

SECTION 22 40 00 - PLUMBING FIXTURES

PART I - GENERAL

1.1 SPECIFICATIONS

- A. Plumbing fixture specifications shall be based on availability of repair and replacement parts and shall be centered on major manufacturer listings.

1.2 SPECIFIED ELSEWHERE

- A. Flow meters for plumbing systems are specified in *Section 23 09 13 – Instrumentation and Control Devices for HVAC*.

1.3 RELATED DOCUMENTS

- A. *Drawing 22 45 00-1, Emergency Eyewash & Safety Shower Installation*

PART 2 - PRODUCTS

2.1 WATER CLOSET

- A. Water closet shall be 500 pound (minimum) rated, vitreous china, 4-bolt wall mounted, elongated bowl, siphon jet, minimum 2 1/8" thoroughly and fully glazed trapway, 1 1/2 inch top spud, white, open front, heavy duty, anti-microbial, non-slamming seat, less cover, with concealed check hinge. **NO WASHOUT CLOSETS WILL BE PERMITTED.** Water closet shall be mounted on floor mounted, 500 pound (minimum) rated carriers set in concrete masonry unit walls with the carrier grouted into the wall for added rigidity. Rim height shall be 15" for normal use and 17" for accessible use.
- B. Approved water closet seat manufacturers shall be Bemis (2155SSCT), Olsonite, Church and Beneke.
- C. Approved water closet manufacturers shall be American Standard, Kohler, Zurn, Sloan, and Toto. *[Note to PSC: Other manufacturers will be considered if requested.]*
- D. Flush valve can be manual or sensor type, Sensor type valve can be battery powered or hard-wired, and shall have manual override flush activator button, concealed screwdriver angle stop, and chloramine resistant internal seals and components..
- E. Approved flush valve manufacturers shall be Sloan, Zurn and Toto. *[Note to PSC: Other manufacturers will be considered if requested.]*

2.2 URINAL

- A. Urinal shall be vitreous china, low flow style, with extended shields and trap, wall hanger, vandal resistant outlet strainer, 3/4 inch top spud, 2 inch I.P.S. outlet connection, open passageway. Urinal shall be mounted on floor mounted carrier set in concrete masonry unit wall with the carrier grouted into the wall for added rigidity. Urinal should have an open throat that is free of trapping mechanisms. A concealed rim at the front of some urinals are found to become a collection point for urine, resulting in additional odor.
- B. Approved urinal manufacturers shall be American Standard, Kohler, Zurn, Sloan, and Toto. *[Note to PSC: Other manufacturers will be considered if requested.]*
- C. Flush valve can be manual or sensor type. Sensor type valve shall be battery powered or hard-wired, and shall have manual override flush activator button, and chloramine resistant internal seals and components.
- D. Approved flush valve manufacturers shall be Sloan, Zurn and Toto. *[Note to PSC: Other manufacturers will be considered if requested.]*

2.3 LAVATORY

- A. Lavatory shall be wall mounted vitreous china with back and drillings for concealed arm carrier. The flow through each lavatory supply shall be 0.5 GPM. Lavatory shall be mounted on floor mounted concealed arm carrier set in concrete masonry unit wall with the carrier grouted into the wall for added rigidity. Counter mounted lavatories are prohibited.
- B. Approved lavatory manufacturers shall be American Standard, Kohler, Zurn, Sloan, and Toto. *[Note to PSC: Other manufacturers will be considered if requested.]*
- C. Faucet can be manual or sensor type. Approved faucet manufacturers shall be Moen Commercial, Zurn, T&S Brass and Bronze Works, Inc., and Chicago Faucets. Faucets shall be ANSI/NSF 61, Section 9 certified. Manual faucets shall incorporate ¼-turn ceramic cartridge with ¼-turn ceramic stops. Lavatory faucets are preferred to have 4-inch centersets except sensor type faucets where single hole style faucets are preferred. Sensor type faucets shall be battery powered or hard-wired..
- D. Lavatory Drain and Trap: 17 gauge chrome plated cast brass grid drain assembly with 1-1/4" tailpiece; 17 gauge 1-1/4" x 1-1/2" chrome plated cast brass P-Trap with cleanout; 17 gauge chrome plated cast brass tubing outlet with wall flange. All slip nuts on the assembly shall be chrome plated cast brass. Die-cast slip nuts are unacceptable.
- E. Approved lavatory drain and trap manufacturers shall be Mcguire, Keeney, and Dearborn Brass. *[Note to PSC: Other manufacturers will be considered if requested.]*
- F. Lavatory Stops and Supplies: Chrome plated angle pattern stops, lock shield cap, loose key handle, with cast bronze valve bodies, stems, and gland nuts, 5/8" compression inlet x 3/8" compression outlet. Supplies shall be chrome plated copper tube.
- G. Approved lavatory stops and supplies manufacturers shall be Chicago Faucet (1025-ABCP Series), McGuire, and Keeney. *[Note to PSC: Other manufacturers will be considered if requested.]*
- H. Drain and Trap for Lavatory Mounted at Accessible Height: 17 gauge chrome plated cast brass grid drain assembly with wheelchair offset and 1-1/4" tailpiece; 17 gauge 1-1/4" x 1-1/2" chrome plated cast brass P-Trap with cleanout; 17 gauge chrome plated cast brass tubing outlet with wall flange. All slip nuts on the assembly shall be chrome plated cast brass. Die-cast slip nuts are unacceptable. Provide insulation kit for coverage of drain assembly and hot water and cold water supplies.
- I. Approved accessible height lavatory drain and trap manufacturers shall be Mcguire, Keeney, and Dearborn Brass. *[Note to PSC: Other manufacturers will be considered if requested.]*
- J. Approved accessible height lavatory insulation kit manufacturers shall be Truebro (Model #103 E-Z), McGuire, Keeney, and Plumberex. *[Note to PSC: Other manufacturers will be considered if requested.]*

