

ADDENDUM NUMBER 1

PARTICULARS

- 1.01 DATE: APRIL 6, 2018
- 1.02 PROJECT: MIDLANDS TECHNICAL COLLEGE NE CAMPUS - CET CHILLER REPLACEMENT
- 1.03 OWNER'S PROJECT NUMBER: H59-N991-FW
- 1.04 ENGINEER: GMK ASSOCIATES
- TO: PROSPECTIVE BIDDERS :
- 2.01 THIS ADDENDUM FORMS A PART OF THE CONTRACT DOCUMENTS AND MODIFIES THE ORIGINAL PROCUREMENT DOCUMENTS DATED MARCH 7, 2018, WITH AMENDMENTS AND ADDITIONS NOTED BELOW.
- 2.02 ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE BID FORM . FAILURE TO DO SO MAY DISQUALIFY THE BIDDER.
- 2.03 THIS ADDENDUM CONSISTS OF 1 PAGE AND THE FOLLOWING FORMS, SPECS AND DRAWINGS:
- A. Pre-Bid Sign-in Sheet (1 page).
 - B. Section 23 2113 – Hydronic Piping (3 pages).

CLARIFICATIONS:

- 3.01 DIVISION 1 MTC GENERAL REQUIREMENTS SHALL TAKE PRECEDENCE OVER DIVISION 1 REQUIREMENTS IN THE PROJECT MANUAL.
- 3.02 A QUESTION WAS ASKED TO PROVIDE THE MODEL NUMBER AND SERIAL NUMBER OF THE EXISTING CARRIER CHILLER. THE MODEL NUMBER IS 30GXN249F640CL AND THE SERIAL NUMBER IS 1402F45274.

CHANGES TO THE PROJECT MANUAL - PROCUREMENT REQUIREMENTS AND CONTRACTING REQUIREMENTS :

- 4.01 THE BID TIME HAS BEEN CHANGED FROM 11 AM TO 2 PM. BIDS WILL BE OPENED AT LOCATION INDICATED IN SE-310.

CHANGES TO THE PROJECT MANUAL:

- 5.01 Replace specification section 23 2113 – Hydronic Piping in its entirety.

CHANGES TO THE DRAWINGS:

- 6.01 Drawing M7.1 – Change note 2 under Air cooled chiller schedule to read:
“2. Low Ambient Control”

END OF ADDENDUM NUMBER 1

NET GET CHILLER
PRE-BID MTEG

4/3/18 10:00 AM

<u>PRINT NAME</u>	<u>COMPANY</u>	<u>EMAIL</u>	<u>PHONE #</u>
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SECTION 23 2113 - HYDRONIC PIPING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hydronic system requirements.
- B. Chilled water piping, above grade.
- C. Unions, flanges, mechanical couplings, and dielectric connections.
- D. Valves:
 - 1. Butterfly valves.

1.02 RELATED REQUIREMENTS

- A. Section 22 0548 - Vibration and Seismic Controls for Plumbing Piping and Equipment.
- B. Section 23 0719 - HVAC Piping Insulation.
- C. Section 23 2114 - Hydronic Specialties.
- D. Section 23 2500 - HVAC Water Treatment: Pipe cleaning.

1.03 REFERENCE STANDARDS

- A. ASME BPVC-IX - Boiler and Pressure Vessel Code, Section IX - Welding, Brazing, and Fusing Qualifications; 2015.
- B. ASME B31.9 - Building Services Piping; 2014.
- C. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless; 2012.
- D. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service; 2015.
- E. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers; 1992 (Reapproved 2008).
- F. AWS D1.1/D1.1M - Structural Welding Code - Steel; 2015.
- G. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation; 2009.

1.04 SUBMITTALS

- A. Welders Certificate: Include welders certification of compliance with ASME BPVC-IX.
 - 1. Contractor may be asked to provide welders certificates within 24 hours of bid opening.
- B. Product Data:
 - 1. Include data on pipe materials, pipe fittings, valves, and accessories.
 - 2. Provide manufacturers catalogue information.
 - 3. Indicate valve data and ratings.
 - 4. Show grooved joint couplings, fittings, valves, and specialties on drawings and product submittals, specifically identified with the manufacturer's style or series designation.
- C. Manufacturer's Installation Instructions: Indicate hanging and support methods, joining procedures.
- D. Project Record Documents: Record actual locations of valves.
- E. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with minimum three years of documented experience.
- B. Provide all grooved joint couplings, fittings, valves, specialties, and grooving tools from a single manufacturer.
- C. Date stamp all castings used for coupling housings, fittings, valve bodies, etc. for quality assurance and traceability.

