NRC·CNRC

Addendum
Addenda

No./No
3-E

Project Description / Description de projet		
M-12 Lab. B25		
Project No./No de projet	Departmental Representative / représentant ministériel	Date
6206	Benoit Ranger	9-Feb-2023
Solicitation No./N° de solicitation		
22-58128		
Notice:	This addendum shall form part of the tender documents and all conditions shall apply and be read in conjunction with the original plans and specifications.	
Nota:	Cet addenda fait partie intégrale des dossiers d'appel; toutes les conditions énoncées doivent être lues et appliquées en conjonction avec les plans et les devis originaux.	

Item No	Description
1	**Question :**
Question #1	What is the working pressure of the compressed air system?
Answer #1	Design pressure is 300 psig upstream compressed air regulator, and 150 psig upstream of the nitrogen and argon regulators.
Question #2	Can a make and model be provided for the nitrogen system valves and regulators required?
Answer #2	Contractor is responsible for the selection of regulator based on a supply pressure of 150 psig upstream of regulator.
Question #3	Can a make and model be provided for the argon system valves and regulators required?
Answer #3	Contractor is responsible for the selection of regulator based on a supply pressure of 150 psig upstream of regulator.
Question #4	Can a make and model be provided for the compressed air system valves and regulators required?
Answer #4	Contractor is responsible for the selection of regulator based on a supply pressure of 300 psig upstream of regulator.

Question #5	Who is covering the cost of TSSA for compressed air, argon, and nitrogen piping?
Answer #5	As per the TSSA CAD Amendment Document Ref No.: BPV-20-01 piping systems that have an internal diameter less than 6” and internal volume less than 1.5 cubic feet, are exempt from TSSA registration. However, the piping, equipment , fittings shall have their own CRN number.
Question #6	What is the material for chilled water piping?
Answer #6	See attached spec sections 232116 and 232113.02.
Question #7	Who is responsible for supplying Venturi Valves and Control valves?
Answer #7	Contractor is responsible for supplying the venturi valves and control valves.
Question #8	I saw cash allowance for controls. Is it included supplying Venturi valves and controls valves?
Answer #8	No. Cash allowance for controls includes the wiring of the venturi valves to the existing Phoenix control system as well as power, network and wiring to misc devices (pressure switches).

END.

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 23 05 00 - Common Work Results for HVAC.

.2 Section 23 08 16 - Cleaning and Start-Up of HVAC Piping Systems.

.3 Section 23 08 13 - Performance Verification HVAC Systems

1.2 REFERENCE STANDARDS

.1 American National Standards Institute/American Water Works Association (ANSI/AWWA)

.1 ANSI/AWWA C111/A21.11-06, Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.

.2 American Society of Mechanical Engineers (ASME)

.1 ASME B16.1-10, Grey Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250.

.2 ASME B16.3-06, Malleable Iron Threaded Fittings: Classes 150 and 300.

.3 ASME B16.5-09, Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24 Metric/Inch Standard.

.4 ASME B16.9-07, Factory-Made Wrought Buttwelding Fittings.

.5 ASME B18.2.1-10, Square Hex, Heavy Hex and Askew Head Bolts and Hex, Heavy Hex, Hex Flange. Loded Head and Lag Screws (Inch Series).

.6 ASME B18.2.2-10, Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series).

.3 ASTM International (ASTM)

.1 ASTM A47/A47M-99 (2009), Standard Specification for Ferritic Malleable Iron Castings.

.2 ASTM A53/A53M-10, Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc Coated Welded and Seamless.

.3 ASTM A536-84 (2009), Standard Specification for Ductile Iron Castings.

.4 ASTM B61-08, Standard Specification for Steam or Valve Bronze Castings.

.5 ASTM B62-09, Standard Specification for Composition Bronze or Ounce Metal Castings.

.6 ASTM E202-10, Standard Test Method for Analysis of Ethylene Glycols and Propylene Glycols.

.4 CSA Group (CSA)

.1 CSA B242-05 (R2011), Groove and Shoulder Type Mechanical Pipe Couplings.

