

Design Standard Plumbing Fixtures

Revisions Log:

| Version | Date | Description of changes/updates |
|---------|----------------------|--|
| 2 | November 16, 2015 | <ul style="list-style-type: none"> • Updated urinal fixture |

Purpose:

Plumbing fixtures are essential elements of plumbing systems. This design standard has the purpose of creating a consistent application of plumbing fixture requirements throughout the East Side Union High School District, therefore achieving a standard of quality for maintenance, water efficiency and reliability throughout all renovation and new building projects.

Design Standard:

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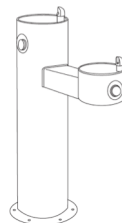
1. General Requirements

- Design and specify work to include materials and installation of plumbing fixtures and accessories for a complete and operable system. Where possible, consider the use of low flow fixtures and provide means of water conservation.
- For each area under consideration for remodel or new construction, follow requirements to meet ADA compliance for all fixture types.

2. Drinking Fountains

Generally, drinking fountains should dispense, but not chill, water. There are some locations where chilled water may be appropriate (e.g., fitness center locations, student dining areas). Coordinate locations and types of drinking fountains during schematic design phase.

- Dual Height Indoor Fountain: Non-chilling, stainless steel construction, barrier-free, high-low height for ADA compliance. Haws 1119.14 for maximum duty body construction and material gauge has proven successful in existing ESUHSD installations.
- Single Height Indoor Fountain: Non-chilling, stainless steel construction, barrier-free. Haws 1109.14 for maximum duty body construction and material gauge. Specify these units for in-kind replacement of single legacy units as appropriate, or where a single fountain installation is programmatically required (e.g., at a child care center, mounted at a height appropriate for children).
- Dual height outdoor fountain, non-chilling, powder coated 12 gauge stainless steel, barrier-free, high-low height for ADA compliance. Haws 3500 body construction and material has been successful in existing ESUHSD installations.
- Dual height outdoor fountain, non-chilling, powder coated steel, barrier-free, high-low height for ADA compliance. Elkay LK4420 body construction and material has been successful in existing ESUHSD installations.



3. Bottle Filling Stations

Sometimes, a bottle filling station without an associated drinking fountain is desired. Coordinate locations and types of bottle filling stations during schematic design phase.

- a. Wall mounted outdoor bottle filling station: Elkay LK4405BF.
- b. Free standing outdoor bottle filling station: Elkay LK4400BF. Body construction and material has been successful in existing ESUHSD installations.



4. Drinking Fountain / Bottle Filling Station Combination Units

Generally, bottle filling stations should be included at drinking fountain locations. There are some locations where chilled water may be appropriate (e.g., fitness center locations, student dining areas). Coordinate locations and types of drinking fountains during schematic design phase.

- a. Haws 1900 Indoor Bottle Filler: Can be mounted above the Haws 1119 and 1109 drinking fountains. Provides front service access for valve adjustment and cartridge replacement. Medium grey ABS plastic construction and bottle filling area that accommodates various size containers. Barrier-free. Note that this unit does not require electrical power.



- b. Indoor cooler / bottle filling station: Elkay EZH20® Model LZSTL8WSLK for body construction, material gauge and overall style. Cooling, stainless steel construction, dual height for ADA compliance. Note that this unit requires 120V electrical power.



- c. Outdoor drinking fountain / bottle filling station: Elkay EZH20® Model LK4430BF has a variety of configuration options, is barrier-free, and provides reasonable service access. These configurations are acceptable:

- a. LK4430BF1U Bottle Filling station, Tri-Level Pedestal, middle position bottle filler
- b. LK4430BF1L Bottle Filling Station, Tri-Level, low position bottle filler



5. Lavatories

Institutional quality, white vitreous china. Deck mounted, single hole, single control metering faucet.

- a. American Standard Comrade Wall-Hung Lavatory has been successful in ESUHS D installations.

6. Washfountains

Washfountains may be specified for modernization projects, where the student restroom has an existing acceptable configuration and a washbasin is being replaced in kind. Generally, ESUHS D is interested in more sophisticated modernized and new facilities, and individual lavatories should be included in the design of the facility. Coordinate this decision early during the schematic design phase.

Where washfountains are approved, these units have been successful in ESUHS D installations.

- a. Acorn Terrazzo Tri-Lav Wash-Ware 3603-2-H
- b. Bradley Terreon Tri-Fount MF2933
- c. Bradley Terreon TDB3104 54" Semi-Circular, Deep Bowl Washfountain
- d. Bradley Terreon Quadra-Fount MF2944

7. Sinks

Science lab, break room and other miscellaneous sinks should be integrated with the adjoining counter solid surface material, for aesthetic uniformity and ease of maintenance.

Home living demonstration labs may have a variety of sink types, to best simulate the various residential conditions that exist in the community. Coordinate sink types early in the schematic design phase.

Service sinks shall be composite material, floor mounted, with wall-mounted faucets with hose adapters.

8. Faucets

- a. Chicago 333-665PSHVPAABCP metering lavatory faucet
- b. Chicago 895-317E2805-5ABCP deck mounted faucet with gooseneck spout, 4” centers, 0.5 gpm
- c. Chicago 895-317ABCP deck mounted faucet with gooseneck spout, 4” centers, 2.2 gpm
- d. Chicago 201-AGN8AE3-319ABCP Deck Mounted 8" Widespread Faucet
- e. Chicago 897-RCF wall mounted service sink faucet with vacuum-breaker spout, pail hook and wall brace
- f. Chicago 509-GCLCP Food Service Wall Mounted Pre-Rinse Faucet with Pot Filler
- g. Chicago 512-GCCP Food Service Wall Mounted Pre-Rinse Spray Faucet
- h. Chicago 928-317CP Laboratory Water Fittings Deck Mounted Faucet, single supply
- i. Chicago 930-317CP Laboratory Water Fittings Deck Mounted Faucet, hot cold supply

9. Toilets

White vitreous china, tankless, wall hung or floor mounted carriers, dual flush manual valve. Elongated toilet seats/bowls.

