**INVITATION TO BID**

FAILURE TO SIGN WILL DISQUALIFY BID

Bid No.: HOT WATER PIPING REPLACE-2019 ADDENDUM NO. 1

Due Date: 05/02/19 at 3:00 P.M.

Show bid opening and bid invitation number in lower left hand corner of sealed bid envelope and return sealed bids to:

Stephen F. Austin State University
P. O. Box 13030, SFA Station
2124 Wilson Drive
Nacogdoches, Texas 75962-3030
Phone (936) 468-2206
FAX (936) 468-4282 (See 2.3 reverse side)

Is Vendor a State of Texas certified HUB? [ ] Yes

Delivery in ______ Days  Cash Disc. _______ % ________ Days

Check all that apply if Preference Claimed under Rule 34 TAC 20.38

[ ] Products of persons with mental or physical disabilities
[ ] Products made of recycled, remanufactured, or environmentally sensitive materials
[ ] Energy efficient products
[ ] Rubberized asphalt paving material
[ ] Recycled motor oil and lubricants
[ ] Products and services from economically depressed or blighted areas

*By signing this bid, bidder certifies that if a Texas address is shown as the address of the bidder, bidder qualifies as a Texas resident Bidder as defined in Rule 34 TAC 20.38.

**AWARD NOTICE:** Stephen F. Austin State University (SFASU) reserves the right to make an award on the basis of low line item bid, low total of line items, or in any other combination that will serve the best interest of SFASU and to reject any and all bid items in the sole discretion of SFASU.

**ADDENDUM NO. 1**

THIS ADDENDUM MUST BE ACKNOWLEDGED IN ORDER FOR THE RESPONSE TO RECEIVE CONSIDERATION. FAILURE TO ACKNOWLEDGE THE ADDENDUM WILL RESULT IN DISQUALIFICATION OF THE RESPONSE.

**PRE-BID MEETING/SITE VISIT SIGN-IN SHEETS**

The sign-in sheets from the mandatory pre-bid meeting/site visit held 04/18/19 are attached.
QUESTIONS
Q: Is there any underground pipe to be replaced?
A: No.

Q: Can contractor substitute and use copper?
A: The Engineer has provided specifications for the copper in Exhibit A of this addendum.

Q: Does the piping have any asbestos?
A: SFA is currently working on an abatement.

Q. When installing new pipe in the tunnel at Hall 15, will supports be needed between existing stands if Upinor pipe is used?
A: Yes. Upinor requires support every four feet when ran horizontally. A continuous saddle will be required. Also, when replacing the return line, all new pipe stands will be required.

Q. Will new branch valves need to be provided as per drawings?
A: Yes.

Q. If copper piping is decided to be the economical choice for the project, can Upinor be used in certain areas where space is so limited to reduce the amount of couplings used overall?
A: Yes. See attached Addendum One in Exhibit A for specifications.

SPECIFICATIONS
See Exhibit A for Addendum Number One to Engineer’s Project Manuals and Drawings.
EXHIBIT A

ADDENDUM NUMBER ONE-
PROJECT MANUALS AND DRAWINGS
April 19, 2019

ADDENDUM NUMBER ONE TO PLANS AND SPECIFICATIONS FOR
DOMESTIC HOT WATER PIPING REPLACEMENT
STEPHEN F. AUSTIN STATE UNIVERSITY

EMA PROJECT NUMBER: 1 001 1269 003

ENGINEER: ESTES, McCLURE & ASSOCIATES, INC.
3608 WEST WAY
TYLER, TEXAS 75703

This addendum forms a part of the Contract Documents and modifies the original Construction Documents dated March 15, 2019 as noted below. Careful note of this Addendum shall be taken by all parties of interest so that proper allowance is made in all computations, estimates and Contracts. This Addendum supersedes all previous Specifications and Instructions pertaining to these items. The Proposer shall acknowledge receipt of this Addendum in the space provided on the Proposal Form. Failure to do so may subject the Proposer to disqualification.

This Addendum consists of 1 Page and 1 Attachment.

SPECIFICATION SECTION 22 11 17 – DOMESTIC WATER PIPING AND APPURTEANCES
A. Add this section in its entirety (Attachment 1).
DOMESTIC WATER PIPING AND APPUR TENANCES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions, Division 01 Specifications and Section 22 00 10, apply to this Section.

1.2 SECTION INCLUDES

A. Domestic hot water piping.

1.3 RELATED SECTIONS

A. Section 22 00 10 - Basic Plumbing Requirements

B. Section 22 05 24 - Valves - General

C. Section 22 05 30 - Pipe and Pipe Fittings - General

1.4 REFERENCES

A. ASTM 763 - Standard Specification for Copper Alloy Sand Castings for Valve Applications

B. ASTM 61 - Standard Specification for Steam or Valve Bronze Castings

C. ASTM C27450 - Standard Specification for Brass Rod, Bar & Shapes


E. ASTM A105 - Standard Specification for Carbon Steel Forgings for Piping Applications

F. ASTM - American Society of Testing Materials

G. ASTM B813-00e1 - Standard Specification for Liquid & Paste Fluxes for Soldering of Copper & Copper Alloy Tube

H. ASTM B828-02 - Standard Practice for Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings

I. ASTM B88-02 - Standard Specification for Seamless Copper Water Tube

J. PDI - Plumbing & Drainage Institute
K. NSF/ANSI Standard 61

1.5 SUBMITTALS

A. Provide submittal data on all items specified in this section in accordance with Specification Section 22 00 10, General Conditions, and Division 01.

