Bid #14-2019, DWQ has decided to change the thickness of CIPP liner from 18 millimeter for the 36 inch diameter pipe to 12 millimeter. Also the thickness of the 48 inch diameter liner will now be 15 millimeter instead of 24 millimeter.

Questions and Answers

1. Can we use the reservoir for a water source to test/flush the bypass pumping set up?

Answer: Yes

2. Is it acceptable to float/submerge the bypass across the reservoir?

Answer: Either is acceptable. If floated, proper safety precautions shall be used to insure boaters are not able to get within the vicinity of the floating pipe so as not to damage the boats or the floating bypass line.

3. Is there any significant trees that may need to be trimmed or cleared?

Answer: There are not any significant trees that we anticipate in the work area. The selected contractor will walk the area with the Urban County Forester prior to work commencing. A tree service will be hired by DWQ under a different contract to perform any tree/brush clearing.



4. Can the bypass be buried?

Answer: DWQ is not opposed to the bypass appurtenances being buried for access or convenience.

5. Are there any engine restrictions on the lake?

Answer: We will not be limited by engine size but must stay at a NO WAKE speed.

6. Will liquidated damages be incurred due to inclement weather?

Answer: For each rain day, an additional work day shall be added to the end of the Contract time. Liquidated damages start after the end of all added rain days.

7. Can the lining be performed after normal work hours?

Answer: DWQ must have advanced notice of after hour work and the bypass operation must have the noise reducing doors/covers.

8. Will there be any additional pay for stone for temporary roads?

Answer: This is not anticipated. Ball Homes will be constructing paved roads for their development, so if any stone is needed it will be minimal.

9. Bid will not be extended.

10. Technical Specification Section 9 for the CIPP Liner does not address the liner design requirements. We ask that these parameters be clarified with respect to design for ground water depth and the type of design, fully or partially deteriorated.

We have specified the 12 mil for the 36 inch diameter and the 15 mil for the 48 inch. It is next to the reservoir and there is roughly 3 feet between the top of rim elevation and the water surface of the reservoir. Manhole depths can be obtained from the manhole inspection forms.

11. With regard to the bypass requirements and Addendum 1, it is unclear as to what pump flow rate you intend for the bypass to be designed to accommodate, please be more specific.

MAYOR LINDA GORTON



LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

There is a tech memo in the documents that explain the maximum pump flow rates. We know that this is high. We had an onsite visit after the meeting so bidders could run their own calculations for the pipe depth using Mannings equation.

12. The Bid Form Item 4 and 7 mentions a manhole rehabilitation tradename of "Spray Roq" for these two bid items. Your Specification Section 6 for MH Rehabilitation does not mention "Spray Roq", did you intent that only this product be used for these two bid items?

Yes, only Spray Roq.

Todd Slatin, Director
Division of Central Purchasing

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

COMPANY NAME: SAK Construction, LLC

ADDRESS: 864 Hoff Road, O'Fallon, MO 63366

SIGNATURE OF BIDDER: 

Boyd Hirtz, Vice President

MAYOR LINDA GORTON



LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

ADDENDUM #3

Bid Number: #14-2019

Date: February 21, 2019

Subject: Large Diameter Cured In Place Pipe & Manhole Repair

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

TO ALL PROSPECTIVE SUBMITTERS:

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

The bid opening date is being extended to March 11, 2019 at 2:00 PM EST.

Todd Slatin, Director
Division of Central Purchasing

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

COMPANY NAME: SAK Construction, LLC

ADDRESS: 864 Hoff Road, O'Fallon, MO 63366

SIGNATURE OF BIDDER:

Boyd Hirtz, Vice President



February 20, 2019

Lexington Fayette Urban County Government
Division of Water Quality
Lexington Kentucky
Project: 2019 Large Diameter Cure in Place
and Manhole Rehabilitation
Bid No. 14-2019

The Bid Date to Owner: March 4, 2019 @ 2:00pm local time
Proposals are due to SAK: March 3, 2019 @ 1:00 pm local time

Enclosed please find information showing our Good Faith attempt to include MWDBE business enterprises for Lexington Kentucky. We have solicited to the certified subcontractors listed in the 2019 LFUCG Disadvantaged Business Enterprises Subcontractor Directory.

Publication:

Lexington Herald Leader Newspaper for the City of Lexington

Thank you.

Diana Sullivan
SAK Construction, LLC.
47 Fern Avenue
Nashville TN 37207
615.345.0245 Ext. 1555



SAK™

Pipeline Infrastructure. Solved.™

47 Fern Avenue
Nashville, TN 37207
tel 615.345.2045
www.sakcon.com

February 20, 2019

Lexington Fayette Urban County Government
Division of Water Quality
Lexington Kentucky
Project: 2019 Large Diameter Cure in Place
and Manhole Rehabilitation
Bid No. 14-2019

The Bid Date to Owner: March 4, 2019 @ 2:00pm local time
Proposals are due to SAK: March 3, 2019 @ 1:00 pm local time

Dear Subcontractor:

SAK Construction, LLC is seeking Subcontractors registered as MWDBE business enterprises for Lexington Kentucky. We have solicited to the approved certified subcontractors listed in the LFUCG 2019 Disadvantaged Business Enterprises Subcontractors Directory.

Subcontractor opportunities are available in the following areas: Pre-Cleaning and CCTV for CIPP, Bypassing of Existing Flow and Manhole Rehab and Adjustments.

If your firm is interested in providing a quote on the above activities, please contact Terry Adderhold at bidcippe@sakcon.com.

Respectfully,
Diana Sullivan,
SAK Construction, LLC
dsullivan@sakcon.com

Diana Sullivan

From: Diana Sullivan
Sent: Thursday, February 21, 2019 8:02 AM
To: Diana Sullivan; Terry Adderhold
Subject: SAK Construction - Bid Solicitation: Lexington KY 2019 Large Diameter CIPP and Manhole Rehabilitation
Attachments: Letter to MWDBE Subs.docx

Importance: High

Tracking:	Recipient	Read
	Diana Sullivan	Read: 2/21/2019 8:04 AM
	Terry Adderhold	
	'adeinc1@aol.com'	
	'jonm@culycontracting.com'	
	'denise@groundsofolutionllc.com'	
	'office@leakeliminators.com'	
	'jennylyons@mechanicaljobbers.com'	
	'bfranklin@robinsonpipe.com'	
	'timothy.boresen@seca-tunnel.com'	
	'dfick@spectrumcontract.com'	
	'tmi@tmicoatings.com'	
	'gogreen@wilmotinc.com'	

Good morning,

Attached please find information regarding the above project that SAK Construction is bidding on. Your name was chosen from the LFUCG Certified Subcontractor list for MWDBE enterprises.

Thank you for your interest; if you have any questions, please contact Terry Adderhold at bjdcippe@sakcon.com

Enjoy your day.

Diana Sullivan
Office Administrator



Tel 615.345.0245x1555 | Fax 615.457.2117
47 Fern Ave | Nashville, TN 37207 | www.sakcon.com



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Company Name	Read email	ness Product or Ser	Contact Phone	First	Last	Email	
ADE Contracting, Inc	WBE	no answer	Underground utilities, Excavation, Curb and Walk Construction, Engineering	859-621-7941	Angela	English	adelnc1@aol.com
Culy Contracting, Inc.	WBE	✓	Bridges, Dams, Pipelines, Waterworks, Underground, Utility	765-584-8509	Jon	Moore	jonm@culycontracting.com
Ground Solutions, LLC	WBE	left message	General Contractor, Site Prep, Mowing Construction, Sewer Rehab, CIPP	606-371-0293	Denise	Preece	denise@groundsolutionllc.com
Leak Eliminators Mechanical Jobbers Marketing inc	DVBE	✓	Lining Manhole Infrastructure	859-388-9422 770-482-5220	Heather	Baggett	office@leakeliminators.com
	MBE			Ext. 211	Jenny	Lyons	jennylyons@mechanicaljobbers.com
Robinson Pipe Cleaning Co.	WBE	✓	Pipeline Cleaning, Televising and Repair	502-618-4400	Bryan	Franklin	bfranklin@robinsonpipe.com
SECA Underground Corporation	MBE	✓	Construction, Contracting and Sub Contracting	732-956-6549	Timothy	Boresen	timothy.boresen@seca-tunnel.com
Spectrum Contracting Services, Inc.	WBE	left message	Construction, Contracting and	877-561-4967	Danica	Fick	dfick@spectrumcontract.com
TMI Coatings, Inc.	WBE	✓	Construction:	651-452-6100	Tracy	Glori	tmi@tmi coatings.com
Wilmot Inc.	WBE	✓	Construction	615-385-1220	Tiffany	Wilmot	go.green@wilmotinc.com
Conco Spray - Jennifer Hoop		✓					

Clipboard: Pin to Quick access, Copy, Paste, w - Copy path, Paste shortcut

Organize: Move to, Copy to, Delete, Rename

New: New folder

Open: Properties, Op, Edit, His

<< 120_Bid_Documents > Good Faith (working) > email responses

- | Quick access | Name |
|---------------------------|------------------------------------------------------------|
| Desktop | Conco Spray-Jennifer Hoop |
| Downloads | LFUCG Certified List MAKE PHONE CALLS |
| Documents | Original email |
| Pictures | Read_SAK Construction - Bid Solicitation_ Culy Contracting |
| Dell | Read_SAK Construction - Bid Solicitation_ Robinson Pipe |
| Southeast Region | Read_SAK Construction - Bid Solicitation_ Seca Tunnel |
| Best Western Ocean Breeze | Read_SAK Construction - Bid Solicitation_ trni coatings |
| ComData receipts | Read_SAK Construction - Bid Solicitation_ Wilmot Inc. |
| email responses | Read_SAK Construction - Bid Solicitation_ Leak Eliminators |
| Payroll | TA note |
| OneDrive - SAK | undeliverable_Ground Solutions |
| Attachments | undeliverable_Spectrum Contract |
| Desktop | |
| Documents | |
| Favorites | |
| Shared with Everyone | |
| This PC | |
| 3D Objects | |
| Desktop | |
| Documents | |
| Downloads | |
| Music | |
| Pictures | |
| Videos | |



Order Confirmation

Customer
SAK PIPELINE INFRASTRUCTURE SOLVED

Payor Customer
SAK PIPELINE INFRASTRUCTURE SOLVED

Customer Account
717259

Payor Account
717259

Customer Address
47 FERN AVE
NASHVILLE TN 37207 USA

Payor Address
47 FERN AVE
NASHVILLE TN 37207 USA

Customer Phone
615-840-5249

Payor Phone
615-840-5249

Customer Fax

Customer EMail

Sales Rep
rdixon@herald-leader.com

Order Taker
rdixon@herald-leader.com

<u>PO Number</u>	<u>Payment Method</u>	<u>Blind Box</u>	<u>Tear Sheets</u>	<u>Proofs</u>	<u>Affidavits</u>
	Credit Card		0	0	0

<u>Net Amount</u>	<u>Tax Amount</u>	<u>Total Amount</u>	<u>Payment Amount</u>	<u>Amount Due</u>
\$96.83	\$0.00	\$96.83	\$0.00	\$96.83

Ad Order Number 0004095161	Order Source	Ordered By	Special Pricing
Invoice Text			Promo Type
Package Buy			Materials

Ad Order Information

Ad Number Ad Type Production Method Production Notes
0004095161-01 LEX-Legal Liners AdBooker

External Ad Number Ad Attributes Ad Released Pick Up
No

Ad Size Color
1 X 23 li

Product Placement Times Run Schedule Cost
LEX-Herald-Leader 0300 - Legals Classified 1 \$95.63

Run Schedule Invoice Text Position
SAK Construction, LLC is seeking Small B 0301 - Legals & Public Notices

Run Dates
02/21/2019

SAK Construction, LLC is seeking Small Business Enterprises (MWDBE) Service, Lexington Fayette Urban County Government, Division of Water Quality, Project: 2019 Large Diameter Cure in Place and Manhole Rehab, Bid No. 14-2019. Bid Date to Owner: March 4, 2019 @ 2:00pm local time. Proposals due to SAK by March 3, 2019 @ 1:00 pm CST. Subcontractor opportunities are available in the following areas: Pre-Cleaning and CCTV for CIPP, Bypassing of Existing Flow and Manhole Rehab and Adjustments. Please contact Terry Adderhold at bidcippe@sakcon.com with questions and interest.

0004095161-01

PART IV
GENERAL CONDITIONS
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PART IV

GENERAL CONDITIONS

1. DEFINITIONS

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

1.1 Addenda

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

1.2 Agreement

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

1.3 Application for Payment

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

1.4 Bid

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

1.5 Bidder

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

1.6 Bonds

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

1.7 Calendar Day

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

1.8 Change Order

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

1.9 Contract Documents

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

1.10 Contract Unit Price

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

1.11 Contract Time

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

1.12 CONTRACTOR

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

1.13 Defective

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

1.14 Drawings

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

1.15 Effective Date of the Agreement

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

1.16 ENGINEER

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

1.17 Field Order

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

1.18 Giving Notice

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the

individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

1.19 Laws and Regulations

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

1.20 Notice of Award

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

1.21 Notice to Proceed

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

1.22 OWNER

The Lexington-Fayette Urban County Government.

1.23 Partial Utilization

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

1.24 Project

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

1.25 Inspector

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

1.26 Shop Drawings

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

1.27 Specifications

Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

1.28 Standard Specifications

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

1.29 Subcontractor

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

1.30 Special Conditions

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

1.31 Supplier

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

1.32 Underground Facilities

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

1.33 Unit Price Work

Not applicable

1.34 Work

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

1.35 Time Period

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

2. PRELIMINARY MATTERS

2.1 Delivery of Bonds

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

2.2 Copies of Documents

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

2.3 Commencement of Contract Time; Notice to Proceed

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

2.4 Starting the Project

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

2.5 Before Starting Construction

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

2.6 Submittal of Schedules

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

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

2.6.2 a preliminary schedule of Shop Drawing submissions; and

2.6.3 a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Preconstruction Conference

Before CONTRACTOR starts the Work at the proposed site, a conference attended by CONTRACTOR, ENGINEER, EEO-Affirmative Action Officer, and other appropriate parties will be held to discuss the following issues: (1) The scheduling of

the Work to be completed; (2) The procedures for handling shop drawings and other submittals; (3) The processing of applications for payment; (4) The establishment of an understanding among the involved parties in regard to the proposed project; and (5) The establishment of procedures for effectively implementing the LFUCG's 10% minimum DBE goals.

2.8 Finalizing Schedules

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

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

3.1 General

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

3.2 Intent

It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any

duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 8.4.

3.3 Conflicts

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

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

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

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

3.4 Amending and Supplementing Contract Documents

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

3.5 Reuse of Documents

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

4. AVAILABILITY OF LANDS; PHYSICAL CONDITIONS, REFERENCE POINTS

4.1 Availability of Lands

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

4.2 Physical Conditions

4.2.1 Explorations and Reports

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

4.2.2 Existing Structures

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

4.2.3 Report of Differing Conditions

If CONTRACTOR believes that:

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

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

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

4.2.4 ENGINEER'S Review

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

4.2.5 Possible Document Change

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

4.2.6 Possible Price and Time Adjustments

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

4.3 Physical Conditions-Underground Facilities

4.3.1 Shown or Indicated

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

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

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

4.3.2 Not Shown or Indicated

If an underground facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of,

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

4.4 Reference Points

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

5. CONTRACTOR'S RESPONSIBILITIES

5.1 Supervision

CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall assure that all CONTRACTOR personnel (including subcontractors, etc.) conduct themselves in a courteous and respectful manner toward the ENGINEER and the general public. Failure to comply with this condition of the Contract will result in immediate suspension of the Work. Following a review by the Commissioner of Public Works, the Contract may be terminated (see GC section 14). CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

5.2 Superintendence

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

5.3 General Manager

CONTRACTOR shall keep at all times during Contract progress a COMPETENT General Manager, who shall not be replaced without written notice to OWNER except under extraordinary circumstances. Owner must approve this person. Owner may request removal and replacement of General Manager at any time. If so, Contractor shall have thirty (30) days to make replacement. The General Manager will be CONTRACTOR'S main representative for all technical, billing, data management, subcontractor coordination, and complaint resolutions and shall have authority to act on behalf of CONTRACTOR. The General Manager shall spend a minimum of eighty (80) percent of their time in the office. All communications given to the General Manager shall be as binding as if given to CONTRACTOR.

5.4 Labor

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

5.5 Start-Up and Completion of Work

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

5.6 Materials and Equipment

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

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

5.6.1 Not Clearly Specified or Indicated

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

5.6.2 Coordination of Work

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

5.7 Adjusting Progress Schedule

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

5.8 Substitutes or "Or-Equal" Items

5.8.1 General

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

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

5.8.2 Substitutes

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

5.8.3 OWNER/ENGINEER'S Approval

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

5.9 Subcontractors, Suppliers, and Others

5.9.1 Acceptable to ENGINEER

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

5.9.2 Objection After Due Investigation

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

5.9.3 Contractor Responsible for Acts of Subcontractors

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

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

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

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

5.9.4 Division of Specifications

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

5.9.5 Agreement Between Contractor and Subcontractors

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

5.9.6 Statements and Comments by CONTRACTOR

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

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

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

5.10 Patent Fees and Royalties

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

5.11 Permits

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

5.12 Laws and Regulations

5.12.1 CONTRACTOR to Comply

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

5.12.2 Specifications and Drawings at Variance

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

5.13 Taxes

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

5.14 Use of Premises

5.14.1 Project Site

CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the staging areas or work site areas identified in and permitted by the Contract Documents and

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

5.14.2 Clean UP

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

5.14.3 Loading of Structures

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

5.15 **Record Drawings**

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

5.16 **Shop Drawings and Samples**

5.16.1 Shop Drawing Submittals

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

5.16.2 Sample Submittals

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

5.16.3 Review by CONTRACTOR

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

5.16.4 Notice of Variation

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

5.16.5 ENGINEER'S Approval

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

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

5.16.6 Responsibility for Errors and Omissions

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

5.16.7 Cost of Related Work

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

5.17 Continuing the Work

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

5.18 Erosion and Sediment Control

5.18.1 General Environmental Requirements

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

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

5.18.2 Stormwater Pollution Prevention

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

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

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

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

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

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

6. **OTHER WORK**

6.1 Related Work at Site

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

6.2 Other Contractors or Utility Owners

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

6.3 Delays Caused by Others

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

6.4 Coordination

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

7. OWNER'S RESPONSIBILITIES

7.1 Communications

OWNER shall issue all communications to CONTRACTOR through ENGINEER.

7.2 Data and Payments

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

7.3 Lands, Easements, and Surveys

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

7.4 Change Orders

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

7.5 Inspections, Tests and Approvals

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

7.6 Stop or Suspend Work

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

8. ENGINEER'S STATUS DURING CONSTRUCTION

8.1 OWNER'S Representative

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

8.2 Visits to Site

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

progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

8.3 Project Representation

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

8.4 Clarifications and Interpretations

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

8.5 Authorized Variations in Work

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

8.6 Rejecting Defective Work

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

8.7 Shop Drawings

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

8.8 Change Orders

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

8.9 Payments

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

8.10 Determinations for Unit Prices

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

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

8.11 Decision on Disputes

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

8.12 Limitations on Engineer's Responsibilities

8.12.1 CONTRACTOR, Supplier, or Surety

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

8.12.2 To Evaluate the Work

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

8.12.3 CONTRACTOR'S Means, Methods, Etc.

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

8.12.4 Acts of Omissions of CONTRACTOR

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

9. CHANGES IN THE WORK

9.1 OWNER May Order Change

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

9.2 Claims

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

9.3 Work Not in Contract Documents

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

9.4 Change Orders

OWNER and CONTRACTOR shall execute appropriate Change Orders covering:

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

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

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

9.5 Notice of Change

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

10. CHANGE OF CONTRACT PRICE

10.1 Total Compensation

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

10.2 Claim for Increase or Decrease in Price

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

10.3 Value of Work

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

10.3.1 Unit Prices

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

10.3.2 Lump Sum

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

10.3.3 Cost Plus Fee

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

10.4 Cost of the Work

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

10.4.1 Payroll Costs

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

10.4.2 Materials and Equipment Costs

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

10.4.3 Subcontractor Costs

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

10.4.4 Special Consultant Costs

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

10.4.5 Supplemental Costs

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

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

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

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

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

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

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

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

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

10.5 Not to Be Included in Cost of the Work

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

10.5.1 Costs of Officers and Executives

Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR'S principal or a branch office for general administration of

the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by paragraph 10.4.4 - all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

10.5.2 Principal Office

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

10.5.3 Capital Expense

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

10.5.4 Bonds and Insurance

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

10.5.5 Costs Due to Negligence

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

10.5.6 Other Costs

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

10.6 Contractor's Fee

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

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

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

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

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

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

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

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

10.7 Itemized Cost Breakdown

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

10.8 Cash Allowances

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

10.8.1 Materials and Equipment

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

10.8.2 Other Costs

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

10.8.3 Change Order

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

10.9 Unit Price Work

10.9.1 General

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

10.9.2 Overhead and Profit

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

10.9.3 Claim for Increase in Unit Price

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

11. CHANGE OF CONTRACT TIME

11.1 Change Order

The Contract Time may only be changed by a Change Order. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered to ENGINEER promptly (but in no event later than thirty days) after the

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

11.2 Justification for Time Extensions

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

11.3 Time Limits

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

11.4 Contract Renewal

The contract time is for one (1) year. The contract can be renewed up to four (4) additional times at the Owner's discretion.

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

12.1 Warranty and Guarantee

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

12.2 Access to Work

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

12.3 Tests and Inspections

12.3.1 Timely Notice

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

12.3.2 Requirements and Responsibilities

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

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

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

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

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

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

12.3.3 On-Site Construction Test and Other Testing

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

12.3.4 Covered Work

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

12.3.5 CONTRACTOR'S Obligation

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

12.4 **OWNER May Stop the Work**

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

12.5 **Correction or Removal of Defective Work**

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

12.6 **One Year Correction Period**

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

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

12.7 Acceptance of Defective Work

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

12.8 OWNER May Correct Defective Work

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

13. PAYMENTS TO CONTRACTOR AND COMPLETION

13.1 Schedule of Values

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

13.2 Application for Progress Payment

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

13.3 CONTRACTOR'S Warranty of Title

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

13.4 Review of Applications for Progress Payment

13.4.1 Submission of Application for Payment

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

13.4.2 ENGINEER'S Recommendation

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

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

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

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

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

13.5 Partial Utilization

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

13.6 Final Inspection

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

13.7 Final Application for Payment

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

13.8 Final Payment and Acceptance

13.8.1 ENGINEER'S Approval

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

13.8.2 Delay in Completion of Work

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

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

13.9 CONTRACTOR'S Continuing Obligation

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

13.10 Waiver of Claims

The making and acceptance of final payment will constitute:

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

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

14. SUSPENSION OF WORK AND TERMINATION

14.1 OWNER May Suspend Work

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

14.2 OWNER May Terminate

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

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

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

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

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

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

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

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

14.2.8 if CONTRACTOR disregards the authority of ENGINEER, or

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

OWNER may, after giving CONTRACTOR (and the surety) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances,

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

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

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

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

14.3 CONTRACTOR'S Services Terminated

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

14.4 Payment After Termination

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

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

14.5 CONTRACTOR May Stop Work or Terminate

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

15. MISCELLANEOUS

15.1 Claims for Injury or Damage

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

15.2 Non-Discrimination in Employment

The CONTRACTOR shall comply with the following requirements prohibiting discrimination:

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

15.2.2 That it is an unlawful practice for an employer:

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

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

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

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

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

15.3 Temporary Street Closing or Blockage

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

15.4 Percentage of Work Performed by prime CONTRACTOR

The CONTRACTOR shall perform on site, and with its own organization, Work equivalent to at least fifty one (51%) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction and the ENGINEER determines that the reduction would be to the advantage of the OWNER.

15.5 Clean-up

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

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

15.6 General

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

15.7 Debris Disposal

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

END OF SECTION

PART V
SPECIAL CONDITIONS
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1. BLASTING

Blasting shall only be allowed with the specific written permission from the OWNER and the CONTRACTOR will be fully responsible and will be required to provide additional insurance.

Blasting is only allowed by a licensed blaster in compliance with the State of Kentucky Laws, KRS Section 351.310 – 351.340 and applicable rules and regulations issued by the Department of Mines and Minerals.

CONTRACTOR shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of the intent to use explosives. Give such notice sufficiently in advance to enable those being notified to take the necessary steps to protect their property from injury. CONTRACTOR will be liable for any and all damages and claims made as a result of his blasting operations.

CONTRACTOR shall preserve the original bearing value of rock located under proposed structure foundations from damage by blasting, by concussion from the blasting or by excessive breakage. The CONTRACTOR shall bear any increase in structure costs caused by blasting damage to rock under proposed foundations.

2.

**RISK MANAGEMENT PROVISIONS
INSURANCE AND INDEMNIFICATION**

INDEMNIFICATION AND HOLD HARMLESS PROVISION

- (1) It is understood and agreed by the parties that Contractor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (2) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- (5) The work and services performed hereunder involve a CONSENT DECREE as further explained in Part 1-Advertisement for Bids, provision 13. These provisions are incorporated herein by reference as if expressly stated.
- (6) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.

