

ADDENDUM #2

To: All Bidders

Project Name: Alamance County Emergency Services Center
780 Plantation Drive
Burlington, NC 27215

Prepared for: Alamance County, NC
124 W Elm Street
Graham, NC 27253

Date: 01 October 2025

Notice to all Contractors bidding the **Alamance County Emergency Services Center**. This Addendum is to amend or clarify the Contract documents as follows:

GENERAL:

- A. This Addendum constitutes part of the Project Manual and Contract. Should conflict occur between the Project Manual and items in this Addendum or between Drawings and this Addendum, the Addendum shall govern.
- B. Work described in this Addendum shall be in accordance with Specifications for like items in remainder of building and complete with all labor and materials required.
- C. Bidders are requested to attach a copy of this Addendum to the Project Manual in their possession.
- D. Work affected by items in this Addendum shall be appropriately adjusted to accommodate these changes.
- E. Acknowledge receipt of this Addendum by inserting its number and date in the space provided in the Bid Form. Failure to do so may subject Bidder to disqualification.
- F. Bids shall only be based on the products specified. No pre-bid substitutions shall be considered. Products that meet or exceed the product specifications will be considered for use during the Shop Drawing Submittal Phase.

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- G. **STANDARD OF QUALITY:** The various materials and products specified in the specifications by name or description are given to establish a standard of quality and of cost for bid purposes. **In general**, it is not the intent to limit the bidder, the bid or the evaluation of the bid to any one material or product specified but rather to describe the minimum standard, **except where listed without the following clause**. When proprietary names are used, they shall generally be followed by the words "or alternatives of the quality necessary to meet the specifications". Where proprietary names are used and are not followed by a clause similar to that listed above, the contractor is limited to providing that specified product to keep a standard product already established by the County. A bid containing an alternative which does not meet the specifications may not be accepted, but, if an award is made to the bidder, the bidder will be required to replace any alternatives which do not meet the specifications at no additional cost. The intent of the bid documents is based on this STANDARD OF QUALITY and not to be proprietary in nature in any way.
- H. **Bid Due Date:** Wednesday, October 15, 2025, by 2:00 PM at Alamance County, County Managers, 124 W Elm Street, Graham, NC 27253.

SPECIFICATIONS

- A. Specifications Section 083323 – Overhead Coiling Doors **DELETE** section in its entirety.
- B. Specifications Section 221319 – Sanitary Waste Piping Specialties **REPLACE** section in its entirety.
- C. Specifications Section 224100 – Residential Plumbing Fixtures **REPLACE** section in its entirety.
- D. Specifications Section 224213.13 – Commercial Water Closets **REPLACE** section in its entirety.
- E. Specifications Section 224213.16 – Commercial Urinals **REPLACE** section in its entirety.
- F. Specifications Section 224216.13 – Commercial Lavatories **REPLACE** section in its entirety.
- G. Specifications Section 224216.16 – Commercial Sinks **REPLACE** section in its entirety.
- H. Specifications Section 224223 – Commercial Showers **REPLACE** section in its entirety.

DRAWINGS

- A. No drawing updates.

BIDDERS QUESTIONS

- A. **Question:** C3.0 shows a 12'x12' pad for the radio tower and states "See Architectural Drawings" however we are unable to locate the pad in the architectural or structural drawings. Please provide information on the thickness and reinforcing for this pad.
- Response:** The fencing of the tower compound, radio tower pad, and site work within the fenced tower compound will be by the owner and their vendor.

- B. **Question:** Unit Price G-10 Asphalt paving and the associated allowance refer to the asphalt paving with a unit of cuyd. This is irregular, as this item is generally addressed by the unit of sqyd. Please clarify intent.
Response: Utilize square yards for this unit price and associated allowance.
- C. **Question:** The Seargeant Keying system mentioned in the specifications is that an existing system, we have to key into or what?
Response: Sargent Keying system is preferred.
- D. **Question:** There are overhead coiling and sectional door specifications in the documents however, we have not located either in the drawings or the door schedule. Please confirm that these are not within the scope of the project.
Response: Disregard Specifications Section 083323 – Overhead Coiling Doors
- E. **Question:** Do you have the information for the existing fire panel? Says new devices shall be compatible with existing fire alarm panel. Do not see that information.
Response: See note 6 on drawing E005.
- F. **Question:** Sheet A102, 2nd Floor Plan does not have wall tags shown. Please provide.
Response: Reference dimensions plans on A111 and A112 for wall types.
- G. **Question:** A401, Detail 1, shows new work on the 1st floor. A102, 2nd floor has indicator A401/1 shown, even though there is no work shown on A401/1.
Response: Wall section accurately shows required work at location shown.
- H. **Question:** What Mil/Membrane are you looking to be quoted? Plans state single ply membrane. (45 mil, 60 mil, 80 mil, TPO, PVC, KEE all types of single ply membranes/manufacturers)
Response: Reference Spec Section 075419 – PVC membrane roofing system
- I. **Question:** Plans state no mechanical attachments to penetrate through exposed decking. Are you looking for an adhered system from the roof deck up or will there be ceiling tiles everywhere so you wouldn't see the screws?
Response: Roof is mechanically attached, reference RCP for extent of ceiling design.
- J. **Question:** Will there be a bid form to fill out for this project?
Response: Reference Spec Section 004100 – Bid Form
- K. **Question:** Will any technology, data, security, etc work for the project be per the GC or the Owner.
Response: Reference Spec Section 011100.

