SECTION 22 4000
PLUMBING FIXTURES

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Water closets.
B. Urinals.
C. Lavatories.
D. All-in-one lavatory system.
E. Sinks.
F. Service sinks.
G. Electric water coolers.
H. Drinking fountains.
I. Showers.
J. Eye wash fountains.
K. Emergency showers.

1.02 RELATED REQUIREMENTS
A. Section 01 1000 - Summary: Owner-furnished fixtures.
B. Section 06 4100 - Architectural Wood Casework: Preparation of counters for sinks and lavatories.
C. Section 07 9200 - Joint Sealants: Sealing joints between fixtures and walls and floors.
D. Section 11 4000 - Foodservice Equipment: Food service sinks.
E. Section 11 5300 - Laboratory Equipment: Laboratory sinks.
F. Section 12 3600 - Countertops: Preparation of counters for sinks and lavatories.
G. Section 22 1005 - Plumbing Piping.
H. Section 22 1006 - Plumbing Piping Specialties.
I. Section 22 3000 - Plumbing Equipment.
J. Section 26 2717 - Equipment Wiring: Electrical characteristics and wiring connections.

1.03 REFERENCE STANDARDS
E. ASME A112.6.1M - Supports for Off-the-Floor Plumbing Fixtures for Public Use; 1997 (Reaffirmed 2002).
F. ASME A112.18.1 - Plumbing Supply Fittings; 2012.
H. ASME A112.19.2 - Ceramic Plumbing Fixtures; 2013.
I. ASME A112.19.3 - Stainless Steel Plumbing Fixtures (Designed for Residential Use); 2008 (R2013).
J. ASME A112.19.4M - Porcelain Enameled Formed Steel Plumbing Fixtures; 1994 (R2004).
N. ASSE 1070 - Performance Requirements for Water Temperature Limiting Devices; 2004.
V. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.

1.04 SUBMITTALS
A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide catalog illustrations of fixtures, sizes, rough-in dimensions, utility sizes, trim, and finishes.
C. Manufacturer’s Instructions: Indicate installation methods and procedures.
D. Maintenance Data: Include fixture trim exploded view and replacement parts lists.
E. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner’s name and registered with manufacturer.

1.05 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.06 REGULATORY REQUIREMENTS
A. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories Inc., as suitable for the purpose specified and indicated.

1.07 DELIVERY, STORAGE, AND HANDLING
A. Accept fixtures on site in factory packaging. Inspect for damage.
B. Protect installed fixtures from damage by securing areas and by leaving factory packaging in place to protect fixtures and prevent use.

1.08 WARRANTY
A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
B. Provide five year manufacturer warranty for electric water cooler.

PART 2 PRODUCTS
2.01 GENERAL
A. Potable Water Systems: Provide plumbing fittings and faucets that comply with NSF 61 and NSF 372 for maximum lead content; label pipe and fittings.
2.02 FLUSH VALVE WATER CLOSETS

1. Flush Valve: Exposed (top spud).
3. Handle Height: 44 inches or less.
5. Outlet Size: 2 inches.
7. Manufacturers:
   d. Substitutions: See Section 01 6000 - Product Requirements.

B. Flush Valves: ASME A112.18.1, diaphragm type, complete with vacuum breaker stops and accessories.
1. Exposed Type: Chrome plated, escutcheon, integral screwdriver stop.
2. Manufacturers:
   b. Substitutions: See Section 01 6000 - Product Requirements.

C. Seats:
1. Manufacturers:
   c. Olsonite; ______: wwwolsonite.com.
   d. Substitutions: See Section 01 6000 - Product Requirements.
2. Solid white plastic, open front, extended back, self-sustaining hinge, brass bolts, with cover.

D. Water Closet Carriers:
1. Manufacturers:
   c. Substitutions: See Section 01 6000 - Product Requirements.

2.03 WALL HUNG URINALS

A. Wall Hung Urinal Manufacturers:
4. Substitutions: See Section 01 6000 - Product Requirements.

1. Flush Volume: 1.0 gallons, maximum.
2. Flush Valve: Exposed (top spud).
4. Trap: Integral.
6. Outlet Size: 2 inches.

C. Flush Valves: ASME A112.18.1, diaphragm type, complete with vacuum breaker stops and accessories.
1. Sensor-Operated Type: Solenoid operator, battery powered, infrared sensor and over-ride push button.
2. Exposed Type: Chrome plated, escutcheon, integral screwdriver stop.
3. Manufacturers:
   b. Substitutions: See Section 01 6000 - Product Requirements.

D. Carriers:
1. Manufacturers:
   c. Substitutions: See Section 01 6000 - Product Requirements.
2. ASME A112.6.1M; cast iron and steel frame with tubular legs, lugs for floor and wall attachment, threaded fixture studs for fixture hanger, bearing studs.

