



## ADDENDUM NO. 4

**TO:** All Planholders

**FROM:** Jane Vail, PE

**DATE:** March 30, 2022

**RE:** City of Stevenson  
Wastewater Treatment Plant Improvements – Phase I  
WE Job No. 1477E

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Notice is hereby given to prospective bidders that the Contract Documents have been amended as follows:

**ITEM 1:**

VOLUME I – CONTRACT DOCUMENTS & TECHNICAL SPECIFICATIONS, SECTION 40 61 13, PART 1.5 A 1. – replace “200 miles” with “300 miles”

**ITEM 2:**

VOLUME I – CONTRACT DOCUMENTS & TECHNICAL SPECIFICATIONS, SECTION 08 71 00, PART 3.05 A – replace “drawing A-905” with “drawing GA5”

**ITEM 3:**

VOLUME II – CONTRACT DOCUMENTS & TECHNICAL SPECIFICATIONS, SECTION 40 42 00

Replace Specification Section 40 42 00 Insulation for Process Piping and Equipment with the attached revised section, which includes a schedule of the required locations and products for insulation.

**ITEM 4:**

WASTEWATER TREATMENT PLANT IMPROVEMENTS – PHASE I PLANS

Add the following text to Note N5 on Detail 4.1/UP1:

“Furnish 12” diameter, type 316 SS, 2'-6" long, vertical pipe with welded bottom flange. Secure pipe flange to concrete floor with 7/8" type 316 SS expansion anchor bolts, washers, and hex head nuts, minimum of 6 spaced equally. Drill a pair of 1-inch holes on opposite sides of the pipe at 3" and 9" C.L. above the bottom end of pipe to allow water to enter the well. Stagger the two pairs of holes by 90 degrees. Holes shall be de-burred.”

Add the following Note N12 to Detail 4.1/UP1:

“All exposed WN piping, pump discharge heads, and strainer shall be heat traced and insulated per the specifications.”

Add the following Note N6 to Detail 2.1/AP3:

“Encase 8”DI-TD pipe beneath the entire length of the anoxic and aeration basin structure from the upward 45 bend on the west side of the structure to the wye connection on the east side of the structure per Detail 1.1/GS3.

**ITEM 5:**

**BIDDER QUESTIONS:**

Q20. Due to the unstable market, many suppliers and subcontractors are providing quotes subject to price escalation. Many companies are quoting that pricing will be determined at time of shipment or valid for only extremely short time. This condition adds a considerable pricing factor for bidders. Would the owner consider provision of an escalation clause?

A. We will not be including a general cost escalation clause. The City intends an efficient and expeditious contract award process, and the consultant team is prepared to review material submittals as quickly as possible.

Q21. Sheet LA1 Note 6 - What material is the existing ceiling made of?

A. Existing ceiling consists of 1/2" wooden panels mounted to 2" x 8" wooden beams with 4" of loose fill insulation.

Q22. Sheet AS1 - The dimensions on the north side of this page don't match the south side dimensions. Please clarify?

A. Refer to Addendum 2, Item 5 and revised drawing for correct dimensions.

Q23. We are requesting a 1-week extension for bid submission.

A. The bid date is changed to Wednesday, April 13, 2022 at 2:00PM.

Q24. The BOMs call for redundancy modules for the 120VAC/24VDC power supplies in each panel, but each panel only has a single power supply in the wiring detail. Should the redundancy module be removed?

A. Redundancy module is not required

Q25. The BOMs call out two (2) GFCIs for each of these panels. The wiring detail only shows one duplex receptacle. What is correct?

A. Only one duplex receptacle is required.

Q26. MCP-BB drawing shows the enclosure on feet but shows no feet in the drawing. What is correct?

A. Feet are required.

Q27. MCP-RAS shows no feet (but calls out the same enclosure as MCP-BB), which is correct?

A. Feet are required.

Q28. MCP-RAS also calls out part numbers for 2 back pans and one side mount pan. The drawing appears to show the need for just one back pan and one side pan. Which is correct?

A. One back panel and two side panels are required. The BOM description is correct, but the side panel part number is not.

Q29. MCP-RAS shows qty 16 control relays in the BOM but I count 39 in the wiring detail. Which is correct?