FINANCIAL RESPONSIBILITY

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

INSURANCE REQUIREMENTS

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

Required Insurance Coverage

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

<u>Coverage</u>	<u>Limits</u>
General Liability aggregate (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million or \$2 million combined single limit
Commercial Automobile Liability occurrence (Insurance Services Office Form CA 0001)	combined single, \$1 million per
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement unless it is deemed not to apply by LFUCG.
- d. The General Liability Policy shall include an Explosion-Collapse Underground (XCU) endorsement.

- e. The General Liability Policy shall include a Pollution liability and/or Environmental Casualty endorsement unless it is deemed not to apply by LFUCG.
- f. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- g. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.
- h. Owner requests that the Bidder obtain an Umbrella Liability endorsement to the CGL policy for a limit of liability of \$ NA and that this CGL policy endorsement be renewed for one (1) year after completion of this project.

Renewals

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

Deductibles and Self-Insured Programs

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

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

- a. Latest audited financial statement, including auditor's notes.
- b. Any records of any self-insured trust fund plan or policy and related accounting statements.
- c. Actuarial funding reports or retained losses.
- d. Risk Management Manual or a description of the self-insurance and risk management program.

- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

Safety and Loss Control

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

Verification of Coverage

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

Right to Review, Audit and Inspect

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

DEFAULT

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

3. **WAGE SCALES** – Not applicable.

4. **SHOP DRAWINGS**-The Shop Drawings for this contract are the Division of Engineering Standard Drawings 2017 located at <https://www.lexingtonky.gov/new-development>.
5. **CONTRACT DOCUMENTS**-The Contract Documents concerning the construction on Sanitary Sewer facilities and infrastructure are the Sanitary Sewer and Pumping Station Manual 2009 and the Division of Engineering's Standard Drawings located at <https://www.lexingtonky.gov/new-development>.

END OF SECTION

PART VI
CONTRACT AGREEMENT

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PART VI

CONTRACT AGREEMENT

THIS AGREEMENT, made on the 16th day of April, 2019, by and between Lexington-Fayette Urban County Government, acting herein called "OWNER" and SAK Construction, LLC, doing business as ~~*(an individual) (a partnership) (a corporation)~~ ^{LLC} located in the City of O'Fallon, County of St. Charles, and State of Missouri, hereinafter called "CONTRACTOR."

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of quantities needed by the Lexington Fayette Urban County Government \$ 1,376,825 quoted in the proposal by the CONTRACTOR, dated March 4, 2019 hereby agree to commence and complete the construction described as follows:

1. SCOPE OF WORK

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, and the Special Conditions of the Contract, the Specifications and Contract Documents therefore as prepared by The Engineer for the BID 14-2019 2019 Cure in Place Pipe and Manhole Rehab.

2. TIME OF COMPLETION AND LIQUIDATED DAMAGES

The time period estimated and authorized by the OWNER for the proper execution of the Work by the Contract, in full, is hereby fixed as ninety days (90) calendar days. The time shall begin **July 1 2019** after the CONTRACTOR is given the Notice to Proceed with the Work. **TIME IS OF THE ESSENCE IN THE PERFORMANCE OF THIS AGREEMENT AND CONTRACTOR SHALL BE LIABLE AND RESPONSIBLE FOR DAMAGES SUFFERED BY OWNER AS A RESULT OF THE DELAY CAUSED BY CONTRACTOR.**

Should the contractor fail or refuse to complete the work within the time specified in his Proposal and/or Contract (or extension of time granted by the owner), the Contractor shall pay liquidated damages in an amount of **\$400.00 per day**. The amount of liquidated damages shall in no event be considered as a penalty, nor other than an amount agreed upon by the Contractor and the Owner for damages, loses, additional engineering, additional resident representation and other cost that will be sustained by the owner, if the Contractor fails to complete the work within the specified time. Liquidated damages will be applied on a rate per day for each and every calendar day (Sundays and holidays included) beyond the Contract expiration date stipulated in the Contract Documents, considering all time extension granted. **These Liquidated Damages are in addition to any other damages/fees/penalties that are incurred as a result of Consent Decree requirements.**

3. ISSUANCE OF WORK ORDERS

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

4. THE CONTRACT SUM

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

5. PROGRESS PAYMENTS

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

6. ACCEPTANCE AND FINAL PAYMENT

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

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

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

7. THE CONTRACT DOCUMENTS

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

8. EXTRA WORK

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

9. CONSENT DECREE REQUIREMENTS

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

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

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

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

In the event that the overall delay resulting from the above-described causes is sufficient to prevent complete performance of the Agreement within six (6) months of the time specified herein, the fees to be paid to CONTRACTOR shall be subject to adjustment as agreed upon by the parties. Section 9.6 of this Agreement shall apply in the event the parties cannot agree upon an adjustment of fee.

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

9.6 DISPUTES

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

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

SPECIFICATIONS

SECTION NO.	TITLE	PAGES
I	Advertisement for Bids	AB 1 thru 6
II	Information for Bidders	IB 1 thru 10
III	Form of Proposal	P 1 thru 35
IV	General Conditions	GC 1 thru 50
V	Special Conditions	SC 1 thru 7
VI	Contract Agreement	CA 1 thru 6
VII	Performance and Payment Bonds	PB 1 thru 7
VIII	Addenda	AD 1 thru 11
IX	Technical Specifications	TS 1 thru 94

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

(Seal)

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

ATTEST:

[Signature]
Clerk of the Urban County Council

BY: [Signature]
MAYOR

(Witness)

(Title)

(Seal)

SAK Construction, LLC
(Contractor)

[Signature]
(Secretary)*

BY: [Signature]
Boyd Hirtz

[Signature]
(Witness)

Vice president
(Title)

864 Hoff Rd, O'Fallon, MO 63366
(Address and Zip Code)

IMPORTANT: *Strike out any non-applicable terms.

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

PART VII

PERFORMANCE AND PAYMENT BONDS

1. PERFORMANCE BOND
2. PAYMENT BOND

PART VII

Bond No. 107058914

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

SAK Construction, LLC

(Name of CONTRACTOR)

864 Hoff Road, O'Fallon, MO 63366

(Address of CONTRACTOR)

a Limited Liability Company, hereinafter
(Corporation, Partnership, or Individual)

called Principal, and Travelers Casualty and Surety Company of America
(Name of Surety)

One Tower Square, Hartford, CT 06183

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

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

hereinafter called "OWNER" in the penal sum of: One Million Three Hundred Seventy Six Thousand Eight Hundred Twenty Five and 00/100
Dollars, (\$ 1,376,825.00), for the payment of whereof Principal and Surety bind themselves, their heirs,
executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for FY 2019 CIPP and
MANHOLE REHAB in accordance with drawings and specifications prepared by: _____ (the
Engineer) which Contract is by reference made a part hereof, and is hereinafter referred to
as the Contract.

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

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

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

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

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

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

IN WITNESS WHEREOF, this instrument is executed in 3 counterparts, each one of (number)

which shall be deemed an original, this the 4 day of April, 2019.

ATTEST:

[Signature]
(Principal) Secretary

SAK Construction, LLC
Principal

BY: [Signature] (s)
Boyd Hirtz, Vice President
864 Hoff Road, O'Fallon, MO 63366
(Address)

[Signature]
Witness as to Principal

864 Hoff Rd
(Address)
O'Fallon, mo 63366

ATTEST:

[Signature]
(Surety) Secretary-Witness, Amanda L. Williams

Travelers Casualty and Surety Company of America

BY: [Signature] Surety
Attorney-in-Fact, Ashley Miller
One Tower Square, Hartford, CT 06183
(Address)

(SEAL)

[Signature]
Witness as to Surety, Andrea McCarthy
One Tower Square, Hartford, CT 06183
(Address)

TITLE: _____
Surety

BY: _____

TITLE: _____

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

PART VII

Bond No. 107058914

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENT: that

SAK Construction, LLC

(Name of Contractor)

864 Hoff Road, O'Fallon, MO 63366

(Address of Contractor)

a Limited Liability Company, hereinafter

(Corporation, Partnership or Individual)

called Principal, and Travelers Casualty and Surety Company of America

(Name of Surety)

One Tower Square, Hartford, CT 06183

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto:

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT

200 East Main Street, Third Floor

Lexington, Kentucky 40507

Obligee, hereinafter called OWNER, for the use and benefit of claimants as hereinafter defined, in the amount of One Million Three Hundred Seventy Six Thousand Eight Hundred Twenty Five and 00/100 Dollars (\$ 1,376,825.00) the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for FY 2019 CIPP and MANHOLE REHAB in accordance with drawings and specifications prepared by: _____ (the Engineer) _____ which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

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

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

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

IN WITNESS WHEREOF, this instrument is executed in 3 counterparts, each one of (number)

which shall be deemed an original, this the 4 day of April, 2019.

ATTEST:

[Signature]
(Principal) Secretary

SAK Construction, LLC
(Principal)

(SEAL)

BY: [Signature] (s)
Boyd Hirtz, Vice President
864 Hoff Road, O'Fallon, MO 63366
(Address)

[Signature]
(Witness to Principal)

864 Hoff Rd.
(Address)
O'Fallon, MO 63366

ATTEST:

[Signature]
(Surety) Secretary Witness, Amanda L. Williams

Travelers Casualty and Surety Company of America
(Surety)

BY: [Signature]
(Attorney-in-Fact)
Ashley Miller, Attorney-in-Fact

(SEAL)

[Signature]
Witness as to Surety, Andrea McCarthy
One Tower Square, Hartford, CT 06183
(Address)

One Tower Square, Hartford, CT 06183
(Address)

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

END OF SECTION

ACKNOWLEDGEMENT FOR CONTRACTOR

ACKNOWLEDGEMENT FOR CONTRACTOR, IF LIMITED LIABILITY COMPANY

STATE OF Missouri }
COUNTY OF St. Charles }

ON THE _____ DAY OF _____, 20, BEFORE ME
PERSONALLY APPEARED Boyd Hirtz TO ME KNOWN AND
KNOWN TO ME TO BE THE Vice President OF SAK Construction, LLC,
A LIMITED LIABILITY COMPANY, DESCRIBED IN AND WHO EXECUTED THE
FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE
EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT
HE EXECUTED THE SAME AS AND FOR THE ACT AND DEED OF SAID LIMITED
LIABILITY COMPANY.

Notary Public

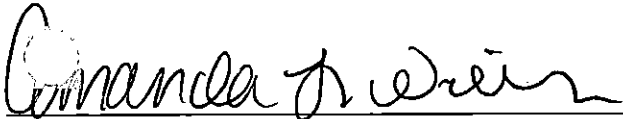
State of Missouri
County of St. Louis

On 4/04/2019, before me, a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared Ashley Miller known to me to be Attorney-in-Fact of

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

the corporation described in and that executed the within and foregoing instrument; and known to me to be the person who executed the said instrument in behalf of said corporation, and he duly acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year stated in this certificate above.



Amanda L. Williams, Notary Public

AMANDA L. WILLIAMS
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
COMMISSIONED FOR ST. LOUIS COUNTY
MY COMMISSION EXPIRES JUL. 24, 2021
ID #13507257

My Commission Expires: _____



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

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America; Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Ashley Miller** of **Chesterfield Missouri**, their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

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



State of Connecticut

City of Hartford ss.

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

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

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

My Commission expires the **30th** day of **June**, 2021



Marie C. Tetreault
Marie C. Tetreault, Notary Public

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

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

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

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

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

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

Dated this **4** day of **April**, 2019



Kevin E. Hughes
Kevin E. Hughes, Assistant Secretary

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

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
HARTFORD, CONNECTICUT 06183
FINANCIAL STATEMENT AS OF DECEMBER 31, 2017
CAPITAL STOCK \$ 6,480,000

ASSETS		LIABILITIES & SURPLUS	
CASH AND INVESTED CASH	\$ 137,626,346	UNEARNED PREMIUMS	\$ 920,416,346
BONDS	3,372,829,396	LOSSES	820,933,807
STOCKS	326,030,613	LOSS ADJUSTMENT EXPENSES	181,114,296
INVESTMENT INCOME DUE AND ACCRUED	39,230,403	COMMISSIONS	42,188,100
OTHER INVESTED ASSETS	2,641,803	TAXES, LICENSES AND FEES	13,242,950
PREMIUM BALANCES	235,706,836	OTHER EXPENSES	42,889,178
NET DEFERRED TAX ASSET	48,322,453	CURRENT FEDERAL AND FOREIGN INCOME TAXES	1,313,124
REINSURANCE RECOVERABLE	23,906,019	REMITTANCES AND ITEMS NOT ALLOCATED	82,545,307
SECURITIES LENDING REINVESTED COLLATERAL ASSETS	20,555,872	AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS	35,924,038
RECEIVABLES FROM PARENT, SUBSIDIARIES AND AFFILIATES	21,488,218	RETROACTIVE REINSURANCE RESERVE ASSUMED	793,039
ASSUMED REINSURANCE RECEIVABLE AND PAYABLE	626,835	POLICYHOLDER DIVIDENDS	9,857,423
OTHER ASSETS	5,795,705	PROVISION FOR REINSURANCE	5,066,341
		ADVANCE PREMIUM	1,256,758
		ESCHEAT LIABILITY	637,143
		PAYABLE FOR SECURITIES LENDING	20,555,872
		CEDED REINSURANCE NET PREMIUMS PAYABLE	36,704,062
		OTHER ACCRUED EXPENSES AND LIABILITIES	686,489
		TOTAL LIABILITIES	\$ 2,216,124,273
		CAPITAL STOCK	\$ 6,480,000
		PAID IN SURPLUS	433,803,760
		OTHER SURPLUS	1,576,352,567
		TOTAL SURPLUS TO POLICYHOLDERS	\$ 2,016,636,327
TOTAL ASSETS	\$ 4,232,760,589	TOTAL LIABILITIES & SURPLUS	\$ 4,232,760,589

STATE OF CONNECTICUT)
COUNTY OF HARTFORD) SS.
CITY OF HARTFORD)

MICHAEL J. DOODY, BEING DULY SWORN, SAYS THAT HE IS SECOND VICE PRESIDENT, OF TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA, AND THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT STATEMENT OF THE FINANCIAL CONDITION OF SAID COMPANY AS OF THE 31ST DAY OF DECEMBER, 2017.

Michael J. Doody

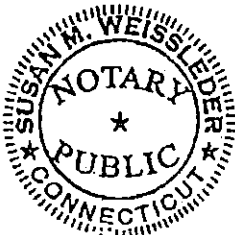
SECOND VICE PRESIDENT

Susan M. Weissleder

NOTARY PUBLIC

SUBSCRIBED AND SWORN TO BEFORE ME THIS
16TH DAY OF MARCH, 2018

SUSAN M. WEISSLEDER
Notary Public
My Commission Expires November 30, 2022



Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

▶ Go to www.irs.gov/FormW9 for instructions and the latest information.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
SAK Construction, LLC

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

Individual/sole proprietor or single-member LLC C Corporation S Corporation Partnership Trust/estate

Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ **P**

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.
864 Hoff Road

6 City, state, and ZIP code
O'Fallon, MO 63366

7 List account number(s) here (optional)

Requester's name and address (optional)

Print or type. See Specific Instructions on page 3.

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

				-					
--	--	--	--	---	--	--	--	--	--

or

Employer identification number

2	0	-	4	1	9	3	9	8	8
---	---	---	---	---	---	---	---	---	---

Part II Certification

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here

Signature of U.S. person ▶ *Barb Marler*

Date ▶ *3/11/19*

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding*, later.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
3/15/2019

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

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

PRODUCER J.W. Terrill, a Marsh & McLennan Agency LLC co 825 Maryville Centre Drive Suite 200 Chesterfield MO 63017	CONTACT NAME: Diane Stiehl, CISR	FAX (A/C, No): (888) 307-1561	
	PHONE (A/C, No, Ext): (314) 594-2719	E-MAIL ADDRESS: dstiehl@jwterrrill.com	
INSURED SAK Construction, LLC 864 Hoff Rd. O'Fallon, MO 63366	INSURER(S) AFFORDING COVERAGE		NAIC #
	INSURER A : Amerisure Mutual Insurance Company		23396
	INSURER B : Continental Casualty Company		20443
	INSURER C : Starr Indemnity & Liability Company		38318
	INSURER D :		
INSURER E :			
INSURER F :			


COVERAGES CERTIFICATE NUMBER: 1806853791 REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:			CPP20635770902	8/2/2018	8/2/2019	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 \$
A	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS			CA20635760902	8/2/2018	8/2/2019	COMBINED SINGLE LIMIT (Ea accident) \$ 2,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
C	<input type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$			1000585238181	8/2/2018	8/2/2019	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below <input type="checkbox"/> Y <input checked="" type="checkbox"/> N N/A			WC20635781002	8/2/2018	8/2/2019	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
B	Leased/Rented Equipment			C5086483224	8/2/2018	8/2/2019	\$5,000 Deductible 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES: (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
 Re: Bid #14-2019, 2019 Large Diameter Cure In Place Pipe and Manhole Rehab
 Lexington Fayette Urban County Government is included as Additional Insured(s) for General Liability and Automobile Liability with respect to work performed by the Named Insured, if required by written contract.
 General Liability coverage is considered primary, if required by written contract.
 A 60 day notice of cancellation will be given to the named Certificate Holder, for reasons other than non-payment of premium or Insured's request. This 60 day notice of cancellation applies to General Liability, Automobile Liability and Worker's Compensation.
 A 30 day notice of cancellation will be given to the named Certificate Holder, for reasons other than non-payment of premium or Insured's request. This 30 day notice of cancellation applies to Excess Liability.

CERTIFICATE HOLDER CANCELLATION

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

TECHNICAL SPECIFICATIONS

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**TECHNICAL SPECIFICATIONS
SECTION 1
GENERAL SCOPE & SPECIAL PROVISIONS**

1.01 GENERAL SCOPE OF WORK PERFORMED UNDER THIS CONTRACT

A. PURPOSE

The purpose of this section is to define inspection methods and repairs required to reduce storm water inflow and groundwater infiltration into the Lexington-Fayette Urban County Government's sanitary sewer system.

- B. The Contractor shall provide all materials, labor, supervision, and equipment necessary for completion of the Contract. The Contractor shall perform a minimum of 51% of the work towards completion of the Contract. The Contract Documents are intended to provide the basis for proper completion of the work suitable for the intended use of the Owner. Anything not expressly set forth but which is reasonably implied or necessary for proper performance of the Project shall be included.
- C. Continuous Operations: The existing system must be maintained in continuous operation in such a manner that it meets all local, state, and federal requirements. The contractor is responsible not to deactivate, demolish, or interfere with any system component required for continuous operation until a new or temporary permanent-like system has been installed and is operational. The Contractor is responsible for payment of all fines resulting from any action or inaction on his part or the part of his subcontractors during performance of the Work that causes the facility/facilities to operate in an illegal manner or fail to operate in a legal manner.

1.02 SCOPE OF WORK

A. This contract provides for the following correction measures:

1. Cleaning – Clean lines as identified by work order from Engineer.
2. Internal Inspection – TV and videotape all lines identified by work order from Engineer.
3. Main Line Point Repairs – Excavate and repair mainline by work order from Engineer.
4. Pipe Bursting Existing Sewers – pipe busting all sewers identified by work order from Engineer.
5. Mechanical Root Removal – Remove all roots in those sewers identified by work order from Engineer.
6. Smoke Testing – Smoke test those sewers where identified by work order from Engineer.

7. Manhole Repair – Repair those manholes where identified by work order from Engineer.
8. Cured-In-Place (CIP) – CIP all sewers where identified by work order from Engineer.
9. Dig and Replace – Dig and Replace mainline sewers from manhole to manhole.

1.03 DESIGNATION OF PARTIES

All references in the specifications, contract documents and drawings to “Owner” shall mean the Lexington-Fayette Urban County Government (LFUCG); all references to “Engineer” shall mean the LFUCG Division of Water Quality or authorized representative.

1.04 ACCESS TO AND INSPECTION OF WORK

Representatives of the Kentucky Department of Health, the Kentucky Department for Natural Resources and Environmental Protection and the local public health agencies shall at all times have full access to the project sites for inspection of the work accomplished under this contract and for inspection of all materials intended for use under this contract. The contractor shall provide proper facilities for such access and inspection.

1.05 UTILITIES REQUIRED BY CONTRACTOR

All water, electric current and/or utility service required by the Contractor shall be furnished at his own expense.

1.06 TAXES, WORKMEN’S COMPENSATION AND PREVAILING WAGE

Proposals shall be made to include any applicable taxes on payrolls, materials, equipment, vehicles, utilities, etc., including the Kentucky Sales Taxes and shall include compensation for such taxes on all work under this contract.

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

- * Federal or state wage rates and regulations, if required for this Contract, will be as described in the Special Conditions Section. State Wage Scale is not required on this contract.

1.07 WORK ON PRIVATE PROPERTY

- A. Private property is defined as property other than that belonging to the Owner. Highway and railroad rights-of-way, public parks, schoolyards and other such properties shall be considered private properties for the purpose of this contract.
- B. In connection with sewer lines or other work performed on "private property", the Contractor shall confine his equipment, the storage of materials and the operations of his workmen to rights-of-way provided for the project by the Owner, and shall take every precaution to avoid damage to the buildings, grounds and facilities of the owners of private property. The Contractor shall be responsible for any damages to public and/or private property resulting from any work under this contract. If, in the Engineer's judgment, prior to or during a repair, it becomes evident that resultant damage will occur, the Engineer shall have the option to change the repair to a Time and Materials basis.
- C. Other responsibilities involving access to work shall be as provided for in the General Conditions Part IV, 12.2.
- D. No work shall take place on private property until the property owner has been contacted and a person spoken to. Door hangers are not an acceptable means of contact. At the time of contact, the scope of work shall be discussed and a time frame for the work to occur shall be set. Restoration of site shall also be discussed and an agreement met on restoration at this time. If this schedule cannot be met, the property owner must be contacted again and a new schedule set. Pictures and video shall be taken before work is initiated. Fences, walls, hedges, shrubs, etc., shall be carefully removed, preserved, and replaced when the construction work is completed. No separate payment shall be allowed for removal and replacement of fencing as necessary, to restrain livestock or domestic pets. Grassed areas, other than lawns, shall be graded, fertilized and sodded or seeded when construction is completed in accordance with the requirements of these Technical Specifications and is included in price of repairs.
 - 1. The Contractor must inform the property owners of the proper method of care for the sod once the sod has been replaced, (see Section 1.22).
 - 2. Trees and shrubs shall be replaced under separate contract or time and material. The Contractor shall inform the Engineer prior to any construction that may damage or destroy trees on private property. The Contractor shall also provide a list of destroyed trees to the LFUCG prior to or during planting season.
 - 3. Care shall be taken by the Contractor to remove only the trees, brush, shrubs, etc., necessary for pipeline installation while working on private property. All cleared and grubbed materials shall be removed from the site and disposed of at the Contractor's expense.

4. When construction is completed, the facilities and grounds of the private property owners shall be restored to as good or better condition than found within 5 working days at the Contractor's expense. Pictures taken prior to work shall be referenced for pre and post assessments.
- E. Foundation shoring and bracing is a separate pay item to be paid on a time and materials basis when approved by the Engineer. Excavations to be made below the bottom of the foundation, shall be supported by shoring, bracing or underpinning as long as the excavation shall remain open or thereafter if required to insure the stability of the foundation, and the Contractor shall be held strictly responsible for any damage to said foundations.
1. As the primary objective, this project is to make cost effective reductions of infiltration and inflow. The Engineer will, in most cases, direct the contractor to not perform repairs adjacent to foundations.
- F. It shall be the Contractor's responsibility to notify private property owners **A MINIMUM OF ONE WEEK** in advance prior to any site access. **Contractor must speak to a person.** Repair notices must be distributed to these property owners. These repair notices will inform the resident the type of work being conducted and area will be sodded when done in grassy areas. The names and addresses of notified private property owners shall be recorded on distribution logs and said logs shall be delivered to the Division of Water Quality 48 hours prior to the commencement of work. **If not received work cannot begin.** Sample of notice and log forms are in Section 11.
- G. In an effort to minimize potential restoration disagreements with private property owners, **the Contractor shall be required to take "Pre-Build" record digital photographs and video of the work sites a copy of these photos are to be submitted to the Engineer and are not a separate pay item.** It shall also be the Contractor's responsibility to maintain said photographs for future use.

1.08 RIGHT-OF-WAY REQUIREMENTS

- A. Public Right-of-Way shall be maintained on state and LFUCG highways and streets at all times during inspection and/or construction of pipelines across or alongside said highways and streets. On LFUCG maintained streets and alleys, the Contractor shall abide by Chapter 17C of the Lexington Fayette County Urban County Government concerning Public Rights of Way. The Contractor shall obtain any permits related to or required by, the Work in this Contract. The initial LFUCG ROW permit fee will be paid for by DWQ for this contract, but any extension or fine shall be paid by the Contractor. A copy of the Public Right-of-Way Ordinance can be found at https://library.municode.com/ky/lexington-fayette_county/codes/code_of_ordinances?nodeId=COOR_CH17CPURI-W.

- B. It shall be the Contractors responsibility to notify the LFUCG Police Department's Safety Officer (859) 258-3600 prior to performing any construction work, which might interfere with traffic or compromise the public welfare or safety.
- C. Access to all existing subdivisions and private residences shall also be maintained unless otherwise directed.