2.4 MOP BASIN

- A. Mop basin shall be floor level type precast terrazzo mop basin with stainless steel cap.. Faucet shall have adjustable integral stop arms, pail hook, brace, vacuum breaker, and 3/4-inch hose thread outlet. Supply arms of faucet shall come with integral check valves to prevent backup of HW into the CW main. Provide hose and hose bracket, mop hanger with 3 spring loaded rubber grips, and stainless steel wall guards with unit.
- B. Approved mop basin manufacturers shall be Fiat, Acorn, Stern-Williams, and Florestone.
- C. Approved mop basin faucet manufacturers shall be Moen Commercial, Zurn, T&S Brass and Bronze Works, Inc., and Chicago Faucets.

2.5 SHOWER ENCLOSURE

- A. Shower enclosure generally will be constructed in place, with membrane waterproofing in the walls and floor. In the event a precast receptor is used for an individual shower, it shall have integral membrane waterproofing and special care shall be taken to finish the wall

membrane waterproofing over the top rim of the receptor. Lead safing pans for showers shall not be used. Strainer shall have a minimum free flow area of 13.25 square inches.

2.6 MIXING VALVE AND SHOWER HEAD

- A. Mixing valve and shower head shall be for concealed piping, consisting of built-in shutoff valve, integral volume and temperature control, maximum temperature stop, 1/2 in. pipe connections, shower set with chrome plated arm, flange and self-cleaning circular off-the-wall shower head with ball joint, separate spray control maximum 2.0 GPM delivery rate, inlet screwed end stop valves.

2.7 ACCESSIBLE SHOWER STALLS

- A. Same as above except to further include a lever diverting valve, 60 inch reinforced braided hose, spray head, atmospheric vacuum breakers, and wall hook assembly. Special arrangement of the curb, shower enclosure and trimming is required in a residence hall shower for students using wheel chairs. Refer to ANSI A117.1-1986.

2.8 SAFETY SHOWER AND EYEWASH STATION

- A. A safety shower with floor drain and eyewash station shall be located in every laboratory and shall be installed to be immediately available or within 25 feet of the fume hood. This equipment shall be clearly identified for that purpose.
- B. Conflicts with cabinetry, electrical devices, equipment, etc., shall be eliminated.
- C. The water supply to the safety shower and eyewash area shall be situated to avoid problems with stagnant water in the line. Connect to high use water lines. Water shall be delivered between 75 and 100 degrees F.
- D. For complete arrangement, see *Drawing 22 45 00-1, Emergency Eyewash & Safety Shower Installation*.

2.9 SERVICE SINK

- A. Service sink shall be size 24" x 20", acid resisting enameled cast iron, stainless steel rim guard, standard trap enameled inside with strainer.

2.10 SILLCOCK

- A. Sillcock shall be of the non-freeze integral vacuum breaker type, ceramic disc cartridge, and shall be arranged around outside of building so that 100 ft. of the hose shall reach all portions of the perimeter. Each sillcock will have its own isolation valve inside the building. PEX piping shall directly feed the sillcock from the isolation valve to minimize risk of freezing and breaking water lines.

2.11 ELECTRIC WATER COOLER

- A. All shall be accessible type units. Mount higher if not required for accessible use. Individually wall surface mounted type with stainless steel receptors, stainless steel cabinets, flexible bubblers, and bottle filler (only one is needed if two water coolers are installed next to each other). Use Elkay, Halsey Taylor, or Oasis units only (to match University stock units). Mount units on floor mounted carriers. Refer to ADAAG and ANSI A117.1.
- B. The water supply to the electric water coolers shall come from a high use point of the main water supply. Do not connect drinking fountains to "dead end" branches of the building water supply distribution system. "Dead end" branches of the water supply and oversized feeds tend to promote the formation of bad tastes and odors in drinking water.
- C. Drain and Trap: 17 gauge 1-1/4" x 1-1/4" chrome plated cast brass P-Trap with cleanout; 17 gauge chrome plated cast brass tubing outlet with wall flange. All slip nuts on the assembly shall be chrome plated cast brass. Die-cast slip nuts are unacceptable.
- D. Approved electric water cooler drain and trap manufacturers are Mcguire, Keeney, and Dearborn Brass. *[Note to PSC: Other manufacturers will be considered if requested.]*

- E. Electric Water Cooler Stop and Supply: Chrome plated angle pattern stop, lock shield cap, loose key handle, with cast bronze valve body, stem, and gland nut, 5/8" compression inlet x 3/8" compression outlet. Supply shall be chrome plated copper tube.
- F. Approved electric water cooler stop and supply manufacturers shall be Chicago Faucet (1025-ABCP Series), McGuire, and Keeney. *[Note to PSC: Other manufacturers will be considered if requested.]*

2.12 FLOOR DRAIN

- A. Floor drain shall be cast iron unless acid resistance is necessary. Floor drain shall be installed such that the surrounding floor slopes to the floor drain. Floor drains that are used infrequently, such as in a restroom or mechanical room, shall have a deep seal trap. Trap primers are not allowed.

PART 3 - EXECUTION

3.1

END OF SECTION 22 40 00

This section of the *U of I Facilities Standards* establishes minimum requirements only.
It should not be used as a complete specification.