ADDENDUM #1

Project Name:
Clarinda Correctional Facility (CCF), Clarinda Treatment Complex (CTC)
CCF CTC Chiller Replacement
DAS#9124.00/IMEG#19005227.00
RFB912400-01
Addendum #1
Dated: March 31st, 2020

This Addendum forms a part of the bidding and contract documents. This Addendum supersedes and supplements all portions of the original bidding and contract documents dated March 13th, 2020 with which it conflicts.

ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED ON THE BID FORM. FAILURE TO DO SO MAY SUBJECT THE BIDDER TO DISQUALIFICATION.

1. GENERAL CLARIFICATIONS

A. During demolition, all scrapable material shall be removed from the building and turned over to the facility.

B. See revisions to Bid Submittal and Bid Opening process due to circumstances surrounding COVID – 19 attached to this addendum.

2. SPECIFICATIONS

A. 23 21 00 – Hydronic Piping
1. REPLACE with attached revised section.

B. 23 25 00 – Chemical Treatment
1. REPLACE with attached revised section.

3. DRAWINGS

A. Drawing E100 – First Floor – Electrical
1. CLARIFICATION: Existing Panel DP is a Square D I-Line distribution panel.

4. QUESTIONS

A. If necessary, is there an area inside to store the new chiller? *A> Yes, the plumbing shop has room for temporary storage of the new chiller.*

5. ATTACHMENTS

A. CHANGES TO BID SUMITTAL AND BID OPENING (1 page)
B. Specifications Sections 23 21 00 (8 pages) and 23 25 00 (1 page)
C. Drawings (None)

END OF ADDENDUM

CHANGES TO BID SUBMITTAL AND BID OPENING

Project Name: CCF CTC Chiller Replacement
DAS RFB #: 912400-01
DAS Project #: 9124.00
Date: March 31st, 2020

Bids Due: April 8th, 2020 at 2:00pm

CHANGES TO BID SUBMITTAL AND BID OPENING
Due to the circumstances surrounding COVID-19, the State is amending the bid submittal and public opening procedures of the above RFB.

BID SUBMITTAL
The Bid shall be submitted to the Issuing Officer through the Iowa VSS electronic bidding system. The link to VSS is: https://vss.iowa.gov/webapp/VSS_ON/AltSelfService.

VSS should be accessed via Internet Explorer. Bidder will need to register regardless of whether it has already done business with the State of Iowa. Click the Register button on the left side of the VSS screen to start the registration process. If you have any issues with registration, please call the helpdesk at 515-281-6614. It is recommended that Bidders complete the registration process today to ensure Bids can be submitted on the due date. Bids should be split into several files if the bid exceeds the 10MB threshold. There is no limit on the number of files which can be uploaded. Please make sure the electronic documents submitted contain all of the required signatures. Bidders without access to electronic means should contact the issuing officer at 515-725-2893.

PUBLIC OPENING
The public opening will be held via conference call only. The call details are below.

Call time: 2:30pm on April 8th, 2020
Call number: 1 413-276-6705
Pin: 478 182 435#

SECTION 23 21 00
HYDRONIC PIPING

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Pipe and Pipe Fittings.
B. Valves.
C. Chilled and Condenser Water Piping System.
D. Vent Piping

1.2 QUALITY ASSURANCE

A. Valves: Manufacturer's name and pressure rating marked on valve body. Remanufactured valves are not acceptable.

B. Welding Materials, Procedures, and Operators: Conform to ASME Section 9, ANSI/AWS D1.1, and applicable state labor regulations.

