ADDENDUM No. 1

ITB No. 4606

Lift Stations Replacement Project Phase I

Due: December 5, 2019 by 2:00 p.m. (local time)

The following changes, additions, and/or deletions shall be made to the Invitation to Bid (ITB) for Astor & Franklin Lift Stations Replacement Project, ITB No. 4606, on which proposals will be received on/or before the date and time listed above.

The information contained herein shall take precedence over the original documents and all previous addenda (if any), and is appended thereto. This Addendum includes 3 pages, plus the Attachments.

The Proposer is to acknowledge receipt of this Addendum No. 1, including all attachments in its Proposal by so indicating in the proposal that the addendum has been received. Proposals submitted without acknowledgement of receipt of this addendum may be considered non-conforming.

The following forms provided within the ITB Document must be included in submitted proposal:

- Prevailing Wage Declaration of Compliance
- Living Wage Declaration of Compliance
- Vendor Conflict of Interest Disclosure Form
- Non-Discrimination Declaration of Compliance

Proposals that fail to provide these forms listed above upon proposal opening will be rejected as non-responsive and will not be considered for award.

I. QUESTIONS AND ANSWERS

The following Questions have been received by the City. Responses are being provided in accordance with the terms of the ITB. Respondents are directed to take note in its review of the documents of the following questions and City responses as they affect work or details in other areas not specifically referenced here.

1. Are there any domestic requirements for the project?
   RESPONSE: No, there are no domestic requirements for the project.

2. Where is the HDPE spec for the 8" HDPE force main and fittings?
   RESPONSE: The specification for the 8" HDPE force main and fittings is included in the new Specification 02035 Horizontal Directional Drilling, which is attached.

3. Where the proposed 8" HDPE force main line ties into the 12" existing, what type of line is the existing?
   RESPONSE: The Astor 8” HDPE force main ties into the manhole along the 21” existing sewer (not directly into the sewer), see re-issued sheet AC-04.
4. Is there a domestic requirement in regards to the ductile iron flange and mechanical joint fittings, and the ductile iron pipe flanges?
   RESPONSE: No, there are no domestic requirements for the project.

5. Is there a sign-in sheet or list of contractors that attended the pre-bid meeting?
   RESPONSE: Yes, a copy of the sign-in sheet is attached.

6. Can the buried mechanical joint fittings be AWWA C153?
   RESPONSE: Yes, AWWA C153 Compact Fittings are acceptable.

7. Please provide spec section 02661 called out in Specification 15060 – Pipe and Pipe Fittings.
   RESPONSE: Section 15060, 2.02 A. Omit the last sentence referencing specification section 02661.

8. Are there any specs for the HDPE pipe & fittings?
   RESPONSE: The specification for the 8” HDPE force main and fittings is included in the new Specification 02035 Horizontal Directional Drilling, which is attached.

9. Do the pumps need to run in the dry for 24 hours and is a cooling jacket required?
   RESPONSE: No, we have deleted this requirement (see Part II below)

10. I represent a firm that could do the vibration monitoring for your project. I found the job on ISQFT, but only see 2 contractors listed. Do you have a formal list of whom is bidding your project as a General Contractor? Could you please forward that information to me, so I can send them my proposal for the vibration monitoring?
    RESPONSE: We have eliminated the need for vibration monitoring (see Part II below), but the list of potential bidders attending the pre-bid meeting is attached.

11. Is there a domestic requirement in regards to the ductile iron flange and mechanical joint fittings, and the ductile iron pipe flanges? Are AWWA C-153 ductile iron mechanical joint fittings acceptable?
    RESPONSE: Domestic iron is not required. Yes, AWWA C153 Compact Fittings are acceptable.

12. Do you have had time to consider the OBIC Liner system for lining the wet wells on the Lift Stations Replacement Project. I have received several calls from contractors we have worked with, asking if we were going to provide numbers.
    RESPONSE: No, we do not have time, but may consider this as a change through the substitution process during construction

13. Please consider this a formal request, per Specification Section 1600 1.7, to add EJ as an approved equal, for the aluminum access hatches for the referenced project. This would be Section 8305/Access Hatches in the documents. Upon my review of the documents, the hatches noted would be our Model CHS with SafeHatch. We also manufacture the ladders and ladder up posts.
    RESPONSE: Per the noted section, the EJ hatch will need to be included on the Bid Form, Section 2. As noted in the spec, the substitution will be evaluated following the bid opening.
II. REISSUED PLANS AND SPECIFICATIONS

Plans:
1. Sheet GC-01 has been reissued and is attached.
2. Sheet AC-01 has been reissued and is attached.
3. Sheet AC-02 has been reissued and is attached.
4. Sheet AC-04 has been reissued and is attached.
5. Sheet AE-02 has been reissued and is attached.
6. Sheet FC-01 has been reissued and is attached.
7. Sheet FC-02 has been reissued and is attached.
8. Sheet FC-03 has been reissued and is attached.
9. Sheet FE-02 has been reissued and is attached.