- L. **Question:** Spec 083323 for OH coiling doors – it appears there are not any doors for the project. Please confirm.
Response: Disregard Specifications Section 083323 – Overhead Coiling Doors
- M. **Question:** A901 – are corner guards required on both corners at Lockers 114 and Break Room 131.
Response: Yes
- N. **Question:** Section 05400 paragraph 1.4.B.1 engineer sealed calculations and shop drawings. This requirement basically makes the cold-formed framing a delegated design item, which is contrary to published direction from the NC SCO. If it is determined in this process that the currently designed framing members are insufficient will the owner approve and cost change to increase the size of the framing members?
Response: Eliminate paragraph 1.4.B.1 from the spec section. Cold-form framing members are identified on the drawings.

ATTACHMENTS

- A. Specifications Section 221319 - Sanitary Waste Piping Specialties
- B. Specifications Section 224100 - Residential Plumbing Fixtures
- C. Specifications Section 224213.13 - Commercial Water Closets
- D. Specifications Section 224213.16 - Commercial Urinals
- E. Specifications Section 224216.13 - Commercial Lavatories
- F. Specifications Section 224216.16 - Commercial Sinks
- G. Specifications Section 2242223 - Commercial Showers

END OF ADDENDUM

SECTION 22 13 19 - SANITARY WASTE PIPING SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Cleanouts.
 - 2. Through-penetration firestop assemblies.
 - 3. Miscellaneous sanitary drainage piping specialties.
- B. Related Requirements:
 - 1. Section 22 14 23 "Storm Drainage Piping Specialties" for trench drains for storm water, channel drainage systems for storm water, roof drains, and catch basins.

1.3 DEFINITIONS

- A. PVC: Polyvinyl chloride.

1.4 INFORMATIONAL SUBMITTALS

- A. Field quality-control reports.

PART 2 - PRODUCTS

2.1 ASSEMBLY DESCRIPTIONS

- A. Sanitary waste piping specialties shall bear label, stamp, or other markings of specified testing agency.
- B. Comply with NSF 14 for plastic sanitary waste piping specialty components.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing, and marked for intended location and application.

2.2 CLEANOUTS

A. Cast-Iron Exposed Cleanouts: BOD model Zurn CO2

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg. Co.
 - b. Josam Company.
 - c. MIFAB, Inc.
 - d. Tyler Pipe; a subsidiary of McWane Inc.
 - e. Watts; a Watts Water Technologies company.
 - f. Zurn Industries, LLC.
2. Standard: ASME A112.36.2M.
3. Size: Same as connected drainage piping
4. Body Material: Hub-and-spigot, cast-iron soil pipe T-branch Hubless, cast-iron soil pipe test tee as required to match connected piping.
5. Closure: Countersunk Countersunk or raised-head Raised-head, brass cast-iron plastic plug, square top.
6. Closure Plug Size: Same as or not more than one size smaller than cleanout size.

B. Cast-Iron Exposed Floor Cleanouts (CO): BOD model Zurn CO2

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg. Co.
 - b. Josam Company.
 - c. Oatey.
 - d. Sioux Chief Manufacturing Company, Inc.
 - e. Tyler Pipe; a subsidiary of McWane Inc.
 - f. Watts; a Watts Water Technologies company.
 - g. Zurn Industries, LLC.
2. Standard: ASME A112.36.2M for adjustable housing cast-iron soil pipe with cast-iron ferrule cleanout.
3. Size: Same as connected branch, except 6" pipe may be 4".
4. Type: Adjustable housing Cast-iron soil pipe with cast-iron ferrule.
5. Body or Ferrule: Cast iron.
6. Clamping Device: Not required.
7. Outlet Connection: Spigot.
8. Closure: Brass plug with straight threads and gasket.
9. Adjustable Housing Material: Cast iron with threads.
10. Frame and Cover Material and Finish: Nickel-bronze, copper alloy.
11. Frame and Cover Shape: Round.
12. Top Loading Classification: Heavy Duty.
13. Riser: ASTM A 74, Service class, cast-iron drainage pipe fitting and riser to cleanout.

C. Cast-Iron Wall Cleanouts: BOD model Zurn Z1446

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Jay R. Smith Mfg. Co.
 - b. Josam Company.
 - c. MIFAB, Inc.
 - d. Tyler Pipe; a subsidiary of McWane Inc.
 - e. Watts; a Watts Water Technologies company.
 - f. Zurn Industries, LLC.
2. Standard: ASME A112.36.2M. Include wall access.
3. Size: Same as connected drainage piping.
4. Body: Hubless, cast-iron soil pipe test tee as required to match connected piping.
5. Closure Plug:
 - a. Brass.
 - b. Countersunk.
 - c. Drilled and threaded for cover attachment screw.
 - d. Size: Same as or not more than one size smaller than cleanout size.
6. Wall Access: Round, flat, chrome-plated brass or stainless-steel cover plate with screw.

2.3 MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES

A. Open Drains:

1. Description: Shop or field fabricate from ASTM A 74, Service class, hub-and-spigot, cast-iron soil-pipe fittings. Include P-trap, hub-and-spigot riser section; and where required, increaser fitting joined with ASTM C 564 rubber gaskets.
2. Size: Same as connected waste piping.

B. Floor-Drain, Trap-Seal Primer Fittings (All Floor Drains To Be Equipped):

1. Description: Cast iron, with threaded inlet and threaded or spigot outlet, and trap-seal primer valve connection.
2. Size: Same as floor drain outlet with NPS 1/2 side inlet.
3. All floor drains shall have square top.

C. Vent Caps:

1. Description: Cast-iron body with threaded or hub inlet and vandal-proof design. Include vented hood and setscrews to secure to vent pipe.
2. Size: Same as connected stack vent or vent stack.

D. Frost-Resistant Vent Terminals:

1. Description: Manufactured or shop-fabricated assembly constructed of copper, lead-coated copper, or galvanized steel.
2. Design: To provide 1-inch enclosed air space between outside of pipe and inside of flashing collar extension, with counterflashing.