1.09 EROSION AND SEDIMENT CONTROL

All excavation activities involved in this contract shall comply with Chapter 11 of the LFUCG's Stormwater Manual. A copy of the Stormwater Manual can be found at https://drive.google.com/file/d/0B_VhcJmdL_nhTThoZnJsWlBmZkk/view

1.10 SCHEDULING OF WORK AND REPORTING

On a weekly basis, the Contractor shall provide the Engineer with a tentative one-week work schedule. **This schedule shall be completed and delivered to the Engineer by Thursday morning of each week.** The Contractor shall make every effort to thoroughly plan his work and shall adhere to the schedule as closely as possible. **Daily work logs will be turned in the day following the day the work is performed except for weekends and Holidays, in which case the daily's shall be turned in on the next work day.**

1.11 RECORD DRAWINGS

The Contractor shall keep accurate records on the construction progress (type of work performed, extent of repairs, location, etc.) on a day-to-day basis. A qualified representative of the Contractor shall enter these into a construction logbook. Entries and notations shall be made in a neat and legible manner, and these logs delivered to the Engineer upon completion of construction. Approval for final payment will be contingent upon compliance with this provision.

1.12 DRAWINGS AND INFORMATION TO BE FURNISHED BY THE CONTRACTOR

- A. The Contractor shall review and check shop drawings and submittals. He shall indicate his review by initials and date, and shall also reference each of the applicable items, section or division of the specifications. If the drawings or submittals deviate from the Standard Drawings or these Technical Specifications, the Contractor shall advise the Engineer, in writing, of the deviation and the reasons therefore.
- B. In the event the Contractor obtains the Engineer's acceptance for the use of material or equipment other than that which is shown on the Standard Drawings or these Technical Specifications, the Contractor shall, at his own expense, and using methods acceptable to the Engineer, make any changes to structures, piping, electrical work, etc., that may be necessary to accommodate this equipment.

- C. Review by the Engineer of shop drawings or submittals of material and equipment shall not relieve the Contractor from the responsibility of furnishing same of proper dimension, size, quality, quantity, materials, and all performance characteristics to efficiently perform the requirements and intent of the Standard Drawings and these Technical Specifications. Review shall not relieve the Contractor from responsibility for errors of any kind on the shop drawings. Review is intended only to assure conformance with the design concept of the project and compliance with the information in the Standard Drawings and these Technical Specifications.

1.13 COMPLIANCE WITH SAFETY REGULATIONS

- A. The equipment items and work furnished shall comply with all governing federal and state laws regarding safety, including all requirements of the Occupation Health and Safety Act of 1970 (OSHA). **It shall be the contractor's responsibility to provide signs, traffic control devices, and all equipment and devices needed to comply with OSHA rules and regulations throughout the duration of this contract and is to be included in the cost of work to be done, except for flaggers or arrow boards which must be approved by the Engineer and will be a separate pay item. Flaggers shall be trained and equipped to regulate traffic when construction operations or traffic encroach on public traffic lanes. CONTRACTOR's foreman shall be OSHA certified as a competent person.**
- B. Contractor shall abide by OSHA, County and State regulations governing utility construction work, and LFUCG Engineering Construction Manuals.
- C. Traffic control shall be provided according to the Kentucky Department of Highways Manual on Uniform Traffic Control devices for Streets and Highways.

1.14 MAINTENANCE AND OPERATIONS MANUAL

- A. Every piece of equipment furnished and installed shall be furnished with complete maintenance and operations manuals. These shall be detailed in instructions to the Owner's personnel.
- A. All bulletins, brochures, instructions, parts lists, and warranties packaged with and accompanying materials and products delivered and installed on the project shall be saved and transmitted to the Owner through the Engineer.

1.15 PERFORMANCE BONDS AND PAYMENT BONDS

- A. Performance bonds and payment bonds, as specified in Article 10, of Part II INFORMATION FOR BIDDERS, shall continue for a period of one (1) year after acceptance of the work by the Owner and Engineer. These bonds shall be executed on the forms provided as part of the Contract Documents.

- B. If the Contract is extended for additional years, the Performance and Payment bonds must be renewed prior to the extension.

1.16 CONCRETE PAVEMENT REMOVAL

- A. Some excavations for mainline point repairs, sewer line removal and replacement, will require concrete pavement removal. The Contractor shall furnish all Supervision, labor, equipment, and materials for this work.
- B. Removal of Portland cement concrete is not a separate pay item.

1.17 ROCK REMOVAL

No rock blasting is anticipated for this project. Any necessary rock removal shall be accomplished by mechanical means. Rock removal will be paid by the cubic yard and shall include the cost of all equipment necessary for removal. (Bid item D1). Concrete filled ditches as well as concrete encased around pipe shall be considered trench rock and paid by the cubic yard.

1.18 OBSTRUCTIONS

- A. In cases where storm sewers, sanitary sewers, gas lines, water lines, telephone lines, electric lines, or other underground structures are encountered, they shall not be displaced or disturbed unless necessary, in which case they shall be replaced in as good condition as found as quickly as possible. All such lines or underground structures damaged or disturbed by the construction shall be replaced at the Contractor's expense, unless in the opinion of the Engineer, such damage was caused through no fault of the Contractor.
- B. The Contractor shall notify the utility companies a minimum of 72 hours prior to any excavation adjacent to their facilities, and shall locate all such facilities with their assistance.
- C. Utility markings are the responsibility of the Contractor and he shall follow all requirements associated to BUD/ utility markings. Any fines given out because of failure to comply with requirements will be paid for by the Contractor at his own expense.

1.20 WARRANTY AND ACCEPTANCE

- A. The Contractor shall warranty all work to be free of defects in workmanship or materials for a period of one year from the date of completion of all construction. If work meets these specifications, a letter of acceptance, subject to the one-year warranty period, shall be given at the time of completion. A final acceptance letter shall be given upon final inspection at

the end of the warranty period, provided the work still complies with these specifications. In the event deficiencies are discovered during the warranty period, they shall be corrected by the Contractor before the final acceptance. The determination of the necessity during the warranty period for the Contractor to repair or replace the work in whole or in part shall rest with the Owner whose decision in the matter shall be final and obligatory upon the Contractor.

- B. All work covered by the Public Right-of-Way Ordinance (see Section 13) shall be warranted by the Contractor for a period of two years from the date of completion of work.

1.21 EMERGENCIES

The Contractor shall provide the Owner and Engineer with an emergency telephone number where he or his coordinator may be reached on a 24 hour, daily basis. The Contractor, upon notification by the Owner of needed emergency repairs, shall start such work within four hours and complete such work within twelve hours of said notification by telephone. If repairs are not started or completed within the above time limits, the Owner, at its option, shall make such repairs and invoice the Contractor the actual cost of labor, equipment, and materials plus actual overhead. The Contractor shall also be liable for costs of pumping sewage, if done by the Owner, as an emergency measure.

1.22 SEEDING, SODDING AND TOPSOIL

- A. All sod and seed work required from work in this contract is included in the cost of the work to be done. There is no separate pay item for sod, seeding or any other work associated with sod or seeding listed herein.
- B. The work covered by this section shall include the establishment or restoration of all ground cover including areas to be sodded. This work consists of furnishing all labor, equipment, and materials and all operations in connection with the placement of sod on all finished graded areas not occupied by structures, roads, curbs and gutters, sidewalks, and concrete slab walls, etc., and including grassed areas destroyed or damaged by the Contractor.
- C. Sod shall be bluegrass or fine fescue sod strongly rooted and free of pernicious weeds. It shall be a uniform thickness of not more than 1-1/2 inches and shall have not less than 3/4 inches of soil. All sod shall be grown on a commercial turf farm and no pasture sod shall be acceptable. The source of the sod must be approved by the Engineer before it is cut for delivery.
- D. The sod shall be delivered and installed within 48 hours of being harvested by the producer.
- E. The areas where sod is to be placed shall be thoroughly tilled to a m depth of at least 4 inches by discing, harrowing, or other approved methods until the condition of the soil is acceptable to the Engineer. After harrowing or discing, the sod bed shall be dragged and/or hand raked to 1/2 inch below finish grade.

- F. The incorporation of the fertilizer shall be a part of the tillage operation and shall be applied not less than 24 hours nor more than 48 hours before the sod is to be placed. The entire area to be sodded shall be fertilized with 5-10-5 at the rate of 5 pounds per 1,000 square feet.
- G. Prior to the sod being placed, the area to be sodded shall be lightly watered to moisten the soil surface. The sod shall be carefully unrolled and trimmed to fit irregular areas, with the edges of the sod strips placed tightly together in such a manner as to conceal the joints between the strips. Weed roots shall be removed as the sod is laid. Following placement, the sod shall be lightly watered (approximately a 1/4" application) and rolled with a medium weight lawn roller to minimize any ridging at the seams. The finished surface shall true to grade, even and equally firm at all points. Well-screened topsoil shall be lightly sprinkled over the sodded areas and shall be raked to ensure sealing of the sod joints. Contractor shall be required to thoroughly water sod twice weekly for a period of 30 days and shall be included in the price of the repair. If private property owner's water is to be used Contractor must get permission from owner/s and their name submitted to Engineer to keep in his records. Logs shall be turned in on a weekly basis showing point repairs where lawns were watered to allow tracking to avoid missing yards needing attention. If sod is neglected by contractor and it fails to live the contractor will be required to replace the sod at their cost.
- H. Sod may be placed whenever the sod is not dormant, and the ground is not frozen or muddy. Sod may not be placed at any other time. When the weather does not permit sod to be placed the area should be covered with winter fescue and straw until the conditions change to the point when sod work can be done.
- I. In the event a resident does not want sod but would rather have seed and straw the Contractor must do the following. For seed and straw all graded areas shall be left smooth and thickly sown with a mixture of grasses as are specified by the Engineer, at a rate of not less than one pound of seed per 1,000 square feet. Unless otherwise specified, the mixture shall consist of 60 percent Italian Rye Grass, 20 percent Kentucky Fescue #31 and 20 percent Kentucky Bluegrass by weight. When the final grading has been completed, the entire area to be seeded shall be fertilized with 5-10-5 at the rate of five pounds per 1,000 square feet. After the fertilizer has been distributed, the Contractor shall rake, disc or harrow the ground to thoroughly work the fertilizer into the soil. The seed shall then be broadcast either by hand or by approved sowing equipment at the rate specified. After the seed has been distributed, the Contractor shall then lightly cover the seed by use of a drag or other approved device. All seed shall be certified. The seeded area shall then be covered with straw to a depth of approximately 1-1/2 inches. The Contractor prior to final acceptance shall accomplish any necessary reseeding or repairing.
- J. If the construction work is brought to completion when, in the opinion of the Engineer, the season is not favorable for seeding, then the Contractor shall put down a winter fescue with straw until the conditions change to the point when they can seed it as stated above in this section. Temporary seeding is not a pay item and is incidental to the final sod or seeding.

1.23 COMMUNICATIONS

The Contractor shall also provide, for the duration of the contract, for the Engineer and/or the Owner's representative(s) a means of direct communication acceptable to the Engineer. This may be in the form of a cell phone number or email address. The form of communication and pertinent information related to the mode of communication must be provided to the Engineer and/or the Owner prior to start of construction.

1.24 HIGHWAY RIGHT-OF-WAY MARKERS

The Contractor shall accurately reference all highway right-of-way markers and LFUCG survey monuments that are destroyed or displaced by construction under this Contract, and shall restore and replace all such destroyed or displaced right-of-way markers in kind accurately and complete in place. This replacement shall be coordinated with the Engineer prior to completion.

1.25 FLOW CONTROL

- A. The Contractor shall furnish and install all sewer plugs, bypass piping and pumping equipment where necessary to adequately handle existing flow rates during the inspection, testing, sealing and repair processes. The Contractor will also provide monitoring of bypass or plugging until such time they can be removed and flow restored to normal operation. Any overflow shall be reported to the Engineer and the Kentucky Division of Water. (See Section 4: SEWER FLOW CONTROL.)
- B. In general, the pumping equipment shall be positioned in or near the upstream end of the sewer section with piping laid to the next downstream manhole. Sewage shall only be bypassed to a downstream sanitary manhole or adjacent sanitary sewers. No overflow will be permitted.
- C. Whenever flows in a sewer line are blocked or plugged, sufficient precautions shall be taken by the Contractor to protect the sewer lines from damage that might be inflicted by excessive sewer surcharging. Further, precautions shall be taken by the Contractor to insure that sewer flow control operations do not cause flooding or damage to public or private property being served by the sewers involved. If such damage occurs, it shall be the Contractor's responsibility to clean, disinfect, and replace, where appropriate, any and all damaged public or private property as quickly as possible. The Contractor shall be available or make the necessary arrangements to perform work of this nature.
- D. Whenever bypass pumping is included in a pay item this being main lines 12" or below, (main line point repairs, pipe bursting, removing and replacing mains, etc...) it includes set up and the hourly time and employee to monitor equipment to avoid damage caused by equipment failure or other factors that may lead to property damage.

1.26 STANDARD DRAWINGS

Any reference to Standard Drawings herein refers to the “Standard Drawings 2017” and “The Division of Engineering Manuals” issued by the Lexington-Fayette Urban County Government, Department of Environmental Quality, and Division of Engineering. The Contractor is advised to obtain a copy of all these documents prior to the commencement of any contract work. https://www.lexingtonky.gov/sites/default/files/2017-11/LFUCG%20Standard%20Drawings%202017_Optimized_0.pdf

1.27 DAILY CLEAN UP

At the end of each working day, the Contractor shall conduct a daily clean up of trash, product containers, and misc. debris, at the individual work sites where he has performed or is performing repairs, as directed by the Engineer.

1.28 TEMPORARY TRENCH PROTECTION

In the event that repairs cannot be completed by the end of the normal working day, this being between the hours of 7:30am to 4:00 pm temporary fencing and flash barricades shall be installed around the open trench as necessary to ensure that the open pit is highly visible and to impede access. In streets that must be opened to traffic prior to completion of the repair, the trench shall be covered with steel plates capable of bearing traffic loads. At no time shall traffic be allowed to run on DGA or any other stone backfill. If plates are not utilized, temporary blacktop or cold patch may be substituted at no additional cost.

1.29 FINAL CLEAN UP

The work will not be considered as completed and payment will not be made until all final cleanup is complete and the Contractor has effected site restoration in a manner satisfactory to the Engineer. The final cleanup of each individual work site shall be performed within 5 working days of the sewer repair work. Any excess material shall be removed from site at no additional cost and shall be incidental to the line item work being performed.

1.30 FEDERAL, STATE, AND LOCAL LAWS

It shall be the Contractor’s responsibility to research, understand, and comply with all federal, state, and local laws, codes, regulations, ordinances, etc., which relate to performing the work as described within this contract.

1.31 LOCATION OF WORK SITES

- A. In general, the work sites contained in this contract are separated by moderate to large distances, as compared with many other rehabilitation projects.
- B. It shall be the Contractor’s responsibility to locate all work sites, including individual manholes. Manholes should be numbered in the field with spray paint in accordance with the numbering system used. On the drawings. The Contractor shall verify his

locations with the Engineer prior to commencement of any work. The Engineer will provide the drawings.

1.32 COORDINATION MEETINGS:

The Contractor's project coordinator shall be required to attend any scheduled meetings with the Owner and Engineer. The Engineer will announce the location, date and time of any meeting scheduled. The purpose of these meetings will be to insure proper communication between all parties, convey pertinent information, and to discuss the status of the project.

END OF SECTION

TECHNICAL SPECIFICATIONS
SECTION 2
CLEANING AND INTERNAL INSPECTION

1.01 CLEANING

A. GENERAL INFORMATION

Furnish all Supervision, labor, materials, and equipment to remove grit, grease and debris from sanitary sewer lines using high-velocity jet (hydro cleaning) equipment. The Contractor is responsible for debris removal and proper disposal in accordance with federal, state, and local standards. Sanitary sewer service must be maintained during cleaning operations.

All cleaning, including heavy, for lines ten inches and smaller is incidental to the line item and shall not be a separate pay item. All heavy cleaning of lines twelve inches in diameter and larger shall be part of line item price. If heavy cleaning for lines twelve inches and greater is required, request must be made prior to cleaning being performed for approval. This includes routine cleaning.

All cleaning, root removal, and CCTV work associated with CIPP work shall be incidental to the CIPP.

B. METHODS

1. The designated sewer line and sewer manhole sections shall be cleaned using a high-velocity jet. Selection of the equipment used shall be based on the conditions of the sewers at the time the work commences. The equipment and methods selected shall be satisfactory to the Engineer. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the sewer lines and manholes. If cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be set up on the other manhole and cleaning again attempted. Extreme care should be taken to prevent flooding of public/private property. If, again successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, it will be assumed that a major blockage exists and the cleaning effort shall be abandoned and the Engineer notified.
2. Heavy cleaning is defined as cleaning necessary to remove grit or other material deposits exceeding 25% of the pipe diameter at the pipe invert for the entire reach of pipe, or to remove grease deposits at a depth past the spring line of the pipe.

C. EQUIPMENT

1. High-Velocity Jet (Hydrocleaning) Equipment: All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole wall and floors. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall have minimum of 500 feet of 1-inch ID high-pressure hose, a minimum capacity of 60 gallons per minute (GPM), and a working pressure of at least 1,200 pounds per square inch (PSI). The equipment shall carry its own water tank capable of holding a minimum of 900 gallons, auxiliary engines, pumps and hydraulically driven hose reel. The equipment may be either truck or trailer mounted as long as it adequately accomplishes the cleaning.
2. All controls shall be located so that the equipment can be operated above ground with minimal interference to traffic and/or danger to the operator.

D. MECHANICAL ROOT REMOVAL

1. Roots shall be removed in the designated sections where root intrusion is a problem. Special attention should be used during the cleaning operation to assure complete removal of roots from joints. Any roots that could prevent the proper installation of cured-in-place liners shall be removed. Procedures shall include the use of mechanical equipment such as root augers, porcupine drags or similar equipment. Line segments requiring root cutting shall be verified by CCTV inspection.
2. The root auger equipment shall be approximately the same diameter as the sewer being cleaned. The auger(s) shall be kept sharp and have an attachment mounted ahead of the cutter that will permit the tool to "ride into" the next length of pipe rather than be stopped by an irregularity or offset in the pipe wall.
3. The porcupine drag shall be of a smaller diameter than the sewer being cleaned. The porcupine shall have stiff wire bristles that project an adequate distance so as to contact the sewer walls and effectively remove the majority of roots encountered.

E. MATERIAL REMOVAL

1. All sand, rocks, roots, grease, and other solid or semisolid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to downstream manhole sections could cause line stoppages, accumulations of sand in wet wells, or damage pumping equipment and shall not be permitted. **If it is observed by the Engineer or his representative that materials have been allowed to be passed to the next downstream section, the Contractor will be required to both clean**

and CCTV that section at their cost with an inspector present to verify line is cleaned.

2. The Contractor shall furnish all equipment and appurtenances required for removal of the debris from the sewer system. No extra payment will be made for removing or disposing of the debris since this is considered a part of the cleaning scope of work.
3. All materials shall be removed from the site no less often than at the end of each workday. Under NO circumstances will the Contractor be allowed to accumulate debris, etc., on the site of work except in totally enclosed containers approved by the Engineer.

F. DISPOSAL OF DEBRIS

1. Unit prices for cleaning shall include the cost of trapping and removing any and all roots, sediments, and residual wastes from sewer systems and manholes as cleaning progresses. Where a hydraulic jet sewer cleaner is used to scour and flush sewer lines, a vacuum unit or other suitable method as approved by the Engineer shall be used in conjunction with the hydraulic jet cleaner to remove and dewater the suspended matter from the downstream manhole.
2. The Contractor shall provide for adequate transportation and satisfactory disposal of the debris removed from the system. Debris shall be disposed of at LFUCG's Town Branch Wastewater Treatment Plant (WWTP) or other locations designated by LFUCG.

G. ACCESSIBILITY OF WATER FOR CLEANING

The Contractor shall be required to obtain all fresh water necessary for performance of work under this contract.

H. PROTRUDING TAP REMOVAL

Protruding taps shall be removed in the designated sections where service lateral pipe intrusion is a problem and protruding tap removal is specifically requested by the Engineer. A power driven cutting device shall be used to cut the service lateral pipe to a length of ¼ inch or less intrusion. Monitoring of this process through CCTV is necessary to prevent damage to the sewer pipe and/or service lateral pipe. If damage does result from operator negligence, the Contractor will be responsible for making any repairs. The Contractor should take every precaution to prevent accidental damage to the sewer pipe. The CCTV inspection is to be included in the Protruding Tap Removal line item price and the DVD shall be submitted to the Engineer within one week after the repairs is completed.

J. FINAL ACCEPTANCE

1. Acceptance of this portion of the work shall be made upon the successful completion of the subsequent internal television inspection and shall be to the satisfaction of the Engineer. Where cleaning is not found to be satisfactory, additional cleaning, up to three passes may be required by the Engineer at no cost to the Owner.
2. If cured-in-place liner is to follow the television inspection, particular attention shall be given to the adequacy of the cleaning to insure that the condition of the host pipe shall be acceptable for liner installation.

2.02 INTERNAL INSPECTION

A. GENERAL

All lines designated by the Engineer shall be internally inspected. The purpose of the inspection is to locate structural damage that may be present in the collection pipe. CCTV shall be performed using software that is PACP approved by an operator that is PACP certified. **This data must be submitted in PACP version 4.4.2 unless otherwise requested.** This allows for the data to be used in the ACCELA database. If any other method is used and submitted it shall be rejected and a new survey using appropriate software shall be submitted. Cumulative merged CCTV submittals shall be made twice per year for data collected between January 1 and June 30 and data collected between July 1 and December 31 for EPA reporting. Data shall be delivered no later than 10 calendar days from the last CCTV collection date.

All CCTV work associated with CIPP work shall be incidental to the CIPP.

If the contractor is using more than 1 CCTV truck, the data shall be combined into one database before submittal to LFUCG for review. The Contractor should also check the data for errors and make sure that the data is consistent. Some of the errors include making sure that the Pipe ID's match GIS. The Contractor should be able to take a list of valid GIS manhole and pipe ID's and find the ones in their database that don't match GIS.

1. After cleaning, the collection pipe shall be visually inspected by means of closed circuit television (CCTV). The inspection will be done one pipe section at a time and the flow in the section being inspected will be suitably controlled as specified. (See Section 3: SEWER FLOW CONTROL.)
2. Any structural damage found in the collection pipe impairing the CCTV inspection, shall be documented and the Engineer should be notified immediately. The Engineer and Owner will evaluate the damage and, if cost-effective, the

Engineer will notify the Contractor in writing to proceed with additional repairs. These repairs will be made at the unit prices shown on the Contractor's Bid Proposal.

3. The Owner makes no guarantee that all of the sanitary sewers to be entered are clear for the passage of a camera (This includes possible utilities accidentally passing through). The methods used for securing passage of the camera are to be at the option of the Contractor, and the costs must be included in the bid price for television inspection. The cost of retrieving the television camera, under all circumstances, when it becomes lodged during inspection, shall be incidental to this portion of the work.

B. EQUIPMENT:

1. The self-Propelled Lateral Inspection / Pan and Tilt Mainline Inspection System shall be designed to operate in a 6" - 30" mainline sewer pipes and lateral pipes 2" and larger in diameter. The system shall be able to accomplish pan and tilt inspection of the mainlines and view the lateral services, and a second camera will be supplied to enter the lateral service from the mainline to inspect up a maximum of 80 ft. into the lateral. The multi-conductor system shall operate a 0'-1000' cable utilizing dual cable reels only and shall have the ability to display both mainline and lateral footage. The self-propelled lateral inspection / pan and tilt mainline inspection system shall be compatible with additional main line television inspection equipment.
2. Cameras shall be "waterproofed" with capability of operating in underwater conditions up to 5 psi. Cameras shall be operable in 100% humidity conditions. The equipment shall have a built-in inclinometer to measure the slope and grade of the sewer line.
3. The Engineer and Owner shall have access to view the television monitor at all times. Video shall be DVD and mpeg format and shall be recorded at standard speed.

C. REQUIRED METHOD FOR INTERNAL INSPECTION

1. A PACP certified technician shall control the operation of the equipment from a control panel located in the vehicle and shall have control of the movement of the television camera at all times. This may be accomplished by means of a self-propelled camera unit, remote-control winches, by telephone or other suitable means of communications between the winches at either end of the line segment being inspected.
2. CCTV inspection shall meet all PACP requirements, including recording of slope and distance. **The PACP certified technician must record all defects.** A failure to pass Quality Control reviews including both adherence to PACP and ACCELA

compatibility of televised lines shall result in Contractor performing another CCTV inspection of lines at the Contractors expense.

3. The camera shall be moved through the sewers in the downstream direction at a uniform rate not to exceed 30 ft/min., stopping when necessary to ensure proper documentation of the sewer's condition. Manual winches, power winches, TV cable and power rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions may be used to move the camera through the sewer line.
4. The camera will stop at each service connection and use the pan and rotate controls of the camera to inspect the condition of the service lateral. The camera operator shall perform a 360-degree rotation around each service connection and a full center view down the centerline of the lateral opening. The minimum time frame spent at each lateral location is 15 seconds. Additional time may be required for defective laterals. This is not a separate pay item.
5. If during the inspection operation, the television camera will not pass through the entire manhole section, the Contractor shall set up his equipment so that the inspection can be performed from the opposite manhole. If the camera again fails to pass through the entire manhole section, the Contractor shall notify the Engineer of the situation.

