

SECTION 15410

PLUMBING FIXTURES

PART 1 –GENERAL

1.1 INTRODUCTION

- A. Section includes water closets, , urinals, lavatories, sinks, service sinks, electric water coolers, drinking fountains, showers, and wash fountains. Refer to campus sustainability documents for water efficiency targets before selecting fixtures.
- B. Related Sections:
 - 1. Section 16150 – Wiring Connections: Execution requirements for electric connections to sensor valves and faucets specified by this section.
 - 2. Section 07920 – Joint Sealers: Product requirements for calking between fixtures and building components for placement by this section.

1.2 REFERENCES

- A. ANSI Z124.2 - Gel-Coated Glass-Fiber Reinforced Polyester Resin Shower Receptor and Shower Stall Units.
- B. ARI 1010 (Air-Conditioning and Refrigeration Institute) - Drinking Fountains and self-contained Mechanically Refrigerated Drinking Water Coolers.
- C. ASME A112.6.1 (American Society of Mechanical Engineers) - Supports for Off-the-Floor Plumbing Fixtures for Public Use.
- D. ASME A112.18.1 (American Society of Mechanical Engineers) - Finished and Rough Brass Plumbing Fixture Fittings.
- E. ASME A112.19.1 (American Society of Mechanical Engineers) - Enameled Cast Iron Plumbing Fixtures.
- F. ASME A112.19.2 (American Society of Mechanical Engineers) - Vitreous China Plumbing Fixtures.
- G. ASME A112.19.3 (American Society of Mechanical Engineers) - Stainless Steel Plumbing Fixtures (Designed for Residential Use).
- H. ASME A112.19.4 (American Society of Mechanical Engineers) - Porcelain Enameled Formed Steel Plumbing Fixtures.

- I. ASME A112.19.5 (American Society of Mechanical Engineers) - Trim for Water-Closet Bowls, Tanks, and Urinals.

1.3 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
- C. Manufacturer's Installation Instructions: Submit installation methods and procedures.
- D. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01770 – Closeout and Turnover Procedures: Closeout procedures.
- B. Operation and Maintenance Data: Submit fixture, trim, exploded view and replacement parts lists.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with applicable codes and laws as well as the Stanford University Design Standards and all Stanford University Contract documents.
- B. Ensure that products requiring electrical connections are listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- C. Maintain one copy of each document on site.

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.7 PRE-INSTALLATION MEETING

- A. Convene minimum one week prior to commencing Work of this section.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store and protect equipment.
- B. Accept fixtures on site in factory packaging. Inspect for damage.

- C. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.9 WARRANTY

- A. Section 01770 - Execution Requirements: Product warranties and product bonds.
- B. Provide time manufacturer warranty for plumbing fixtures.

PART 2 –PRODUCTS

2.1 FLUSH VALVE WATER CLOSETS

- A. Bowl: ASME A112.19.2; wall mounted, siphon jet, vitreous china closet bowl, with elongated rim, 1-½ inch top back spud, china bolt caps.
- B. Exposed Flush Valve: ASME A112.18.1; exposed chrome plated, diaphragm type with oscillating handle, escutcheon, seat bumper, integral screwdriver stop and vacuum breaker 1.28 gallon flush volume.
- C. Sensor Operated Flush Valve: ASME A112.18.1; concealed rough brass, diaphragm type with low voltage operated solenoid operator, infrared sensor and over-ride button in chrome plated plate, wheel handle stop and vacuum breaker 1.28 gallon flush volume.
- D. Seat: Solid white plastic, open front, extended back, self-sustaining hinge, brass bolts, without cover.
- E. Wall Mounted Carrier: ASME A112.6.1; adjustable cast iron frame, integral drain hub and vent, adjustable spud, lugs for floor and wall attachment, threaded fixture studs with nuts and washers.

2.2 TANK TYPE WATER CLOSETS

- A. Tank type water closets should only be used when directed by Stanford project manager. Fixture selection shall be reviewed by project manager and facilities.
- B. Bowl: One piece ASME A112.19.2 floor mounted, siphon jet, vitreous china closet bowl with elongated rim.
- C. Gravity feed 1.28 gallon per flush tank.
- D. Seat: Solid white plastic, open front, extended back, self-sustaining hinge, brass bolts, without cover.

2.3 WALL HUNG URINALS

- A. Urinal: ASME A112.19.2; vitreous china, wall hung washout urinal with shields, integral trap, removable stainless steel strainer, 3/4 inch back spud, steel supporting hanger.
- B. Exposed Flush Valve: ASME A112.18.1; exposed chrome plated, diaphragm type with oscillating handle, escutcheon, integral screwdriver stop, vacuum breaker; maximum 1/8th gallon flush volume standard or approved equal.
- C. Sensor Operated Flush Valve: ASME A112.18.1; exposed chrome plated, diaphragm type with low voltage battery operated solenoid operator, infrared sensor and over-ride button in chrome plated plate, wheel handle stop and vacuum breaker; maximum 1/8th gallon flush volume.
- D. Wall Mounted Carrier: ASME A112.6.1; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded fixture studs for fixture hanger, bearing studs.