Specifications:

10. Table of Contents:
    After Section 02031, add “02035 Horizontal Directional Drilling, pages 1 through 8”
    (Specification is not re-issued)

11. Specification Section 02200 – Earthwork: omit Section 3.4 D. from the specification as a
    Vibration Consultant is not required. (Specification is not re-issued)

12. Specification 11390- Pumping Station Equipment

    2.2 E. Eliminate the first sentence: “The pump shall be capable of running with the motor
    exposed for a period of 24 hours in a Class 1, Division I, Group D hazardous atmosphere.”

    2.2 J. In the fourth sentence, eliminate the words “or non-”, so the sentence now reads: “The
    motor shall also have cooling characteristics suitable for continuous operation in a totally or
    partially submerged condition in a hazardous atmosphere.” Eliminate the fifth sentence “The
    pump shall be capable of running dry for a period of 24 hours without damage or overheating.”

13. Specification Section 15060 – Pipe and Pipe Fittings: omit the last sentence from Section 2.02
    A. “Below grade ductile iron pipe and fittings shall be specified in <Section 02661>.”.
    (Specification is not re-issued)

Offerors are responsible for any conclusions that they may draw from the information contained
in the Addendum.

Attachments:

Pre-Bid Sign-in Sheet
Sheet GC-01 Civil Legend, Notes, and Abbreviations
Sheet AC-01 Astor L.S. Existing Site Plan
Sheet AC-02 Astor L.S. Proposed Site Plan
Sheet AC-04 Astor Directionally Drilling Plan
Sheet AE-01 Astor L.S. Proposed Site Plan
Sheet AE-02 Astor L.S. Electrical Details
Sheet FC-01 Franklin L.S. Existing Site Plan
Sheet FC-02 Franklin L.S. Proposed Site Plan
Sheet FC-03 Franklin L.S. Landscaping Plan
Sheet FE-01 Franklin L.S. General Notes, Power Plan & One-Line Diagram
Sheet FE-02 Franklin L.S. Electrical Details
02035 Horizontal Directional Drilling, pages 1 through 8

End of Addendum No. 1
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GENERAL ELECTRICAL NOTES:

1. All work shall be completed with the desired lift stations.
2. In all cases, the equipment shall be installed in accordance with the manufacturer's instructions.
3. The electrical equipment shall be tested and balanced as required by the manufacturer's instructions.
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Know what's below. Call before you dig.
SECTION 02035

HORIZONTAL DIRECTIONAL DRILLING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. The installation of sanitary pressure sewer force main by horizontal directional drilling, including pre-qualification installation experience requirements, drilling equipment, procedures and materials.

1.02 DESCRIPTION

A. The Horizontal Directional Drilling (HDD) shall be a trenchless technology construction method utilizing a surface launched steering tool system controlled from a mobile drilling unit, which is comprised of a self contained field power unit, a mud mixing system, and mobile spoils cleaning, and recycling system.

B. The drilling unit is strategically positioned behind an excavated access pit. A high-pressure fluidjet toolhead that uses a mixture of bentonite clay, water, and other necessary additives, is launched and guided to the correct invert elevation, line, and grade.

C. Using a real-time guidance system attached behind or within the toolhead, and which measures inclination, roll, and azimuth, the toolhead is guided through the soil to create a pilot tunnel. Upon reaching the pit dug at the end of the intended bore location, the toolhead is removed and a backreamer with the product pipe attached, is joined to the arm swing and pulled back through the pilot bore.

D. A vacuum spoils extraction system removes any excess spoils generated during the installation, and recycles the drilling mud for re-use.

