



State of Rhode Island  
Department of Administration / Division of Purchases  
One Capitol Hill, Providence, Rhode Island 02908-5855  
Tel: (401) 574-8100 Fax: (401) 574-8387

**ADDENDUM # 1**

7/9/2020

Solicitation #7602862

**Title: Chiller Replacement Project – Newport Campus Community College of Rhode Island.**

**Submission Deadline: July 16, 2020 @ 1:00 PM**

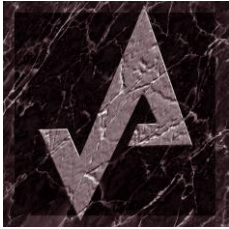
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**Per the issuance of ADDENDUM #1 the following are noted:**

Please find Addendum #1 prepared by Aharonian & Associates Inc. (attached)

*Interested Parties should monitor this website on a regular basis, for any additional information that may be posted.*

**Gary P. Mosca**  
Chief Buyer



**AHARONIAN**  
**& ASSOCIATES, INC.**  
Architects

**July 6, 2020**

**TO: All Bidders**

**RE: CCRI CHILLER REPLACEMENT  
NEWPORTCAMPUS**  
One John H Chafee Blvd  
Newport, RI 02840  
AA# 19160

## **ADDENDUM #1**

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## **RFI'S & Responses**

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**The Contract Documents for the above referenced Project are hereby modified per the following. All other Drawing and Project Manual items not addressed herein shall remain in full effect. The Bidder shall acknowledge the receipt of this Addendum on the Bid Form.**

1. There is no equipment schedule or anything in the specifications that list a manufacturer and model number. Please advise.

**Response:**

Boiler:

- Manufacturer: Cleaver Brooks
- Model #: CFC-3 1,500
- Quantity: 2

Chiller:

- Manufacturer: Multistack
- Model #: MSS050VCA+FAA—ABABA-BA-ICA-B
- Quantity: 2

2. Heating hot water specifications are missing from 23 21 13 Hydronic Piping. Please provide?

**Response:** Specification Section 23 21 13 Hydronic Piping was added.(attached)

## **ATTACHMENTS**

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- A - Pre-Bid Conference Sign in Sheet
- B – Specification Section 23 21 13 Hydronic Piping



State of Rhode Island  
Division of Purchases  
One Capitol Hill  
Providence, RI 02908

**"NON-MANDATORY" PRE-BID CONFERENCE SIGN IN SHEET**

BID NUMBER: 7602862
BID TITLE: Chiller Replacement Project - CCRl Newport Campus
PRE-BID DATE AND TIME: June 25, 2020 @ 9:30 AM

Purchasing Representative: Gary P. Mosca
NON-Mandatory Pre-bid START TIME: 9:30 AM
NON-Mandatory Pre-bid END TIME: 9:50 AM

COMPANY NAME	COMPANY REPRESENTATIVE	SIGNATURE	ADDRESS	CONTACT E-MAIL	CONTACT PHONE NUMBER
1 State of Rhode Island	Gary P. Mosca	<i>Gary P. Mosca</i>	One Capitol Hill, Providence, RI 02904	gary.mosca@purchasing.ri.gov	401-574-8124
2 CCRl	Mark Libutti	<i>Mark Libutti</i>	400 East Ave., Warwick RI 02888	mallibutti@ccri.edu	401-825-2830
3 CCRl	Lisa Fontes	<i>Lisa Fontes</i>	400 East Ave., Warwick RI 02888	lfontes@ccri.edu	401-825-2444
4 CCRl	Ken McCabe	<i>Ken McCabe</i>	400 East Ave., Warwick RI 02888	kmccabe@ccri.edu	
5 AHARONIAN	DAVID HORTON	<i>David Horton</i>	310 WASHINGTON, SMITHFIELD		
6 Coldmasters	Kevin Sheets	<i>Kevin Sheets</i>	195 Francis Ave, Cranston	Kevin@Coldmasters.com	401-742-0332
7 Nolin Electric	Dennis Bellisle Jr	<i>Dennis Bellisle Jr</i>	82 Stamp Farm Rd, Cranston	JRE@NOLINELECTRIC.NET	(401) 947-5478
8 EW Borman Inc	Bob Dandaneau	<i>Bob Dandaneau</i>	35 Vermont Ave. Warwick, RI 02888	estimating@ewborman.com	401-738-5400
9 TOWER	DERRICK PAPA	<i>Derrick Papa</i>	10 S Industrial Dr. Cranston, RI 02921	estimating@towerconstructioncorp.com	401.943.0110
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**SECTION 232113  
HYDRONIC PIPING**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Hydronic system requirements.
- B. Heating water piping, above grade.
- C. Chilled water piping, above grade.
- D. Condenser water piping, above grade.
- E. Pipe hangers and supports.
- F. Unions, flanges, mechanical couplings, and dielectric connections.
- G. Valves:

**1.02 RELATED REQUIREMENTS**

- A. Section 232500 - HVAC Water Treatment: Pipe cleaning.