A. 39 are required. The BOM is incorrect.

Q30. The same base enclosure is called out for both panels, 72H x 60W x 18D. However, if you take a quick look at the two layouts, MCP-BB has six (6) 'columns' of vertical DIN rail while MCP-RAS only has five (5). MCP-BB might be 72 x 72. Please confirm.

A. MCP-RAS is 60H x 48W x 18D with 12" legs. The BOM incorrectly calls out for a larger enclosure than is needed. MCP-BB is 72H x 60W x 18D with 12" legs.

Q31. Do you have any type of plan holders list? We will be quoting to electrical contractors and I'd like to reach out to any that have expressed an interest in this project.

A. Registered bidders are available on [Wallisengplanroom.net](http://Wallisengplanroom.net)

Q32. MCP-BB and MCP-RAS reference an Onlogic Fanless PC catalog number of ML100-41:

a. Please confirm this is a ML100G-41 series.

b. This series number does not identify any of the PC requirements such as motherboard, memory, storage, operating system, etc ... Can the engineer specify the specific requirements of the PC? Onlogic's website has a dropdown menu for all the possible selections for the unit.

A. (a) The ML100G-41 series was used as the basis of design. Alternatives are allowed. (b) The Fanless PC requirements are specified in Section 40 62 63

Q33. The BOMs for MCP-BB and MCP-RAS both call out a qty of 3 ethernet switches for each of these panels. The panel layout and the network drawing show 1 ethernet switch per panel. Can you please verify which is correct?

A. One ethernet switch is required per panel. The BOM incorrectly lists three.

Q34. AS1 - 4.4/AS8 Aeration Basin End wall @ Grid 4 – Note 11. 4000G grout, install in lifts % slope per plans. Can you point out where this information is in the drawings? Or provide the HP and LP elevations?

A. The slope of the grout is shown in detail 4.1 on AP6. Slopes from 91.42' down to 90.75'.

Q35. Specification section 40 42 00 includes several types of insulation with multiple manufacturers listed for each type. Section 3.01.A of this specification calls for the contractor to "Insulate all new exposed exterior piping with minimum 2-inches of piping insulation of types specified herein" while the contract drawings only mention insulation of the Grit and Non-Potable water piping in specific locations. Can you clarify which piping system/s are to be insulated and which insulation product/s are to be used?

A. See Addendum 4, Item 3.

Q36. Are the submittals, shop drawings, or scopes for the owner supplied equipment available to the contractor?

A. Current submittals for the owner supplied equipment are available at Wallisengplanroom.net.

Q37. Notes N17 and N18 on sheet HS2 points us to details 1.2&1.3 on sheet GA6. These details cannot be found on this sheet, please advise which details these are meant to be.

A. On sheet HS2, for notes N17, N18 and N19, change the detail reference to read GS4 in lieu of GA6.

Q38. Is the owner providing the 316 SS supports and guide rails for their pumps?

A. The supports and guide rails are to be provided by the Contractor.

Q39. The dimensions for the Stair Landing on HS1 are different that what's shown on SC9. Please clarify.

A. Provide a 6" reinforced slab of dimensions 6'-0" x 15'-4" +/- as noted on HS2. Change the 17'-0" dimension shown to 15'-4". The west edge of the reinforced slab will align with the adjacent footing (6" off grid G). The remainder of the concrete slab can be 4" thick to the dimensions shown on SC9.

Q40. What are the desired Top of elevations at each end of the Class 4000G between Grids 3 & 4 in the AB?

A. The sloping grout elevations are shown on sheet AP6, detail 4.1.

Q41. Is there a typical detail for Slab construction joints? Are the slab constructions requiring caulking?

A. Slab construction joints are discouraged. If the Contractor would like some construction joints, they should be shown on the rebar shop drawings subject to approval of the engineer (Refer to 03 30 00, Part 3.04). All constructions joints for water retaining structures will require waterstop and the reinforcement shall run continuous through. See 07 92 00 Part 2.03 B for required joint sealants.

Q42. Who's providing grit bins?

A. The City will provide grit bins.

Q43. At the site visit, existing aggregate stockpile areas, as well as a laydown were observed in the SW corner of the plant. Will these be cleared away by the city prior to the contractor beginning work, or will it be the Contractor's responsibility to clear the area?