E. Expansion Joints:

1. Standard: ASME A112.6.4.
2. Body: Cast iron with bronze sleeve, packing, and gland.
3. End Connections: Matching connected piping.
4. Size: Same as connected soil, waste, or vent piping.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Equipment Mounting:

1. Comply with requirements for vibration-isolation and seismic-control devices specified in Section 22 05 48 "Vibration and Seismic Controls for Plumbing Piping and Equipment."
2. Comply with requirements for vibration-isolation devices specified in Section 22 05 48.13 "Vibration Controls for Plumbing Piping and Equipment."

B. Install backwater valves in building drain piping.

1. For interior installation, provide cleanout deck plate flush with floor and centered over backwater valve cover, and of adequate size to remove valve cover for servicing.

C. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:

1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
2. Locate at each change in direction of piping greater than 45 degrees.
3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
4. Locate at base of each vertical soil and waste stack.

D. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.

E. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.

F. Install fixture air-admittance valves on fixture drain piping.

G. Install stack air-admittance valves at top of stack vent and vent stack piping.

- H. Install air-admittance-valve wall boxes recessed in wall.
- I. Install roof flashing assemblies on sanitary stack vents and vent stacks that extend through roof. Comply with requirements in Section 07 62 00 "Sheet Metal Flashing and Trim."
- J. Install flashing fittings on sanitary stack vents and vent stacks that extend through roof. Comply with requirements in Section 07 62 00 "Sheet Metal Flashing and Trim."
- K. Install through-penetration firestop assemblies in plastic conductors and stacks at floor penetrations.
 - 1. Comply with requirements in Section 07 84 13 "Penetration Firestopping."
- L. Assemble open drain fittings and install with top of hub 1 inch above floor.
- M. Install deep-seal traps on floor drains and other waste outlets, if indicated.
- N. Install floor-drain, trap-seal primer fittings on inlet to floor drains that require trap-seal primer connection.
 - 1. Exception: Fitting may be omitted if trap has trap-seal primer connection.
 - 2. Size: Same as floor drain inlet.
- O. Install air-gap fittings on draining-type backflow preventers and on indirect-waste piping discharge into sanitary drainage system.
- P. Install sleeve and sleeve seals with each riser and stack passing through floors with waterproof membrane.
- Q. Install vent caps on each vent pipe passing through roof.
- R. Install frost-resistant vent terminals on each vent pipe passing through roof. Maintain 1-inch clearance between vent pipe and roof substrate.
- S. Install expansion joints on vertical stacks and conductors. Position expansion joints for easy access and maintenance.
- T. Install frost-proof vent caps on each vent pipe passing through roof. Maintain 1-inch clearance between vent pipe and roof substrate.
- U. Install wood-blocking reinforcement for wall-mounting-type specialties.
- V. Install traps on plumbing specialty drain outlets. Omit traps on indirect wastes unless trap is indicated.

3.2 CONNECTIONS

- A. Comply with requirements in Section 22 13 16 "Sanitary Waste and Vent Piping" for piping installation requirements. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to equipment to allow service and maintenance.
- C. Ground equipment according to Section 26 05 26 "Grounding and Bonding for Electrical Systems."
- D. Connect wiring according to Section 26 05 19 "Low-Voltage Electrical Power Conductors and Cables."

3.3 LABELING AND IDENTIFYING

- A. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplate or sign on or near each of the following:
 - 1. Nameplates and signs are specified in Section 22 05 53 "Identification for Plumbing Piping and Equipment."

3.4 FIELD QUALITY CONTROL

- A. Tests and Inspections:
 - 1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 - 2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

3.5 PROTECTION

- A. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
- B. Place plugs in ends of uncompleted piping at end of each day or when work stops.

3.6 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain FOG disposal systems. Refer to Section 01 79 00 "Demonstration and Training."

END OF SECTION 22 13 19

SECTION 22 41 00 - RESIDENTIAL PLUMBING FIXTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Kitchen sinks.
 - 2. Breakroom sinks.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for lavatories.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Sustainable Design Submittals:
 - 1. Same as other fixtures
- C. Shop Drawings: Include diagrams for power, signal, and control wiring.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Counter cutout templates for mounting of counter-mounted plumbing fixtures.
- B. Sample Warranty: For special warranty.

PART 2 - PRODUCTS

2.1 KITCHEN SINKS (P-4A,P-6A)

A. Kitchen Sinks P-4A, P-6A: Single bowl, under mounted, stainless steel.

1. Stainless-Steel Kitchen Sinks:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- 1) Elkay Manufacturing Co. P-4A, P-6A model **ELUHAD211555PD** with Perfect Drain.

2. Fixture:

- a. Standard: ASME A112.19.3/CSA B45.4 for stainless-steel kitchen sinks.
- b. Overall Dimensions: 16" x 18" x **5"**.
- c. Metal Thickness: 20 GA.
- d. Bowl:
 - 1) Dimensions: 16" x 18" X **5"** depth.
 - 2) Drain: 3-1/2-inch perfect drain.

- a) Location: Centered of each bowl.

- 3. Faucet: American Standard Collina w/ pull down 2 functional spray, polished chrome.
- 4. Supply Fittings: Comply with requirements in "Supply Fittings" Article.
- 5. Waste Fittings: Comply with requirements in "Waste Fittings" Article.

- a. Dishwasher Air-Gap Fitting: Comply with requirements in "Dishwasher Air-Gap Fittings" Article.

B. Kitchen Sinks P-4A: Single bowl, under mounted, stainless steel, ADA.

1. Stainless-Steel Kitchen Sinks:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- 1) Elkay Manufacturing Co. P-5A model **ELUHAD211555PD** – ADA Complaint.