1.3 REFERENCES

A. ANSI/AWS D1.1 - Structural Welding Code.
B. Pressure Vessel Code.
C. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800.
D. ASME B16.5 - Pipe Flanges and Flanged Fittings.
E. ASME B16.9 - Factory-Made Wrought Steel Butt Welding Fittings.
F. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
G. ASME B18.2.1 - Square and Hex Bolts and Screws, Inch Series.
H. ASME B18.2.2 - Square and Hex Nuts, Inch Series.
I. ASME Section 9 - Welding and Brazing Qualifications.
J. ASTM A126 - Gray Cast Iron Castings for Valves, Flanges, and Pipe Fittings.
K. ASTM A53 - Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.
L. ASTM A181 - Forgings, Carbon Steel for General Purpose Piping.
M. ASTM A234 - Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service.
N. ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength.
O. ASTM A733 - Standard Specification for Welded and Seamless Carbon Steel and Austenitic Stainless Steel Pipe Nipples.
P. ASTM B32 - Standard Specification for Solder Metal.
Q. ASTM B88 - Seamless Copper Water Tube.
R. ASTM B813 - Standard Specification for Liquid and Paste Fluxes for Soldering Applications of Copper and Copper Alloy Tube.
S. ASTM E90-02 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions
T. ASTM E413-87 - Classification for Rating Sound Insulation

1.4 SUBMITTALS

A. Submit product data under provisions of Section 23 05 00. Include data on pipe materials, fittings, valves, and accessories. Include manufacturers' support spacing requirements for plastic piping.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store and protect piping to prevent entrance of foreign matter into pipe and to prevent exterior corrosion.

B. Deliver and store valves in shipping containers with labeling in place.

1.6 COORDINATION DRAWINGS

A. Reference Coordination Drawings article in Section 23 05 00 for required hydronic systems electronic CAD drawings to be provided to Coordinating Contractor for inclusion into composite coordination drawings.

PART 2 - PRODUCTS

2.1 CHILLED WATER, CONDENSER WATER AND VENT PIPING

A. Design Pressure: 125 psig.
Maximum Design Temperature: 225ºF. (230ºF for grooved couplings)

B. Piping - 2" and Under:

1. Pipe: Standard weight black steel, threaded and coupled, ASTM A53; Type E, F, or S; Grade B.

2. Joints: Screwed.

3. Fittings: Class 125 cast iron, ASTM A126, ASME B16.4; or Class 150 malleable iron, ASTM A197, ASME B16.3.

4. Unions: Class 150 malleable iron, ANSI B16.39, ground joint with copper or copper alloy-to-iron seat.

C. Piping - 2-1/2" and Over:

1. Pipe: Standard weight black steel, beveled ends, ASTM A53, Type E or S, Grade B.

2. Joints: Butt-welded or flanged.

3. Fittings: Standard weight wrought steel, butt-welding type, ASTM A234, ASME B16.9.

4. Flanges: Class 150 forged steel, welding neck or slip-on, ASTM A181 or A105, Class 60, ASME B16.5 up to 24” and B16.47 above 24”. ASME B16.1 for flanges mating with flat face equipment flanges. Flange face seal weld (backweld) is required for slip-on flanges.

D. Shutoff Valves:

1. Ball Valves:

a. BA-1: 3" and under, 150 psi saturated steam, 600 psi WOG, full port, screwed or solder ends (acceptable only if rated for soldering in line with 470°F melting point of lead-free solder), bronze body of a copper alloy containing less than 15% zinc, stainless steel ball and stem, Teflon seats

and seals. Apollo #77C-140, Stockham #S-206 BR1-R, Milwaukee #BA-400, Watts, Nibco #585-70-66, National Utilities Co., RUB.

NOTES:

1) Provide extended shaft with operating handle of non-thermal conductive material and protective sleeve that allows operation of valve, adjustment of the packing, and adjustment of the memory stop without breaking the vapor seal or disturbing the insulation for all valves in insulated piping.

2) Provide lock out trim for all valves opening to atmosphere and as indicated on the drawings. Solid extended shaft is not required on valves with lock out trim.

2. Butterfly Valves:

a. BF-1:

1) 2-1/2" thru 6", 175 psi CWP, elastomers rated for 20°F to 225°F continuous and 250°F intermittent at 125 psig, fully lugged end, ductile or cast iron body (not in contact with fluid); bronze, aluminum-bronze or EPDM coated ductile iron disc; EPDM seat, stainless steel stem, extended neck, 175 psi bubble-tight, bi-directional dead-end shutoff without backing flange or nuts and with cap screws extending to centerline of valve body (for pipe extension without draining system), 10 position locking operator up to 6" size. Cv of at least 1580 in 6" size. Center Line Series 200, Keystone #222, Watts #DBF-03-121-1P, Nibco N200 Series or LD2000 Series, Milwaukee CL series, Hammond 5200 series.