D. INSPECTION LOGS AND CD/DVDS

1. All CD/DVDS, and logs shall be labeled with the Contractors Name, Contract number, DVD number (logs must match that number) and with each Contractor the DVD/ logs must start at number 1 and progress upward till the end of this contract (this does not include any lateral CCTV work). The contractor shall supply the LFUCG 2 CD/DVDS copies of each submittal of CCTV work. **No Pay for CCTV until an acceptable copy of the DVD and logs are received by the engineer.**
2. A log approved by the Engineer shall be provided for all line inspections listing the watershed, line segment ID, line segment location, upstream manhole depth, downstream manhole depth, pipe diameter, pipe material, defects and defect ratings, also see notes above. Printed and digital records shall be kept by the Contractor and will clearly show the location of each infiltration point observed during inspection. In addition, other points of significance such as locations of service connections, unusual conditions, roots, storm sewer connections, damaged pipe, presence of scale and corrosion and other discernable features will be recorded and a copy of such records in both hard copy and digital format will be supplied to the Engineer on a weekly basis. **The digital records must be submitted in PACP version 4.4.2 unless otherwise requested.** A key to all observations used shall be included on each log sheet.
3. The locations of all the defective areas to be repaired will be identified by logging the distance frame at each defect or point of interest measured from the center of

the starting manhole to the plane of focus of the camera. The importance of accurate distance measurements is emphasized. Confirmation of measurement for location of defects shall be above ground by means of a meter device. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape or other suitable device, and the accuracy shall be satisfactory to the Engineer. Marking on the cable or the like, which would require interpolation for depth of manhole, will not be allowed.

4. The purpose of DVD recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. DVD recording playback shall be at the same speed that it was recorded. DVDs shall be considered property of the Owner and the Contractor shall possess backup copy of all DVDs until completion of the Contract. All CCTV work must be recorded on DVD's using a PACP approved software operated by a PACP certified operator and the Contractor must supply the LFUCG a readable copy of said software to view these DVD's.

E. FINAL ACCEPTANCE

Acceptance of this portion of work shall be made upon the successful review of the DVD submitted to the LFUCG. If the DVDs are of such poor quality and/or the sewer line needs additional cleaning that the Owner is unable to evaluate the condition of the sewer line or to locate service connections, the Contractor shall be required to re-televis and provide a suitable DVD of the line at no additional cost. If a suitable DVD cannot be provided of such quality that the Owner can review it, no payment shall be made for additional cleaning and/or closed circuit television (CCTV). Also, no payment shall be made for portions of lines not televised or portions where manholes cannot be negotiated with the television camera.

F. MISCELLANEOUS

The Contractor's Project Coordinator shall provide the Engineer with a tentative weekly schedule, and shall also provide daily notification of those areas to be investigated.

2.03 CCTV LATERAL INSPECTION

A. GENERAL

1. All CD/DVDS, and logs shall be labeled as a lateral inspection with the Contractors Name, Contract number, (logs must match that number) and with each Contractor the DVD/ logs must start at number 1 and progress upward till the end of this contract.
2. All lines requiring repair shall be internally inspected prior to performing repair work. The purpose of the inspection is to locate structural damage that may be present in the service pipe. **No pay for CCTV of laterals until an acceptable**

copy of the DVD and logs are received by Engineer. Any laterals submitted for payment that does not have a video and log will not be paid for. All data must be in PACP format which will allow for it to be incorporated into the ACCELA database.

3. The service pipe shall be visually inspected by means of closed circuit television. The inspection will be done one pipe section at a time and the flow in the section being inspected will be suitably controlled as much as possible.
4. Any structural damage found in the service pipe shall be documented and the Engineer should be notified immediately. The Engineer and Owner will evaluate the damage and, if cost-effective, the Engineer will notify the Contractor in writing to proceed with additional repairs. These repairs will be made at the unit prices shown on the Contractor's Bid Proposal.
5. The Owner makes no guarantee that all of the sanitary sewers to be entered are clear for the passage of a camera. The methods used for securing passage of the camera are to be at the option of the Contractor, and the costs must be included in the bid price for television inspection. Pay for CCTV of laterals will be approved once an acceptable copy of the DVD and Logs are received and approved by the Engineer. The cost of retrieving the television camera, under all circumstances, when it becomes lodged during inspection, shall be incidental to this portion of the work. It is the Contractors responsibility to verify locations of any repairs resulting from said televising of these service lines.

B. INSPECTION LOGS AND VIDEO

1. Logs must meet PACP standards and shall be provided for all line inspections listing the watershed, the house address, line segment, pipe diameter, pipe material, defects and defect ratings. Recorded DVD's shall be kept by the Contractor with a copy of logs showing the location of each infiltration point observed during inspection. In addition, other points of significance such as locations of any connections, unusual conditions, roots, storm sewer connections, damaged pipe, presence of scale and corrosion and other discernable features will be recorded and a copy of such records in both hard copy and DVD format will be supplied to the Engineer on a weekly basis. A key to all observations used shall be included on each log sheet. **This data must be submitted in PACP version 4.4.2 unless otherwise requested.**
2. The locations of all the defective areas to be repaired will be identified by logging the distance frame at each defect or point of interest measured from the center of the entry point to the plane of focus of the camera. The importance of accurate distance measurements is emphasized. Confirmation of measurement for location of defects shall be above ground by means of a meter device. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape or other suitable device, and the accuracy shall be satisfactory to the Engineer.

3. The purpose of tape recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. Videotape recording playback shall be at the same speed that it was recorded. Slow motion or stop-motion playback features may be supplied at the option of the Contractor. Videotapes shall be considered property of the Owner and the Contractor shall possess backup copy of all videotapes until completion of the Contract.

C. FINAL ACCEPTANCE

Acceptance of this portion of work shall be made upon the successful review of the DVD's submitted to the LFUCG. **If the DVD's are of such poor quality and/or the Owner is unable to evaluate the condition of the sewer line or to locate service defects, or be in PACP format which will allow the data to be used in the ACCELA database, the Contractor shall be required to re-televisé and provide a suitable DVD of the line at no additional cost.** If a suitable DVD cannot be provided of such quality that the Owner can review it, no payment shall be made for additional cleaning and/or closed circuit television (CCTV).

END OF SECTION

**TECHNICAL SPECIFICATIONS
SECTION 3
SEWER FLOW CONTROL**

3.01 SEWER FLOW CONTROL

A. GENERAL INFORMATION

When sewer line depth of flow at the upstream manhole of the manhole section being worked is above the maximum allowable for television inspection and repairs, the flow shall be reduced to the level shown below by operation of pump stations, plugging or blocking of the flow, or by pumping and bypassing of the flow as specified.

B. ALLOWABLE DEPTH OF FLOW

Depth of flow shall not exceed that shown below for the respective pipe sizes as measured in the manhole when performing television inspection, and repairs.

<u>Maximum Depth of Flow</u>	<u>Television Inspection/Repairs</u>
6" – 10" Pipe	20% of pipe diameter
12" – 24" Pipe	25% of pipe diameter
27" & up Pipe	25% of pipe diameter

C. PLUGGING OR BLOCKING

1. A sewer line plug shall be inserted into the line upstream of the section being worked. The plug shall be so designed that all or none of the sewage can be released. During (CCTV) inspection, and repairs, the flow shall be reduced to within the limits specified above. After the work has been completed, flow shall be restored to normal.
2. Plugging or blocking is considered incidental to the work performed and is not a separate pay item.

D. PUMPING AND BYPASSING

1. Pumping and bypassing set-ups require approval from the Engineer. When conditions found in Section 3.01 B are encountered, the Contractor shall notify the Engineer prior to commencement of work.
2. When pumping and bypassing is required, the Contractor shall supply all hoses, conduits, pumps, piping, adapters, check valves, and other equipment and appurtenances to divert the flow of sewage around the sewer line section in which work is to be performed. If traffic control is required, Contractor shall furnish signs, cones, and other approved traffic control devices as needed. The bypass system shall be of sufficient capacity to handle existing flow plus additional flow that may occur during a rainstorm. **The Contractor will be responsible for furnishing the necessary labor and supervision to set up, operate, and**

monitor the pumping and bypass system. The equipment should be in good condition and not allow sewage or oil to leak onto the ground or pavement. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum.

3. Bypass pumping, monitoring, set up, and take down when required for sewer lines 10 inches and less is not a separate pay item and is considered incidental to the work.

E. FLOW CONTROL PRECAUTIONS

When flow in a sewer line is plugged, blocked, or bypassed; sufficient precautions must be taken to protect the sewer lines from damage that might result from sewer surcharging. Further, precautions must be taken to insure that sewer flow control operations do not cause flooding or damage public or private property being served by the sewers involved. **If such damage occurs, it shall be the Contractors responsibility to clean, disinfect, and replace, where appropriate, any and all damaged public or private property as quickly as possible.** Any overflow shall be reported to the Engineer and the Kentucky Division of Water.

END OF SECTION

TECHNICAL SPECIFICATIONS
SECTION 4
MAIN LINE REPAIR OR REPLACEMENT

4.01 GENERAL CONDITIONS:

- A. The work to be accomplished under this section of the Specifications consists of the furnishing of all labor, supervision, materials, equipment, and services necessary for the repair or replacement of the sewage collection system requested by the Owner and more fully described hereinafter. All areas disturbed by the Contractor, including pavements, shall be restored to original or better condition. All excess material shall be removed from the work site and disposed of at no additional cost. After all repairs are accomplished between two manholes, **the Contractor will be required by the Engineer to clean and televise the line to verify the adequacy of the repair at no cost to the Owner.** Payment for main line point repairs will be approved upon complete restoration as agreed upon by the Engineer and Contractor. **NOTE: method used for excavation shall be at the Contractor's discretion and must be included in the cost of repair. (i. e. hydro-excavation, backhoe, etc.).**
- B. Reasonable care shall be exercised during the initial excavation of the defective pipe so as not to disturb existing pipe that is still acceptable. After the defective pipe has been exposed, only as much additional pipe shall be uncovered as is necessary to allow space for workmen and the installation of new pipe. The defective pipe shall be cut out in such a way that the ends are straight and smooth and free of chips or cracks. After the defective pipe has been removed from the trench, the trench shall be excavated and bedded as specified hereinafter.
- C. After the trench bottom has been prepared as specified, the replacement pipe shall be cut to a length one inch (1") less than the overall length of the section being replaced. The pipe shall then be placed in the trench and the compression couplings installed. After installation, the work shall be checked to insure that the replacement pipe is vertically and horizontally aligned with the existing pipe and that the compression couplings are tight and evenly fitted. The coupling shall be designed to resist shear loads.
- D. Repairs to lines shall be made with sections of replacement pipe closely matching the existing pipe type and diameter. The replacement pipe shall be as specified hereinafter. The Contractor shall provide manufacturer's literature certifying that the pipe meets the standards described hereinafter.
- E. **THE CONTRACTOR WILL BE REQUIRED TO VERIFY LOCATIONS OF REPAIRS PRIOR TO BEGINNING ANY WORK.** If new defects are encountered during internal inspection, the camera shall be stopped for evaluation. The Contractor

will log the location and type of defect. Repairs described in Section 10, BID SCHEDULE DESCRIPTION, shall be performed unless otherwise directed by the Engineer. No new repairs shall be performed unless specifically requested by the Engineer in writing. New repairs will be at the unit prices shown in the BID SCHEDULE, PART B FORM OF PROPOSAL.

- a. By-pass pumping will be included in the price of repairs on main lines 10 inch diameter pipes or less in size, this includes removing and replacing lines. Lines larger that require by-pass pumping is a separate pay item and must be approved by the Engineer.
- b. The Contractor shall provide all Dust, Erosion, and Sediment controls when needed as set forth by these specifications.

4.02 PIPE

B. POLYVINYL CHLORIDE (PVC) PLASTIC SEWER PIPE

PVC sewer pipe shall be solid wall PVC, SDR 35, conforming to ASTM D3034, with ASTM D3212 integral bell and spigot rubber gasketed joints. As indicated in the Standard Drawings, SDR 26 pipe will be required for certain placement depths or as directed by the Engineer. Gasketed fittings shall conform to the same specifications and be supplied with the pipe.

C. DUCTILE IRON PIPE AND DUCTILE FITTINGS

1. Ductile iron pipe shall be of the bell and spigot push-on, single rubber gasket or mechanical joint type, conforming to the latest revision of ANSI A21.51 with standard thickness as designated for thickness classes as listed herein. Each piece of pipe shall bear the manufacturer's name or trademark, the year in which it was produced, and the letter "DI" or the word "Ductile." Ductile iron pipe shall be Class 250 minimum for gravity sewer lines.
2. Pipe fittings shall be cast or ductile iron, minimum pressure class 150, meeting the requirements of ANSI A21.10. In addition, ductile iron compact fittings, minimum pressure class 350, meeting the requirements of ANSI A21.53 will also be acceptable.
3. All ductile iron pipe and fittings shall have the manufacturers outside asphaltic coating and an interior lining of coal tar epoxy. Protecto 401 lining when required by the Owner will necessitate additional pay. Fittings shall be 60 mils nominal thickness.

C. REINFORCED CONCRETE PIPE

Reinforced concrete pipe shall be ASTM C-76, Class III, bell and spigot or tongue and groove, with ASTM C-443 rubber gasket joints.

D. A-2000 PIPE

A-2000 Pipe is no longer an accepted material for pipe installation. If, however an existing line consisting of A-2000 is found to need a point repair or tee replacement the line and tee if needed shall be replaced with the same material. Gasketed fittings shall conform to the same specifications and be supplied with the pipe.

4.03 PIPE JOINTING

All joint surfaces shall be cleaned immediately before joining the pipe. The bell or groove shall be lubricated in accordance with the manufacturer's recommendation. Each pipe unit shall then be carefully pushed into place without damage to pipe or gasket. All pipe shall be provided with home marks to insure proper gasket seating. Details of gasket installation and joint assembly shall follow the direction of the manufacturers of the joint material and of the pipe. The resulting joints shall be watertight and flexible. **No solvent cement joints shall be allowed.**

4.04 MANHOLES

Manholes of the form and dimensions shown on the LFUCG Standard Drawings shall be built as per LFUCG Standard Drawings 2008. Shop drawings shall be furnished to the Engineer for review prior to fabrication. The manhole shall be constructed of precast concrete sections. They shall be constructed on Class "BB" (3000 psi) concrete foundations. Precast concrete manhole bottom sections may be substituted subject to the Engineer's review.

A. PRECAST CONCRETE MANHOLE SECTIONS

Precast concrete manhole sections (risers and grade rings) shall conform to ASTM C 478.

B. PRECAST CONCRETE ECCENTRIC CONES

Precast concrete eccentric cones shall be of the size and shape shown on the LFUCG Standard Drawings and shall conform to ASTM C 478.

C. PRECAST MANHOLE SECTION JOINTS

Precast manhole section joints shall be mortared or grouted; joined with ASTM C 443 rubber gaskets; joined with AASHTO M-198-75 preformed flexible butyl type joint sealant, Hamilton-Kent "Kent-Seal No. 2", K.T. Snyder Co., "Rub'-r-Nek", "Conseal", or equal; or joined with bituminous mastic joint sealing compound meeting Kentucky Department of Transportation Specification 807.02.04. When making joints with mastic compound prime, and seal all joints with primer supplied with the joint compound. Manhole section joints shall be watertight.

D. MANHOLE INVERTS

1. Manhole inverts shall be formed with Class "BB" concrete as shown on LFUCG Standard Drawings. Inverts for a "straight-through" manhole may be formed by laying the pipe straight through the manhole, pouring the concrete invert, and then cutting the top half of the pipe. Curved invert shall be constructed of concrete, as shown, and shall form a smooth, even half-pipe section as shown. The inverts shall be constructed when the manhole is being built using prefabricated forms.
2. The excavation shall be kept free of water while the manhole is being constructed and the manhole shall not be backfilled until inspected by the Engineer.

E. MANHOLE STEPS

1. Copolymer polypropylene plastic covered #4 rebar (grade 60) manhole steps shall be of the pattern shown on the LFUCG Standard Drawings, type 1, having corrugated treads. The steps shall be resistant to rust and corrosion. Steps shall be manufactured by M.A. Industries, Inc. or equal.
2. Steps shall be driven into specially sized holes cast into the manhole section. Holes shall be formed in the manhole section using an insert plug, which is removed upon curing.
3. Steps shall be aligned vertically above the outlet in line with the flow trough. Step spacing shall be 15" as indicated on the LFUCG Standard Drawings.

F. MANHOLE FRAMES AND COVERS

Manhole castings shall be constructed in accordance with the LFUCG Standard Drawings.

G. WATERTIGHT BOLT DOWN MANHOLE COVERS

Watertight manhole covers shall be constructed in accordance with the LFUCG Standard Drawings.

H. DROPS INTO STANDARD MANHOLES

Drops into standard manholes shall be constructed in accordance with the LFUCG Standard Drawings.

I. PIPE CONNECTIONS INTO MANHOLES

1. Sewer pipe shall be sealed in the manhole section pipe openings with a resilient connector meeting the requirements of ASTM C 923, Dura-Seal III gasket by Dura-Tech Inc., Dayton, Ohio; GHA Lock Joint flexible Manhole Sleeves; Kor-N-Seal boot by National Pollution Control Systems, Inc., Nashua, New Hampshire; PSX Gasket by

Press-Seal Gasket Corporation, Fort Wayne, Indiana; A-Lok by A-Lok Products, Inc., Tullytown, PA, or equal. Resilient connector shall be cast integrally into the wall of the manhole section at time of manufacture, or, shall be installed by mechanical means in openings cut into manhole wall per ASTM C 923.

2. Wherever plastic sewer pipe is to be field grouted into manhole openings, pipe-to-manhole connector seal shall be A-Lock Concrete Manhole Adapters manufactured by A-Lock, or equal. Adapter shall be mounted on pipe and shall be positioned about the center of the manhole wall.
3. Whenever a new connection is to be installed into an existing manhole it shall be done by means of core drilling (the use of chipping hammers, jackhammers or the likes will not be allowed to make new holes into manholes).

J. PRECAST CONCRETE MANHOLE BASE SECTIONS

1. Precast concrete manhole base sections, if provided in lieu of cast-in-place foundations shall be "monolithic", consisting of base slab and base riser section only, with the floor invert channel and apron to be placed and formed in the field. All precast base sections with pipe openings shall be furnished with ASTM C 923 pipe-to-manhole connector gaskets, as specified in these Technical Specifications. Precast base sections shall be furnished with an integral anti-flotation footing, in these Technical Specifications as specified hereinafter, with 4" projection. Precast base sections shall be set on a 6" deep pad (compacted thickness) of dense graded aggregate, placed to proper elevation and leveled. The Engineer reserves the right to inspect precast manhole base sections at the manhole manufacturing facility prior to delivery, and to reject the use of such sections if the Engineer determines the products unsuitable for the Owner's installation.
2. Precast concrete manhole base slab thickness shall comply with the following schedule:

0' - 10'	Vertical Height	- 6"	Slab
10.1' - 15'	Vertical Height	- 8"	Slab
15.1' - 20'	Vertical Height	- 10"	Slab
20.1' - 25'	Vertical Height	- 12"	Slab

4.05 SERVICE LINES & CLEANOUTS

- A. Service lines that are to be reconnected to replace pipe and service connections shall be PVC pipe and fittings for gravity sewers (as specified in these Technical Specifications) unless the line segment has been slated to be rehabilitated with cured-in-place lining, in which place a Ductile Iron tee is to be used. The connection between the PVC pipe and existing service shall be connected with a suitably designed adaptor as required by the Engineer. There is no extra payment for this adaptor.

- B. When replacing service line and/or service connections to main line, the replacement line and/or service connection shall be 6" in size regardless of the main line size to be replaced unless otherwise directed by the Engineer. This includes the service lateral to the right-of-way or easement line. All measurements on service lines for payment will be done by horizontal footage. If the house line is smaller in size a PVC reducer will be used to reduce the size pipe (and when a clean out is installed the reducer shall be on the house side of clean out) then the connection of the new and old service line will be made with a Strongback Fernco or equal adaptor. If this is not to the property or LFUCG easement the Engineer may either inform the Contractor of the length of service line to be replaced or have them televise it to check condition, and then direct them of any more service line to be replaced. Any additional service line over the 6 linear feet to be replaced, is a separate pay item.
- C. A cleanout constructed of PVC pipe and PVC fittings shall be installed with a cast iron casting and lid making the final adjustment to finished grade. This can include up to 5 linear feet of pipe on the customer's side of clean out. When needed a PVC reducer will be used to match existing private line then make the connection with a PVC coupling or a Strongback Fernco or equal connector. The cleanout shall be a PVC bi-directional tee installed as close to minimal grade as possible, when the line has too much grade fittings must be used before and after tee to achieve this. The Engineer shall approve the location of where the clean out will be installed. At the ground surface a metal casting and lid shall be used and to make any adjustments to make finished grade a level as possible the casting and lid shall be a Sigma Corporation #MB-344 or approved equal.
- D. When making the tee branch connection at the main, the Contractor will be instructed by work order as to what type connection shall be used but not limited to, PVC or cast iron tee, fused-on saddle (HDPE pipe) or saddle sealed with approved method with two stainless steel bands. Branches not to be used immediately shall be closed with approved stoppers to withstand all test requirements. No service lines shall be connected to the top 1/3 of the collection pipe. The Engineer may require the use of an approved sealant to make an airtight joint.
- E. To repair or replace a service connection, which upon the judgment of the Engineer is the source of the leak, the service shall be properly connected in conformance with the pipe manufacturer's recommendations and specifications and applicable ASTM specifications, for the service connection and for installation of such. The material of the connection shall be compatible with the sewer pipe it will connect to.
- F. After joints have been completed, they shall be visually inspected and accepted by the Engineer before they are covered. Any leak or defect discovered at any time after completion of the work shall be repaired immediately. Any pipe that has been disturbed after joints were formed, shall be taken up, the joints cleaned and remade and the pipe re-laid at the contractor's expense. All pipes in place shall be carefully protected from damage until the bedding and backfill operations have been completed.
- G. Backfilling of trenches shall not be started until the pipe in place has been inspected and approved by the Engineer.

4.06 COMPRESSION COUPLINGS

When joining PVC pipe to existing clay pipe, the contractor shall use Strongback Fernco compression couplings, or equal, that are resistant to corrosion by soil and sewage and that will provide a permanent watertight joint. When connecting PVC pipe to PVC, a PVC rigid coupling shall be used. The compression coupling shall meet the physical test and joint-leak requirements specified in ASTM C-594. The bands for attaching pipes shall be stainless steel conforming to ASTM C-594. Each coupling shall bear the manufacturer's name and an indication of its size. The Engineer may require the use of butyl rubber sealant to make an airtight joint.

4.07 EXCAVATION FOR PIPELINE TRENCHES

- A. Unless otherwise directed by the Engineer, trenches in which pipes are to be laid shall be excavated in open cuts to the depths required by field conditions and as specified in the LFUCG Standard Drawings.
- B. Trenches shall be of sufficient width to provide working space on each side of the pipe and to permit proper backfilling around the pipe. Unless specifically authorized by the Engineer, trenches shall not be excavated or permitted to become wider than 2'-0" plus the nominal diameter of the pipe at the level of or below the top of the pipe. If the trench does become wider than 2'-0" at the level of or below the top of the pipe, special precautions may be necessary, such as providing compacted, granular fill up to top of the pipe or providing pipe with additional crushing strength as determined by the Engineer after taking into account the actual trench loads that may result and the strength of the pipe being used. The Contractor shall bear the cost of such special precautions as are necessary.
- C. All excavated materials shall be placed a safe distance back from the edge of the trench. **Excess material shall be removed from the jobsite at no additional charge.**
- D. Backfilling shall be as set out hereinafter.
- E. Installation shall be in accordance with ASTM D 2321 except as modified herein.
- F. All OSHA rules and regulations shall be strictly followed. CONTRACTOR's foreman shall be OSHA certified.

4.08 DISPOSITION OF EXCAVATED MATERIALS

Excess material not needed for sewer line trench backfilling purposes shall be disposed of at the contractor's expense.

4.09 PIPE BEDDING

- A. Piping for gravity sewers and force mains shall be supported as follows:
1. All piping shall be laid on a bed of granular material except when a concrete encasement situation occurs. All pipe bedding material shall be crushed stone aggregate in accordance with the Standard Drawings and shall be placed to a depth of six inches. Aggregate bedding shall be graded to provide for a uniform and continuous support beneath the pipe at all points.
- B. After each pipe has been brought to grade, aligned, and placed in final position, bedding material shall be deposited and densified under the pipe haunches and on each side of the pipe up to the spring line of the pipe to prevent lateral displacement and hold the pipe in proper position during subsequent pipe jointing, bedding, and backfilling operations. Densified bedding material shall be mechanically tamped in approximately 8-inch layers to obtain maximum possible compaction.
- C. In wet, yielding and mucky locations where pipe is in danger of sinking below grade or floating out of grade or line, or where backfill materials are of such a fluid nature that such movements of pipe might take place during the placing of the backfill, the pipe must be weighted or secured permanently in place by such means as will prove effective.
- D. Where an unstable (i.e., water, mud, etc.) trench bottom is encountered, stabilization of the trench bottom is required. This is to be accomplished by undercutting the trench depth and replacing to grade with a foundation of crushed stone aggregate.
- E. The depth of the foundation is dependent upon the severity of the trench bottom. The size of stone aggregate used in the foundation will be determined by the condition of the unstable material. Once the trench bottom has been stabilized, the required Class I bedding material can be placed.
- F. It should be noted that no pipe shall be laid on solid or blasted rock.
- G. Pipe bedding, as required in Paragraphs A, B, C, and D of this Subpart, is **not** considered a separate pay item.