2. Fixture:

- a. Standard: ASME A112.19.3/CSA B45.4 for stainless-steel kitchen sinks.
- b. Overall Dimensions: 23" x 18" x **5"**.
- c. Metal Thickness: 20 GA.
- d. Bowl:
 - 1) Dimensions: 21" x 15" X 5" depth.
 - 2) Drain: 3-1/2-inch perfect drain.

- a) Location: Centered of each bowl.

C. Kitchen Sinks P-5A: Single bowl, under mounted, stainless steel, ADA.

1. Stainless-Steel Kitchen Sinks:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Elkay Manufacturing Co. P-5A model **ELUHAD211555PD** – ADA Complaint

2. Fixture:

- a. Standard: ASME A112.19.3/CSA B45.4 for stainless-steel kitchen sinks.
- b. Overall Dimensions: 23" x 18" x **5"**.
- c. Metal Thickness: 20 GA.
- d. Bowl:
 - 1) Dimensions: 21" x 15" X 5" depth.
 - 2) Drain: 3-1/2-inch perfect drain.

- a) Location: Centered of each bowl.

D. Island Sink P-7A: Single bowl, under mounted, stainless steel, ADA.

1. Stainless-Steel Kitchen Sinks:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Elkay Manufacturing Co. P-7A model **ELUHAD131655PD** – ADA Complaint

2. Fixture:

- a. Standard: ASME A112.19.3/CSA B45.4 for stainless-steel kitchen sinks.
- b. Overall Dimensions: 18.5" x 16" x **6-7/8"**.
- c. Metal Thickness: 20 GA.
- d. Bowl:
 - 1) Dimensions: 13.5" x 16" X 5" depth.
 - 2) Drain: 3-1/2-inch perfect drain.

- a) Location: Centered of each bowl.

E. Island Sink P-8: Single bowl, under mounted, stainless steel, ADA.

1. Stainless-Steel Kitchen Sinks:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Elkay Manufacturing Co. P-8 model **ELUH311810DBG**

2. Fixture:

- a. Standard: ASME A112.19.3/CSA B45.4 for stainless-steel kitchen sinks.
 - b. Overall Dimensions: 30.75" x 18.5" x 10".
 - c. Metal Thickness: 20 GA.
 - d. Bowl:
 - 1) Dimensions: 13.5" x 16" X 10" depth (typ of 2).
 - 2) Drain: 3-1/2-inch perfect drain.
- a) Location: Centered of each bowl.

2.2 SINK FAUCETS

- A. NSF Standard: Comply with NSF/ANSI 61 Annex G, "Drinking Water System Components - Health Effects," for faucet materials that will be in contact with potable water.
- B. Sink Faucets: Solid brass, kitchen sink.
 - 1. General-Duty, Solid-Brass Faucets:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) P-4A, P-6A, American Standard Collina w/ pull down 2 functional spray, polished chrome.
 - 2) P-5A American Standard Model 4101.100.002.
 - 2. Standard: ASME A112.18.1/CSA B125.1.
 - 3. General: Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture holes; coordinate outlet with spout and fixture receptor.
 - 4. Finish: Polished chrome plate.
 - 5. Maximum Flow Rate: 1.5 unless otherwise indicated.
 - 6. Mixing Valve: Single control.
 - 7. Backflow-Prevention Device for Hand Spray: Not required.
 - 8. Centers: Single hole.
 - 9. Mounting: Deck, exposed.
 - 10. Handle(s): Lever.
 - 11. Spout Type: Swing, shaped tube.
 - 12. Spout Outlet: Retracting Sprayer with hose.
 - 13. Provide ASSE 1070 mixing valve on all sinks.

2.3 DISHWASHER AIR-GAP FITTINGS

- A. Dishwasher Air-Gap Fittings:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. B & K Industries, Inc.

- b. BrassCraft Manufacturing Co.; a Masco company.
 - c. BrassTech Inc.
 - d. Dearborn Brass.
 - e. Geberit US.
 - f. Sioux Chief Manufacturing Company, Inc.
 - g. Watts; a Watts Water Technologies company.
- 2. Standard: ASSE 1021.
 - 3. Description: Device designed to prevent backflow of contaminated liquid into domestic dishwashers.
 - 4. Material: Plastic body with chrome-plated-brass cover.
 - 5. Hose Connections: 5/8-inch-ID inlet and 7/8-inch-ID outlet.
 - 6. Capacity: At least 5 gpm; at inlet pressure of at least 5 psig and at temperature of at least 140 deg F.
 - 7. Mounting: Deck.
 - 8. Hoses: Rubber and suitable for temperature of at least 140 deg F.
 - a. Inlet Hose: 5/8 inch ID and 48 inches long.
 - b. Outlet Hose: 7/8 inch ID and 48 inches long.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in of water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before plumbing-fixture installation.
- B. Examine walls, floors, cabinets, and counters for suitable conditions where fixtures will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install plumbing fixtures level and plumb according to roughing-in drawings.
- B. Install counter-mounting fixtures in and attached to casework.
- C. Install water-supply piping with stop on each supply to each fixture to be connected to water distribution piping. Attach supplies to supports or substrate within pipe spaces behind fixtures. Install stops in locations where they can be easily reached for operation.
 - 1. Exception: Use ball or gate valves if supply stops are not specified with fixture. Comply with valve requirements specified in Section 22 05 23.12 "Ball Valves for Plumbing Piping" and Section 22 05 23.15 "Gate Valves for Plumbing Piping."