2) 8" thru 12", 175# CWP, elastomers for 20°F to 225°F at 130 psi, fully lugged end, ductile or cast iron body (not in contact with fluid), bronze, EPDM coated ductile iron or aluminum-bronze disc, EPDM seat, stainless steel stem, extended neck, 175 psi bubble-tight, bi-directional dead-end shutoff without backing flange or nuts and with cap screws extending to the centerline of the valve body (to permit pipe extension without draining system), weatherproof gear operator. Center Line Series 225, Watts #DBF-03-121-1G, Nibco N200 Series or LD2000 Series, Milwaukee CL series, Hammond 5200 series.

3) Mechanically coupled grooved end valves are acceptable if they have the features listed above. Victaulic #300, Nibco GD4765.

2.2 EQUIPMENT DRAINS AND OVERFLOWS

A. Steel Pipe: ASTM A53, Schedule 40 galvanized.

1. Fittings: Galvanized cast iron screwed drainage type, ASME B16.12.

2. Joints: Screwed.

3. Service: Not allowed on boiler drains and overflow.

B. Copper Tubing: DWV drawn temper seamless copper drainage tube, ASTM B306.

1. Fittings: ASME B16.23 cast brass, or ASME B16.29 solder wrought copper.

2. Joints: Solder with Type 95-5 solder. 50-50 solder is not acceptable.

C. Piping 4” and Under (Contractor’s Option):

1. Tubing: Type M (or thicker) drawn temper seamless copper tube, ASTM B88.

2. Joints: Mechanical press connection.

3. Fittings: Copper, ANSI B-16.22, with embedded EPDM O-ring, NSF-61.

4. Acceptable Manufacturers: Viega ProPress, Elkhart Xpress, NIBCO Press System Fittings and Valves, Mueller Streamline PRS.

D. Piping Under 1-1/4” Size:

1. In sizes where drainage type fittings are not available, tees with threaded caps to permit rodding are acceptable.

E. Shutoff Valves:

1. For pipe systems where mechanical press connections are allowed, shutoff valves with mechanical press connections are acceptable subject to the requirements in the paragraphs below.

2. Ball Valves:

a. BA-1: 3" and under, 125 psi saturated steam, 600 psi WOG, full port, screwed or solder ends (acceptable only if rated for soldering in line with 470°F melting point of lead-free solder), bronze body of a copper alloy containing less than 15% zinc, stainless steel ball and trim, Teflon seats and seals. Apollo #77C-140, Stockham #S-206 BR1-R, Milwaukee #BA-400, Watts, Nibco #585-70-66, National Utilities Co., RUB.

NOTES:

1) Provide extended shaft for all valves in insulated piping.

2) Provide lock out trim for all valves opening to atmosphere installed in domestic water piping over 120°F, heating water piping over 120°F, steam, condensate, boiler feed water piping, compressed air piping and gasoline/kerosene piping, and as indicated on the drawings. Solid extended shaft is not required on valves with lock out trim.

b. BA-1A: 2-1/2" and 3", 150 psi saturated steam, 275 psi WOG ANSI Class, 150 psi standard port, carbon steel body stainless steel ball and trim, Teflon seats and seals. Apollo #88A-100, Nibco #F510-CS/66, Milwaukee #F90.

NOTES:

1) Provide extended shaft for all valves in insulated piping.

2) Provide lock out trim for all valves opening to atmosphere installed in domestic water piping over 120°F, heating water piping over 120°F, steam, condensate, boiler feed water piping, compressed air piping and gasoline/kerosene piping, and as indicated on the drawings. Solid extended shaft is not required on valves with lock out trim.

2.3 LOCK OUT TRIM

A. Provide lock out trim for all quarter turn valves opening to atmosphere installed in heating water piping over 120°F and as indicated on the drawings.

PART 3 - EXECUTION

3.1 PREPARATION

A. Ream pipe and tube ends, remove burrs, bevel plain end ferrous pipe.

B. Remove scale and dirt on inside and outside before assembly.

C. Remove all scale, rust, dirt, oils, stickers and thoroughly clean exterior of all bare metal exposed piping, hangers, and accessories in preparation to be painted.