A. The City is hoping to leave the stockpiles in place. If this conflicts with construction, the City will move the stockpiles. All other materials are in the process of being removed and the property will be cleared ahead of construction.

Q44. Note N6 calls out floor drains to go into the blower building, but there are no subsequent plumbing drawings that show the drain routing. Are these shown in error?

A. Delete (2) two floor drains (FD) located between Blower #1 and Blower #2, Future Blower #1 and Future Blower #2.

Q45. Is the contractor required to pay for the cost of compaction testing and other inspection required for soils?

A. Quality assurance and control requirements are as stated in Section 01 40 00, and elsewhere throughout the contract specifications. Per this section, all inspection, sampling and testing shall be paid for by Contractor, except as otherwise indicated in the specifications.

Q46. Sheet BE1 calls for motorized operator for the overhead door while the spec calls out a manual operator. Please advise which is correct.

A. Manual operator is preferred.

Q47. This calls out for reinstalling the cabinet into the compressor room. Where is it located?

A. See Sheet LA1, Demolition/Preparation Note 2.

Q48. This refers us to drawing A-905 for the Door schedule however this drawing doesn't exist. Where can the door schedule be found?

A. Door Schedule is located on Sheet GA5 (152 of 177), Module 1.1. See Addendum 4, Item 2.

Q49. Section 0 61 13 (Process Control System General Provisions), Para 1.5 states that while we could supply you with hardware (i.e. panels, instruments, MCCs etc ..), states a 200 mile max drive distance to the site. The shortest distance I can find for us is 259 miles. Can this criteria be adjusted?

A. Section is revised to read "300 miles". See Addendum 4, Item 1.

Q50. Air piping on drawings is shown with grooved connections at all fittings. Pipe schedule calls for flanged or sleeve coupling connections for this system. What type of connections should be used between fitting to pipe connections?

A. Air piping joints may be any of the specified types - grooved, flanged, or bolted sleeve type.

Q51. Are ARW-321A & 321B part of Air Diffuser Seller scope as called out in note N1?

A. These valves are not included in the air diffuser scope and shall be furnished by the installation Contractor and are specified in Section 40 05 50.

Q52. Please provide detail for stilling well called out in note N5.

A. See Addendum 4, Item 4.

Q53. Does exposed WN system at this location need to be head traced and insulated?

A. See Addendum 4, Item 4.

Q54. Are all pipes under slabs and sidewalks to be concrete encased? Are electrical conduits under slabs and sidewalks to be concrete encased?

A. The only process pipe to be concrete encased shall be the 8"DI-TD pipe beneath the anoxic and aeration basin structure. See Addendum 4, Item 4.

Q55. Drawing AE1 shows some conduits combining into 1-2" conduit. Normally this would be acceptable except the spec section 26 19 05 2.8, is calling out using a VFD cable between a VFD and the motor it serves. If these are combined, there can be issues with the frequency. In addition to this, if the conduits are installed in single conduits per the conduit schedule (GE6) the conduits will be too small for the VFD cable.

A. The circuits should not be combined, and each conduit size should be increased for each VFD cable as required. The VFD power circuits shown on AE1 and BE1 should not be shown as combined.

Q56. The oxidation ditch currently has paddle mixers. Will these need to be demolished by the contractor prior to installing the new air piping and air bubbler diffusers?

A. The rotor aerators will remain.

Q57. Is there a spec for the spray nozzle in DETAIL 2.1/ GP2?

A. Spraying Systems Co. Unijet Nozzle Model TT (standard angle spray) or approved equal.

Q58. Spec Section 07 71 23 and the attached drawings reference heat trace for gutters and downspouts and Spec Section 07 71 23 references Division 26. In review of the specs, there is heat trace called out in Div 40 for the process piping/equipment but we are unable to locate anything in Div 26. Please provide a spec/material callout for the heat trace for the gutter/downspout.

A. The process piping heat trace would be excessive for the gutters. We did not issue a spec for gutter heat trace. A heat trace box and rain gutter heat tape are called out on drawing BE1, key note 1. Any heat trace material that meets the requirements of Section 07 71 23 and can be installed per the electrical requirements in Division 26 is suitable. The design

does not include a specific material callout for the heat trace, but it does require that it is provided.