- D. Install faucet flow-control fittings with specified flow rates and patterns in faucet spouts if faucets are not available with required rates and patterns. Include adapters if required.
- E. Install traps on fixture outlets.
 - 1. Exception: Omit trap on fixtures with integral traps.
 - 2. Exception: Omit trap on indirect wastes unless otherwise indicated.
- F. Install dishwasher air-gap fitting at each sink indicated to have air-gap fitting. Install in sink deck. Connect inlet hose to dishwasher and outlet hose to disposer.
- G. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 22 05 18 "Escutcheons for Plumbing Piping."
- H. Seal joints between plumbing fixtures, counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 07 92 00 "Joint Sealants."

3.3 CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 22 11 16 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 22 13 16 "Sanitary Waste and Vent Piping."

3.4 ADJUSTING

- A. Operate and adjust plumbing fixtures and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.
- B. Adjust water pressure at faucets to produce proper flow.

3.5 CLEANING AND PROTECTION

- A. After completing installation of plumbing fixtures, inspect and repair damaged finishes.
- B. Clean plumbing fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed plumbing fixtures and fittings.

- D. Do not allow use of plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION 22 41 00

SECTION 22 42 13.13 - COMMERCIAL WATER CLOSETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Water closets.
 - 2. Toilet seats.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for water closets.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. LEED Submittals:
 - 1. Product Data for Prerequisite WE 1 and Credit WE 2: Documentation indicating flow and water consumption requirements.
- C. Shop Drawings: Include diagrams for power, signal, and control wiring.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For flushometer valves and electronic sensors to include in operation and maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.

1. Flushometer-Valve Repair Kits: Equal to 10 percent of amount of each type installed, but no fewer than six of each type.

PART 2 - PRODUCTS

2.1 FLOOR-MOUNTED, BOTTOM-OUTLET WATER CLOSETS

A. Water Closets P-1, P-1A: Floor mounted, bottom outlet, top spud.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. American Standard Madera (P-1)
 - b. American Standard Madera ADA (P-1A)
2. Bowl:
 - a. Standards: ASME A112.19.2/CSA B45.1 and ASME A112.19.5.
 - b. Material: Vitreous china.
 - c. Type: Siphon jet.
 - d. Style: Tank type dual flush.
 - e. Height: P-1 Standard P-1A Handicapped.
 - f. Rim Contour: Elongated.
 - g. Water Consumption: See dwg schedule.
 - h. Spud Size and Location: NPS 1-1/2; top.
 - i. Color: White.
3. Bowl-to-Drain Connecting Fitting: ASTM A 1045 or ASME A112.4.3.
4. Dual flush pressure assist.
5. Toilet Seat: Solid-plastic open-front.
6. Floor mounted toilet.
7. Washbrook flowise 0.125 GPF, Selectronic flush valve model – 606B.721, Hardwired, dual flush, w/ PK00.HAC

2.2 TOILET SEATS

A. Toilet Seats:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. American Standard (P-1, P-1A)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before water-closet installation.
- B. Examine walls and floors for suitable conditions where water closets will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Water-Closet Installation:
 - 1. Install level and plumb according to roughing-in drawings.
 - 2. Install floor-mounted water closets on bowl-to-drain connecting fitting attachments to piping or building substrate.
- B. Install toilet seats on water closets.
- C. Wall Flange and Escutcheon Installation:
 - 1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations and within cabinets and millwork.
 - 2. Install deep-pattern escutcheons if required to conceal protruding fittings.
 - 3. Comply with escutcheon requirements specified in Section 22 05 18 "Escutcheons for Plumbing Piping."
- D. Joint Sealing:
 - 1. Seal joints between water closets and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
 - 2. Match sealant color to water-closet color.
 - 3. Comply with sealant requirements specified in Section 07 92 00 "Joint Sealants."

3.3 CONNECTIONS

- A. Connect water closets with water supplies and soil, waste, and vent piping. Use size fittings required to match water closets.
- B. Comply with water piping requirements specified in Section 22 11 16 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 22 13 16 "Sanitary Waste and Vent Piping."

- D. Where installing piping adjacent to water closets, allow space for service and maintenance.

3.4 ADJUSTING

- A. Operate and adjust water closets and controls. Replace damaged and malfunctioning water closets, fittings, and controls.
- B. Adjust water pressure at flushometer valves to produce proper flow.

3.5 CLEANING AND PROTECTION

- A. Clean water closets and fittings with manufacturers' recommended cleaning methods and materials.
- B. Install protective covering for installed water closets and fittings.
- C. Do not allow use of water closets for temporary facilities unless approved in writing by Owner.

END OF SECTION 22 42 13.13

SECTION 224213.16 - COMMERCIAL URINALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Wall-hung urinals.
 - 2. Urinal flushometer valves.
 - 3. Supports.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for urinals.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Sustainable Design Submittals:
- C. Shop Drawings: Include diagrams for power, signal, and control wiring.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For flushometer valves to include in operation and maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Flushometer-Valve Repair Kits: Equal to 10 percent of amount of each type installed, but no fewer than one of each type.
 - 2. Waterless Urinal Trap-Seal Cartridges: Equal to 200 percent of amount of each type installed, but no fewer than 12 of each type.