D. Connect to all equipment with flanges or unions.

3.2 TESTING PIPING

A. Chilled Water:
Condenser Water:

1. Complete testing before insulation is applied. If insulation is applied before pipe is tested and a leak ruins the insulation, replace all damaged insulation.

3.3 CLEANING PIPING

A. Assembly:

1. Prior to assembly of pipe and piping components, remove all loose dirt, scale, oil and other foreign matter on internal or external surfaces by means consistent with good piping practice. Blow chips and burrs out of pipe before assembly. Wipe cutting oil from internal and external surfaces.

2. During fabrication and assembly, remove slag and weld spatter from both internal and external joints by peening, chipping and wire brushing to the degree consistent with good piping practices.

3.4 INSTALLATION

A. General Installation Requirements:

1. Route piping in orderly manner, straight, plumb, with consistent pitch, parallel to building structure, with minimum use of offsets and couplings. Provide only offsets required for needed headroom or clearance and needed flexibility in pipe system.

2. Install piping to conserve building space, and not interfere with other work.

3. Group piping whenever practical at common elevations.

4. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

5. Reducers are generally not shown. Where pipe sizes change at tee, the tee shall be the size of the largest pipe shown connecting to it. Where pipe sizes are not shown, the larger size in either direction shall continue through the fitting nearest to the indication of a smaller pipe size.

B. Installation Requirements in Electrical Rooms:

1. Do not install piping or other equipment above electrical switchboards or panelboards. This includes a dedicated space extending 25 feet from the floor to the structural ceiling with width and depth equal to the equipment plus its required clearance space.

3.5 PIPE ERECTION AND LAYING

A. Carefully inspect all pipe, fittings, valves, equipment and accessories prior to installation. Immediately reject and remove from the job any items which are unsuitable, cracked or otherwise defective.

B. All pipe, fittings, valves, equipment and accessories shall have factory-applied markings, stampings, or nameplates sufficient to determine their conformance with specified requirements.

C. Exercise care at every stage of storage, handling, laying and erecting to prevent entry of foreign matter into piping, fittings, valves, equipment and accessories. Do not erect or install any unclean item.

D. During construction, until system is fully operational, keep all openings in piping and equipment closed at all times except when actual work is being performed on that item. Closures shall be plugs, caps, blind flanges or other items designed for this purpose.

E. Change direction of pipes only with fittings or pipe bends. Change size only with fittings. Do not use miter fittings, face or flush bushings, or street elbows. **2-1/2" and larger fittings shall be long radius type**, unless otherwise shown on the drawings or specified. Construct welded elbows of angles not available as standard fittings by cutting and welding standard elbows to form smooth, long radius fittings.

F. Use full and double lengths of pipe wherever possible.

G. Unless otherwise indicated, install all inlet and outlet piping, including shutoff valves and strainers, to coils, pumps and other equipment at line size with reduction in size being made only at control valve or pump.

H. Cut all pipe to exact measurement and install without springing or forcing except in the case of expansion loops where cold springing is indicated on the drawings.

I. Do not create, even temporarily, undue loads, forces or strains on valves, equipment or building elements.

3.6 DRAINING AND VENTING

A. Unless otherwise indicated on the drawings, all horizontal pipes, including branches, shall pitch 1" in 40 feet to low points for complete drainage, removal of condensate, and venting.

B. Provide drain valves at all low points of water piping systems or where indicated on drawings for complete or sectionalized draining. Drain valves are defined above.

C. Use eccentric reducing fittings on horizontal runs when changing size for proper drainage and venting. Install all liquid lines with top of pipe and eccentric reducers in a continuous line.

D. Provide air vents at all high points and wherever else required for elimination of air in all water piping systems. Do not use automatic air vents in glycol systems unless they are piped to the fill tank.

E. Air vents shall be in accessible locations. If needed to trap and vent air in a remote location, a 1/8" pipe shall connect the tapping location to a venting device in an accessible location.

F. All vent and drain piping shall be of same materials and construction as the service involved.

3.7 JOINING OF PIPE

A. Threaded Joints:

1. Ream pipe ends and remove all burrs and chips.
2. Protect plated pipe and valve bodies from wrench marks when making up joints.
3. Apply Teflon tape to male threads.