**A copy of this addendum is available for download at [www.wallisengplanroom.net](http://www.wallisengplanroom.net)**

**All bidders shall acknowledge receipt of this addendum by completing Article 3.01 BIDDER'S REPRESENTATIONS in the Bid Form for Construction.**

“For more information regarding this project, contact **Erin Kingsley** (Wallis Engineering) at (360) 695-7041.”

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**SECTION 40 42 00**  
**INSULATION FOR PROCESS PIPING AND EQUIPMENT**

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**PART 1 GENERAL**

1.01 SUMMARY OF WORK

- A. Work covered by this section consists of furnishing all labor and materials to install insulation for process piping and equipment.

1.02 RELATED WORK

- A. Section 01 33 00 – Submittals Procedure
- B. Division 40 – Process Interconnections
- C. Division 46 – Water and Wastewater Equipment

1.03 REFERENCE STANDARDS

- A. ASTM International
  - 1. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
  - 2. ASTM C547 - Standard Specification for Mineral Fiber Pipe Insulation
  - 3. ASTM C591 - Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation
  - 4. ASTM C921 - Standard Practice for Determining the Properties of Jacketing Materials for Thermal Insulation
  - 5. ASTM C1126 - Standard Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation
  - 6. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials

1.04 SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00 - Submittal Procedures.
- B. Product Data: Submit product data sheets for all items proposed for use.



## 1.05 BIDDING AND PAYMENT

- A. The cost for piping insulation shall be included in the bid schedule item for each piping system within each project area. Payment shall be for insulation of each piping system, complete.

## 1.06 WARRANTY

- A. Installation Contractor shall warrant the materials and installation to be free of defects in materials and workmanship for a period of one (1) year from the Date of Substantial Completion and in accordance with the General Conditions.
- B. Manufacturer's Warranty: Contractor shall submit manufacturer's standard warranty for all products furnished.

## **PART 2 PRODUCTS**

### 2.01 GENERAL

- A. Thermal Requirements for all Insulation: Insulation thickness, conductivity (k) value and/or R-value shall be as required by the local energy code or as indicated, whichever is greater.
- B. Fire-Test-Response Characteristics: Insulation and related materials shall have fire-test-response characteristics indicated, as determined by testing identical products per ASTM E84, by a testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Insulation Installed Indoors: Flame-spread index of 25 or less, and smoke-developed index of 50 or less.
  - 2. Insulation Installed Outdoors: Flame-spread index of 75 or less, and smoke-developed index of 150 or less.
- C. Factory label insulation and jacket materials and adhesive, mastic, tapes, and cement material containers, with appropriate markings of applicable testing and inspecting agency.

### 2.02 GLASS FIBER PREFORMED PIPE INSULATION

- A. Glass fiber meeting ASTM C547, rigid molded. "K" value 0.23 at 75°F. Maximum service temperature shall not exceed 850°F. Jacket shall be high density, white Kraft bonded to aluminum foil for vapor barrier, reinforced with fiberglass yarn, permanently treated, secured with self-sealing longitudinal laps and butt strips

or AP jacket with outward clinch expanding staples coated with vapor barrier mastic.

B. Manufacturers:

1. Johns Manville Micro-Lok HP
2. Knauf Insulation Earthwool 1000 Pipe Insulation
3. Owens-Corning Fiberglas SSLII-ASJ

## 2.03 POLYISOCYANURATE PREFORMED PIPE INSULATION

A. Rigid molded polyisocyanurate pipe insulation shall meet the requirements of ASTM C591 Type IV. Materials shall have a minimum thermal conductivity of 0.19 Btu-in. per sq.ft. per °F per hour at a mean temperature of 75°F. Maximum service temperature shall not exceed 300°F. The pipe insulation shall include a vapor retarder jacket with self-sealing longitudinal laps.

B. Manufacturers:

1. HiTherm HT-300.
2. Other Polyisocyanurate manufacturers shall be allowed only if they meet fire and smoke rating requirements for the specified thicknesses.