.2 CSA W48-06, Filler Metals and Allied Materials for Metal Arc Welding.

.5 Manufacturer's Standardization of the Valve and Fittings Industry (MSS)

.1 MSS-SP-67-2002a, Butterfly Valves.

.2 MSS-SP-70-06, Grey Iron Gate Valves, Flanged and Threaded Ends.

.3 MSS-SP-71-05, Grey Iron Swing Check Valves Flanged and Threaded Ends.

.4 MSS-SP-80-08, Bronze Gate, Globe, Angle and Check Valves.

.5 MSS-SP-85-02, Grey Iron Globe and Angle Valves, Flanged and Threaded Ends.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 10 00 - General Instructions.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for hydronic systems and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

.1 Indicate on drawings:

.1 Components and accessories.

1.4 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 10 00 - General Instructions.

.2 Operation and Maintenance Data: submit operation and maintenance data for hydronic systems for incorporation into manual.

.1 Include special servicing requirements.

1.5 EXTRA STOCK MATERIALS

.1 Supply spare parts as follows:

.1 Valve seats: 1 minimum for every ten valves, each size. Minimum one.

.2 Discs: 1 minimum for every ten valves, each size. Minimum one.

.3 Stem packing: 1 minimum for every ten valves, each size. Minimum one.

.4 Valve handles: 2 minimum of each size.

.5 Gaskets for flanges: 1 minimum for every ten flanges.

1.6 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 10 00 - General Instructions and with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect hydronic systems from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

.4 Packaging Waste Management: as per Section 01 74 19 - Waste Management and Disposal.

Part 2 Products

2.1 PIPE

.1 Steel pipe: to ASTM A53/A53M, Grade B, as follows:

.1 To NPS 6: Schedule 40.

2.2 PIPE JOINTS

.1 NPS 2 and under: screwed fittings with PTFE tape lead-free pipe dope.

.2 Pipe thread: taper.

2.3 FITTINGS

.1 Screwed fittings: malleable iron, to ASME B16.3, Class 150.

.2 Unions: malleable iron, to ASTM A47/A47M ASME B16.3.

2.4 VALVES

.1 Connections:

.1 NPS 2 and smaller: screwed ends.

.2 Balancing, for TAB:

.1 Sizes: calibrated balancing valves, as specified this section.

.2 NPS 2 and under:

.1 Elsewhere: globe, with plug disc as specified Section 23 05 23.01 - Valves - Bronze.

.3 Drain valves: Gate, Class 125, non-rising stem, solid wedge disc, as specified Section 23 05 23.01 - Valves - Bronze.

.1 Iron.

.4 Ball valves:

.1 NPS 2 and under: as specified Section 23 05 23.01 - Valves - Bronze.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for hydronic systems installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of Departmental Representative.

.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied.

3.2 PIPING INSTALLATION

.1 Install pipework in accordance with Section 23 05 15 - Common Installation Requirements for HVAC Pipework.

3.3 CIRCUIT BALANCING VALVES

.1 Install flow measuring stations and flow balancing valves as indicated.

.2 Remove handwheel after installation and when TAB is complete.

.3 Tape joints in prefabricated insulation on valves installed in chilled water mains.

3.4 CLEANING, FLUSHING AND START-UP

.1 In accordance with Section 23 08 16 - Cleaning and Start-Up of HVAC Piping Systems.

3.5 TESTING

.1 Test system in accordance with Section 23 05 00 - Common Work Results for HVAC.

3.6 BALANCING

.1 Balance water systems to within plus or minus 5 % of design output.

.2 In accordance with Section 23 05 93 - Testing, Adjusting and Balancing for HVAC for applicable procedures.

3.7 PERFORMANCE VERIFICATION

.1 In accordance with Section 23 08 13 - Performance Verification HVAC Systems.

3.8 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 10 00 - General Instructions.

.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 10 00 - General Instructions.

3.9 PROTECTION

.1 Protect installed products and components from damage during construction.

.2 Repair damage to adjacent materials caused by hydronic systems installation.