3. Waterless Urinal Trap-Seal Liquid: Equal to [1 gal.] <Insert volume> for each urinal installed.

PART 2 - PRODUCTS

2.1 WALL-HUNG URINALS

A. Urinals - Wall Hung, Bottom Outlet, Washout: P-2A.

1. American Standard -Washbrook Flowise
2. Fixture:
 - a. Standards: ASME A112.19.2/CSA B45.1 and SME A112.19.5/CSA B45.15.
 - b. Material: Vitreous china.
 - c. Drain: Separate removable chrome-plated dome strainer with chrome-plated, NPS 1-1/2 tailpiece.
 - d. Strainer or Trapway: Manufacturer's standard strainer and NPS 1-1/2 tailpiece.
 - e. Inlet Spud Size and Location: NPS 3/4; top.
 - f. Outlet Size and Location: NPS 1-1/2; bottom.
 - g. Color: White.
 - h. Water Consumption: 0.125 gpf.
3. Washbrook flowise 0.125 GPF, Selectronic flush valve model – 606B.013, Hardwired, w/ PK00.HAC
- 4.
5. Waste Fitting:
 - a. Standard: ASME A112.18.2/CSA B125.2.
 - b. Trap:
 - 1) Size: NPS 1-1/2.
 - 2) Material, Chrome Plated: Two-piece, cast-brass trap and swivel elbow with 0.032-inch-thick brass tube to wall; and chrome-plated brass or steel wall flange.
 - 3) Material, Stainless Steel: Two-piece trap and swivel elbow with 0.012-inch-thick, stainless steel tube to wall; and stainless steel wall flange.
6. Support: Type II urinal carrier with hanger and bearing plates. Include rectangular, steel uprights.
7. Urinal Mounting Height: Standard and/or Handicapped/elderly according to ICC A117.1.

2.2 SUPPORTS

- #### A. Type I Urinal Carrier:
1. Standard: ASME A112.6.1M.

- B. Type II Urinal Carrier:
 - 1. Standard: ASME A112.6.1M.
- C. Type I Sink Carrier:
 - 1. Standard: ASME A112.6.1M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before urinal installation.
- B. Examine walls and floors for suitable conditions where urinals will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Urinal Installation:
 - 1. Install urinals level and plumb according to rough-in drawings.
 - 2. Install wall-hung, back-outlet urinals onto waste fitting seals and attached to supports.
 - 3. Install wall-hung, bottom-outlet urinals with tubular waste piping attached to supports.
 - 4. Install accessible, wall-mounted urinals at mounting height for the handicapped/elderly, according to ICC A117.1.
 - 5. Install trap-seal liquid in waterless urinals.
- B. Support Installation:
 - 1. Install supports, affixed to building substrate, for wall-hung urinals.
 - 2. Use off-floor carriers with waste fitting and seal for back-outlet urinals.
 - 3. Use carriers without waste fitting for urinals with tubular waste piping.
 - 4. Use chair-type carrier supports with rectangular steel uprights for accessible urinals.
- C. Wall Flange and Escutcheon Installation:
 - 1. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations.
 - 2. Install deep-pattern escutcheons if required to conceal protruding fittings.
 - 3. Comply with escutcheon requirements specified in Section 220518 "Escutcheons for Plumbing Piping."
- D. Joint Sealing:

1. Seal joints between urinals and walls and floors using sanitary-type, one-part, mildew-resistant silicone sealant.
2. Match sealant color to urinal color.
3. Comply with sealant requirements specified in Section 079200 "Joint Sealants."

3.3 PIPING CONNECTIONS

- A. Connect urinals with water supplies and soil, waste, and vent piping. Use size fittings required to match urinals.
- B. Comply with water piping requirements specified in Section 221116 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 221316 "Sanitary Waste and Vent Piping."
- D. Where installing piping adjacent to urinals, allow space for service and maintenance.

3.4 ADJUSTING

- A. Operate and adjust urinals and controls. Replace damaged and malfunctioning urinals, fittings, and controls.

3.5 CLEANING AND PROTECTION

- A. Clean urinals and fittings with manufacturers' recommended cleaning methods and materials.
- B. Install protective covering for installed urinals and fittings.
- C. Do not allow use of urinals for temporary facilities unless approved in writing by Owner.

END OF SECTION 224213.16

SECTION 22 42 16.13 - COMMERCIAL LAVATORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Lavatories.
- 2. Faucets.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for lavatories.
- 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

- B. LEED Submittals:

- 1. Product Data for Prerequisite WE 1 and Credit WE 2: Documentation indicating flow and water consumption requirements.

- C. Shop Drawings: Include diagrams for power, signal, and control wiring of automatic faucets.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Counter cutout templates for mounting of counter-mounted lavatories.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For lavatories and faucets to include in operation and maintenance manuals.

1. In addition to items specified in Section 01 78 23 "Operation and Maintenance Data," include the following:
 - a. Servicing and adjustments of automatic faucets.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 1. Faucet Washers and O-Rings: Equal to 10 percent of amount of each type and size installed.

PART 2 - PRODUCTS

2.1 VITREOUS-CHINA, WALL MOUNTED LAVATORIES

- A. Lavatory P-3, P-3A: Round, vitreous china, wall mounted lavatory.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
 - a. American Standard Comrade 0124.024.
 3. Fixture:
 - a. Standard: ASME A112.19.2/CSA B45.1.
 - b. Type: For undercounter mounting.
 - c. Nominal Size: Round 17" X 14" X 5 1/2".
 - d. Faucet-Hole Punching: 3 holes.
 - e. Faucet-Hole Location: On Counter.
 - f. Color: White.
 - g. Mounting Material: Self-rimming.
- B. Lavatory Faucets For P-3, P-3A: Electronic-type, mixing, general-duty, solid-brass valve.
 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Standard Innsbrook Selectronic model 605B215 w/ PK01.MAC.
 2. Standard: ASME A112.18.1/CSA B125.1.
 3. General: Include; coordinate faucet inlets with supplies and fixture hole punchings; coordinate outlet with spout and fixture receptor.
 4. Body Type: 4" Centerset.