**1.03 REFERENCE STANDARDS**

- A. ASME BPVC-IX - Qualification Standard for Welding, Brazing, and Fusing Procedures; Welders; Brazers; and Welding, Brazing, and Fusing Operators - Welding Brazing and Fusing Qualifications 2019.
- B. ASME B16.3 - Malleable Iron Threaded Fittings: Classes 150 and 300 2016.
- C. ASME B31.9 - Building Services Piping 2017.
- D. ASTM A53/A53M - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless 2018.
- E. ASTM A234/A234M - Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service 2019.
- F. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers 1992,with Editorial Revision (2018).
- G. ASTM F1476 - Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications 2007 (Reapproved 2013).
- H. AWS D1.1/D1.1M - Structural Welding Code - Steel 2015, with Errata (2016).
- I. AWWA C606 - Grooved and Shouldered Joints 2015.
- J. MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation 2018.

**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.

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- 2. Use non-conducting dielectric connections whenever jointing dissimilar metals.
- 3. Grooved mechanical joints may be used in accessible locations only.
  - a. Accessible locations include those exposed on interior of building, in pipe chases, and in mechanical rooms, aboveground outdoors, and as approved by Architect.
  - b. Use rigid joints unless otherwise indicated.
- 4. 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, unions or grooved couplings 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 gate valves with cap; pipe to nearest floor drain.
  - 2. On discharge of condenser water pumps, use spring loaded check valves.
  - 3. Isolate equipment using butterfly valves with lug end flanges or grooved mechanical couplings.
  - 4. For throttling, bypass, or manual flow control services, use globe, ball or butterfly valves.
  - 5. For throttling and isolation service in chilled and condenser water systems, use only butterfly valves.
  - 6. In heating water, chilled water or condenser water systems, butterfly valves may be used interchangeably with gate and globe valves.
  - 7. For shut-off and to isolate parts of systems or vertical risers, use gate, ball or butterfly valves.
  - 8. For throttling service, use plug cocks. Use non-lubricated plug cocks only when shut-off or isolating valves are also provided.
- E. Welding Materials and Procedures: Comply with 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. Threaded Joints: ASME B16.3, malleable iron fittings.
  - 3. Grooved Joints: AWWA C606 grooved pipe, fittings of same material, and mechanical couplings.

**2.03 CONDENSER WATER PIPING, ABOVE GRADE**

- A. Steel Pipe: ASTM A53/A53M, Schedule 40, black.
  - 1. Welded Joints: ASTM A234/A234M, wrought steel welding type fittings with finish matching piping; AWS D1.1/D1.1M welded.
  - 2. Threaded Joints: ASME B16.3, malleable iron fittings with finish matching piping.

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- 3. Grooved Joints: AWWA C606 grooved pipe, fittings of same material, and mechanical couplings.

**2.04 PIPE HANGERS AND SUPPORTS**

- A. Provide hangers and supports that comply with MSS SP-58.
  - 1. If type of hanger or support for a particular situation is not indicated, select appropriate type using MSS SP-58 recommendations.
  - 2. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch: Malleable iron, adjustable swivel, split ring.
  - 3. Hangers for Cold Pipe Sizes 2 Inches and Greater: Carbon steel, adjustable, clevis.
  - 4. Hangers for Hot Pipe Sizes 2 to 4 Inches: Carbon steel, adjustable, clevis.
  - 5. Hangers for Hot Pipe Sizes 6 Inches and Greater: Adjustable steel yoke, cast iron roll, double hanger.
  - 6. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
  - 7. Multiple or Trapeze Hangers for Hot Pipe Sizes 6 Inches and Greater: Steel channels with welded spacers and hanger rods, cast iron roll.
  - 8. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.
  - 9. Wall Support for Pipe Sizes 4 Inches and Greater: Welded steel bracket and wrought steel clamp.
  - 10. Wall Support for Hot Pipe Sizes 6 Inches and Greater: Welded steel bracket and wrought steel clamp with adjustable steel yoke and cast-iron roll.
  - 11. Vertical Support: Steel riser clamp.
  - 12. Floor Support for Cold Pipe: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
  - 13. Floor Support for Hot Pipe Sizes to 4 Inches: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
  - 14. Floor Support for Hot Pipe Sizes 6 Inches and Greater: Adjustable cast iron roll and stand, steel screws, and concrete pier or steel support.
  - 15. Hanger Rods: Mild steel threaded both ends, threaded one end, or continuous threaded.
  - 16. Inserts: Malleable iron case of galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.
- B. In grooved installations, use rigid couplings with offsetting angle-pattern bolt pads or with wedge shaped grooves in header piping to permit support and hanging in accordance with ASME B31.9.