2.4 LAVATORIES

- A. Vitreous China Wall Hung Basin: ASME A112.19.2; vitreous china wall hung lavatory high back, drillings on 8 inch centers, rectangular basin with splash lip, front overflow, and soap depression.
- B. Steel Counter Top Basin: ASME A112.19.4; porcelain on steel self-rimming counter top lavatory, with drillings on 8 inch centers, front overflow, soap depression, seal of putty, caulking, or concealed vinyl gasket.
- C. Vitreous China Counter Top Basin: ASME A112.19.2; vitreous china self-rimming counter top lavatory, 8 inch centers, front overflow, soap depression, seal of putty, caulking, or concealed vinyl gasket.
- D. Fittings: ASME A112.18.1; chrome plated combination supply, open grid strainer, water economy aerator with maximum 0.5gpm flow, indexed handles. Pop-up wastes, and chain and plug drains may only be used in residential applications.
- E. Sensor Faucet: ASME A112.18.1; chrome plated metered mixing faucet with low voltage operated solenoid operator and infrared sensor, aerator and cover plate, open grid strainer. Power supply shall be photovoltaic panel or turbine coupled with rechargeable battery. Maximum flow rate shall be 0.5 gpm.

F. Accessories:

1. Chrome plated 17 gage brass P-trap with clean-out plug and arm with escutcheon.
2. Offset waste with perforated open strainer.
3. Screwdriver stops.
4. Flexible supplies.

G. Wall Mounted Carrier: ASME A112.6.1; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded studs for fixture hanger, bearing plate and studs.

2.5 SINKS (KITCHENS)

A. Single Compartment Bowl: ASME A112.19.3; 20 gage thick, Type 316 stainless steel. Self-rimming and undercoated, with 2-½ inch chromed brass drain 3-1/2 inch crumb cup and tailpiece; ledge back drilled for trim.

B. Double Compartment Bowl: ASME A112.19.3; outside dimensions 20 gage thick, Type 316 stainless steel. Self-rimming and undercoated, with 1-1/2 inch chromed brass drains 3-1/2 inch crumb cups and tailpieces, ledge back drilled for trim.

C. Trim: ASME A112.18.1; chrome plated brass supply with high rise swing spout, vandal proof water economy aerator with maximum 2.2 gpm flow, indexed lever handles.

D. Accessories: Chrome plated 17 gage brass P-trap with clean-out plug and arm with escutcheon, screwdriver stop, and flexible supplies.

2.6 SHOWERS

A. Trim: ASME A112.18.1; concealed shower supply with pressure balanced thermostatic mixing valves, integral service stops, bent shower arm with flow control and adjustable spray ball joint shower head with maximum 1.75gpm flow, and escutcheon.

B. Showerhead: ASME A112.18.1; chrome plated vandal-proof institutional head with integral wall bracket, built-in 1.75gpm flow control.

2.7 DRINKING FOUNTAINS

A. Fountain: White vitreous china, fully-recessed, with elevated anti-squirt bubbler with stream guard, automatic stream regulator, lever handle, access cover plate, mounting bracket, screwdriver stop.

2.8 ELECTRIC WATER COOLERS

A. Fountain:

1. ARI 1010; recessed handicapped mounted electric water cooler with stainless steel top, stainless steel body, elevated anti-squirt bubbler with stream guard, automatic stream regulator, push button, mounting bracket, refrigerated with integral air cooled condenser [and stainless steel grille].
2. Electrical: Per design
3. Clean out in "P" tray and at wall.

2.9 SERVICE SINKS

- A. Bowl: ASME A112.19.1; 22 x 18 x 12 inch deep, porcelain enameled (inside only) cast iron roll-rim sink, with 12 inch high back, concealed hanger, chrome plated strainer, stainless steel rim guard, cast iron P-trap with adjustable floor flange.
- B. Bowl: 36 x 24 x 10 inch high white molded stone, floor mounted, with one inch wide shoulders, vinyl bumper guard, stainless steel strainer.
- C. Trim: ASME A112.18.1 exposed wall type supply with lever handles, spout wall brace, vacuum breaker, hose end spout, strainers, eccentric adjustable inlets, integral screwdriver stops with covering caps and adjustable threaded wall flanges.
- D. Accessories:
1. 5 feet of ½ inch diameter plain end reinforced rubber hose.
 2. Hose clamp hanger.
 3. Mop hanger.

PART 3 –EXECUTION

3.1 EXAMINATION

- A. Section 01330 - Administrative Requirements: Coordination and project conditions.
- B. Verify that walls and floor finishes are prepared and ready for installation of fixtures.
- C. Verify that electric power is available and of the correct characteristics.
- D. Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

3.2 PREPARATION

- A. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

3.3 INSTALLATION

- A. Install each fixture with trap, easily removable for servicing and cleaning.
- B. Provide chrome plated rigid or flexible supplies to fixtures with loose key or screwdriver stops, reducers, and escutcheons.
- C. Install components level and plumb.
- D. Install and secure fixtures in place with wall carriers and bolts.
- E. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07920, color to match fixture.
- F. Solidly attach water closets to floor with lag screws. Lead flashing is permitted.

3.4 INTERFACE WITH OTHER PRODUCTS

- A. Review millwork shop-drawings. Confirm location and size of fixtures and openings before rough in and installation.

3.5 ADJUSTING

- A. Section 01770 - Execution Requirements: Testing, adjusting, and balancing.
- B. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.6 CLEANING

- A. Section 01770 – Closeout and Turnover Procedures: Final cleaning.
- B. Clean plumbing fixtures and equipment.

3.7 PROTECTION OF INSTALLED CONSTRUCTION

- A. Section 01770 - Execution Requirements: Protecting installed construction.
- B. Do not permit use of fixtures before final acceptance.

END OF SECTION