4.10 LAYING PIPE

- A. The laying of sewer pipe in finished trenches shall be commenced at the lowest point so that the spigot end points in the direction of flow.
- B. All pipes shall be laid with ends abutting and true to line and grade. They shall be fitted and matched so that when laid in the trench they will form a sewer with a smooth and uniform invert. Supporting of pipes shall be as set out hereinbefore under 4.09 PIPE BEDDING and in no case shall the supporting of pipes on blocks be permitted.

- C. Before each piece of pipe is lowered into the trench, it shall be thoroughly inspected to ensure the pipe is clean. Each piece of pipe shall be lowered separately unless special permission is given otherwise by the Engineer. No pipe or fittings, which is known to be defective, shall be installed. Any defective pipe or fitting discovered after the pipe is laid, shall be removed and replaced with a satisfactory pipe or fitting without additional charge. In case a length of pipe is cut to fit in a line, it shall be cut as to leave a smooth end at right angles to the longitudinal axis of the pipe.
- D. Irregularities in sub grade in an earth trench shall be corrected by use of granular materials (as specified in Section 4.09) at the Contractor's expense—a supply of which shall be available at trench site whenever pipe is being laid.
- E. When laying of pipe is stopped for any reason, the exposed end of such pipe shall be closed with a manufactured plug fitted into the pipe bell, so as to exclude earth or other material from entering the pipe, and precautions taken to prevent flotation of pipe by run off into trench.
- F. No backfilling (except for securing pipe in place) over pipe will be allowed until the Engineer has had an opportunity to make an inspection of the joints, alignment and grade in the section laid, but such inspection shall not relieve the Contractor of further liability in case of defective joints, misalignment caused by backfilling, and other such deficiencies that are noted later.
- G. Installation shall be in accordance with ASTM D 2321 except as modified herein.

4.11 BACKFILLING PIPELINE TRENCHES

Backfilling of pipeline trenches shall be accomplished in accordance with the details set forth hereinafter.

In all cases walking or working on the completed pipelines except as may be necessary in tamping or backfilling will not be permitted until the trench has been backfilled to a point one foot above the top of the pipe. The filling of the trench and the tamping of the backfill shall be carried on simultaneously on both sides of the pipe in such a manner that the completed pipeline will not be disturbed and injurious side pressures do not occur. The methods of backfilling shall be as follows:

A. METHOD "A" – BACKFILLING IN UNPAVED AREAS

Backfilling of pipeline trenches in unpaved areas shall be accomplished in the following manner:

1. The lower portion of the trench, from a point 6 inches below the bottom of the pipe to a point 12 inches above the top of the pipe, shall be bedded and backfilled with No. 9 stone. This material shall be placed in a manner approved by the Engineer, and shall be carefully compacted to avoid displacement of the pipe. Compaction shall be

accomplished by hand tamping or by approved mechanical methods. Materials used and compaction are considered incidental.

2. The middle portion of the trench, from a point 12 inches above the top of the pipe to a point 12 inches below the surface grade, shall be backfilled with material that is free from large rock. Incorporation of rock having a diameter exceeding 6 inches is prohibited. Backfilling this portion of the trench shall be done by a means (tamping, puddling, or other method) to prevent settlement and must be approved by the Engineer. Material and the placement of material for backfilling this portion of the trench is considered incidental.
3. The upper most 12 inches of the trench shall be backfilled with consolidated earth material (including topsoil) that is free from rock. Backfilling this portion of the trench may be accomplished by any means approved by the Engineer. Material and the placement of the material for backfilling this portion of the trench is considered incidental.

B. METHOD "B" – BACKFILLING UNDER SIDEWALKS & UNPAVED DRIVEWAYS

Backfilling of pipeline trenches under sidewalks and unpaved driveways shall be accomplished in the following manner:

1. The lower portion of the trench, from a point 6 inches below the bottom of the pipe to a point 12 inches above the top of the pipe, shall be bedded and backfilled with No. 9 stone. This material shall be placed in a manner approved by the Engineer, and shall be carefully compacted to avoid displacement of the pipe. Compaction shall be accomplished by hand tamping or by approved mechanical methods. Materials used and compaction are considered incidental.
2. The middle portion of the trench, from a point 12 inches above the top of the pipe to the point 6 inches below the subgrade, shall be backfilled with # 9 stone. This material shall be placed and compacted in layers of approximately 6 inches; the #9 stone is not a separate pay item.
3. The upper most portion of the trench shall be temporarily backfilled and maintained with dense grade aggregate (stone) until such time as the sidewalk is constructed or the driveway surface is restored. Backfill for the upper portion of the trench is considered incidental. Concrete for sidewalk replacement is a pay item.

C. METHOD "C" – BACKFILLING UNDER PAVED AREAS

1. Backfilling of pipeline trenches under streets, roads, and paved driveways shall be accomplished in accordance with LFUCG Standard Drawings, Right-of-Way Ordinance 166-2002, and Kentucky Transportation Cabinet/Department of Highways Standard Specifications.

2. Trenches outside existing sidewalks, driveways, streets and highways shall be backfilled in accordance with Method "A". Trenches within the limits of sidewalks and unpaved driveways shall be backfilled in accordance with Method "B". Trenches within paving limits of existing streets, highways and driveways shall be backfilled in accordance with Method "C". The DGA (dense grade aggregate) used in the upper portion of the trench from a point 6 inches below pavement in the subgrade to the pavement subgrade is considered to be included in pavement replacement for Method "C". The Contractor shall backfill material to assure maximum compaction. Existing pavement shall be saw cut as indicated on the Standard Drawings.
3. Before final acceptance, the Contractor will be required to level off all trenches or to bring the trench up to grade. The Contractor shall also remove from roadways, rights-of-way and/or private property all excess earth or other materials resulting from construction.
4. In the event that pavement is not placed immediately following trench backfilling in streets and highways, the Contractor shall be responsible for maintaining the trench surface in a level condition at proper pavement grade at all times. Cold patch or temporary asphalt may be used as temporary restoration, but is not a pay item. **At no time shall traffic run on DGA or other stone backfill.**

4.12 SETTLEMENT OF TRENCHES

Wherever sewer lines are in (or cross) yards, driveways and streets, the Contractor shall be responsible for any trench settlement which within one year from the time of final acceptance of the work, except for Streets or areas in the public right of way which have 2 year maintenance. If pavement requires replacement because of trench settlement within this time, the Contractor shall replace it at no extra cost to the Owner. Repair of settlement damage shall meet the approval of the Engineer.

4.13 BITUMINOUS CONCRETE HIGHWAY, STREET, DRIVEWAY AND CONCRETE SIDEWALK REPLACEMENT

- A. The Contractor shall replace those sections of existing roads, streets, driveways, and sidewalk required to be removed to install the pipelines under this contract. The Contractor shall construct as required by the latest Standard Drawings and Chapter 17C of the Code of Ordinances.
- B. Backfilling of the trench shall be in accordance with Method "C" as described hereinbefore. Base course for the paving shall be dense graded crushed limestone furnished and placed in accordance with the current requirements of the Standard Specifications for Road and Bridge Construction of the Kentucky Department of Transportation, Bureau of Highways and LFUCG Right-of-Way Ordinance.
- C. The wearing surface of roads, streets and driveways shall be surface mix bituminous concrete, furnished and placed in accordance with the current requirements of Section 402

of the Standard Specifications for the Road and Bridge Construction of the Kentucky Department of Transportation, Bureau of Highways, and Right-of-Way Ordinance.

- D. Sidewalk shall be replaced with 4 ½" depth of Class "A" concrete having a minimum 28 day compressive strength of PSI 3500.
- E. Seasonal effects may require a temporary modification of pavement replacement. In this case, the Contractor shall backfill the trench per Right-of-Way Ordinance and it shall be allowed to stand until such time as the adverse seasonal effects end. The Contractor shall then complete the repair as described herein when not in right-of-way. The Contractor shall notify affected property owners using a form supplied by the LFUCG. A sample form is included in Section 11. The Contractor shall maintain the trench until such time that the trench is paved. No separate payment shall be made for maintenance gravel, temporary blacktop, or cold patch.

4.14 ABANDON MANHOLE IN PLACE

- A. When the Engineer determines a manhole to be abandoned in place, the Contractor shall furnish all labor, supervision, equipment, and materials required for this work.
- B. The manhole frame, cover, grade rings, and cone (or corbel) shall be carefully removed and stockpiled (if in reusable condition subject to Engineer's approval). Any component, which is not reusable, shall be disposed of properly by the Contractor.
- C. The manhole to be abandoned in place shall have all lines plugged up and then be filled with sand or #9 gravel to the top of the remaining barrel section. Backfill shall then be placed in accordance with Section 4.11. Final grading and restoration shall be in accordance with Section 4.16.

4.15 CLEAN UP AND PROPERTY RESTORATION

- A. Upon completion of the installation of the sewer lines and appurtenances, the Contractor shall remove all debris and surplus construction materials resulting from the work. The Contractor shall grade the ground along each side of the pipe trench in a uniform and neat manner, leaving the construction area in a shape as near as possible to the original ground level.
- B. If dirt, gravel or other debris entered the sewer during repairs, the Contractor will be required to clean the affected line segments at no cost to the Owner.
- C. Final surface restoration in these areas will be the responsibility of the Contractor. He shall restore the affected property to a condition as good as, or better, than the original.
- D. All disturbed lawn shall be sodded, except where seeding is requested by the property owner and approved by the Engineer, to restore it to a condition as good as, or better than, the original. Disturbed concrete or asphalt driveways shall be repaired with concrete or asphalt

respectively to restore them to a condition as good as, or better than, the original. All displaced mailboxes shall be restored to the same or as nearly the same as possible, and shall be in as good as, or better than, the original.

4.16 TESTING OF GRAVITY SEWER LINES

- A. Low pressure air tests shall be made using equipment specifically designed and manufactured for the purpose of testing sewer lines using low pressure air. The equipment shall be provided with an air regulator valve or air safety valve so set that the internal pressure in the pipeline cannot exceed 8 psig.
1. The test shall be made on each manhole-to-manhole section of pipeline after placement of the backfill. The Owner or his designated representative must be present to witness each satisfactory air test before it will be accepted as fulfilling the requirements of these Specifications.
 2. Pneumatic plugs shall have a sealing length equivalent to or greater than the diameter of the pipe to be tested. Pneumatic plugs shall resist internal test pressures without requiring external bracing or blocking.
 3. Low pressure air passing through a single control panel, shall be introduced into the sealed line until the internal air pressure reaches 4 psig greater than the maximum pressure exerted by groundwater that may be above the invert of the pipe at the time of test. However, the internal air pressure in the sealed line shall not be allowed to exceed 8 psig. When the maximum pressure exerted by the groundwater is greater than 4 psig, the Contractor shall conduct only an infiltration test.
 4. At least two minutes shall be allowed for the air pressure to stabilize in the section under test. After the stabilization period, the low-pressure air supply hose shall be quickly disconnected from control panel. The time required in minutes for the pressure in the section under test to decrease from 3.5 to 2.5 psig (greater than the maximum pressure exerted by groundwater that may be above the invert of the pipe) shall not be less than that shown in the following table:

Pipe in Diameter in Inches	Minutes
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8.5
21	10.0
24	11.5
30 & larger	13

5. When the sewer section to be tested contains more than one size of pipe, the minimum allowable time shall be based on the largest diameter pipe in the section, and shall be the time shown in the table reduced by 0.5 minutes.
 6. Reinforced concrete pipe shall be tested in accordance with ASTM C 924 (joint testing shall be in accordance with ASTM C 1103). Test time shall be a function of pipe diameter and the length of installed line to be tested as provided in ASTM C 924.
- B. The Contractor shall furnish suitable test plugs, water pumps, and appurtenances, and all labor required to properly conduct the tests. Suitable bulkheads shall be installed, as required, to permit the test of the sewer. The Contractor shall construct weirs or other means of measurements as may be necessary.
- C. Should the sections under test fail to meet the requirements, the Contractor shall do all work of locating and repairing the leaks and retesting as the Engineer may require without additional compensation.
- D. If in the judgment of the Owner, it is impracticable to follow the foregoing procedures for any reason, modifications in the procedures shall be made as required and as acceptable to the Owner, but in any event, the Contractor shall be responsible for the ultimate tightness of the line within the above test requirements.

END OF SECTION

TECHNICAL SPECIFICATIONS
SECTION 5
POINT REPAIRS

5.01 WORK INCLUDED

- A. A point repair shall be defined as a repair made at a specified location on a sanitary sewer line. Locations shall be as designated by the Engineer. A single point repair shall include up to 10 lineal feet (LF) of pipe.
- B. Classification of a Point Repair: A point repair shall be classified by the inside diameter of the pipe and the invert depth of the pipe, as indicated on the Bid Schedule.

5.02 MATERIALS FOR POINT REPAIRS

- A. Materials for point repairs shall conform to the product specifications listed in the following sections: Section 4 – Main Line Repair or Replacement.
- B. Contractor shall submit shop drawings of materials to be used for review and approval of the Engineer. Only new materials shall be used.

5.03 METHODS OF REPAIR

- A. Point repairs shall be accomplished by the following methods:
 - 1. Dig a trench deep enough to uncover a sanitary sewer line, wide enough to work in, and long enough to uncover up to 10 LF of sewer pipe.
 - 2. Remove any fences, base material, storm sewers, etc., that interfere with the repair made at each specified point, and for the replacement of said fences, base material, storm sewer, etc., in the same or better condition than found, determined by the Owner.
 - 3. Replace and reshape the bottom of the trench so that the grade of the pipe replaced will match that required for the existing sewer line. Any material replaced in the bottom of the trench shall be tamped so as to prevent sags in the sewer line due to settlement of the trench material. If the material in the bottom of the trench is of such consistency that it is not stable, then the Contractor shall replace the material.
 - 4. Repair and replace at least one joint and not more than four joints, between 3 and 10 LF of the existing sewer pipe with the properly sized pipe as specified.
 - 5. Repair and replace any service wye or tee encountered within the required 3 to 10 LF of uncovered pipe with the properly sized service wye or tee as specified and with enough sewer pipe to reconnect to the service line where it was severed. If the remainder of the service line is judged by the Owner to be a source of infiltration/inflow, and if authorized by the Owner, it shall be replaced to the

property or easement line in accordance with the specifications at the unit price bid for the size service replaced. All service lines broken by the Contractor shall be replaced at the Contractor's expense.

6. Tie all newly laid sewer pipe to existing sewer pipe, main sewer lines and service lines, so that no possible source of infiltration/inflow (a leak in the line) may be created. Any sewer pipe broken by the Contractor, outside the required 10 LF of pipe, shall be replaced or repaired at the Contractor's expense at the determination of the Owner. All such occurrences shall be pointed out by the Contractor to the Owner when they happen.
7. Backfill the hole so that the ground elevation will most nearly match the ground elevation prior to excavation. Proper backfilling procedures shall be followed in order that no ponding area will exist after settlement of the backfill material has taken place.
8. Clean up the area so that no trash or salvaged pipe is left lying around.

5.04 ALTERNATIVES FOR A POINT REPAIR

A. The following items shall be considered as one point repair each, where applicable.

1. Any point repair location which when uncovered reveals the end of the sewer line as evident by a cap or stopper in the line, shall be repaired by removing the cap or stopper and replacing with a clean out. Installation of the cleanout is a separate pay item.
2. Replace up to 10 LF of defective sewer pipe at the locations specified, and reconnect any existing laterals to the new pipe sections.
3. Seal any open joints uncovered by the excavation which, upon the judgment of the Owner, is the source of a leak (the barrel of the pipe being good). Any and all roots in an open joint shall be removed prior to sealing. Only approved joint sealing materials shall be used.

5.05 FLOW INTERRUPTION

A. Where necessary to complete the work, the Contractor shall be responsible for bypassing and/or blocking of the flow in the sewer line. Bypassing and/or blocking of flow shall be done only with prior approval of the Owner.

1. The Contractor shall bypass upstream sewage flow around the location designated for repair and convey the sewage to a downstream manhole or adjacent sewage system.
2. Provisions shall be made to maintain all existing services to prevent sewage backflow into structures.

3. The Contractor shall be responsible for maintaining the integrity of the sewage bypass system and shall be wholly responsible for conveying the sewage out from and back into the LFUCG system. At no time shall sewage be allowed to bypass or leave the system.
4. If sewage does escape the system, the Division of Water Quality shall be contacted immediately.
5. The Contractor shall be liable for all damages resulting from the Contractor's work or nonperformance of work as specified.

END OF SECTION

TECHNICAL SPECIFICATIONS
SECTION 6
SEWER MANHOLE REHABILITATION

6.01 GENERAL INFORMATION

- A. All work done for the LFUCG by the Contractor must meet OSHA standards in regards to safety. CONTRACTOR's foreman shall be OSHA certified.
- B. The Contractor shall repair manholes at required locations. These manhole repairs shall consist of one or more of the following:
 - 1. Rehabilitation of manhole walls and bases by plugging, patching, and coating with mortars, coatings, and sealants to improve the structural condition, eliminate infiltration, and provide corrosion protection.
 - 2. Repair of manhole chimney and corbel (cone) to improve structural condition, eliminate infiltration, and reconstruct to the desired elevation.
 - 3. Reinstallation or replacement of manhole frames casting, covers and precast adjustment rings to adjust manhole to grade, eliminate infiltration under frame and eliminate inflow through cover.
 - 4. Installation of external or internal manhole frame-chimney seals to eliminate infiltration under frame.

6.02 MATERIALS

- A. The materials used shall be designed, manufactured and intended for sewer manhole rehabilitation and the specific application in which they are used. The materials shall be supplied in factory-labeled containers. All materials shall be mixed and applied in accordance with the manufacturer's written instructions.
- B. Cementitious repair materials may be used for mild or moderate H₂S environments, as approved by the Engineer. Cementitious repair materials may include calcium aluminate mortar, microsilica mortar, or other repair mortars as approved by the Engineer. Acceptable manufacturers include Strong Seal or approved equivalent.
- C. Chemical resistant coatings or linings shall be used in corrosive environments where concrete/mortar attack from H₂S or other gases is likely. These locations shall be as designated by the Engineer. **There shall be no additional charge for grouting and sealing in preparation for coating.** Chemical resistant coatings or linings include the following:
 - 1. Epoxy mortar with epoxy top coat: acceptable manufacturers include Themec, Sherwin Williams or approved equivalent.

2. Elastomeric polyurethane: acceptable manufacturers Carboline or approved equivalent.
- D. The end product for Manhole Rehabilitation must include a structural component, watertight, and Hydrogen Sulfide resistant. This can be achieved through a combination of products, but must be approved by the Owner. At the option of the Engineer, the Contractor shall apply the material on a sample area not less than four square feet in size. When approved, the sample area shall serve as a standard of acceptance for all further work.
- E. All mixing and application of the material shall be done in strict accordance with the printed instructions of the approved manufacturer and as directed by the Engineer. The Contractor shall submit to the Engineer (when requested) evidence indicating that the proposed applicators are fully qualified to perform the work, and any proposed application found not to be qualified shall (at the written request of the Engineer) be removed forthwith by the Contractor.

6.03 SUBMITTALS

- A. The Contractor shall submit his proposed coating/lining system for the Engineer's review and approval. The submittal shall include the following:
 1. Material specifications.
 2. Samples of material.
 3. Project references.
 4. Laboratory/testing certificates if requested by the Engineer.

6.04 METHODS

A. MANHOLE INSPECTION

The Employees performing the inspection must be MACP trained and certified. During manhole inspection, the Contractor will physically enter the manhole, following OSHA requirements for confined space entry, to look for defects and sources of inflow and infiltration. The Contractor will mark the sections(s) of the manhole where inflow and infiltration is observed. The Contractor will fill out a manhole inspection form in accordance with these specifications. The Contractor shall submit a copy of the Manhole Inspection/Repair Form to the Engineer for approval. No manhole repairs shall be performed without review from the Engineer. **This data must be submitted in MACP version 4.4 unless otherwise requested.** This allows for the data to be used in the ACCELA database. If any other method is used and submitted it shall be rejected and a new survey using appropriate software shall be submitted.

If the contractor is using more than 1 crew for manhole inspection, the data shall be combined into one database before submittal to LFUCG for review. The Contractor should also check the data for errors and make sure that the data is consistent. Some of the errors include making sure that the Manhole ID's matches

GIS. The Contractor should be able to take a list of valid GIS manhole ID's and find the ones in their database that don't match GIS.

B. PREPARATORY CLEANING OF MANHOLES

1. Manholes that are to be plugged, patched, or coated internally shall first be cleaned by high-velocity water cleaning equipment (minimum 1,500 psi) in order to remove all foreign matter from the manhole walls and bench. Cleaning shall be incidental to the manhole rehabilitation.
2. Place covers over the invert to prevent extraneous material from entering sewer lines.
3. All interior surfaces of the manhole shall be cleaned and free from oil, grease, loose mortar, protruding bricks, paints, protective coatings, efflorescence, laitance, and curing compounds. Remove contaminants and foreign materials to sound material.

C. PLUGGING, PATCHING, AND COATING MANHOLES

1. After manhole surfaces have been cleaned, infiltrating holes and cracks shall be plugged prior to applying the coating sealant, if required at no additional charge.
2. Application of the materials shall be in accordance with the material manufacturer's recommendations and as defined in this specification.
3. Provide factory-trained personnel approved by the manufacturer for application of the specified products.

D. REPAIR OF MANHOLE CHIMNEY AND CORBEL

1. Any repair that is done within the LFUCG Right-of-Way shall adhere to Chapter 17C of the Code of Ordinances and shall adhere to current Standard Drawings.
2. Excavation and Replacement of Pavement:
 - a. The removal of the manhole frame (ring) shall be accomplished by making a square cut in the pavement of sufficient size.
 - b. Material in the exposed area shall be dug out to a sufficient depth to permit the required repairs.
 - c. Suitable materials (stockpiled) shall be tamped in place to form the sub-base for the pavement as specified in the Standard Drawings. If additional material is needed, suitable material shall be added before the pavement is replaced.
 - d. The surfacing used to cover the exposed area (concrete or asphalt) shall conform to the existing pavement. It shall be placed to the same elevation and grade as the existing pavement and meet the specifications in the LFUCG Right-of-Way Ordinance.

- e. Pavement replacement not satisfactorily completed by the Contractor shall be replaced by the Contractor at no additional cost to the Owner.
3. Excavation and Replacement of Backfill in Unpaved Areas:
 - a. Only necessary excavation around the manhole shall be performed.
 - b. Backfill shall be replaced and compacted to prevent settlement and to restore the setting to a condition equal to or better than that found. Backfill shall not cover the manhole.
 - c. Any private property, which is removed for access to the manhole, shall be replaced by the Contractor in existing or better condition. If this replacement is not to the satisfaction of the Engineer, it shall be redone at no additional cost to the Owner.
 4. The Contractor shall take all necessary precautions to prevent falling debris from damaging the manhole trough and/or entering the sewer.
 5. The manhole frame and the deteriorated portions of the existing manhole riser and cone shall be removed.
 6. The riser and cone shall be repaired or rebuilt with sound material, as appropriate to reconstruct the manhole to the desired elevation in accordance with the Standard Drawings.

E. INJECTION GROUTING OF MANHOLE

All work related to injection grouting of manholes must be performed in accordance with the latest edition of NASSCO/ASTM specifications.

F. MANHOLE REHABILITATION, CEMENTITIOUS LINING OR OTHER APPROVED METHODS:

All work related to manhole rehabilitation, cementitious lining or other approved methods must be performed in accordance with the latest edition of NASSCO/ASTM specifications.

G. MANHOLE FRAME (RING) AND COVER REINSTALLATION OR REPLACEMENT

1. Excavation and site restoration in paved and unpaved areas shall adhere to Chapter 17C of the Code of Ordinances and adhere to the current Standard Drawings when applicable.
2. The contractor shall remove the existing manhole frame and cover. If the frame and cover are to be replaced, the Contractor will dispose of them as directed by the Owner's Representative.
3. Replacement frames and covers shall be as specified in the contract documents. The frame shall be first cleaned and then installed.

4. As directed by the Engineer, manhole frames unsuitable for reuse shall be taken to a recycling operation. If the recycler pays a fee for the material, the fee belongs to the Owner. If a recycling fee is charged, it can be billed as time and material.
5. Where leveling brick manholes in existing pavement, contractor is to remove all rings of damaged bricks so as to a point where manhole is structurally sound, pour a concrete base, raise manhole to grade with precast grade rings. If frame and lid are damaged it needs to be brought to the attention of the Engineer, and then replaced with new frame and lid. Concrete no less than 6 inches thick at 4000 psi must be used to finish surface area to make as smooth as possible the transition from existing pavement to repair and back to existing pavement. If manhole to be adjusted is precast then raise according to the direction of the Engineer. There is a drawing available which can be given to the contractor upon their request.

H. EQUIPMENT FOR MANHOLE REPAIR ON TIME AND MATERIALS

1. The following equipment shall be furnished. It shall be considered incidental to "Laborer".
2. High Pressure washer and high-velocity gun for washing and scouring manhole walls and floors capable of at least 2,400 PSI. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment may be either truck or trailer mounted as long as it adequately accomplishes the cleaning and contains a water tank with a capacity of at least 250 gallons.
3. The following are considered equipment but not limited to which a Contractor would supply as incidental equipment at the job site and are to be sledge hammer, pry bars, screw drivers, socket wrenches, hack saw, trowel, putty knife, bucket (5 gallon), chisels, water barrel, hose, trash barrel, shovel, measuring tape, knives, broom, tarp, rope, chain, spud bar, rake, manhole hooks, pliers, hand held mirror, portable air tank and/or hand air pump, pipe plugs (4", 6", 8"), cones, traffic signs, traffic flags, safety vests, fire extinguisher, first aid kit, drinking water jug, a portable generator, extension cords, trouble lights, grinder, electric drill (for paint mixer), quickie saw, and hammer drill.