1.03 QUALIFICATIONS

A. The HDD Contractor shall have actively engaged in the installation of pipe using horizontal directional drilling for a minimum of three years, during which time the contractor shall have completed at least 80,000 feet of guided boring installations from 6” to 24” inches in diameter in the last year. In addition, documentation shall be submitted to demonstrate horizontal directional drilling Contractor’s experience with installing a minimum 12” diameter utility at depths of 12’ to 18’, with continuous pullback of 2,000 feet.

B. Field supervisory personnel employed by the HDD Contractor shall have a minimum of three years experience in the performance of the work and tasks as stated in the contract document.
1.04 PRE-AWARD SUBMITTALS

A. The HDD Contractor shall submit documentation showing three years of guided boring experience with at least 80,000 feet of guided boring installation in the last year to include 6” to 24” diameter projects similar in the scope and value to the project specified in the contract documents. In addition, documentation shall be submitted to demonstrate horizontal directional drilling experience with installing a minimum 12” diameter utility at depths of 12’ to 18’, with continuous pullback of 2,000 feet. Information must include, but not be limited to, date and duration of work, location, pipe information (i.e. length, diameter, depth of installation, pipe material, etc.), project owner information (i.e. name, address, telephone number, contact person, etc.), and the contents handle by the pipeline (i.e. water, wastewater, conduit, gas, etc.).

B. The HDD Contractor shall submit a list of field supervisory personnel and their experience with guided boring operations. At least one of the field supervisors listed must be at the site and be responsible for all work at all times when guided boring operations are in progress. Guided boring operations will be postponed until the resume(s) of the Contractor’s field supervisory personal have been received, reviewed, and approved by the Owner.

C. The HDD Contractor shall submit the following drawings and documents:

1. Working drawings and written procedures that demonstrate in detail the proposed method of installation. This will include, but not be limited to, size, capacity and setup requirements of all equipment (including drill rig thrust/pullback and rotary torque capacity as well as the mud pump motor size); method of fusion and type of equipment for joining pipe; type of cutting tool head; and method of monitoring and controlling line and grade.

2. If during construction, the Contractor determines that modifications to the method and equipment as stated in the original submittal is necessary, then the Contractor shall submit a plan describing such modifications, including the reasons for the modifications, to the Owner for review and concurrence prior to making the modification.

3. Bentonite drilling mud products information (MSDS); identification of any polymer enhancement or special additives to increase the suspension capability without increasing viscosity, any special precautions necessary; method of mixing; method of removing soils; and method of measuring and maintaining water and bentonite quality during bore progress.

D. All submittals shall be provided as requested by the Engineer.

1.05 SITE CONDITIONS

A. Drilling operations shall not interfere with, interrupt or endanger surface and activity upon the surface, and will be confined to the area of work as shown on the project drawings.

B. The HDD Contractor shall comply with all local applicable jurisdictional codes, including the City, and OSHA requirements.
C. When rock stratum, boulders, underground obstructions, or other soil conditions that impede the progress of drilling operations are encountered, the Contractor will review the situation with the Owner. The Owner and Contractor shall determine the feasibility of continuing drilling operations, making adjustments or switching to an alternative construction method if necessary.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers - Pipe

1. Performance Pipe
2. Or Approved Equal

B. Substitutions: Under provisions of Section 01600.

2.02 MATERIALS

A. Pipe and Fittings

1. High Density Polyethylene (HDPE) and fittings will be used in accordance with the materials specifications. All additional appurtenances will meet the minimum materials specifications. The HDD Contractor will supply all pipe, fittings, adapters, and special connections and cost shall be incidental to the unit bid price of HDPE pipe of the size indicated and installed by horizontal directional drilling. All pipes installed by directional drilling will be joined by an approved butt fusion or electrofusion technique according to the manufacturer’s specifications and the resulting interior bead removed.

2. HDPE pipe will be produced from resins meeting the requirements of ASTM D1248, designation PE3408/PE3608, ASTM D3350 cell classification, PE345464C, and will meet the requirements of AWWA C901 and C906. Material taken from the HDPE pipe will meet the minimum stability requirements of ASTM D3360. Pipe will be legibly marked at intervals of no more than five feet with the manufacturer’s name, trademark, pipe size, HDPE cell classification, appropriate legend such as SDR 11, ASTM D3035, AWWA C901, C906, dates of manufacture and point of origin. Pipe not marked as indicated above will be rejected.

3. Pipe shall be DrisoPlex, Series 4300 AWWA C906, or equivalent, IPS pipe sizing, with an SDR of 11. The pipe shall have a green color stripe on exterior.