B. Submit product data sheets.

PART 2 PRODUCTS

2.1 UNDERGROUND PIPING

A. Type:
   1. 2 Inch Diameter and Smaller:
      a. Type "L" soft drawn commercially pure copper
   2. 2½ Inch Diameter:
      a. Type "L" hard drawn commercially pure copper
   3. 3 Inch Diameter or Larger:
      a. Type "L" hard drawn commercially pure copper

B. All copper meets ASTM B88 Standards.

2.2 UNDER SLAB PIPING

A. Type:
   1. 2 Inch Diameter and Smaller:
      a. Type "K" soft drawn commercially pure copper
   2. 2½ Inch Diameter and Larger:
      a. Type "K" hard drawn commercially pure copper

B. No joints will be permitted in piping runs beneath concrete slabs. All joints shall be made in accessible areas above the slab (behind access doors in walls, in mechanical closets, etc.).

C. All copper meets ASTM B88 Standards.

2.3 INTERIOR PIPING

A. Type:
   1. Type "L" hard drawn commercially pure copper

B. All copper meets ASTM B88 Standards.

2.4 PIPE FITTINGS

A. Copper Piping:
   1. Unions:
      a. 150 lb. standard, 300 lb. water-oil-gas service copper with ground joints.

B. Dissimilar Metal:
   1. Di-Electric Unions
2.5 PIPE JOINTS

A. Copper Piping:
   1. Type: Solder fittings
      a. Solid string, hard solder
      b. Wire, hard solder
      c. Cored solder will not be allowed
   2. Type: Press-connect fittings
      a. Copper and copper alloy fittings with EPDM elastomeric sealing element.
      b. Unpressed fittings shall leak and not hold pressure.
      c. Press connect fittings may not be used on elbow at main water entry under slab.
      Use Silfos sweat fittings on all elbows on main water entry.
   3. Approved Manufacturers:
      a. Viega ProPress
      b. Nibco
      c. Mueller Industries Streamline PRS
   4. Material:
      a. Solder (1½" and Smaller):
         (1) 95-1/2% tin, 4% copper and 1/2% silver
      b. Solder (2" and Larger):
         (1) "SILFOS15", 15% silver, 80% copper, 5% phosphorous
      c. Flux:
         (1) Non-corrosive, lead-free paste
   5. Use a cast brass adapter when connecting copper pipe to screwed brass pipe.
   6. Brand:
      a. Silvabrite or similar brand

B. Conform to ASTM B813 and ASTM B828.

2.6 VALVES

A. Type:
   1. Check Valves:
      a. 125 lb. bronze check valve with "Buna-N" disc.
   2. Ball Valves:
      a. 150 psi, bronze 1/4 turn ball valve with full port.
      b. 300 psi, bronze 1/4 turn ball valve with full port. ASTM 61
      c. 125 psi, lead free dezincification resistant arsenical brass ¼ turn ball valve with full
         port, C46500 or CW 511L, ASTM 763, or C46750.
   3. Temperature and Pressure Relief Valves:
      a. ASME rated valve
   4. Gate Valves:
      a. 125 lb. rising stem, double-disc bronze gate valves larger than 3 inches.
   5. Water Main Valves:
      a. 150 lb. AWWA valve.
   6. Pressure Reducing Valves
      a. 300 lb. bronze sealed spring cage, strainer
   7. Cast Iron: ASTM A126, Class B
   8. Cast Carbon Steel: ASTM A216, Grade WCB
   9. Forged Carbon Steel: ASTM A105, Grade II
10. Backflow Preventers: Refer to Section 22 40 01 – Plumbing Fixtures and Fixture
     Carriers.

B. Manufacturers:
   1. Apollo
   2. Crane
3. Grinnell
4. Jenkins
5. Jomar, T-100NGDZ
6. Kennedy
7. Milwaukee Valve Company
8. Nibco
9. Stockham
10. Walworth
11. Watts
12. Hammond
13. Kitz

C. Provide valves where required to adequately control and isolate the various domestic water piping systems.

D. Provide valves at the connection point of all equipment.

E. Provide Di-Electric Unions at connection of dissimilar metal.

2.7 CONSTRUCTION

A. Provide valves designed for repacking under pressure when fully opened.

B. Equip with packing suitable for intended service.

C. Furnish with gland followers.

D. Provide valves rated greater than the design temperature and pressure for the intended system.

E. All domestic cold water and hot water valves 2" and less shall be full port ball valves.

2.8 WATER HAMMER ARRESTORS

A. Water Hammer Protective Devices:
   1. Usage:
      a. Provide on hot and cold water supply lines. Locate between last two flush/solenoid valves on supply lines or per manufacturer’s recommendations.
      b. In single toilets locate within 3-feet of fixture or per manufacturer’s recommendation.
   2. Type:
      a. As recommended by the manufacturer for the particular application.
      b. Locate arrester on shop drawings with size.