6.05 MANHOLE DOCUMENTATION

A. MANHOLE INSPECTION/REPAIR FORM

The Contractor shall use a Manhole Inspection/Repair Form MACP approved that contains manhole number, manhole type, manhole location, manhole depth, pipe diameter(s), pipe material, manhole defects, date manhole inspected, date manhole repairs performed, and a sketch showing the location of the inlet pipe(s) including any service laterals and outlet pipe.

B. RECORDS

1. The Contractor shall submit a Daily Report to the Engineer listing the manholes inspected and/or type of repairs made on each manhole.
2. On a monthly basis, the Contractor shall submit a hardcopy and digital copy to the Engineer containing a list of the manholes inspected, repairs needed, repairs made, and manholes that cannot be located. The digital records must be in a Microsoft Database format (.mdb file extension) or other format approved by the Engineer.

END OF SECTION

TECHNICAL SEPCIFICATIONS
SECTION 7
PIPE BURSTING PROCESS

7.01 GENERAL

A. WORK INCLUDED

1. Rehabilitation of existing sanitary sewers by the pipe bursting method.
2. The work shall include:
 - a. Furnishing all labor, supervision, tools, and equipment required to perform pipe bursting and installation of the replacement pipe, at the locations requested by work orders from the LFUCG Engineer.
 - b. Providing, installing, operating and maintaining all equipment required to perform by-pass pumping as required, for the duration of the project.
 - c. Installation of HDPE pipe by means of pipe bursting shall be performed by fully trained, experienced installers in compliance with the manufactures recommendations.
 - d. Acceptable CCTV record in PACP/ACCELA format after completion to approve for payment.

7.02 SUBMITTALS

- A. The Contractor shall submit a pipe bursting plan, to include the following:
1. Pipe material and specifications.
 2. Equipment to be used.
 3. Method and materials for lateral connections.
 4. Anticipated location and number of insertion or launching pits.

7.03 WARRANTY

The Contractor shall warrant that the equipment used on this Project, where covered by patents or license agreements, is furnished in accordance with such agreements and that the prices bid for the work on the Project cover all applicable royalties and fees in accordance with such license agreements. The Contractor shall defend, indemnify and hold the Owner and Engineer harmless from and against any and all cost, loss, or damage or expense arising out of or in any way connected with any claim of infringement of patent, trademark, or violation of license agreement.

6.03 MATERIALS

A. HIGH DENSITY POLYETHYLENE (HDPE) PIPE

1. Solid wall HDPE pipe referred to as Drisco 1000, Drisco 8600, Quail Pipe, Poly Pipe, and Plexco Pipe that is in conformance with ASTM F714 and ASTM requirements

stated herein are considered approved for this project. HDPE pipe on this project will further be required to have a minimum pipe stiffness of 46 psi for 12 inch to 48 inch diameter pipe and 115 psi for 8 inch to 10 inch diameters.

2. All pipe and fittings will be high-density polyethylene pipe and made of virgin material. No rework except that obtained from the manufacturer's own production of the same formulation will be used. The liner material will be manufactured from High Density High Molecular weight polyethylene compound which conforms to ASTM D 1248 and meet the requirements for Type III, Class C, Grade P-34, Category 5, and has PPI rating of PE 3408.
3. The pipe produced from this resin will have a minimum cell Classification of 345434C under ASTM D3350. A higher number cell classification limit, which gives a desirable higher primary property, per ASTM D 3350, may also be accepted by the Engineer at no extra cost to the Owner. The value for Hydrostatic Design basis will not be less than 1600 PSI (11.03 MPA) per ASTM D 2837. Pipe will have ultraviolet protection.
4. All pipes will be free of visible cracks, holes, foreign material, foreign inclusions, blisters, or other deleterious or injurious faults or defects. Pipe and fittings shall be as uniform as commercially practical in color, opacity, density, and other physical properties. For interior lined pipe, the liner will be a minimum of 10 mils thick and co-extruded. The bond between the layers will be strong and uniform. It will not be possible to separate the two layers with a probe or point of a knife blade so that the layers do not separate cleanly at any point, nor will separation of the bond occur, between layers, during testing performed under the requirements of this specification.
5. Polyethylene Plastic Pipe will meet the applicable requirements of ASTM F714 Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter, ASTM D 1248, and ASTM D 3550. Internal diameter of the pipe indicated on the Contract Drawings will be the minimum allowable pipe size.
6. The minimum wall thickness of the polyethylene pipe will meet the following listing, as based on the deepest portion of a particular pipe pull, typically between manholes:

Depth of Cover (Feet)	Minimum SDR of Pipe
0 - 16.0	19
>16.1	17

7. Wall thickness shall be as indicated on the plans and will be in accordance with Chevron Plexco Industrial Piping System Pipe Data and Pressure Rating Bulletin 301, or approved equivalent.
- B. Solid wall pipe shall be produced with plain end construction for heat joining (butt fusion) conforming to ASTM D 2657.
1. The polyethylene pipe will be assembled and joined at the site using the thermal butt-fusion method to provide a leak proof and structurally sound joint. Threaded or solvent-

cement joints and connections are not permitted. All equipment and procedures used will be used in strict compliance with the manufacturer's recommendations. Fusing will be accomplished by personnel certified as fusion technicians by manufacturer of polyethylene pipe and/or fusing equipment.

2. The butt-fused joint will be true alignment and will have uniform roll back beads resulting from the use of proper temperature and pressure. The joint surfaces will be smooth. The fused joint will be watertight and will have tensile strength equal to that of the pipe. All joints will be subject to acceptance by the Engineers and/or his representative prior to insertion. All defective joints will be cut out and replaced at no cost to the Owner. Any section of the pipe with a gash, blister, abrasion, nick, scar, or other deleterious fault greater in depth than ten percent (10%) of the wall thickness, will not be used and must be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated above. In addition, if in the opinion of the Engineers and/or his representative any section of pipe has other defects, including those hereinafter listed, that may indicate damaged, improperly manufactured, faulty, or substandard pipe, said pipe will be discarded and not used. Defects warranting pipe rejection include the following: concentrated ridges, discoloration, excessive spot roughness, and pitting; insufficient or variable wall thickness; pipe damage from bending, crushing, stretching or other stress; pipe damage that impacts the pipe strength, the intended use, the internal diameter of the pipe, internal roughness characteristics; or any other defect of manufacturing or handling.
- C. Where applicable, solid wall pipe for sanitary sewer force mains shall have a minimum working pressure rating of 150 psi, and an inside diameter equal to or greater than the nominal pipe size indicated on the Drawings.
 - D. HDPE pipe is not approved in applications requiring augering of sewer pipe.
 - E. Each standard and non-standard length of pipe or fitting shall be clearly marked with pipe size, pipe class, production code, material designation and other relevant identifying information.
 - F. The Engineer reserves the right to inspect pipes or witness pipe manufacturing. Such inspection shall in no way relieve the manufacturer of the responsibilities to provide products that comply with the applicable standards and these Specifications. Should the Engineer wish to witness the manufacture of specific pipes, the manufacturer shall provide the Engineer with adequate advance notice of when and where the production of those specific pipes will take place. Approval of the products or tests is not implied by the Engineer's decision not to inspect the manufacturing, testing, or finished pipes.

7.05 PRE-INSTALLATION TELEVISION INSPECTION

Prior to the initiation of pipe bursting work on any line segment, the work required under Section 2, Cleaning and Internal Inspection, shall have been completed. No pay for pre CCTV or cleaning prior to pipe bursting. CCTV and Cleaning shall be incidental to the installation.

7.06 PIPE BURSTING AND INSTALLATION

- A. Location and number of insertion or launching pits will be chosen by the Contractor, and will typically be located near existing or proposed manholes or at locations to comply with access or maintenance requirements. Pits shall be placed and located to minimize the total number of pulls and maximize the length of pipe replaced per pull, within the constraints of maintaining service and access and other requirements. [Use excavations at point repair locations for insertion pits where possible.]
- B. Pipe shall be assembled and fused on the ground in sections equivalent to the length of the anticipated pull. During installation, all bending and loading the pipe shall be in conformance with manufacturers recommendations and shall not damage pipe.
- C. Manholes shall be prepared so as to provide pipe installation at the lines and grades indicated on the plans. The invert in the manholes shall be removed as required to allow for pipe installation activities and to accommodate invert replacement. Manhole inverts shall be restored upon completion with 3000 PSI grout so as to establish a minimum 4 inch thick bottom on the manhole after shaping per drawings.

7.07 SEALING REPLACEMENT PIPE IN MANHOLE

- A. Allow liner pipe to normalize to ambient temperatures as well as recover from imposed stretch before cutting to fit between manholes, sealing at manholes, and manhole invert shaping. Normalization usually takes at least 12 hours for polyethylene.
- B. Cut liner so that it extends four inches into manhole. Make a smooth, vertical cut and slope area over top of exposed liner using non-shrink grout.
- C. Seal the annular space between liner and sanitary sewer main at each manhole with a chemical seal and non-shrink grout. Place strips of oakum soaked in sealer (Scotchseal 5600 as manufactured by 3M Corporation, or equal) in a band to form an effective water-tight gasket in the annular space between liner and existing opening in manhole. Make width of the sealing band a minimum of eight inches or the thickness of the manhole wall, whichever is greater. No pay will be approved until seal is complete and inspected by owner.
- D. Finish seal with a non-shrink grout placed around annular space from inside manhole. Apply grout in a band not less than six inches wide.
- E. Reshape and smooth the manhole invert. Form a smooth transition with a reshaped invert and a raised manhole bench to eliminate sharp edges of liner pipe, concrete bench, and channeled invert. Build up and smooth invert of manhole to match flow line of new liner.

7.08 FIELD TESTING

- A. After the existing sewer is completely replaced, the Contractor shall perform a post-installation television inspection. Copies of the inspection DVD in PACP/ACCELA format shall be provided to the Owner for review and acceptance prior to final acceptance. Post-installation CCTV is not a separate pay item.
- B. For pipelines with an inside diameter 27-inches and greater, a method approved by the Engineer shall be used to test for vertical deflections. The approved method shall provide a precision of \pm two tenths of one percent (0.2%) deflection. The test shall be conducted after the final backfill at all locations has been in place at least 30 days. No pipe shall exceed a deflection of five percent.
 - 1. If a pipe should fail to pass the deflection test, the problem shall be corrected at no additional cost and a second test shall be conducted after the final backfill has been in place an additional 30 days. The tests shall be performed without mechanical pulling devices.

7.09 GASKETED ELECTROFUSION SEWER SADDLES FOR SERVICE CONNECTIONS

- A. The Contractor shall install a 6" (4" when approved by the Engineer) gasketed electrofusion sewer saddle per the manufactures recommendation when a service connection is reinstated. The gasket will be to connect SDR35 pipe (unless otherwise directed to be another type by the Engineer) sewer pipe of size requested by the Engineer. Then the Contractor will follow the specifications on service connections listed in Section 2 Main line point repairs. The electrofusion saddle will be a separate pay item and shall comply with all related specification listed in this contract such as but not limited too Section 4.05 Service Connections and Cleanouts (payment for this type of a service connection does not include a main line point repair and should reflect that cost associated installing this saddle). There will be a service connection bid item associated with the installation of this saddle.
- B. The electrofusion saddle shall be Central Plastics #5750819 or approved equal, and they must meet these related specifications ASTM F1336, ASTM F1055, ASTM D1599, and ASTM D3350.

END OF SECTION

TECHNICAL SPECIFICATIONS
SECTION 8
SMOKE TESTING

8.01 GENERAL

This specification shall govern the use of smoke testing as a method of detecting structural deficiencies in existing sanitary sewers and as a means of inspecting the sanitary sewer system rehabilitation work performed by the contractor.

8.02 AREA OF WORK

The area of work shall be as directed by the Engineer. All work shall be confined to those sections of sewer between manholes designated for smoke testing, and shall only be performed in the presence of the Engineer.

8.03 EQUIPMENT

- A. Smoke testing blowers shall have a circular flange or plate for mounting on an open manhole and have a gasoline driven engine capable of producing a free-air delivery of at least 1700 CFM.
- B. Liquid smoke shall be non-explosive, generate a highly visible white/colored smoke that is non-hazardous and non-staining, and be capable of sustaining indefinite duration.

8.04 METHODS

- A. Pipe sections designated for smoke testing shall be isolated by using either sewer plugs, sand bags, or other approved method.
- B. The Contractor shall complete a smoke test form approved by the Engineer for each line segment containing the date, line segment ID, manhole depth, pipe diameter, defect codes, location codes, and smoke rate. An example smoke test form is included in Section 11.
- C. The Contractor shall walk the area under test, locating, photographing and documenting the structural deficiencies indicated by emerging smoke. Documentation shall be referenced to the sewer section being tested.

8.05 ADVANCED NOTICES:

- A. A minimum of 5 days prior to performing smoke testing of sewers, the Contractor shall notify residents of the purpose and approximate time of the work. The Owner shall provide notification forms to the Contractor for this purpose. An example of a smoke test notice is included in Section 11.

B. It shall be the Contractor's responsibility to daily advise the Owner (859/425-2401) and LFUCG Fire and Police Departments (859/254-1120 and 859/258-3600 respectively) of the areas to be tested on a street-to-street basis.

8.06 FINAL REPORT:

The Contractor shall provide to the Engineer, a written report, which will include sketches, field notices, and photographs, referencing the sewer sections tested.

END OF SECTION

TECHNICAL SPECIFICATIONS
SECTION 9
CURED-IN-PLACE PIPE (CIPP) LINER

9.01 WORK INCLUDED

A. SCOPE

1. Furnish all labor, supervision, material, and equipment required to complete cured-in-place lining of existing pipelines as described in the Contract Documents.
 - a. The CIPP liner shall be polyester, vinyl ester, or epoxy vacuum impregnated flexible woven or non-woven tube. The tube shall be inverted into position by the means of a hydrostatic head or pulled-in-place by a mechanical winch or other method once approved by the Engineer as long as liner is installed per manufactures recommendation. The tube, once installed, shall be cured to form a hard impermeable pipe, by circulating hot water or introducing steam and or air through the entire length of the tube. When cured the liner shall extend over the entire length of the existing sewer in a continuous, tight fitting and watertight pipe-within-a-pipe.
 - b. The cured in place pipe (CIPP) shall be fabricated from materials that after curing are chemically resistant to withstand internal exposure to domestic sewage and shall be a minimum of 6 mil in thickness.
 - c. Where steam and or air is requested to be used, contractor must submit to the Engineer for approval, the manufactures recommendation as to installation , curing process, and all other information to ensure finished product meets all standards including, Manufactures, ASTM, and OSHA's.

2. The work shall include:
 - a. Replacement of service connections and point repairs on existing sewer lines prior to lining, as directed. Replacement of service connections and point repairs are separate pay items. A point repair associated with a service connection shall not be billed as both a point repair and service connection repair. Ductile iron tees required for lateral point repairs on lines to be CIPP'd shall be a separate pay item.
 - b. Thorough cleaning and television inspection of the existing sewers in accordance with Section 2. CCTV and Cleaning shall be incidental to the installation and is not a separate pay item.
 - c. By-pass pumping, including set up, take down, and monitoring of 10 inch or smaller sewer main is included in the installation cost and is not a separate pay item. Lateral flows are included in the lining price if needed during the construction period. Bypass pumping of lines greater than 12 inches will be a separate pay item.
 - d. Restoration of Sod, Asphalt, and concrete surface is included in the installation price and is not a separate pay item.

- (1) The Contractor shall by-pass upstream sewage flow around the line segment or segments designated for repair and convey the sewage to a downstream manhole or adjacent sewage system.
 - (2) Provisions shall be made to maintain all existing services of the span(s) to be repaired to prevent sewage backflow into structures.
 - (3) The Contractor shall be responsible for maintaining the integrity of the entire sewage by-pass system out of and back into the Lexington-Fayette Urban County Government's (LFUCG's) sewage collection system. At no time shall sewage be allowed to escape the system.
 - (4) If sewage should escape LFUCG's system, contact the Engineer and the LFUCG Division of Water Quality immediately.
 - (5) Contractor shall be liable for all damages resulting from Contractor's work and for any and all damages, including fines, due to failure of a sewage by-pass system.
- e. Insertion of the liner into the existing sewer lines without excavation.
 - f. Television inspection in PACP/ACCELA format and testing of the completed lining system. Opening and sealing the liner at lateral connections.
 - g. Reconstruction of service laterals by installation of a cured-in-place pipe liner ("Top Hat" method), where specified by the Engineer.
 - h. Restoration of Sod, Asphalt, or concrete surface is included in the installation price.
3. Line segments to be rehabilitated by cured-in-place lining shall be indicated on the Contract Documents.

B. DEFINITIONS

1. Liner: When used in this specification in a nonspecific application, liner shall apply to any approved lining regardless of material or technique used to install the liner. The phrase "new pipe" is also used synonymously with the phrase "liner" and both reference the same item.
2. Installer: In this specification, installer is used interchangeably with Contractor and refers to the same party, regardless of the actual contractual relationship the Contractor may have established with any and all other parties.
3. Manufacturer: The intent of this specification is that the "manufacturer" shall refer to the party that manufactures the lining using specialized equipment and techniques and is distinct from the Contractor or installer that operates and installs the liner.

9.02 JOB CONDITIONS

Contractor shall coordinate the work and inspect the condition of the sewers and determine the requirements for lining by recorded televised sewer inspection techniques.

9.03 SUBMITTALS

- A. The Contractor shall submit the following data to the Engineer for review:

1. List of reference projects completed by the Contractor/Subcontractors. List shall include the name and phone number of a contact person for each project. The Contractor shall supply verifiable references indicating that he/she has successfully completed a minimum of three cured-in-place lining projects.
2. Certification by letter of recommendation stating that the Contractor/Subcontractor is trained and considered qualified by the product manufacturer to install the cured-in-place lining projects.
3. Shop Drawings:
 - a. Product data covering all materials of construction.
 - b. Resin data, including properties, characteristics, proposed methods of application, and recommended curing cycle.
 - c. Description of installation procedure and equipment proposed for use. Include curing water temperatures, locations of monitors, etc.
4. Inspection report for the sewer lines, documenting conditions of sewer, lateral connections and joints. Document the internal inspection before and after lining on DVD accompanied by type-written logs of the internal inspection.
5. Sample "Notification of Sewage Service Disruption" forms, to be issued by Contractor, for review and approval.
6. Proposed by-pass pumping techniques, equipment, procedures, and emergency response plan including detailed plans for by-passing flow from sections of pipe and laterals to be replaced prior to start of work.
7. Curing temperature/time log sheet, to be submitted immediately after the curing is complete for each line segment that is rehabilitated.
8. Report showing services reconnected after lining, to be submitted with 24 hours after reconnection of services for each line segment.

9.04 HEAT CURED LINER

A. Technical Requirements:

1. Resin Content: 85% resin to 15 % felt volume ration with a 5% tolerance.
2. Liner Size: Liner mil thickness shall be 1 millimeter per 2 inches of diameter of host pipe, but no less than 6 millimeters unless requested different by owner.
3. Length: Provide liner length necessary to effectively carry out the insertion and seal the liner at the inlet and outlet ends. Contractor shall verify the lengths in the field before cutting the liner to length.

B. Acceptable Manufacturers:

1. Insituform, Inc.
2. In-Liner Technologies, Inc.
3. UniLiner.
4. Leak Eliminators

5. The contractor is not limited to these Four manufacturers. He may select others as long as their product meets the material specifications for this contract and is approved by the Engineer.

9.05 GENERAL CLEANING AND INSPECTION:

- A. All pre-lining repairs noted on the Drawings must be satisfactorily completed prior to starting the liner installation.
- B. Prior to starting the lining process, the Contractor shall clean the existing pipeline of any obstructions, grease, grit, debris, and roots to sure a good lining installation. The condition of the cleaned existing pipe shall be approved by the Engineer prior to the insertion of the liner.
- C. Inspection of Sewer Line: Inspection of pipelines shall be performed by experienced personnel who are PACP certified and trained in identifying breaks, obstacles and service connections using remote controlled radial view cameras. The interior of the pipeline shall be carefully inspected. The purposes of this inspection are to:
 1. Confirm the pipe is clean.
 2. Confirm the locations of active service laterals.
 3. Determine the location of any conditions which may prevent proper installation the liner.

All such conditions shall be logged and brought to the attention of the Engineer immediately so these conditions can be corrected. The Contractor shall submit a copy of the pre-inspection DVD and inspection logs to the Owner.

- D. By-passing Sewage: The installer shall provide for the flow of sewage around the section or sections of pipe designated for lining. The by-pass shall be made by plugging the line at an existing manhole and pumping the flow into a downstream manhole or adjacent sewage system. The pump and by-pass lines shall be of an adequate capacity and size to handle peak hourly flows and shall be monitored and maintained by the installer whenever by-passing is planned. By-pass pumping, monitoring, and set up and take down shall be included in the price of cured-in-place lining of lines 10" and smaller and is not a separate pay item.
- E. Line Obstructions:
 1. It shall be the responsibility of the installer to clear the line of obstructions such as solids, dropped joints and protruding service connections or collapsed pipe that will prevent the insertion of the liner pipe. Service connections or other protrusions shall be removed such that the protruding dimension is less than ¼-inch. Sags and reverse or flat grades shall be eliminated by point repairs.
 2. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, then the installer shall make a point repair excavation to uncover

and remove or repair the obstruction. Such excavation shall be approved in writing by the Owner's representative prior to the commencement of the work and shall be considered a separate pay item. Pipe shall be repaired as directed by the Engineer. Use new pipe of the same type, rating, and dimensions of the existing pipe, except replace vitrified clay pipe with adequately sized PVC of sufficient strength and capacity. In no case shall new pipe be installed that is less than the minimum acceptable to the local authority having jurisdiction.

- F. The Contractor is responsible for locating and determining the suitability of the insertion manhole to be used for installation of the liner.
- G. Five days prior to disruption of service, notify property owners, public, residents, and all who may be affected in person (**A person must be spoken to not just a door Hanger**) and by using an approved notification form. Contractor shall provide documentation to the Owner's representative verifying notifications as stated above.
- H. If the liner fails to form a tight seal at the manhole wall. The installer shall apply a seal at the manhole wall. The seal shall be approved by the Engineer.
- I. After the pipe has been lined and tested, all existing service connections shall be reconnected. The reconnection of services shall be done without excavation, unless otherwise specified by Owner; this will be accomplished from the interior of the pipeline by a radial view camera directed cutting device. All re-cut service connections shall be free of burrs and frayed edges and any restriction preventing free wastewater flow. Location of the service shall be made by inspection of the pre-construction TV tape and other proven detection methods.
- J. If directed by the Engineer, service laterals shall be reconstructed by installation of a cured-in-place pipe liner ("Top Hat" method). The process uses a flexible flange that must have a tight-fitting connection and seal at the main.

9.06 HEAT CURED LINER INSTALLATION:

A. General:

1. The Contractor shall deliver the uncured resin impregnated liner to the site, provide all equipment required to place and invert the liner into the conduit and cure it once in place.
2. The Contractor shall designate a location where the liner will be impregnated ("wet out") with resin using distribution rollers and vacuum to thoroughly saturate the felt tube to its dispatch for installation. A catalyst system of additive(s) compatible with the resin and tube may be used as per the manufacturer's recommendation and the Engineer's approval. The wet out inversion and heating schedule/plan shall be submitted 72 hours in advance to the Owner.
3. Impregnate liner with resin not more than 24 hours before the proposed time of installation and store out of direct sunlight at a temperature of less than 70 degrees F or as recommended by the manufacturer.
4. Provide temporary covers as required to protect the impregnated liner from light and heat exposure in conformance with the resin manufacturer's recommendations.

5. Transport impregnated liner to the site just prior to inversion in a suitable light-proof container with the temperature maintained at a maximum of 70 degrees F or as recommended by the manufacturer.

B. Liner Installation by Inversion:

1. Invert liner into the conduit from a suitable platform located above the manhole or any other point of inversion. The free open end of the folded liner shall be passed down a suitably reinforced column to an inversion chute or elbow bend.
2. The protruding end of the liner shall then be folded back over the chute or elbow, and each layer, if a multiple layer liner, shall be firmly secured to the inversion chute by means of a stainless steel strap.
3. After the liner is secured to the chute, the chute shall be positioned in the inversion locations so that the inverting portion of the liner is properly aligned with the open end of the pipe to be lined.
4. Clean water at ambient water main temperature shall be provided by the Contractor to the inversion platform at a rate sufficient to cause controlled inversion of the liner into the conduit.
5. The liner inversion rate shall not exceed 32 feet/minute (10 meters/minute), and the liner or the tag rope shall be suitably restrained to prevent inversion rates in excess of that stipulated above.