**2.05 UNIONS, FLANGES, MECHANICAL COUPLINGS, AND DIELECTRIC CONNECTIONS**

- A. Unions for Pipe 2 Inches and Less:
  - 1. Ferrous Piping: 150 psig malleable iron, threaded.
- B. Flanges for Pipe 2 Inches and Greater:
  - 1. Ferrous Piping: 150 psig forged steel, slip-on.
  - 2. Gaskets: 1/16-inch-thick preformed neoprene.

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- C. Mechanical Couplings for Grooved and Shouldered Joints: Two or more curved housing segments with continuous key to engage pipe groove, circular C-profile gasket, and bolts to secure and compress gasket.
  - 1. Dimensions and Testing: In accordance with AWWA C606.
  - 2. Mechanical Couplings: Comply with ASTM F1476.
  - 3. Gasket Material: EPDM suitable for operating temperature range from minus 30 degrees F to 230 degrees F.
  - 4. Bolts and Nuts: Hot dipped galvanized or zinc-electroplated steel.
  - 5. When pipe is field grooved, provide coupling manufacturer's grooving tools.

**PART 3 EXECUTION**

**3.01 PREPARATION**

- A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.
- B. Prepare pipe for grooved mechanical joints as required by coupling manufacturer.
- C. Remove scale and dirt on inside and outside before assembly.
- D. Prepare piping connections to equipment using jointing system specified.
- E. Keep open ends of pipe free from scale and dirt. Protect open ends with temporary plugs or caps.
- F. After completion, fill, clean, and treat systems. Refer to Section 232500 for additional requirements.

**3.02 INSTALLATION**

- A. Install in accordance with manufacturer's instructions.
- B. Route piping in orderly manner, parallel to building structure, and maintain gradient.
- C. Install piping to conserve building space and to avoid interfere with use of space.
- D. Group piping whenever practical at common elevations.
- E. Sleeve pipe passing through partitions, walls and floors.
- F. Install firestopping to preserve fire resistance rating of partitions and other elements, using materials and methods specified.
- G. Slope piping and arrange to drain at low points.
- H. Pipe Hangers and Supports:
  - 1. Install in accordance with ASME B31.9, ASTM F708 or MSS SP-58.
  - 2. Support horizontal piping as scheduled.
  - 3. Install hangers to provide minimum 1/2-inch space between finished covering and adjacent work.
  - 4. Place hangers within 12 inches of each horizontal elbow.
  - 5. Use hangers with 1-1/2-inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe.
  - 6. Support vertical piping at every other floor. Support riser piping independently of connected horizontal piping.

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- 7. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.

**3.03 SCHEDULES**

**A. Hanger Spacing for Copper Tubing.**

- 1. 1/2 inch and 3/4 inch: Maximum span, 5 feet; minimum rod size, 1/4 inch.
- 2. 1 inch: Maximum span, 6 feet; minimum rod size, 1/4 inch.
- 3. 1-1/2 inch and 2 inch: Maximum span, 8 feet; minimum rod size, 3/8 inch.
- 4. 2-1/2 inch: Maximum span, 9 feet; minimum rod size, 3/8 inch.
- 5. 3 inch: Maximum span, 10 feet; minimum rod size, 3/8 inch.
- 6. 4 inch: Maximum span, 12 feet; minimum rod size, 1/2 inch.

**B. Hanger Spacing for Steel Piping.**

- 1. 1/2-inch, 3/4 inch, and 1 inch: Maximum span, 7 feet; minimum rod size, 1/4 inch.
- 2. 1-1/4 inches: Maximum span, 8 feet; minimum rod size, 3/8 inch.
- 3. 1-1/2 inches: Maximum span, 9 feet; minimum rod size, 3/8 inch.
- 4. 2 inches: Maximum span, 10 feet; minimum rod size, 3/8 inch.
- 5. 2-1/2 inches: Maximum span, 11 feet; minimum rod size, 3/8 inch.
- 6. 3 inches: Maximum span, 12 feet; minimum rod size, 3/8 inch.
- 7. 4 inches: Maximum span, 14 feet; minimum rod size, 1/2 inch.
- 8. 6 inches: Maximum span, 17 feet; minimum rod size, 1/2 inch.
- 9. 8 inches: Maximum span, 19 feet; minimum rod size, 5/8 inch.

**END OF SECTION**

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