3. Manufacturer/Model:
   a. Wade “Shokstop”
   b. Sioux Chief “Hydra-Rester”
   c. PPP “SC Series”
   d. Mifab “MWH Series”

4. Air chambers are not allowed.

PART 3 EXECUTION

3.1 INSTALLATION

A. All products to comply with NSF/ANSI Standard 61.
DOMESTIC HOT WATER PIPING REPLACEMENT
STEPHEN F. AUSTIN STATE UNIVERSITY

Attachment 1

Domestic Water Piping and Appurtenances

22 11 17 - 5
Estes, McClure & Associates, Inc.
Engineering and Consulting

1. B. Install in accordance with the plans and Section 22 05 30.

2. C. Drainage:
   1. Minimum Slope:
      a. 1/8 inch per 10 feet.
   2. Where constant pitch cannot be maintained for long runs, establish intermediate low points and rise to higher level.
   3. Slope branches to drain toward mains or risers.
   4. Terminate low points of risers with drain valve piped to nearest hub or floor drain unless otherwise indicated.

4. D. Water Hammer Arrestors:
   1. Install in accordance with PDI Standard WH201.

3.2 VALVES

A. All valves, trap primers, etc. that are located behind access doors shall be located directly behind door and within 24” of plane of door.

3.3 INSTALLATION

A. ProPress elbow is not acceptable on water supply elbows at location of main water stub up.
   Use SilFos sweated fittings on all water supply elbows larger than 2”. 2” water supply line can be soft drawn copper with no elbow.

B. Install valves and stops in accessible locations.

C. Provide where shown or as required to make system complete and readily maintained.

D. Provide pressure reducing valve on domestic water main where hydrostatic pressure exceeds 80 psi.

E. Isolation valves shall be located:
   1. Restroom Gang – Behind an 18” x 18” stainless steel access panel with screwdriver operated latch located in the Boy’s or Men’s restroom.
   2. Individual (private) Restrooms – Behind an 18” x 18” stainless steel access panel with screwdriver operated latch.
   3. Individual Fixtures – Above the ceiling within 12” of the water risers where ceiling is accessible. Above the ceiling behind ceiling access panel within 12” of the water riser where ceiling is not accessible.
   4. Isolation valves on the domestic cold water shall be provided in corridors to allow isolation of buildings wings, sections, areas.
   5. Provide cut-off valve on main water entry upstream of strainer and backflow preventer (if backflow preventer is inside building).
   6. Each exterior wall hydrant and each roof hydrant shall be provided with an accessible cut-off valve.

F. Press fitting manufacturer shall provide a duplicate set of all tools required to maintain and/or modify press fittings. Required tools are to be given to the owner. One set of tools shall be provided for each campus.

3.4 FIELD QUALITY CONTROL

A. Properly test water distribution systems with 80 PSI hydrostatic pressure test.
B. Do not install trap primers, flush valves or other pressure sensitive devices until all tests are completed.

C. Repair all leaks in pipes, fittings and accessories during this test period.

D. Repeat 80 PSI hydrostatic test until no leaks are found for an entire 8 hour period.

E. Make joints in accordance with ASTM B828.

3.5 STERILIZATION

A. Solution:
1. Strength:
   a. Minimum 50 parts per million
2. Agents:
   a. Liquid Chlorine:
      (1) Conform to U.S. Army Specification #4-1
   b. Calcium Hydrochloride:
      (1) Federal Specification O-C-114
   c. Chlorinated Lime:
      (1) Federal Specification O-C-114

B. Procedure:
1. Perform sterilization after testing has been satisfactorily completed.
2. Pump solution into a 1/4 inch opening provided in the water main next to the water meter.
3. Conduct the sterilization process under the direction of the local health department.
4. After sterilization, flush the system with clean water until the residual chlorine content is less than 3 ppm.
5. After flushing, the local health department will test and verify the cleanliness of the system.

3.6 PLUMBING SCHEDULE

A. Minimum Size:
1. Water Closets (flush valve):
   a. 1-1/4” cold water
2. Urinals:
   a. 3/4” cold water
3. Sinks:
   a. 1/2” cold water, 1/2” hot water
4. Mop & Service Sinks:
   a. 1/2” cold water, 1/2” hot water
5. Hose Bibbs:
   a. 3/4” cold water
6. Drinking Fountains:
   a. 1/2” cold water
7. Lavatories:
   a. 1/2” cold water, 1/2” hot water

END OF SECTION