B. Flanged Joints:

1. Bronze flanges shall conform to B16.24 and ductile iron flanges to B16.42. Steel flanges shall be raised face except when bolted to flat face cast iron flange.

2. Bolting shall be ASTM A307 Grade B with bolts and heavy hexagonal nuts conforming to ASME B18.2.1 and B18.2.2.

3. Torque bolts in at least three passes, tightening to 1/3, 2/3, and final torque in a cross pattern with an indicating torque wrench for equal tension in all bolts.

4. Gaskets for flat face flanges shall be full-face type. Gaskets for raised faced flanges shall conform to requirements for "Group I gaskets" in ASME B16.5. All gaskets shall conform to ASME B16.21. Unless otherwise specified, gaskets shall meet the following requirements:

a. Gasket material and thickness approved by manufacturer for intended service, chemical compatibility, pipe system test pressure, and operating temperature range.

b. Maximum pressure rating of at least 250 psig.

c. Minimum temperature rating: -10°F.

d. Maximum temperature rating of at least 170°F for water and glycol solution systems operating 140°F and less.

C. Solder Joints:

1. Make up joints with 95% tin and 5% antimony (95-5) solder conforming to ASTM B32 Grade 95TA. Cut copper tubing ends perfectly square and remove all burrs inside and outside. Thoroughly clean sockets of fittings and ends of tubing to remove all oxide, dirt and grease just prior to soldering. Apply flux evenly, but sparingly, to all surfaces to be joined. Heat joints uniformly to proper soldering temperature so solder flows to all mated surfaces. Wipe excess solder, leaving a uniform fillet around cup of fitting.

2. Flux shall be non-acid type conforming to ASTM B813.

3. Solder end valves may be installed directly in the piping system if the entire valve is suitable for use with 470ºF melting point solder. Remove composition discs and all seals during soldering if not suitable for 470ºF.

D. Welded Joints:

1. Welding of all pipe joints, both as to procedures and qualification of welders, shall be in accordance with Section IX, ASME "Boiler & Pressure Vessel Code" unless local codes take precedence.

2. Furnish certificates qualifying each welder to the Owner's Representative prior to start of work.

3. The Owner's Representative reserves the right to require qualifying demonstration, at the Contractor's expense, of any welders assigned to the job.

4. Ends of pipe and fittings to be joined by butt-welding shall be beveled, cleaned to bare metal and internal diameters aligned before tack welding.

E. Grooved Joints:

1. Grooved connections shall mechanically engage, lock and seal the grooved pipe ends in a positive couple. Each coupling shall have malleable iron housing clamps, steel bolts and nuts, and sealing gasket designed so internal pressure increases the tightness of the seal. Couplings must be installation-ready style for quick installation and no more than two-piece housings.

2. All work, including pipe grooving, shall be accomplished in accordance with manufacturer's published instructions.

3. Final tightening of bolts shall be with a torque wrench to ensure equal tension in all bolts.

4. All fittings shall be provided by one manufacturer. Mixing fittings will not be acceptable.

5. A factory-trained manufacturer’s representative shall periodically visit the site for contractor training and to review the grooved joint installations.

6. Acceptable Manufacturers: Victaulic, Gruvlok, or Star Fittings.

END OF SECTION

SECTION 23 25 00
CHEMICAL (WATER) TREATMENT

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Chemical Feed Equipment.

1.2 EXTRA STOCK

A. Provide clean cartridges or bags in all bypass (pot) feeders with filters.

1.3 WATER ANALYSIS

A. Chemical treatment is performed by Owner. Coordinate system fill and startup with Owner.

PART 2 - PRODUCTS

2.1 EQUIPMENT

A. Bypass (Pot) Feeder: 5.0 gal; quick-opening cap with 3-1/2” minimum diameter opening and opening wrench, legs to raise fill cap to 30” to 36”, drain valve, air cock, working pressure of 200 psig at 200°F, 20 to 25-micron cartridge. Acceptable Manufacturers: Griswold, Vector Industries, J.L. Wingert, or Neptune.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install bypass (pot) feeder in same location as existing.

3.2 COOLING TOWER STARTUP

A. Coordinate cooling tower startup with Owner and Temperature Controls Contractor.

END OF SECTION

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