2.04 LAVATORIES

A. Lavatory Manufacturers:
3. Substitutions: See Section 01 6000 - Product Requirements.

B. Vitreous China Wall Hung Basin: ASME A112.19.2; vitreous china wall hung lavatory, ____ by ____ inch minimum, with 4 inch high back, rectangular basin with splash lip, front overflow, and soap depression.
   1. Drilling Centers: 8 inch.

C. Vitreous China Counter Top Basin: ASME A112.19.2; vitreous china self-rimming counter top lavatory, ______ with drillings on 8 inch centers, front overflow, soap depression, seal of putty, calking, or concealed vinyl gasket.

D. Supply Faucet Manufacturers:
   1. Chicago Faucet; ________.

E. Supply Faucet: ASME A112.18.1; chrome plated combination supply fitting with open grid strainer, no aerator with maximum flow of 2.2 gallons per minute, indexed handles. 8" gooseneck spout. Chicago Faucet model 786-E29XKABCP.

F. Accessories:
   1. Chrome plated 17 gage, 0.0538 inch brass P-trap with clean-out plug and arm with escutcheon.
   2. Offset waste with perforated open strainer.
   3. Screwdriver stops.
   4. Flexible supplies.
   5. Carrier:
      a. Manufacturers:
         1) JOSAM Company; _____: www.josam.com.
         3) Substitutions: See Section 01 6000 - Product Requirements.

2.05 SINKS

A. Sink Manufacturers:
   4. Substitutions: See Section 01 6000 - Product Requirements.

B. Single Compartment Bowl: ASME A112.19.3; ____ by ____ by ____ inch outside dimensions 20 gage, 0.0359 inch thick, Type 302 stainless steel, self rimming and undercoated, with ledge back drilled for trim.
   1. Drain: 1-1/2 inch chromed brass drain.
C. Double Compartment Bowl: ASME A112.19.3; _____ by _____ by _____ inch outside dimensions 20 gage, 0.0359 inch thick, Type 302 stainless steel, self rimming and undercoated, with ledge back drilled for trim.
   1. Drain: 1-1/2 inch chromed brass drain.

2.06 ELECTRIC WATER COOLERS
A. Electric Water Cooler Manufacturers:
   3. Substitutions: See Section 01 6000 - Product Requirements.
B. Water Cooler: Electric, mechanically refrigerated; surface handicapped mounted; stainless steel top, vinyl on steel body, elevated anti-squirt bubbler with stream guard, automatic stream regulator, push button, mounting bracket; integral air cooled condenser and stainless steel grille.
   1. Capacity: 8 gallons per hour of 50 degrees F water with inlet at 80 degrees F and room temperature of 90 degrees F, when tested in accordance with ASHRAE Std 18.
   2. Electrical: 115 V, 60 Hertz compressor, 6 foot cord and plug for connection to electric wiring system including grounding connector.

2.07 SERVICE SINKS
A. Service Sink Manufacturers:
B. Bowl: ASME A112.19.1; 22 by 18 by 12 inch deep, porcelain enamelled (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.
C. Trim: ASME A112.18.1 exposed wall type supply with cross 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 1/2 inch diameter plain end reinforced plastic hose.
   2. Hose clamp hanger.
   3. Mop hanger.

2.08 EMERGENCY EYE WASH
A. Emergency Wash Manufacturers:
   1. Speakman Corporation_______: speakman.com
B. Emergency Wash: Deck mounted combination faucet and independently operated eyewash with eyewash tempering valve. Chrome plated, cast brass fixture. Eyewash complies with ANSI Z358.1, 2.6 GPM @ 30 psi includes pull handle with graphics, two aerated yellow ABS plastic spray outlets with flip-top dust caps. Faucet complies with ASME A112.18.1 CSA B 125-98. Includes 1/4 turn ceramic cartridges, adjustable center of 6" to 12", vandal resistant 4" wrist blade handles with color coded indexes. Provide Speakman SE-370 thermostatic mixing valve.

2.09 EMERGENCY SHOWERS
A. Emergency Shower: ANSI Z358.1; wall-mounted, self- cleaning, non-clogging 8 inch diameter stainless steel deluge shower head with elbow, one inch full flow valve with pull chain and 8 inch diameter ring, one inch interconnecting fittings.

PART 3 EXECUTION
3.01 EXAMINATION
A. Verify that walls and floor finishes are prepared and ready for installation of fixtures.
B. Verify that electric power is available and of the correct characteristics.
C. Confirm that millwork is constructed with adequate provision for the installation of counter top lavatories and sinks.

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

3.03 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 stops, reducers, and escutcheons.
C. Install components level and plumb.
D. Install and secure fixtures in place with wall supports and bolts.

3.04 INTERFACE WITH WORK OF OTHER SECTIONS
A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.

3.05 ADJUSTING
A. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.06 CLEANING
A. Clean plumbing fixtures and equipment.

3.07 PROTECTION
A. Protect installed products from damage due to subsequent construction operations.
B. Do not permit use of fixtures by construction personnel.
C. Repair or replace damaged products before Date of Substantial Completion.

END OF SECTION