- a. Wall mount: American Standard Afwall Elongated Flush Valve Toilet (2257.103 Top Stud) has been successful in ESUHSD installations.
- b. Floor mount: American Standard Madera 16-1/8” Height Elongated Flush Valve Toilet (2305.100 Top Spud) has been successful in ESUHSD installations.

10. Urinals

White vitreous china, wall hung, manual flush valve, low flow .125 gallon per flush. Waterless urinals are not allowed.

- a. American Standard Washbrook Urinal (6590.001 Top Spud) has been successful in ESUHSD installations. This urinal has an integral drain strainer that prevents gum and other solids from flushing and clogging the drain, and extended sides for privacy that allows for the elimination of privacy partitions between urinals.



11. Showers

Design showers to ensure that water will flow to local floor drains. We have experienced installations that overspray and/or flow into adjacent locker room floor areas, resulting in unmanageably wet floors. Ensure that shower heads dispense at a minimum 72" above finished floor.

- a. Column Shower: Five person column shower: Bradley COL-5C, Equa-Flo HD Pressure Balancing Valve, SX Severe Service Showerhead, SH Telescoping Shroud
- b. Individual Flush-Mounted Wall Shower: Bradley WS-1F, Single person stainless steel shower box: Bradley WS-1F, Equa-Flo HD Pressure Balancing Valve, SX Severe Service Showerhead
- c. Recess-Mounted ADA Compliant Wall Shower: Bradley HN200, Equa-Flo HD Pressure Balancing Valve, SX Severe Service Showerhead
- d. Individual Coverall Wall Shower: Bradley WS-1WCA, Equa-Flo HD Pressure Balancing Valve, SX Severe Service Showerhead, SHV Vertical Shroud

12. Emergency Showers / Eyewash Stations

Tempered water supply. Provide a drained system. Provide a test valve for showers, so that monthly testing can be performed without the use of a separate water capture mechanism.

13. Roof Drains

Specify heavy duty cast iron roof drains with clamping collars.

- a. Zurn Z100 series is preferred
- b. Jay R. Smith 1000 series is acceptable

14. Floor Drains

Cast iron floor drains with trap primers, and either nickel bronze or stainless steel strainers. Provide floor drains in all restrooms, and in locations with Emergency Showers.

- a. Jay R. Smith 2000 series

15. Sanitary Drains

Trench drainage systems are preferred for pool decks and applications where sheeting water must be captured and diverted.

- a. Jay R. Smith 3000 series

16. Drainage Piping Cleanouts and Access Covers

- a. Jay R. Smith 4000 series

17. Backwater Valves & Traps

- a. Jay R. Smith 7000 series

18. Interceptors

Interceptors should be specified as appropriate in art applications (e.g., where clay and other solids may be present in the sanitary sewer waste stream), in food service applications (e.g., where oil, grease and other solids may be present in the sanitary sewer waste stream), in locker room applications (where hair may be present in the sanitary sewer waste stream, or as needed in other unique applications).

- a. Jay R. Smith 8000 series

19. Trench Drains

Trench drainage systems are preferred for pool decks and applications where sheeting water must be captured and diverted.

- a. Jay R. Smith 9800 – 9900 trench drainage systems

20. Water Heaters

Specify hot water at kitchens, break rooms, science labs, locker room showers, child care facilities, home living simulation labs, staff restrooms, community facility public restrooms (e.g., at theaters, gymnasias, stadiums). ESUHSD's strong preference is for electric point-of-use water heaters. Where POU heaters are not possible, our next preference is gas-fired water heaters, where gas is reasonably adjacent, with recirculation pumps, controlled via DDC EMS. Coordinate hot water locations and heating mechanism early in the schematic design phase.

Approved Manufacturers:

- Backwater Valves & Traps: Jay R. Smith
- Bottle Filling Stations: Haws, Elkay
- Drainage Piping Cleanouts, Access Covers: Jay R. Smith
- Drinking Fountains: Haws, Elkay
- Emergency showers/eyewash: Guardian, Viking, Haws
- Faucets: Chicago
- Floor Drains: Jay R. Smith
- Flush valves: Sloan-Royal
- Hose bibs: Woodford, Nibco, Chicago
- Interceptors: Jay R. Smith
- Lavatories: American Standard
- Roof drains: Zurn, Jay R. Smith
- Sanitary Drains: Jay R. Smith
- Service sinks: Kohler, American Standard, Eljer
- Showers: Bradley
- Toilets: American Standard
- Trench Drains: Jay R. Smith
- Urinals: American Standard
- Washfountains: Acorn, Bradley
- Water Heaters: A.O Smith, State

Substitutes Allowed:

Yes, if performance and quality equivalency can be evidenced.

Associated Design Standards and Construction Specifications

- Division 07 Roofing Design Standard and Construction Specifications
- Division 22 Plumbing Design Standards and Construction Specifications
- Division 25 Integrated Automation Design Standards and Construction Specifications
- Division 26 Electrical Design Standards and Construction Specifications

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