D. Welder Qualifications: Certify in accordance with ASME BPVC-IX.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Accept valves on site in shipping containers with labeling in place. Inspect for damage.
- B. Provide temporary protective coating on cast iron and steel valves.
- C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- D. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system.

1.07 FIELD CONDITIONS

- A. Do not install underground piping when bedding is wet or frozen.

PART 2 PRODUCTS

2.01 HYDRONIC SYSTEM REQUIREMENTS

- A. Comply with ASME B31.9 and applicable federal, state, and local regulations.
- B. Piping: Provide piping, fittings, hangers and supports as required, as indicated, and as follows:
 - 1. Where more than one piping system material is specified, provide joining fittings that are compatible with piping materials and ensure that the integrity of the system is not jeopardized.
 - 2. Use non-conducting dielectric connections whenever jointing dissimilar metals.
 - 3. Provide pipe hangers and supports in accordance with ASME B31.9 or MSS SP-58 unless indicated otherwise.
- C. Pipe-to-Valve and Pipe-to-Equipment Connections: Use flanges or unions to allow disconnection of components for servicing; do not use direct welded, soldered, or threaded connections.
- D. Valves: Provide valves where indicated:
 - 1. Provide drain valves where indicated, and if not indicated provide at least at main shut-off, low points of piping, bases of vertical risers, and at equipment. Use 3/4 inch (20 mm) gate valves with cap; pipe to nearest floor drain.
 - 2. Isolate equipment using butterfly valves with lug end flanges or grooved mechanical couplings.
 - 3. For shut-off and to isolate parts of systems or vertical risers, use butterfly valves.
- E. Welding Materials and Procedures: Conform to ASME BPVC-IX.

2.02 CHILLED WATER PIPING, ABOVE GRADE

- A. Steel Pipe: ASTM A53/A53M, Schedule 40, black; using one of the following joint types:
 - 1. Welded Joints: ASTM A234/A234M, wrought steel welding type fittings; AWS D1.1/D1.1M welded.
 - 2. Grooved Joints: AWWA C606 grooved pipe, fittings of same material, and mechanical couplings.

2.03 PIPE HANGERS AND SUPPORTS

- A. Provide hangers and supports that comply with MSS SP-58.
 - 1. Floor Support for Hot Pipe Sizes 6 Inches (150 mm) and Greater: Adjustable cast iron roll and stand, steel screws, and concrete pier or steel support.

2.04 UNIONS, FLANGES, MECHANICAL COUPLINGS, AND DIELECTRIC CONNECTIONS

- A. Flanges for Pipe Over 2 Inches (50 mm):
 - 1. Ferrous Piping: 150 psig (1034 kPa) forged steel, slip-on.
 - 2. Gaskets: 1/16 inch (1.6 mm) thick preformed neoprene.
- B. Dielectric Connections:
 - 1. Waterways:

- a. Water impervious insulation barrier capable of limiting galvanic current to 1 percent of short circuit current in a corresponding bimetallic joint.
- b. Dry insulation barrier able to withstand 600 volt breakdown test.
- c. Construct of galvanized steel with threaded end connections to match connecting piping.
- d. Suitable for the required operating pressures and temperatures.

2.05 BUTTERFLY VALVES

- A. Manufacturers:
 - 1. Crane Co.: www.cranevalve.com.
 - 2. Shurjoint Piping Products, Inc., a Tyco Business: www.shurjoint.com.
 - 3. Milwaukee Valve Company: www.milwaukeevalve.com.
 - 4. Victaulic Company: www.victaulic.com.
- B. Body: Cast or ductile iron with resilient replaceable EPDM seat, wafer, lug, or grooved ends, extended neck.
- C. Disc: Construct of aluminum bronze, chrome plated ductile iron, stainless steel, ductile iron with EPDM encapsulation, or Buna-N encapsulation.
- D. Operator: 10 position lever handle.

PART 3 EXECUTION

3.01 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. Prepare piping connections to equipment using jointing system specified.
- D. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.
- E. After completion, fill, clean, and treat systems. Refer to Section 23 2500 for additional requirements.

3.02 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. paint chilled water piping prior to insulating.
- C. Route piping in orderly manner, parallel to building structure, and maintain gradient.
- D. Install piping to conserve building space and to avoid interfere with use of space.
- E. Group piping whenever practical at common elevations.
- F. Slope piping and arrange to drain at low points.
- G. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
- H. Pipe Hangers and Supports:
 - 1. Install in accordance with ASME B31.9, ASTM F708, or MSS SP-58.
 - 2. Install hangers to provide minimum 1/2 inch (13 mm) space between finished covering and adjacent work.
 - 3. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.
- I. Use eccentric reducers to maintain top of pipe level.
- J. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welds.
- K. Install valves with stems upright or horizontal, not inverted.

END OF SECTION