5. Body Material: Commercial, solid brass.
6. Finish: Polished chrome plate.
7. Maximum Flow Rate: 0.5 gpm.
8. Mounting Type: Deck, exposed.
9. Electronic sensor.
10. Spout: Rigid type.
11. Spout Outlet: Aerator.
12. Drain: Grid Type.
13. Hardwired
14. Provide ASSE 1070 mixing valves on all lavatories.
15. Provide American Standard Universal Transitional soap dispenser or equal.

2.2 SUPPLY FITTINGS

- A. NSF Standard: Comply with NSF/ANSI 61, "Drinking Water System Components - Health Effects," for supply-fitting materials that will be in contact with potable water.
- B. Standard: ASME A112.18.1/CSA B125.1.
- C. Supply Piping: Chrome-plated-brass pipe or chrome-plated copper tube matching water-supply piping size. Include chrome-plated-brass or stainless-steel wall flange.
- D. Supply Stops: Chrome-plated-brass, one-quarter-turn, ball-type or compression valve with inlet connection matching supply piping.
- E. Operation: Loose key.
- F. Risers:
 1. NPS 3/8.
 2. Chrome-plated, soft-copper flexible tube riser.

2.3 WASTE FITTINGS

- A. Standard: ASME A112.18.2/CSA B125.2.
- B. Drain: Grid type with NPS 1-1/4 offset and straight tailpiece.
- C. Trap:
 1. Size: NPS 1-1/2 by NPS 1-1/4.
 2. Material: Chrome-plated, two-piece, cast-brass trap and swivel elbow with 0.032-inch-thick brass tube to wall; and chrome-plated, brass or steel wall flange.
 3. Material: Stainless-steel, two-piece trap and swivel elbow with 0.012-inch-thick stainless-steel tube to wall; and stainless-steel wall flange.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before lavatory installation.
- B. Examine counters and walls for suitable conditions where lavatories will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install lavatories level and plumb according to roughing-in drawings.
- B. Install supports, affixed to building substrate, for wall-mounted lavatories.
- C. Install accessible wall-mounted lavatories at handicapped/elderly mounting height for people with disabilities or the elderly, according to ICC/ANSI A117.1.
- D. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 22 05 18 "Escutcheons for Plumbing Piping."
- E. Seal joints between lavatories, counters, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 07 92 00 "Joint Sealants."
- F. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible lavatories. Comply with requirements in Section 22 07 19 "Plumbing Piping Insulation."

3.3 CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 22 11 16 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 22 13 16 "Sanitary Waste and Vent Piping."

3.4 ADJUSTING

- A. Operate and adjust lavatories and controls. Replace damaged and malfunctioning lavatories, fittings, and controls.
- B. Adjust water pressure at faucets to produce proper flow.
- C. Install fresh batteries in battery-powered, electronic-sensor mechanisms.

3.5 CLEANING AND PROTECTION

- A. After completing installation of lavatories, inspect and repair damaged finishes.
- B. Clean lavatories, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed lavatories and fittings.
- D. Do not allow use of lavatories for temporary facilities unless approved in writing by Owner.

END OF SECTION 22 42 16.13

SECTION 22 42 16.16 - COMMERCIAL SINKS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Service basins.
- 2. Sink faucets.
- 3. Supply fittings.
- 4. Waste fittings.

- B. Related Requirements:

- 1. Section 22 41 00 "Residential Plumbing Fixtures" for residential sinks.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for sinks.
- 2. Include rated capacities, operating characteristics and furnished specialties and accessories.

- B. LEED Submittals:

- 1. Product Data for Prerequisite WE 1, and Credit WE 2: Documentation indicating flow and water consumption requirements.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Counter cutout templates for mounting of counter-mounted lavatories.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sinks to include in maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Faucet Washers and O-Rings: Equal to 10 percent of amount of each type and size installed.

PART 2 - PRODUCTS

2.1 SERVICE BASINS

- A. Service Basins P-13: Enameled cast iron, floor mounted. American Standards Florwell 7745.811

- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Acorn Engineering Company.
 - b. Crane Plumbing, L.L.C.
 - c. Florestone Products Co., Inc.
 - d. Stern-Williams Co., Inc.
 - e. Zurn.
- 2. Fixture:
 - a. Standard: IAPMO PS 99.
 - b. Shape: Corner.
 - c. Nominal Size: 28 by 28 inches.
 - d. Height: 8 inches.
 - e. Tiling Flange: Not required.
 - f. Rim Guard: On front top surfaces.
 - g. Color: Not applicable.
 - h. Drain: Grid with NPS 3 outlet.
- 3. Mounting: On floor and flush to wall.
- 4. Faucet: See "Sink Faucets" Article.

2.2 SINK FAUCETS

- A. NSF Standard: Comply with NSF/ANSI 61, "Drinking Water System Components - Health Effects," for faucet-spout materials that will be in contact with potable water.

B. Sink Faucets For: Manual type, two-lever-handle mixing valve.

1. Commercial, Solid-Brass Faucets.

- a. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

- 1) American Standard Exposed yoke wall-mount utility faucet with top brace model 8344.012.
- 2) Zurn Z843MI, 8" Sink Faucet.

2.3 WASTE FITTINGS

A. Standard: ASME A112.18.2/CSA B125.2.

B. Drain: Grid type with NPS 1-1/2 offset and straight tailpiece.

C. Trap:

1. Size: NPS 1-1/2.
2. Material: Chrome-plated, two-piece, cast-brass trap and swivel elbow with 0.032-inch-thick brass tube to wall; and chrome-plated brass or steel wall flange.
3. Material: Stainless-steel, two-piece trap and swivel elbow with 0.012-inch-thick stainless-steel tube to wall; and stainless-steel wall flange.

2.4 GROUT

A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.