B. Drilling Fluid

1. Drilling fluid shall primarily be a mixture of water and bentonite clay. The fluid will be inert. The fluid should remain in the tunnel to ensure the stability of the tunnel,
reduce drag on the pulled pipe, and provide backfill within the annulus of the pipe and tunnel.

2. Disposal of excess drilling fluid and spoils will be the responsibility of the Contractor who must comply with all relevant regulations, right-of-way, workspace, and permit agreements. Excess drilling fluid and spoils will be disposed at an approved location and shall be performed at no additional cost to the Owner. The contractor is responsible for transporting all excess drilling fluid and spoils to the disposal site and paying any disposal costs. Excess drilling fluid and spoils will be transported in a manner that prevents accidental spillage onto roadways. Excess drilling fluid and spoils will not be discharged into sanitary or storm drain systems, or waterways. All excess fluids must be removed from roadways immediately.

3. Drilling fluid returns (caused by fracturing or formations) at locations other than the entry and exit points will be minimized. The Contractor will immediately clean up any drilling fluid that surfaces through fracturing.

4. Mobile spoils removal equipment capable of quickly removing spoils from entry and exit pits and areas with return caused by fracturing will be present during operations to fulfill the requirements of paragraphs 2 and 3 above.

5. The HDD Contractor will be responsible for making provisions for a clean water supply for the mixing of drill fluid. All hydrant operation shall be performed by the Owner, or as otherwise approved by the Owner.

PART 3 - EXECUTION

3.01 GENERAL

A. The HDD Contractor shall be responsible for the submission of a detailed Sequence of Construction Plan to the Owner within thirty (30) days from the Notice to Proceed. The Contractor shall schedule his or her operations such that the Owner will be afforded a minimum of two (2) weeks to review the submitted detailed Sequence of Construction Plan. Any and all deviation from the submitted Sequence of Construction Plan must be re-submitted to the Owner for review a minimum of seven (7) working days in advance of scheduling the specific item of work. The Detailed Sequence of Construction Plan shall include:

1. Trenchless equipment, access pits, and materials storage layout plan.
2. Existing utility physical verification “pot holing” plan.
3. Materials submittals per related sections of these specifications.
4. Safety and mitigation plan including but not limited to: provisions for providing protection around equipment staging area and trenchless access pits; mitigation plan for containment of drilling or bursting fluid “frack-out” conditions; and emergency procedures for utility strikes
B. The Owner and Engineer must be notified immediately if any obstruction is encountered that stops forward progress of drilling operations. The Contractor and the Owner and Engineer must review the situation and jointly determine the feasibility of continuing drilling operations or switching to an alternative construction method. When it is determined that it is impossible to continue drilling operations, the Contractor will be directed how to proceed by the Owner and the Engineer.

C. Dewatering of pits and excavations must meet the general provision and specifications for this project. The type of dewatering method used by the Contractor, must be approved by the Owner, prior to commencing with the dewatering activity. When water is encountered, the Contractor must provide a dewatering system of sufficient capacity to remove water, keeping any excavations free of water until the backfill operation is in progress. Dewatering will be performed in such a manner that removal of soil particles is held to a minimum. The groundwater level is subject to change, and the contractor shall be responsible for making his own determination of water levels that may exist during construction. All dewatering work, if necessary, shall be considered incidental to the unit bid prices listed in the bid form.

3.02 PREPARATION

A. Excavate access and exit pits as necessary to horizontal directional drill the proposed utility alignment as shown on the project drawings.

B. The drilling procedures and equipment will provide protection of workers particularly against electrical shock. As a minimum, grounding mats, grounded equipment, hot boots, hot gloves, safety glasses and hard hats shall be used by crewmembers. The drilling equipment shall be equipped with an operational alarm system capable of detecting electrical current.

C. Removal of trees, landscaping, pavement or concrete will meet the general provisions and specifications for utility construction under the Owners jurisdiction.

D. The HDD Contractor shall be responsible for protecting all existing utilities. The Contractor shall call Miss Dig a minimum of 3 working days before any work is to begin. Existing utilities within the path of the proposed horizontal directional bore, shall be “pot holed”, to determine the depth. The costs of any “pot hoiling” will be born by the Contractor and included in the unit bid price for installing the new utility.
3.03 GUIDED BORING OPERATIONS

A. Equipment

1. The drilling equipment must be capable of placing the pipe within the planned line and grade without inverse slopes.

2. The drilling equipment must have a minimum thrust/pullback rating of 30,000 lbs and a minimum rotary torque rating of 4,000 ft lbs. and mud flow of 60 gallons per minute.