## 2.04 PHENOLIC PIPE INSULATION

A. Preformed pipe insulation of rigid, expanded, closed-cell structure. Comply with ASTM C1126, Type III, Grade 1.

B. Manufacturers:

1. Dyplast Products; DyTherm
2. ITW Insulation Systems; Trymer Supercel
3. Resolco; Insul-Phen

## 2.05 CELLULAR GLASS PIPE INSULATION

A. Inorganic, closed cell, all glass, non-combustible with 0.2% (by volume) moisture absorption. Average density of 8 lb./cu. ft., 100 psi compressive strength, 900°F service temperature, 0.35 BTU/in./hr/sf/°F conductivity.

B. Manufacturers:

1. Cell-U-Foam Corporation Ultra-CUF
2. Pittsburgh Corning Foamglas One

## 2.06 FIELD APPLIED ALUMINUM JACKET

- A. Field-applied jackets shall comply with ASTM C921, Type I, unless otherwise indicated.
- B. All ductwork and piping exposed to weather shall be finished with an aluminum jacket over the insulation. Aluminum jacket material shall be embossed or corrugated sheet, 0.016" nominal thickness, conforming to ASTM B209, temper H-14. Jacketing shall be applied with joints lapped not less than 2", and shall be secured with 3/8" x 0.020" thick aluminum bands located at each circumferential lap and at not more than 9" intervals throughout. Horizontal joints shall lap downward to shed water. Vertical joints shall be sealed with weatherproof silicone sealant.
- C. Manufacturers:
  1. Childers Products, Division of ITW
  2. Pabco Metals Corporation
  3. RPR Products Inc. Insul-Mate

## PART 3 EXECUTION

### 3.01 PIPING INSULATION INSTALLATION

- A. Insulate all new exposed exterior piping with minimum ~~2-inches thickness~~ of piping insulation of types specified herein and in Table 40 42 00-1.
- B. General: Pipe insulation shall be installed in strict conformance to the manufacturer's recommendations.
  1. Install insulation materials, accessories, and finishes with smooth, straight, and even surfaces; free of voids throughout the length of equipment, fittings, and piping including fittings, valves, and specialties.
  2. Install accessories compatible with insulation materials and suitable for the service. Install accessories that do not corrode, soften, or otherwise attack insulation or jacket in either wet or dry state.

3. Install insulation with tight longitudinal seams and end joints. Bond seams and joints with adhesive recommended by insulation material manufacturer.
4. Install insulation with least number of joints practical.
5. Install insulation with longitudinal seams at top and bottom of horizontal runs.
6. Insulation shall be kept dry and clean at all times.
7. Do not apply insulation until surfaces to be covered have been leak tested, have had rust and scale removed, and have been cleaned, dried and inspected.
8. Do not apply insulation until heat tracing specified elsewhere in other sections of this Specification is completed and tested.
9. Pipe insulation shall be continuous and installed on all fittings and appurtenances unless specified otherwise.
10. Installation shall be with full-length units of insulation and using a single-cut piece to complete a run.

C. Insulation Installation on Straight Pipes and Tubes:

1. Where vapor barriers are indicated, seal longitudinal seams, end joints, and protrusions with vapor-barrier mastic and joint sealant.
2. Secure laps with outward clinched staples at six inches o.c, for insulation with factory-applied jackets on above-ambient surfaces.
3. Do not staple longitudinal tabs but secure tabs with additional adhesive as recommended by insulation material manufacturer and seal with vapor-barrier mastic and flashing sealant, for insulation with factory-applied jackets on below-ambient surfaces.

D. Insulation Installation on Pipe Fittings and Elbows:

1. Install preformed sections of same material as straight segments of pipe insulation when available.
2. When preformed insulation elbows and fittings are not available, install mitered sections of pipe insulation, to a thickness equal to adjoining pipe insulation. Secure insulation materials with bands.