C. Liner Curing:

1. The Contractor shall supply a suitable heat source and water re-circulation equipment capable of delivering hot water to the far end of the liner to quickly and uniformly raise the water temperature in the entire liner, above the temperature required to commence the exothermic reaction of the resin as determined by the catalyst system employed.
 2. Water used for the curing process shall be obtained and transported to the site by the Contractor.
 3. The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply to determine when uniform temperature is achieved throughout the length of the liner.
 4. Water temperature in the liner during the initial and post cure period shall not be less than 120 degrees F or more than 200 degrees F.
 5. In addition to the gauges on the incoming and outgoing water supply, there shall be a thermocouple placed between the liner and the invert of the pipe at the manhole to accurately monitor the outside liner temperature during the curing process. For CIPP of pipes 12 inches in diameter and greater, a fiber optic cable located in the 6 o'clock position shall be used for monitoring curing temperature.
- D. The cured-in-place liner shall extend the full length of the pipeline segment being rehabilitated and shall provide a structurally sound, impermeable, jointless, close-fitting pipe that, when cured, is mechanically bonded to the host pipe.

E. Post Curing:

1. The initial cure shall be deemed to be completed when a uniform temperature, as determined by the water temperature monitors on the heat source, is achieved throughout the length of the liner and visual inspection of the exposed portions of the liner appear to be hard and sound.
 2. The Contractor shall submit curing time/temperature chart to the Owner immediately upon completion of cure and shall note any discrepancies between recommended cure cycle and actual cure cycle.
 3. The post cure period shall commence with the heat source shut down, but with continued re-circulation of the water to maintain the temperature in the liner at or just below a maximum temperature of 190 degrees F, but above 140 degrees F during the initial exothermic reaction period.
 4. Hot water may be bled out of the system and replaced by clean water at ambient water main temperature to control post-cure water temperature.
 5. A minimum period of post-cure (as recommended for liner diameter and thickness) under an inversion head to provide a minimum hoop tension in the liner felt shall be maintained.
 6. The ends of the pipe shall not be fully opened until intake and discharge temperatures of the heat source are less than 100 degrees F (38 degrees C).
 7. Care shall be taken in the release of the static head so that a vacuum will not be developed that could damage the newly installed liner.
- F. Finished Pipe: The cured-in-place liner shall be continuous over the entire length of the inversion run and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes and delamination.
- G. Process Limitations: Though it may be a licensed process, the Contractor or the franchisee shall not change any materials, design values or procedural matters stated or approved herein without the Owner's prior knowledge and approval. The Contractor shall submit, in writing, full details about component materials, their properties and installation procedures and shall abide by them fully during the entire course of the project.

9.07 RESTORATION OF SERVICE AND CLEANUP

A. Restoration of Service:

1. After the pipe has been reconstructed, tested, and accepted by the Engineer, all existing service connections shall be immediately reconnected. The reconnection of the services shall be done without excavation, unless otherwise specified by Owner; this shall be accomplished from the interior of the pipeline by a radial view camera-directed cutting device. Location of the service shall be made by inspection of the pre-construction TV tape and other proven detection methods. The Contractor is responsible for confirming and identifying locations of all active connections within a lined section.
2. A report identifying lateral cuts shall be provided to the Engineer within 24 hours after reconnection of services for each line segment.

3. All re-cut service connections shall be uniform and free of butts, sharp or frayed edges, or any restriction preventing free wastewater flow. Any remedial work to restore or correct a deficient cut shall be completed by the Contractor without delay, at no additional expense to the Owner. All work shall be completed to the satisfaction of the Engineer. Restoration of Sod, Asphalt, and concrete surface is included in the installation price and is not a separate pay item.
 4. If directed by the Engineer, service laterals shall be reconstructed using the "Top Hat" process for CIPP lining. The process uses a polyester felt tube with flexible flange to create a tight-fitting connection at the main.
- B. Sealing at Manholes: The cured-in-place liner shall make a tight fitting seal with the existing pipe(s) in the manhole. Half-inch diameter activated oakum, soaked in Scotch Seal 5600, or low expansion foam, or an approved hydrophilic elastic gasket or sealant such as Hydrotite or approved equivalent, shall be applied circumferentially near the annular space touching the end of the existing pipe and encased with a cementitious mortar, Strong-Seals Systems QSR or equivalent as required by Owner. The top half of the pipe shall be neatly cut off and not broken or sheared off at least 4 inches away from the walls. The channel in the manhole shall be a smooth continuation of the pipe(s) and shall be merged with other lines or channels, if any.

9.08 FINAL INSPECTION AND CLEANUP

- A. Clean-up:
1. All construction material and debris including lateral cutouts shall be removed from the pipe.
 2. All excess material and debris not incorporated into the permanent installation shall be disposed of by the Contractor offsite.
- B. Final TV Inspection Prior to Acceptance: Upon completion of liner insertion and service pipe re-connections, the Contractor shall perform a post-installation inspection of the line segment using remote-controlled closed circuit television equipment as described previously. DVD recording and TV inspection log records shall be delivered to the Engineer. Any defects identified shall be corrected as required. No payment for CIPP will be made until the Engineer or his representative has reviewed the DVD and logs and is satisfied the work has been completed and is of good quality. Post TV shall be downstream direction only.
- C. Defects, which, in the opinion of the Engineer, will affect the liner's structural integrity, strength, hydraulic performance, future maintenance access, and overall line performance, shall be repaired or the sewer replaced at the Contractor's expense. Any lined section of segment (from manhole to manhole) exhibiting these defects will be rejected for payment until such time repairs have been made to the defective liner to the satisfaction of the Engineer. The following methods of repair shall be implemented by the Contractor to resolve defects unless otherwise approved by the Engineer.

Defects	Repair Method
Annular space or infiltration at lateral opening	Re-seal with structural grout or point repair
Damaged lateral caused by overly ground tap	Repair with structural grout or point repair
Annular space or infiltration at manhole wall and liner termination	Re-grout liner termination
Cracked, missing pipe or voids caused by the cleaning operation	Repair with structural grout, thicken liner, or point repair
Dropped pipe or shape loss caused by the cleaning operation	Point repair
Wrinkles or ridges in liner greater than 5% of the pipe diameter	Grinding allowed if not part of structural component of liner. If grinding would require removal of structural component, then Contractor must make point repair.
Re-installed bulkheaded tap or inactive service connection	Re-seal with structural grout or point repair
Lined over debris	Point repair
Soft spots or lifts in the liner	Point repair
Final liner thickness less than required thickness bid	Replace inadequate liner

NOTES:

1. Grout must be structural grout system such as the KA-TE, SIKA or approved equivalent system and may be robotically-applied or hand-applied as conditions dictate.
2. The Engineer shall review the Contractor's inspection DVD to determine if there is an annular space at the lateral opening or manhole terminations. The Engineer's determination shall be considered final. The burden of proof shall be on the Contractor to prove that the annular space does not exist. The Contractor may submit a method of "snug-fit" verification for approval by the Engineer. An annular space shall be any separation of the liner and the host pipe that will allow water to flow through it. Where water is not actively flowing, the Engineer shall use a separation distance of 1/8-inch between the host pipe or manhole wall and the liner.

END OF SECTION

**TECHNICAL SPECIFICATIONS
SECTION 10
MEASUREMENT AND PAYMENT**

10.01 WORK INCLUDED

The Contractor shall furnish all Supervision, labor, machinery, tools, apparatus, equipment and vehicles, materials, services and other supplies necessary to perform all work shown on the Drawings and/or described in the Specifications and Contract Documents at the unit prices for the items enumerated in Part 2 of this Section.

All scrap material and its disposal, and disposal of all spoil material is incidental to the Contract.

A 15% Contractor mark-up is allowable for all special materials and subcontractors approved by the Owner. Contractor shall submit copies of all invoices for which 15% markup is requested.

All dress up, site restoration and sod is incidental to the pay item work being performed.

10.02 BID SCHEDULE DESCRIPTION

A. ADMINISTRATIVE BID ITEMS

A1. BONDS AND INSURANCE

Payment for bonds and insurance will be made at the Contract lump sum price, and shall include the costs of all bonds provided under the Contract, and the premiums for insurance required under the Contract, for the duration of the contract term (one year). Bonds and Insurance is a single pay item per Contract term (one year).

A2. GENERAL REQUIREMENTS

Payment for general requirements will be made at the Contract lump sum price distributed over the initial term of the Contract and shall include field supervision and support staff, office supervision and support staff, costs associated with maintaining the field operation, and other items required by the general requirements and conditions of the Contract. General Requirements is a single pay item per Contract term (one year).

B. SEWER LINE REPAIR/CONSTRUCTION BID ITEMS

Note: Cost of equipment and vehicles are incidental to all pay items.

All couplings shall be rigid. Fernco couplings shall only be used on Clay lines and shall be Strongback shielded.

B1. – B4. POINT REPAIR

Payment for point repairs (on main lines or laterals) shall be made at the Contract unit price each based on the pipe size and invert depth of the pipe, as indicated on the Bid Schedule. Payment shall include connections to manholes, excavation, bedding, pipe (up to and including 10 lineal feet), jointing, rigid couplings, temporary trench shoring, initial and final backfill, clean-up, any and all appurtenances necessary for a complete installation.

Rock removal if required, is a separate pay items.

If the Contractor replaces a service connection in conjunction with a point repair, payment will be made for the service connection and point repair based on a single line item. The single repair shall include both the point repair and the service connection.

B5. – B12. LINE REPLACEMENT BY THE LINEAL FOOT

Payment for lengths greater than 10 lineal feet (LF) at point repairs, or sewer line installation requiring excavation and replacement shall be made at the Contract unit price per LF based on the pipe size and invert depth of the pipe, as indicated on the Bid Schedule. Payment shall include Supervision, labor, excavation, bedding, pipe (exceeding 10 LF), jointing, rigid couplings, temporary trench shoring, initial and final backfill, clean-up, site restoration, and all appurtenances necessary for a complete installation.

Testing is required if a line segment is replaced from manhole to manhole. Testing is not a separate pay item.

Rock removal if required, is a separate pay items.

If the Contractor replaces a service connection in conjunction with a point repair, payment will be made for the service connection and point repair based on line item.

B36. - B38. The single repair shall include both the point repair and the service connection.

B13. – B15. POINT REPAIR

(See B1. – B4.)

B16. – B23. LINE REPLACEMENT

(See B5. – B12.)

B24. – B26. POINT REPAIR

(See B1. – B4.)

B27. – B42. LINE REPLACEMENT

(See B5. – B12.)

B43. LATERAL REPLACEMENT BY PIPE BURSTING

Lateral is defined as that portion of the service line between the service connection and the home or structure.

Payment for replacement of existing laterals by pipe bursting shall be made at the Contract unit price per LF in place. This payment shall include compensation for pipe, fittings, lateral service connections, and all appurtenances necessary to complete the work. The Contractor shall replace the existing pipe with 6-inch pipe from the service connection to the easement or property line. A cleanout shall be installed at the property or easement line. Installation of the cleanout is a separate pay item. Post-installation CCTV inspection of the completed gravity sewer lateral is included in this pay item.

B44. – B46. SEWER REPLACEMENT BY PIPE BURSTING

Payment for replacement of existing sewer lines by pipe bursting shall be made at the Contract unit price per LF in place based on the pipe size as indicated on the Bid Schedule. This payment shall include excavation as necessary, pipe, lateral connections, cleaning, bypass pumping including set up and take down and monitoring, fittings and appurtenances, backfill, cleanup, site restoration, and all incidentals necessary to complete the work.

Rock removal if required is a separate pay items.

B47. – B58. CIPP

Payment for cured-in-place lining of gravity sewers shall be made at the Contract price per LF completed and accepted, based on the line size as indicated on the Bid Schedule. **Restoration of Sod, Asphalt, and concrete surface is included in the installation price and is not a separate pay item.**

Payment for preparation and insertion of liner including cleaning of lines, dismantle, reassembly, and sealing of existing manhole, sealing of pipe in manholes, cleanup, and site restoration shall be included in the unit price. Measurement shall be made

from the center of manholes. Reinstatement of service connections by remote cutting is included in this pay item.

If any connection other than a factory TEE is found, a point repair shall be made at the connection and a Ductile Iron tee installed. This point repair shall be made and paid under line items B-36. – B38. The cost of the Ductile Iron lateral connection (TEE) shall be incidental to the pay item.

Pre- and post-lining TV inspections (TVI) are the responsibility of the Contractor and are included in the unit price for this item. No additional payment will be made for pre- or post-lining TVI. **Post CCTV data must be submitted in PACP version 4.4.2 unless otherwise requested.**

By-pass pumping, including set up and take down of the bypass system, will be included in the line item price on main lines 10 inches in diameter or less in size. This includes removing and replacing lines. Lines larger that require by-pass pumping is a separate pay item and must be approved by the Engineer.

The Contractor will be paid for 50% of the CIPP quantity upon installation of the lining. The additional 50% will be paid when the following are complete:

1. Post-lining TVI is complete.
2. TVI DVD has been delivered to LFUCG.
3. Defects detected by post-lining TVI are repaired.
4. TVI DVD showing the repair has been satisfactorily completed.
5. All pipes into manholes have been properly sealed.

B59. – B60. CIPP LATERAL

Lateral is defined as that portion of the service line between the service connection and the house or structure. Laterals shall be lined from the service connection to the easement or property line.

Payment for cured-in-place lining of laterals will be made at the contract price per linear foot completed and accepted. Payment for equipment and set-up, cleaning, preparation and insertion of liner, and connecting to existing pipe shall be included in the unit price. Pre- and post-lining TV inspections are the responsibility of the Contractor and are included in the unit price for this item. **Post CCTV data must be submitted in PACP version 4.4.2 unless otherwise requested.**

The Contractor will be paid for 50% of the CIPP quantity upon installation of the liner. The additional 50% will be paid when the following are complete:

1. Post-lining TV inspection is complete.

2. The TV inspection DVD has been delivered to LFUCG.
3. Defects shown by post-lining TV inspection are repaired.
4. A TV inspection DVD shows the repair has been satisfactorily completed.

B61. – B63. CIPP POINT REPAIR

Payment for cured-in-place point repairs to existing gravity sewers shall be made at the Contract unit price each based on the line size, as indicated on the Bid Schedule.

Payment shall include equipment and set-up, cleaning of line, bypass pumping for lines 10 inches and less, preparation and insertion of liner, liner pipe (up to and including 10 LF), jointing, couplings, testing, clean-up, and all appurtenances necessary for a complete installation.

Reinstatement of service connections by remote cutting, if required, is included in this pay item. Pre- and post-lining TV inspections (TVI) are the responsibility of the Contractor and are included in the unit price for this item.

B64. CIPP SERVICE CONNECTION REPAIR

Payment for non-disruptive repair of service connections on cured-in-place pipe by the “top hat” or equivalent method will be made at the Contract unit price each. Cleaning and inspection of the service lateral prior to installation will be included in the unit price for this item and not billed as a separate pay item. Preparation and insertion of the liner, CCTV and cleaning of lines, testing, clean-up, and all appurtenances necessary for a complete installation are included in this pay item.

B65. – B68. REPLACE SERVICE CONNECTION, WITH CLEANOUT

Service connection is defined as the connection of the lateral piping to the LFUCG collector line, including the service tee and up to 10 LF of pipe from the collector line towards the adjacent easement or property line.

Payment for replacement of gravity sewer service connections will be made at the Contract unit price each based on the invert depth of the connection at the sewer main, as indicated on the Bid Schedule. Payment shall include compensation for furnishing pipe, fittings, Supervision, labor, trenching, Class I bedding material, laying, jointing, temporary trench shoring, sheeting and bracing, initial backfill of Class I material over top of pipe, installation of a cleanout, clean-up, and all other appurtenances and procedures needed for a complete installation.

Payment for replacement of service connections will include up to 10 LF of pipe. Service connections shall be replaced to the property or easement line, whichever is applicable, and a cleanout installed there. Pipe beyond 10 LF from the LFUCG collector line shall be paid for by the LF under “Lateral Relocation or Replacement (B43).”

**B69. ABANDONED POINT REPAIR OR SERVICE CONNECTION
EXCAVATION**

Payment shall be made for excavations made at designated locations for point repairs and service connections where the repair cannot be completed. This pay item shall be limited to instances where the location of the defect is misidentified and where the Contractor is not required to verify the location. Locations within 10 LF of the published distance from an existing manhole are considered accurate and are not subject to compensation for additional excavation under this pay item.

This pay item, where applicable, shall include excavation, initial and final backfill, and cleanup. Site restoration is a separate pay item.

B70. DEMOLISH MANHOLE

Payment for manhole demolition will be made at the Contract unit price each and shall include removal of the manhole frame and lid, removing the top 30 inches of the manhole structure, sealing all pipes, breaking holes in the bottom of the manhole structure, filling the structure with crushed stone, backfilling to grade with acceptable material, and clean-up. Site restoration is a separate pay item.

B71. - B72. CLEANOUT

This pay item is for cleanout installations requiring excavation, i.e., in areas where an excavation has not been made for replacement of the service connection. Payment for installation of cleanouts on gravity sewer service connections shall be made at the Contract unit price each which shall include Supervision, labor, excavation, two-way cleanout tee, rigid couplings, vertical stack, piping, reducer (if necessary), threaded plug, backfill, cleanout frame and cover, concrete pad, and all other fittings and appurtenances necessary to complete the installation to finished grade. Connection to the existing service piping, including up to five (5) LF of lateral piping on the customer side of the cleanout, is included in this pay item. Additional repair of customer's lateral piping, if required, shall be paid for under "Lateral Relocation or Replacement (B38)." Cleanout locations are subject to adjustment by LFUCG in the field during construction.

B73. REMOVE PROTRUDING TAP OR OBSTRUCTION

Payment for removal of existing protruding taps (service connections) or rebar, or other obstructions in sewer lines shall be made at the Contract unit price each, regardless of size or depth. Payment shall include all labor, materials, and equipment required to complete the work. Any TV inspection required to perform or verify the repair shall be included in this pay item.

B74. SHALLOW MANHOLE, 4 FEET OR LESS IN DEPTH

Payment for replacement of shallow manholes (4 feet or less in depth) will be made at the Contract unit price each. Payment shall include excavation, backfill, precast concrete base, barrels, flat top section, steps, flexible pipe to manhole gasket, cast iron frame and cover, reinstatement of pipe connections to the manhole (including core drilling), and other appurtenances necessary for a complete installation.

B75. – B76. STANDARD MANHOLE

Payment for replacement of standard manholes (6 feet or less in depth) will be made at the Contract unit price each, based on the manhole diameter as indicated in the Bid Schedule. Payment shall include excavation, backfill, precast concrete base, barrels, eccentric cone top section, steps, flexible pipe to manhole gasket, cast iron frame and cover, reinstatement of pipe connections to the manhole (including core drilling), and other appurtenances necessary for a complete installation. Additional manhole depth greater than 6 feet will be paid under “Manhole Barrel Extensions (B56, B57).”

B77. -B79. MANHOLE REHABILITATION

Payment for manhole rehabilitation will be made at the Contract unit price per vertical foot based on the depth from invert to rim. Payment shall include Supervision, labor, cleaning, plugging, patching, sealing, and coating of manhole walls, base, chimney, and cone. Manhole rehabilitation shall include the application of coatings to provide structural integrity, waterproof the manhole, and protect against hydrogen sulfide corrosion. Payment shall include all cleaning and surface preparation necessary for proper application of the coating materials. Vacuum testing of rehabilitated manholes shall be included in the unit price and is not a separate pay item.

B80. RESET AND SEAL MANHOLE RING

Payment to reset and seal existing manhole rings to the manhole top section (for manholes already at grade) shall be made at the Contract unit price each.

B81. TIME AND MATERIALS

This item shall be used to secure needed products and activities not foreseen within limits of contract. Time shall be on an hourly basis. An invoice shall be provided with a 15% markup.

B82. REIMBURSEMENT

This item shall be used to reimburse homeowners or as needed when work by others or materials are needed that are not included in other line items associated with this contract. Reimbursement shall be for cost plus 15% markup.

B83. – B85. REPLACE LID AND FRAME

Payment to replace existing manhole frame and lids according to the Bid Schedule shall include all Supervision, labor, materials, and equipment necessary to complete the work in accordance with the Contract Documents.

B86. INITIAL CHIMNEY SEAL

Payment to install initial section of Chimney Seal installed in manhole Chimney. Payment shall include all Supervision, labor, materials, and equipment necessary to complete the work in accordance with the Contract Documents.

B87. CHIMNEY SEAL EXTENSIONS

Payment to additional section of Chimney Seal installed in manhole Chimney. Payment shall include all Supervision, labor, materials, and equipment necessary to complete the work in accordance with the Contract Documents.

B88. – B89. RAISE MANHOLE TO GRADE

Payment to raise existing manholes to grade shall be made at the Contract unit price each based on whether the surface is paved or non-paved, according to the Bid Schedule. Payment shall include all Supervision, labor, materials, and equipment necessary to complete the work in accordance with the Contract Documents. The maximum vertical distance the Contractor will be required to raise the manhole rim under this pay item will be 12 inches. Site restoration is a separate pay item.

B90. – B91. MANHOLE BARREL EXTENSIONS

For manhole replacements greater than 6 feet in depth, and for raising manholes to grade in excess of 12 inches, payment for the additional manhole barrel will be made at the Contract unit price per vertical foot of additional depth, in place, based on the manhole diameter as indicated in the Bid Schedule. The manhole barrel is defined as that portion of the manhole with a fixed diameter between the base and the cone sections.

B92. INSIDE MANHOLE DROP CONNECTION

Payment for inside manhole drop connection will be made at the Contract unit price each, complete in place, and shall include all Supervision, labor, fittings, piping, excavation, concrete, core drilling, connection to manhole and all incidentals necessary for a complete installation.

B93. – B94. MR. MANHOLE

Payment for Mr. Manhole will be made at the Contract unit price each, complete in place, and shall include all Supervision, labor, equipment, excavation, concrete, core drilling and all incidentals necessary for a complete installation.

C. SEWER LINE INVESTIGATION BID ITEMS

C1. LOCATE MANHOLE

Payment for locating existing manholes shall be made at the Contract unit price each. Manholes shall be located by CCTV inspection or other non-destructive means. Existing structures shall not be moved or damaged to locate manholes without prior approval of the Owner.

C2. – C6. CLEAN AND CCTV SANITARY SEWER

Payment for cleaning and closed-circuit television inspection of sanitary sewers will be made at the Contract unit price per LF completed, based on the line size as indicated on the Bid Schedule. Measurement shall be made from the center of the manholes. Cleaning shall include all passes with high-velocity jet (hydro cleaning) equipment as necessary to remove grit, grease and debris from the pipeline. Required deliverables, including CCTV inspection reports and DVDs, are included in this pay item. Plugging and blocking of sewer lines, if required, is included in this pay item. Bypass pumping, if required, is a separate pay item. **CCTV data must be submitted in PACP version 4.4.2 unless otherwise requested.**

All heavy cleaning for lines ten inches and smaller is incidental to the CCTV and shall be not be a separate pay item. All heavy cleaning of lines twelve inches in diameter and larger shall be part of line item price (C18-C19). If heavy cleaning for lines greater than twelve inches is required, request must be made prior to cleaning being performed for approval.

C7. CCTV LATERAL

Payment for closed-circuit television inspection of sewer laterals (4-inch or 6-inch) will be made at the Contract unit price per LF. This requires a mini camera to be launched from the main line through an active lateral. If cleaning using high velocity jet (hydro cleaning) equipment is required to complete the CCTV inspection, such cleaning shall be included in this pay item. Required deliverables, including CCTV inspection reports and DVDs, are

included in this pay item. Plugging and blocking of sewer lines and bypass pumping if required, is included in this pay item.

C8. – C12. CCTV SANITARY SEWER

Payment for closed-circuit television inspection of sanitary sewers will be made at the Contract unit price per LF completed, based on the line size as indicated on the Bid Schedule. Measurement shall be made from the center of the manholes. Payment shall include all Supervision, labor, materials, and equipment required to complete the work. Required deliverables, including CCTV inspection reports and DVDs, are included in this pay item. Plugging and blocking of sewer lines, if required, is included in this pay item. Bypass pumping for lines 10 inches and smaller is included in line item. Bypass pumping for lines greater than 12 inches if required, is a separate pay item and must be approved prior to CCTV.. **CCTV data must be submitted in PACP version 4.4.2 unless otherwise requested.**

C14. – C15. ROUTINE CLEANING OF SANITARY SEWERS

Payment for routine cleaning of sanitary sewers will be made at the Contract unit price per LF completed, based on the line size as indicated on the Bid Schedule. Cleaning shall include all passes with high-velocity jet (hydro cleaning) equipment as necessary to remove grit, grease and debris from the pipeline. Measurement shall be made from the center of the manholes. Plugging and blocking of sewer lines, if required, is included in this pay item.

All heavy cleaning for lines ten inches and smaller is incidental and shall be not be a separate pay item. All heavy cleaning of lines twelve inches in diameter and larger shall be part of line item price (C18-C19). If heavy cleaning for lines greater than twelve inches is required, request must be made prior to cleaning being performed for approval.

C16. SMOKE TESTING, MAIN LINES

Payment for smoke testing main lines will be made at the Contract unit price per LF of lines completed. Payment shall include all setup costs, property owner notifications, plugging as necessary, all field work, and submitting smoke test reports with photographs in accordance with LFUCG requirements.

C17. SMOKE TESTING, 3-MAN CREW WITH EQUIPMENT

Payment for smoke testing areas other than main lines will be made at the Contract unit price per hour for a 3-man crew with equipment. Payment shall include setup costs, property owner notifications, plugging as necessary, all field work, and submitting smoke test reports with photographs in accordance with LFUCG requirements.