3. The guidance system must have the capability of measuring inclination, roll and azimuth. The guidance system must have an independent means to ensure the accuracy of the installation. The Contractor will demonstrate a viable method to eliminate accumulated error due to inclinometer (pitch or accelerometer). The guidance system will be capable of generating a plot of the borehole survey for the purpose of an as-built drawing. The guidance system must meet the following specifications.

   Inclination: Accuracy “0.06
               Range “90
               Repeatability “0.09

   Roll: Accuracy “0.1
          Range 0’ to 360’

   Azimuth: Repeatability “0.1
            Range 0’ to 360’

4. The proposed equipment set up requirements, including but not limited to: proposed access and exit pit locations, are at the sole determination of the Contractor. Such information shall be submitted along with other required information per the specifications.

3.04 PILOT HOLE BORING

A. The entry angle or the pilot hole and the boring process shall maintain a curvature that does not exceed the allowable bending radius of the product pipe.

B. Alignment Adjustments and Restarts:

1. The Contractor shall follow the pipeline alignment as shown on the drawings, within the specifications stated. If adjustments are required, the Contractor shall notify the Engineer and Owner for approval prior to making the adjustments.

2. In the event of difficulties at any time during boring operations requiring the complete withdrawal from the tunnel, the Contractor may be allowed to withdraw and abandon the tunnel and begin a second attempt at a location approved by the Owner and Engineer. The Contractor may excavate at the point of the difficulty and install the
product pipe by trench method, at no additional cost to the Owner, per the general provisions and specification for construction.

3. The number of access pits shall be kept to a minimum. The equipment must be capable of boring and installing the proposed utility in a continuous run without intermediate pits, of a minimum distance of 1,200 feet.

3.05 TRACER WIRE

A. The Contractor shall furnish a 12 gauge single strand copper tracer wire, installed at the same time as the product pipe. The same type of wire may be used to hold the wire onto the top of the main. The wire shall be run to the top step of each utility structure or valve chamber. Tracer wire shall be terminated with a bolted connection stand off from a bolted flange connection where available. When splicing wire, a knot shall be placed in the wire to relieve stress at the connection. A grease filled underground splice kit shall be used for all connections.

3.06 INSTALLING PRODUCT PIPE

A. After the pilot hole is completed, the Contractor will install a swivel to the reamer and commence pullback operations. Should pre-reaming of the tunnel be necessary, it shall be performed at the option of the Contractor, and at no additional cost to the Owner.

B. The reaming diameter shall not exceed 1.4 times the diameter of the product pipe being installed. The gravity sewer sections will require the smallest reaming diameter possible to accurately install the produce pipe.

C. The product pipe being pulled into the bore shall be protected and supported so that it moves freely and is not damaged by stones and debris on the ground during installation.

D. Pullback forces shall not exceed the allowable pulling forces for the product pipe.

E. The Contractor shall allow sufficient length of product pipe to extend past the termination point to allow connections to adjacent pipe sections or appurtenances. Pulled pipes will be allowed a minimum of 14 days of stabilization prior to making tie-ins.

3.07 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

A. Horizontal Directional Drilling, “HDD”, as specified, will be measured, in place, by length, in linear feet, and shall include all labor, equipment, and materials required to complete the work.

B. The cost associated to excavate, use, backfill, and restore access pits, will not be paid separately, but shall be included in the pay item “Horizontal Directional Drilling HDD.”

C. The costs associated with boring the pilot tunnel will not be paid for separate, but shall be include in the pay item “Horizontal Directional Drilling HDD.”
D. The costs associated with removing and disposing of the excess spoils using vacuum spoils extraction system will not be paid separately, but shall be included in the pay item “Horizontal Directional Drilling HDD.”

E. The costs associated with connections to new and existing structures will not be paid separately, but shall be included in the pay item “Horizontal Directional Drilling HDD.”

F. The costs associated with installing a 12 gauge single strand copper tracer wire at the same time as the product pipe will not be paid separately, but shall be included in the pay item “Horizontal Directional Drilling HDD.”

END OF SECTION