- E. Unions, Flanges, Couplings, Strainers, and Valves:
1. Insulate all fittings, flanges, couplings, strainers, valves (and similar accessories) associated with an insulated piping system unless indicated otherwise.
  2. Exposed Work: On exposed work, insulate to a diameter equal to insulation of adjacent piping provided a minimum of 0.75" of insulation is maintained around fittings, couplings, strainers and valves, otherwise, increase diameter.
  3. Concealed Work: On concealed work, increase insulation diameter to maintain same insulation thickness as on adjacent piping. Use same material as specified for adjacent piping; fitting covers to be as specified hereinafter.
  4. Adjustable and Serviceable Valves and Accessories: Where balancing valves, strainers and similar devices are adjustable or require servicing, provide removable insulation sections.
- F. Insulation Support at Hangers:
1. Provide support shield and 360 degree insert between support shield and piping on piping 1-1/2" diameter and larger. Fabricate insert from heavy density insulating material suitable for the temperature. Shield shall be fabricated of 14 gauge galvanized sheet metal. Insulation shields and inserts shall be not less than 12-inches in length.
- G. Sleeves and Wall Chases
1. Insulation on pipes through walls and floors shall be full size and jacketed same as adjacent insulation. Provide a metal jacket over the insulation on pipe passing through sleeves in non-fire rated walls where caulking is required.
  2. Where penetrating interior walls, extend the metal jacket two inches out on either side of the wall and secure on each end with a band.
  3. Provide adequate support on vertical pipe to prevent slipping.
- H. Allowances for Movement
1. At points where pipe will move during expansion and contraction (expansion joints, Z-bends, expansion loops, etc.), clearances between the pipe and encased insulation shall be sized to permit full pipe movement without cracking or damaging insulation and casing or jacket.

### 3.02 FIELD-APPLIED JACKET INSTALLATION

- A. Install aluminum jacket over all new piping insulation.
- B. Install directly over bare insulation or insulation with factory-applied jackets.
- C. Completely encapsulate insulation with coating, leaving no exposed insulation.
- D. Draw jacket smooth and tight to surface with two-inch overlap at seams and joints.
- E. Overlap longitudinal seams arranged to shed water.
- F. Seal end joints with weatherproof sealant recommended by insulation manufacturer.
- G. Secure jacket with stainless-steel bands 12 inches o.c. and at end joints.

**TABLE 40 42 00-1 PROCESS PIPING AND EQUIPMENT INSULATION SCHEDULE**

Service	Drawings	Piping/ Equipment System Code (1)	Size	Piping/ Equipment Material (2)	Location (3)	Fluid Operating Temperature (deg F)	Insulation Type (4)	Minimum Insulation Thickness (inches)
Grit Pump Discharge	HP1-5	GR	4", 6"	DI	EXT	50 to 68	GF, PO, PH	1.5
Grit Pump Discharge	HP1-5	GR	½", ¾"	SS	EXT	50 to 68	GF, PO, PH	1
Grit Washer Drain	HP1	GR	2"	S, SS	EXT	50 to 68	GF, PO, PH	1.5
Non-Potable Water to Screen and Grit System	HP1-5	WN	1.5", 2"	GS	EXT	50 to 68	GF, PO, PH	1.5
Non-Potable Water to Screen	HP1-5	WN	1"	PVC	EXT	50 to 68	GF, PO, PH	1.5
Non-Potable Water from Pumps, Pump Heads	UP1-4	WN	2½", 4"	DI	EXT	50 to 68	GF, PO, PH	1.5
Non-Potable Water from Pumps	UP1-4	WN	½"	SS	EXT	50 to 68	GF, PO, PH	1
Non-Potable Water from Pumps	UP1-4	WN	2"	GS	EXT	50 to 68	GF, PO, PH	1.5
Low Pressure Air Piping	BP1-2	AIR	6", 8", 10", 12"	SS	INT (below 7-ft)	50 to 300	GF	3

**Notes:**

1. Piping System Code: Refer to Drawing O3.

2. Material Codes:

- CI Cast Iron
- CU Copper
- DI Ductile Iron
- GS Galvanized Steel
- HDPE High Density Polyethylene
- PVC Polyvinyl Chloride
- S Steel
- SS Stainless Steel

3. Location Codes:

- BUR Buried
- CONC Concealed from View
- EXT Exterior to Building, Not Buried or Submerged
- INT Interior to Building, Exposed

4. Insulation Codes:

- GF Glass Fiber
- PO Polyisocyanurate
- PH Phenolic
- CG Cellular-Glass

It is the Contractor's responsibility to determine from the Drawings, Specifications, and field measurements, the required quantity and quality of the equipment and materials to complete the project.

\*\*\* END OF SECTION \*\*\*