C18. – C19. HEAVY CLEANING

Payment for heavy cleaning of sanitary sewer lines shall be made at the Contract unit price per hour required, based on the line size as indicated on the Bid Schedule. Heavy cleaning is defined as cleaning necessary to eliminate a line blockage, or to remove grit or other material deposits exceeding two inches in depth at the pipe invert for the entire reach of pipe, or to remove grease deposits at a depth past the spring line of the pipe.

NOTE; There shall be no payment for Heavy cleaning of lines 8 inches and smaller at any time or for any reason. Heavy cleaning is only considered for pay on lines 12 inches and greater and must be approved prior to work beginning.

C20. – C22. MECHANICAL ROOT REMOVAL

Payment for mechanical root removal will be made at the Contract unit price per LF based on the pipe size as indicated in the Bid Schedule. Measurement shall be made from manhole to manhole completed. Extent of root removal is that necessary for completion of cured-in-place lining of the pipeline in accordance with the Contract Documents.

D. GENERAL CIVIL BID ITEMS

D1. ROCK REMOVAL

Payment for rock removal will be made at the Contract unit price per cubic yard of material removed. Payment shall include all costs for excavation including all equipment, removal, hauling and disposal of rock material.

Concrete encasement removal around pipes shall be billed as Rock removal and shall include all costs including but not limited to all equipment, supervision, and labor associated with removal.

D2. – D4. TREE REMOVAL

Payment for removal of trees or stumps shall be made at the Contract unit price based on the tree diameter, as indicated in the Bid Schedule. Tree diameter shall be measured at a point three (3) feet above the ground.

D5. SITE RESTORATION, PAVED, BITUMINOUS SURFACE

Payment for site restoration and pavement repair of bituminous surfaces shall be made at the Contract unit price per square yard which shall include saw cutting the existing pavement, subbase preparation, concrete, base material, temporary patching or plating (if necessary), placement of pavement surface material, compaction, cleanup, site restoration, sod, and all incidentals necessary for a complete installation.

D6. SITE RESTORATION, PAVED, CONCRETE SURFACE (UP TO 6-INCH THICKNESS)

Payment for site restoration and pavement repair of concrete surfaces (up to 6-inch thickness) shall be made at the Contract unit price per square yard which shall include saw cutting the existing pavement, subbase preparation, base material, temporary patching or plating (if necessary), placing and finishing concrete, cleanup, site restoration, sod, and all incidentals necessary for a complete installation. Replacement of concrete driveway aprons is included in this pay item.

D7. SITE RESTORATION, PAVED, CONCRETE SURFACE (>6-INCH THICKNESS)

Payment for site restoration and pavement repair of concrete surfaces (greater than 6-inch thickness) shall be made at the Contract unit price per square yard which shall include saw cutting the existing pavement, subbase preparation, base material, temporary patching or plating (if necessary), placing and finishing concrete, cleanup, site restoration, sod, and all incidentals necessary for a complete installation.

D8. SITE RESTORATION, PAVED, TEMPORARY WINTER REPAIR

Payment for site restoration and pavement repair of bituminous surfaces shall be made at the Contract unit price per square yard which shall include saw cutting the existing pavement, subbase preparation, base material, temporary patching or plating (if necessary), temporary concrete cap, placement of pavement surface material, compaction, and all incidentals necessary for a complete installation.

This pay item is for site restoration completed during the time of year when asphalt surface material is unavailable. The Contractor shall install a concrete cap, cold patch, or temporary blacktop in lieu of the final asphalt surface material. The concrete cap, cold patch, or temporary blacktop shall be removed and replaced with final asphalt surface material when available. Installation of and materials for the concrete cap, cold patch, or temporary blacktop is not a separate pay item.

NOTE: At no time shall traffic run on DGA or any other stone base unless approved.

D9. SITE RESTORATION, SEEDING WITH STRAW MULCH AND NET

Payment for restoration of areas requiring seeding, straw mulch and net will be made at the Contract unit price per square yard. Payment shall include all labor, equipment, materials and incidental costs to complete finish grading, fertilizing, seeding, mulching with straw, netting material, and watering the area in accordance with the Contract Documents. Re-seeding as necessary to obtain a uniform stand is included in this pay item.

D10. SITE RESTORATION, SEEDING WITH COCONUT MATTING

Payment for restoration of areas requiring seeding with coconut matting will be made at the Contract unit price per square yard. Payment shall include all labor, equipment, materials and incidental costs to complete finish grading, fertilizing, seeding, installation/staking of matting, and watering the area in accordance with the Contract Documents. Re-seeding as necessary to obtain a uniform stand is included in this pay item.

D11. SITE RESTORATION, SOD

Payment for restoration of areas requiring sod will be made at the Contract unit price per square yard. Payment shall include all costs to complete finish grading, fertilizing, placing sod, and watering the area in accordance with the Contract Documents. Maintenance of sod is included in this pay item. Sod is only a pay item when not associated with a pay item and requested by LFUCG.

D12. CREEK BANK RESTORATION, CHANNEL LINING

Payment for creek bank restoration with channel lining will be made at the Contract unit price per square yard in place. Payment shall include all costs to install the channel lining in accordance with the Drawings and Contract Documents.

D13. CREEK BANK RESTORATION, RIP-RAP

Payment for creek bank restoration with rip-rap will be made at the Contract unit price per square yard in place. Payment shall include all costs to install the rip-rap in accordance with the Drawings and Contract Documents.

D14. CREEK BANK RESTORATION, COCONUT MATTING

Payment for creek bank restoration with coconut matting will be made at the Contract unit price per square yard in place. Payment shall include all costs to install the matting in accordance with the Drawings and Contract Documents.

D15. MONOLITHIC CONCRETE CURB AND GUTTER REPLACEMENT

Payment for monolithic concrete curb and gutter replacement shall be made at the Contract unit price per linear foot which shall include base, forms, reinforcement, placement of concrete, finishing, and all incidentals necessary for a complete installation. Replacement shall match existing curb and gutter.

D16. CONCRETE CURB REPLACEMENT

Payment for concrete curb replacement shall be made at the Contract unit price per linear foot which shall include base, forms, reinforcement, placement of concrete, finishing and all incidentals necessary for a complete installation including site restoration and sod. Replacement shall match existing curb.

D17. BITUMINOUS CURB REPLACEMENT

Payment for bituminous curb replacement shall be made at the Contract unit price per linear foot which shall include all incidentals necessary for a complete installation including site restoration and sod. Replacement shall match existing curb.

D18. #9 CRUSHED STONE

Payment for #9 crushed stone will be made at the Contract unit price per ton, delivered, placed, and compacted.

D19. DENSE GRADED AGGREGATE (DGA)

Payment for DGA will be made at the Contract unit price per ton, delivered, placed and compacted.

D20. FLOWABLE (CONTROLLED DENSITY) FILL

Payment for flowable (controlled density) fill will be made at the Contract unit price per cubic yard acceptably placed. Fill will be measured in place, after compaction,

using the three dimensional method. Note: Trench width for payment shall be limited to the nominal size of the pipe plus 24 inches.

D21. ASPHALT MILLINGS

Payment will be made at the Contract unit price per ton, delivered, placed and compacted.

D22. BITUMINUS PAVEMENT OVERLAY

Payment will be made at the Contract unit price per ton, delivered, placed and compacted.

D23. #2 CRUSHED STONE

Payment for #2 Crushed Stone will be made at the Contract unit price per ton, delivered and placed.

D24. CLASS II CHANNEL LINING

Payment for Class II Channel Lining will be made at the Contract unit price per ton, delivered and placed.

D25. ASPHALT BASE

Payment for Asphalt Base will be made at the Contract unit price per ton, delivered, placed, and compacted.

E. MANPOWER AND EQUIPMENT BID ITEMS

Note: For all equipment bid items, the cost of the equipment Operator, fuel, equipment set-up and removal, and transportation to the site including trailer shall be included. Travel time shall be considered incidental and shall not be paid for separately.

E1. – E2. BYPASS PUMPING AND SETUP

Payment for bypass pumping and setup shall be made as a lump sum for the entire Project and shall include all hoses, screens, piping, adapters check valves, pumps, fuel, labor, and all appurtenances necessary for the bypass operation including supervision, maintenance and monitoring personnel.

E15. SSO SITE CLEANUP

Payment for site cleanup following sanitary sewer overflows (SSOs) will be made at the Contract unit price per hour, with a minimum of two hours. Cleanup activities include, but are not limited to, removal of visual residue including solids, paper, rags, etc., proper disposal of waste materials, washing down the affected areas (including proper disposal of wash water), and applying lime or other disinfectant and deodorizing agents. Other cleanup activities that may be required are listed in the technical specification.

E16. COMBINATION VACUUM/JET RODDER/HYDRO EXCAVATOR

Payment for combination vacuum/jet rodder with crew will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable. Price includes operator, one laborer, and proper disposal of vacuumed or excavated materials.

E17. BACKHOE/EXTEND-A-HOE

Payment for backhoe/extend-a-hoe will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable. Price includes operator.

E18. HOE RAM

Payment for hoe ram will be made at the Contract unit price per hour when work is authorized on a time and materials basis. If a HOE RAM is needed in relation to a pay item such as ROCK REMOVAL, it shall be incidental to the pay item. Price includes operator.

E19. DUMP TRUCK, SINGLE AXLE

Payment for single axle dump truck will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable. Cost of CDL Driver included in this pay item.

E20. DUMP TRUCK, TANDEM OR TRI-AXLE

Payment for tandem or tri-axle dump truck will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable. Cost of CDL Driver included in this pay item.

E21. LARGE TRACK HOE, CAT 311 OR EQUIVALENT

Payment for large track hoe (Cat 311D or equivalent) will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable.

E22. SMALL TRACK HOE, CAT 301.6C OR EQUIVALENT

Payment for small track hoe (Cat 301.6C or equivalent) will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable. Price includes operator.

E23. SKID-STEER LOADER

Payment for skid-steer loader (Cat 216B series or equivalent) will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable. Price includes operator.

E24. ALL-TERRAIN VEHICLE, GATOR OR EQUIVALENT

Payment for all-terrain vehicle (JD Gator T or equivalent) will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable. Price includes operator.

E25. SUPERVISOR/SUPERINTENDENT

Payment for Supervisor/Superintendent will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Includes all personal protective equipment (PPE), vehicle, and vehicle mileage.

E26. CREW FOREMAN

Payment for Crew Foreman will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Includes all personal protective equipment (PPE), vehicle, and vehicle mileage.

E27. LABORER

Payment for Laborer will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Includes all personal protective equipment (PPE), vehicle, and vehicle mileage.

E28. AIR COMPRESSOR (JACK HAMMER), 125 CFM OR LARGER

Payment for air compressor (jack hammer), 125 cfm or larger, will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable.

E29. ROLLER/COMPACTOR

Payment for roller/compactor will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable.

E30. PULL-BEHIND PAVER

Payment for pull-behind paver will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable.

E31. TRAFFIC MAINTENANCE – TYPE I (FLAGGER)

Payment for Traffic Maintenance – Type I will be made at the Contract unit price per hour. Two flaggers are required for traffic maintenance. Flaggers shall be dedicated to flagging only and can perform no other duties.

E32. ELECTRONIC ARROW BOARD

Payment for Electronic Arrow Board will be made at the Contract unit price per hour and shall include traffic control signage (flashing arrow panel) in accordance with the KTC Manual on Uniform Traffic Control Devices (MUTCD). Upon approval of the Owner, where an arrow board is required for 24 hour use due to safety, payment for arrow board will be based on current weekly rates plus 15%.

E33. ELECTRONIC MESSAGE BOARD

When authorized by the Owner, payment for electronic message board will be based on weekly rental prices plus 15%. Contractor shall provide all personnel to transport, setup and maintain the equipment while it is needed.

E34. INVESTIGATION CREW

Payment for Investigation Crew will be made at the Contract unit price per hour when work is authorized. The Investigation crew shall consist of one vector truck with two operators plus one camera truck with two drivers/operators. The camera truck shall have lateral launching capabilities and both camera crew members shall be PCAP and MACP Certified Technicians. Investigation crew must also have the ability to do Dye water flooding and to plug lines up to and including 36". Supervision shall be included as part of hourly rate.

The Contractor shall furnish all smoke testing and dye testing equipment including door hangers, dye, liquid smoke, smoke bombs, traffic control, or any other device required to achieve final testing data. Traffic control flaggers shall be paid at a separate laborer hourly rate. Excessive amounts of dye and smoke will be required for all investigations. Failure to produce excessive and adequate dye or smoke shall require retesting at the Contractors expense. Investigation Crew shall be responsible

for the actual smoke and dye testing as well as notification of appropriate authorities prior to and conclusion of tests taking place.

Investigation crew shall respond to written directives from the LFUCG Representative to find/locate problems and issues in the sewer lines and shall be under the direction of a LFUCG representative. Finding shall consist of locating a problem identified by the LFUCG representative sufficiently to allow for the repair by a work crew. Investigation Crew must be able to respond within 72 hours. Contractor (not the Investigation Crew) shall be responsible for distributing door hangers where necessary.

E35. D5 DOZER OR EQUIVALENT

Payment for a D5 DOZER OR EQUIVALENT will be made at the Contract unit price per hour when work is authorized on a time and materials basis. Minimum of two hours payable.

10.03 ESTIMATED QUANTITIES OF WORK

Wherever the estimated quantities of work to be done and materials to be furnished under this Contract are shown in any of the documents, including the Bid Proposal, they are given for use in comparing bids and the right is specifically reserved, except as otherwise limited by the Contract Documents, to increase or diminish them as may be deemed reasonably necessary or desirable by the Owner to complete the Work contemplated by this Contract. Such increase or diminution shall be accompanied by an adjustment in the Contract Amount in accordance with the Contract Conditions, and shall not give cause for claims or liability for damages against the Owner or the Engineer, due to such increase or diminution.

END OF SECTION

TECHNICAL SPECIFICATIONS
SECTION 11
SAMPLE FORMS AND STANDARD DRAWINGS

11.01 SAMPLE FORMS:

- A. A major emphasis of this project is to cause a minimal amount of disruption to the community and its individuals. To achieve this goal, various notification forms have been prepared by the LFUCG in an effort to inform property owners of the nature of the work being performed.
- B. Prior to working on private property the contractor shall give the owner or resident of such property a minimum of 5 days notice. The notice shall be in both person and writing. A sample of such notice is included in the construction documents. The notice shall be given directly to the owner or resident and placed as a door hanger. If the work is not started at the agreed time of the notice with the owner / resident must be notified again.
- C. It shall be the Contractor's responsibility to contact and distribute these forms, at no additional cost to the Owner, to all potentially affected property owners as defined in the preceding sections of this document.
- D. Following are examples of some of the various forms. NOTE: The forms included in this section are not inclusive of all forms, which the Owner may deem necessary. All forms are subject to change.

11.02 STANDARD DRAWINGS:

- A. Much of the repair work specified herein, is required to comply with the "Standard Drawings 2017" and "The Division of Engineering Manuals" issued by the Lexington-Fayette Urban County Government, Department of Environmental Quality, Division of Engineering. The Contractor is advised to obtain a copy of all these documents prior to the commencement of any contract work. The Contractor is strongly urged to purchase and have in his or his Project Coordinators possession, at all time, a complete set of LFUCG Standard Drawings.

WATER QUALITY REHABILITATION NOTICE DISTRIBUTION LOG

Date: _____

Distributor: _____

Line ID Number	Address	Resident Name and Phone # (if given)	Smoke Notice	Repair Notice	Repair/Smoke Date	Access, Relocate, or Repair Needed (describe briefly)

(Date)

(Repair)

Dear Resident,

Because the temperature is below that recommended for placement of asphalt or concrete, the area disturbed by the recent sanitary sewer construction cannot be completed at this time. This spring, the contractor will return between mid-March and mid-May and properly restore the area at that time. Until then, all paved areas disturbed by construction will be filled with gravel and allowed to settle over the winter.

If you have any questions, concerns or special problems, please call the sewer rehabilitation contractor _____, or my office at the numbers listed below.

Sincerely,

Rick Day, P.E.
Construction Manager
Office: 425-2401

**Lexington-Fayette Urban County Government
Division of Water Quality**

Manhole Inspection Form

Manhole ID _____

Manhole Location _____ **Surface** _____ **Down Pipe Cover** _____ **Date and Time** _____

Street	AP - Asphalt	A - Asphalt	Project _____
Parking Lot	CC - Concrete	C - Concrete	
Driveway	GS - Grass/Soil	G - Grass/Soil	
Sidewalk	FD - Field	DR - Drainage Way	Address _____
Front Yard	BD - Buried	CK - Creek/Stream	
Side Yard		NC - No Cover	Inspection Team _____
Backyard			
Field			

<p>Manhole Lid & Ring Grade, B - Below Grade</p> <p align="center">Raise MH? <u>Y</u> <u>N</u></p> <p>Lid Type: _____ V - Vented S - Solid Deteriorated <u>Y</u> <u>N</u> B - Bolted O - Other _____ Other _____</p> <p>No. of Vent Holes: _____ Full Pipe _____ No. of Pick Slots: _____ _____ N _____</p> <p>Surcharge? <u>Y</u> <u>N</u> Ring Condition: _____ G - Good M - Missing C - Crack A - Misaligned</p> <p>B - Broke</p> <p>Inflow Preventer? <u>Y</u> <u>N</u> Poor _____</p>	<p align="center">Manhole Materials</p> <p>Chimney: _____</p> <p>Cone: _____</p> <p>Wall: _____</p> <p>Bench: _____</p> <p>Lid Condition: _____</p> <p>B - Brick C - Concrete I - CIP F - Fiberglass P - Precast M - CMU Block</p> <p>O - Other (Explain)</p> <p>MH Diameter: _____ (ft)</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Structure Grade _____

X - At Grade, A - Above

Grade: _____ (inches)

Manhole Steps: Number _____

Fiberglass _____ Cast _____ Steel _____

Bench Depth: None _____ 1/2 Pipe _____

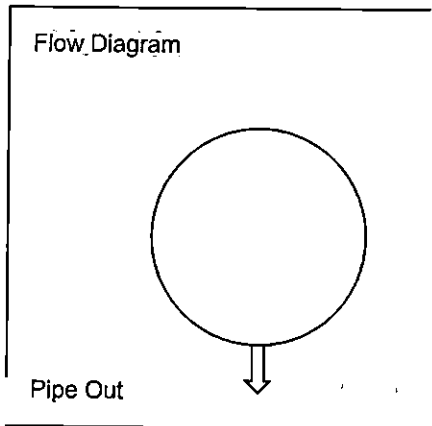
Debris/Grease Deposits? Y

Invert: _____ **Signs of**

Manhole Depth: _____

Manhole Condition: Good _____ Fair _____

	1	2	3	Downstream
Upstream Pipe:				
Connection	_____	_____	_____	_____
MH	_____	_____	_____	_____
Pipe Size:	_____	_____	_____	_____
Pipe Mtr'l	_____	_____	_____	_____
Invert Depth	_____	_____	_____	_____
Flow Depth	_____	_____	_____	_____
Drop	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>
Protruding Pipe	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>	<u>Y</u> <u>N</u>



Comments: _____

Manhole Defects					Photo	Location	For Office Use
Only:							
Num	Location	Code	Rating	I/I	ID	CA - Casting CH - Chimney	WA - Wall CO - Cone
Rehabilitation Methods							
1.	_____	_____	_____	_____	_____	BN - Bench FR - Frame	PS - Pipe Seal IN - Invert
2.	_____	_____	_____	_____	_____	ST - Steps	
Code:							
3.	_____	_____	_____	_____	_____	MA - Misaligned RT - Roots	HO - Hole OPJ - Open Joint
4.	_____	_____	_____	_____	_____	OBI - Obstruction in Invert DPS - Defective Pipe Seal	
5.	_____	_____	_____	_____	_____	CR - Crack COL - Collapse	BR - Broken LO - Loose

Priority Ranking: _____

MBR - Missing Bricks/Mortar

Comments: _____
Potential Failure

1. Structural Defect,

Rating:
Maintenance Issue

I/I:

2. Significant I/I or

Maintenance Issue

A - Severe

A - Active

3. Intermediate I/I or

Evidence of I/I

B - Intermediate

E - Evidence

4. Minor I/I Problem,

Maintenance Issue

C - Minor

N - None

5. No I/I, Minor

(Date)

(Repair)

Dear Resident,

Since the planting season is over, the area disturbed by recent construction cannot be restored to its original condition at this time. This spring, the contractor will return between mid-March and mid-May to complete the yard restoration work. Any mature plantings that were damaged as a result of construction will be replaced. Until then, the disturbed area will be covered with straw and allowed to settle over the winter.

If you have any questions, concerns or special problems, please call the sewer rehabilitation contractor _____, or my office at the numbers listed below.

Sincerely,

Rick Day, P.E.
Construction Manager
Office: 425-2401

WATER QUALITY REPAIR PROJECT NOTICE

Dear Resident:

This is to let you know that the Lexington-Fayette Urban County Government will be conducting repairs on the sanitary sewer in your area. The sanitary sewer rehabilitation contractor _____ is performing the work.

We are attempting to reduce both the sanitary sewer overflows and operating cost at the treatment plant. These expenditures are paid from the Sanitary Sewer User's Fee.

In order to do this, we will be doing the following item(s) checked below:

_____ We may need to access our sanitary sewer easement by way of your property on or about ____/____/____/.

_____ We may need to temporarily relocate your fence, shrub, or _____
In the area marked on or about ____/____/____/.

_____ We will make a line repair in the area marked on or about ____/____/____/. If disturbed, your lawn, sidewalk, or driveway will be returned to its original state or better.

Please the owner of this property of this letter if you are not the owner.

If you have any questions, concerns or special problems, please call the rehabilitation contractor _____, or my office at the numbers listed below.

Sincerely,

Rick Day, P.E.
Construction Manager
Office: 425-2401

Lexington-Fayette Urban County Government
 Division of Water Quality
 301 Lisle Industrial Avenue Lexington, Ky 40511

Smoke Test Form

Date: _____

Crew: _____

Line Segment ID: _____

Manhole Depth: _____

Pipe Diameter: _____

Defect Codes:

Location Codes:

- | | | | |
|----|-------------------------------------|----|-------------|
| AS | Abandoned Service | FY | Front Yard |
| CB | Catch Basin | SY | Side Yard |
| CD | Cleanout Defective | BY | Back Yard |
| CM | Cleanout Cap Missing | SW | Sidewalk |
| DP | Downspout | DW | Driveway |
| EP | Exposed Pipe | PL | Parking Lot |
| LN | Lateral, Non-Ponding Area | ST | Street |
| LP | Lateral, Ponding Area | | |
| MN | Manhole Lid, Non-Ponding Area | | |
| MP | Manhole Lid, Ponding Area | | |
| SN | Manhole Structure, Non-Ponding Area | | |
| SP | Manhole Structure, Ponding Area | | |
| PN | Pipe Defect, Non-Ponding Area | | |
| PP | Pipe Defect, Ponding Area | | |

Smoke Rate:

- A Heavy
 B Medium
 C Light

No Defects _____

Did All Plumbing Vents Smoke? _____

Defect Code	Location Code	Rate	Photo Number	Address	Comments

WATER QUALITY SMOKE TEST NOTICE

Dear Resident:

The Division of Water Quality is trying to reduce the groundwater and rainwater entering the sanitary sewer system. This will reduce the operating cost at the wastewater treatment plants and restore capacity to the sanitary sewer collection system. These expenditures are paid from the Sanitary Sewer User's Fee.

We will be working in your area in the next couple of days. Smoke testing will be used to locate leaks and improper connections. The sanitary sewer rehabilitation contractor _____ is performing the work.

Smoke should not enter the premises unless there is a leak or an unused water tap. To minimize this possibility, water should be run in all drains, sinks, and outlets that have not been used for some time. The smoke is non-staining to interiors and should only last 10-30 minutes.

Any presence of smoke within the house should be reported to the workers conducting the tests or by calling the LFUCG 425-2401.

Avoid unnecessary exposure to the smoke. The smoke is deemed harmless, but any smoke may be irritating to nasal passages. Any irritation by the smoke should be temporary and should quickly disappear after exposure has ceased.

If you have any questions, concerns or special problems, please call the sewer rehabilitation contractor _____, or my office at the numbers listed below.

Sincerely,

Rick Day, P.E.
Construction Manager
Office: 425-2401

WATER QUALITY REPAIR PROJECT UPDATE

Dear Resident:

The purpose of this document is to update you on the ongoing sanitary sewer rehabilitation work in your neighborhood. These repairs are paid from the LFUCG Sanitary Sewer User's Fee. The sanitary sewer system Contractor _____ is performing the work. We are attempting to reduce both the sanitary sewer overflows and operating cost at the treatment plant.

In the next several days, the contractor will be removing any excess dirt from your property. After the disturbed area has had time to settle, final surface restoration will consist of the placement of sod. If you would prefer seed and straw, please notify us at the numbers listed below.

Sod requires more maintenance (watering) than seed/straw, which is the responsibility of the resident/property owner. It is very important that the sod is maintained and that the ground has finished settling. The LFUCG will not pay for a second placement of sod due to improper watering. If the ground should sink after sod has been placed, topsoil will be placed and area will be resoded.

If you have any questions, concerns or special problems, please call the rehabilitation Contractor _____, or my office at the numbers listed below.

Sincerely,

Rick Day, P.E.
Construction Manager
Office: 425-2401

END OF SECTION