B. Characteristics: Nonshrink; recommended for interior and exterior applications.

C. Design Mix: 5000-psi, 28-day compressive strength.

D. Packaging: Premixed and factory packaged.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine roughing-in of water supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before sink installation.

B. Examine walls, floors, and counters for suitable conditions where sinks will be installed.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install sinks level and plumb according to roughing-in drawings.
- B. Set floor-mounted sinks in leveling bed of cement grout.
- C. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheon requirements specified in Section 22 05 18 "Escutcheons for Plumbing Piping."
- D. Seal joints between sinks and counters, floors, and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 07 92 00 "Joint Sealants."
- E. Install protective shielding pipe covers and enclosures on exposed supplies and waste piping of accessible sinks. Comply with requirements in Section 22 07 19 "Plumbing Piping Insulation."

3.3 CONNECTIONS

- A. Connect sinks with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 22 11 16 "Domestic Water Piping."
- C. Comply with soil and waste piping requirements specified in Section 22 13 16 "Sanitary Waste and Vent Piping."

3.4 ADJUSTING

- A. Operate and adjust sinks and controls. Replace damaged and malfunctioning sinks, fittings, and controls.
- B. Adjust water pressure at faucets to produce proper flow.

3.5 CLEANING AND PROTECTION

- A. After completing installation of sinks, inspect and repair damaged finishes.
- B. Clean sinks, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed sinks and fittings.
- D. Do not allow use of sinks for temporary facilities unless approved in writing by Owner.

END OF SECTION 22 42 16.16

SECTION 22 42 23 - COMMERCIAL SHOWERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Individual shower receptors.
 - 2. Shower faucets.
 - 3. Grout.
 - 4. Shower Drain.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for showers.
 - 2. Include rated capacities, operating characteristics, and furnished specialties and accessories.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For shower faucets to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Faucet Washers and O-Rings: Equal to 10 percent of amount of each type and size installed.
 - 2. Faucet Cartridges and O-Rings: Equal to 5 percent of amount of each type and size installed.

PART 2 - PRODUCTS

2.1 INDIVIDUAL SHOWER UNITS (P-12A)

A. Individual Wall-Mounted Shower Systems:

1. Manufacturers: Subject to compliance with requirements, provide the following:
 - a. Freedom Roll in Shower model APF6238BF5P.75 (P-12A)
 - b. American Standard Flowise Commercial shower systems with hand shower model 1662.211
2. Description: Stainless-steel, wall-mounted, surface-enclosure shower fixture with individual nozzles.
3. Standards: ASME A112.18.1/CSA B125.1 and ASSE 1016.
4. Metal Nominal Thickness: 18 gauge.
5. Number of Shower Nozzles: One.
6. Height to Nozzles: Adjustable.
7. Control: Pressure-balance valve with individual hot- and cold-water mixing-valve operation.
8. Control: Thermostatic valve with individual, tempered-water supply and push-button operation.
9. Flow-Control Fitting: 1.5 gpm for each shower head.
10. EPA WaterSense: Required.
11. Soap Dish: Required for each shower head.
12. Mounting: Wall bracket.
13. Supplies: NPS 3/4 copper tubing with valves.

2.2 GROUT

- A. Standard: ASTM C 1107/C 1107M, Grade B, post-hardening and volume-adjusting, dry, hydraulic-cement grout.
- B. Characteristics: Nonshrink; recommended for interior and exterior applications.
- C. Design Mix: 5000-psi, 28-day compressive strength.
- D. Packaging: Premixed and factory packaged.

2.3 SHOWER DRAIN

- A. Provide Zurn model 2415S-DP body assembly with "Type S" strainer and deck plate, 2" pipe size, no hub, stainless steel, clamp collar, material - stainless steel.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Coordinate roughing-in of water-supply and sanitary drainage and vent piping systems to verify actual locations of piping connections before shower installation.
- B. Examine walls and floors for suitable conditions where showers will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Assemble shower components according to manufacturers' written instructions.
- B. Install showers level and plumb according to roughing-in drawings.
- C. Install water-supply piping with stop on each supply to each shower faucet.
 - 1. Exception: Use ball or gate valves if supply stops are not specified with shower. Comply with valve requirements specified in Section 22 05 23.12 "Ball Valves for Plumbing Piping" and Section 22 05 23.15 "Gate Valves for Plumbing Piping."
 - 2. Install stops in locations where they can be easily reached for operation.
- D. Install shower flow-control fittings with specified maximum flow rates in shower arms.
- E. Install wall flanges or escutcheons at piping wall penetrations in exposed, finished locations. Use deep-pattern escutcheons if required to conceal protruding fittings. Comply with escutcheons requirements specified in Section 22 05 18 "Escutcheons for Plumbing Piping."
- F. Seal joints between showers and floors and walls using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Comply with sealant requirements specified in Section 07 92 00 "Joint Sealants."

3.3 CONNECTIONS

- A. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
- B. Comply with water piping requirements specified in Section 22 11 16 "Domestic Water Piping."
- C. Comply with traps and soil and waste piping requirements specified in Section 22 13 16 "Sanitary Waste and Vent Piping."

3.4 ADJUSTING

- A. Operate and adjust showers and controls. Replace damaged and malfunctioning showers, fittings, and controls.
- B. Adjust water pressure at faucets to produce proper flow.

3.5 CLEANING AND PROTECTION

- A. After completing installation of showers and basins, inspect and repair damaged finishes.
- B. Clean showers and basins, faucets, and other fittings with manufacturers' recommended cleaning methods and materials.
- C. Provide protective covering for installed fixtures and fittings.
- D. Do not allow use of showers and basins for temporary facilities unless approved in writing by Owner.

END OF SECTION 22 42 23