END OF SECTION

Part 1 General

1.1 RELATED REQUIREMENTS

.1 Section 23 05 00 - Common Work Results for HVAC.

.2 Section 23 08 01 - Performance Verification Mechanical Piping Systems.

.3 Section 23 21 13.02 - Hydronic Systems – Steel.

1.2 REFERENCE STANDARDS

.1 ASME

.1 ASME Boiler and Pressure Vessel Code (BPVC), Section VII-2013.

.2 ASTM International (ASTM)

.1 ASTM A47/A47M-99 (2009), Standard Specification for Ferritic Malleable Iron Castings.

.2 ASTM A278/A278M-01 (2011), Standard Specification for Grey Iron Castings for Pressure-Containing Parts for Temperatures up to 650 degrees F (350 degrees C).

.3 ASTM A516/A516M-10, Standard Specification for Pressure Vessel Plates, Carbon Steel, for Moderate - and Lower - Temperature Service.

.4 ASTM A536-84 (2009), Standard Specification for Ductile Iron Castings.

.5 ASTM B62-09, Standard Specification for Composition Bronze or Ounce Metal Castings.

.3 CSA Group (CSA)

.1 CSA B51-09, Boiler, Pressure Vessel, and Pressure Piping Code.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Submit in accordance with Section 01 10 00 - General Instructions.

.2 Product Data:

.1 Submit manufacturer's instructions, printed product literature and data sheets for expansion tanks, air vents, separators, valves, and strainers and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

.1 Indicate on drawings components and accessories.

1.4 CLOSEOUT SUBMITTALS

.1 Submit in accordance with Section 01 10 00 - General Instructions.

.2 Operation and Maintenance Data: submit operation and maintenance data for hydronic specialties for incorporation into manual.

1.5 DELIVERY, STORAGE AND HANDLING

.1 Deliver, store and handle materials in accordance with Section 01 10 00 - General Instructions and with manufacturer's written instructions.

.2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.

.3 Storage and Handling Requirements:

.1 Store materials indoors and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

.2 Store and protect hydronic specialties from nicks, scratches, and blemishes.

.3 Replace defective or damaged materials with new.

.4 Packaging Waste Management: in accordance with Section 01 74 19 - Waste Management and Disposal.

Part 2 Products

2.1 AUTOMATIC AIR VENT

.1 Standard float vent: brass body and NPS 1/8 connection and rated at 690 kPa working pressure.

.2 Industrial float vent: cast iron body and NPS 1/2 connection and rated at 860 kPa working pressure.

.3 Float: solid material suitable for 115 degrees C working temperature.

2.2 PIPE LINE STRAINER

.1 NPS 1/2 to 2: bronze body to ASTM B62, screwed solder end connections, Y pattern.

.2 Blowdown connection: NPS 1.

.3 Screen: stainless steel brass with 1.19 mm perforations.

.4 Working pressure: 860 kPa.

Part 3 Execution

3.1 EXAMINATION

.1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for hydronic specialties installation in accordance with manufacturer's written instructions.

.1 Visually inspect substrate in presence of Departmental Representative.

.2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.

.3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 APPLICATION

.1 Manufacturer's Instructions: comply with manufacturer's written recommendations, including product technical bulletins, handling, storage and installation instructions, and data sheets.

3.3 GENERAL

.1 Run drain lines and blow off connections to terminate above nearest drain.

.2 Maintain adequate clearance to permit service and maintenance.

.3 Should deviations beyond allowable clearances arise, request and follow Departmental Representative's Consultant's DCC Representative's directive.

.4 Check shop drawings for conformance of tappings for ancillaries and for equipment operating weights.

3.4 STRAINERS

.1 Install in horizontal or down flow lines.

.2 Ensure clearance for removal of basket.

3.5 AIR VENTS

.1 Install at high points of systems.

3.6 CLEANING

.1 Progress Cleaning: clean in accordance with Section 01 74 00 - Cleaning.

.1 Leave Work area clean at end of each day.

.2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 10 00 - General Instructions.

.3 Waste Management: in accordance with Section 01 74 19 - Waste Management and Disposal.

.1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION