

SECTION 15410 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes plumbing fixtures and related components.
- B. Related Sections include the following:
 - 1. Division 15 Section "Basic Mechanical Materials and Methods"
 - 2. Division 15 Section "Plumbing Specialties" for backflow preventers and specialty fixtures not in this Section.

1.3 SUBMITTALS

- A. Product Data: Include selected fixture and trim, fittings, accessories, appliances, appurtenances, equipment, and supports and indicate materials and finishes, dimensions, construction details, and flow-control rates for each type of fixture indicated.
- B. Maintenance Data: For plumbing fixtures to include in maintenance manuals specified in Division 1.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain plumbing fixtures, faucets, and other components of each category through one source from a single manufacturer. Exception: If fixtures, faucets, or other components are not available from a single manufacturer, obtain similar products from other manufacturers specified for that category.
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. Regulatory Requirements: Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities"; Public Law 90-480, "Architectural Barriers Act"; and Public Law 101-336, "Americans with Disabilities Act"; about plumbing fixtures for people with disabilities.
- D. Regulatory Requirements: Comply with requirements in Public Law 102-486, "Energy Policy Act," about water flow and consumption rates for plumbing fixtures.

- E. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.
- F. Select combinations of fixtures and trim, faucets, fittings, and other components that are compatible.

1.5 COORDINATION

- A. Coordinate roughing-in and final plumbing fixture locations, and verify that fixtures can be installed to comply with original design and referenced standards.

PART 2 - PRODUCTS

2.1 WATER CLOSETS

A. Manufacturers

1. Eljer
2. Kohler Co.
3. Zurn

B. Tank-Type Water Closet (**P-1**): Eljer Patriot Model #091-2125

1. Floor-mounting, floor-outlet
2. Vitreous-china
3. Gravity-type tank operation.
4. Style: Close coupled.
5. Bowl Type: Elongated with siphon-jet design. Include bolt caps matching fixture.
6. Height: Standard, rim height at 14" above floor.
7. Design Consumption: 1.6 gal./flush.
8. Tank: Gravity type with trim. Include cover.
9. Trip Mechanism: Lever-handle actuator. Provide left hand or right hand as required.
10. Color: White.
11. Supply: NPS 3/8 chrome-plated brass or copper with wheel-handle stop.
12. Solid plastic seat, chemical resistant, integrally molded bumpers; elongated, closed front with cover, white color.

C. ADA Tank-Type Water Closet (**P-1A**): Eljer Patriot Model #091-2175.

1. Similar to P-1 except:
2. Rim height at 16-3/4" AFF.
3. Lever-handle actuator: Provide left hand or right hand as required by ADA.

D. Floor Mounted ADA Water Closet (**P-1B**): Eljer, Signature Model #111-2145

1. Style: Flushometer valve, top spud
2. Material: Vitreous-china
3. Bowl Type: Elongated with siphon-jet design.
4. Design Consumption: 1.6 gal./flush.

5. Color: White.
6. Fixture Support: None.
7. Rim Height: Standard, rim height at 17" above floor.
8. Flush Valve: Sloan Royal Model #111,
 - a. Large diaphragm, semi red brass valve body,
 - b. Exposed chrome plated, non-hold-open ADA approved side oscillating handle,
 - c. Low consumption - 1.6 gallons per flush,
 - d. Top spud connection,
 - e. Adjustable tailpiece,
 - f. One-inch IPS screwdriver back check angle stop with vandal resistant cap,
 - g. High back pressure vacuum breaker, and sweat solder adapter with cover tube and cast set screw wall flange.
 - h. Set centerline of inlet 11-1/2 inches above rim.
 - i. Seat bumpers shall be integral part of flush valve.
 - j. Valve body, cover, tailpiece and control stop shall be in conformance with ASTM Alloy classification for semi-red brass.
 - k. Provide exposed vacuum breaker trap primer Sloan #VBF-72-A1
9. Toilet Seat
 - a. Solid plastic, chemical resistant, integrally molded bumpers.
 - b. Configuration: Open front without cover.
 - c. Size: Elongated.
 - d. Class: Standard commercial.
 - e. Hinge Type: Concealed check hinge with stainless steel post.
 - f. Color: White.

2.2 LAVATORIES

A. Manufacturers:

1. Eljer
2. Kohler
3. Zurn

B. Counter-mounted Lavatory (**P-2**):

1. Molded vanity top with recessed bowl and faucet/drain punchings as specified in Section 12372
 - a. Supplies: NPS 3/8 chrome-plated copper with stops.
 - b. Drain Piping: 1 1/2" inlet to 2" outlet chrome-plated cast-brass trap; 0.045-inch-thick tubular brass waste to wall; and wall escutcheon.
 - c. Protective Shielding Guards: No
 - d. Fixture Support: Counter-mount.
2. Lavatory Faucet: Symmons Model #S-20-2-G-FR-IPS.
 - a. Maximum Flow Rate: provide 0.5 GPM flow restrictor outlet spray, vandal resistant.

- b. Body Material: Cast brass.
- c. Finish: Polished chrome plate.
- d. Type: Single-control mixing.
- e. Centers: 4 inches.
- f. Mounting: Deck, exposed.
- g. Handle: ADA Lever, with limit stop.
- h. Inlets: 1/2" IPS.
- i. Spout: Rigid.
- j. Operation: ceramic control components.
- k. Drain: Grid drain assembly.
- l. Tempering Device: No

C. Wall Hung ADA Lavatory (**P-2A**):

1. Eljer Signature Model #051-2104

- a. Type: With back.
- b. Size: 20 by 18-1/2 inches outside, rectangular.
- c. Faucet Hole Punching: Three, 2-inch centers, holes.
- d. Faucet Hole Location: Top.
- e. Color: White.
- f. Supplies: NPS 3/8 chrome-plated copper with stops.
- g. Drain Piping: 1 1/2" inlet to 2" outlet chrome-plated cast-brass trap; 0.045-inch-thick tubular brass waste to wall; and wall escutcheon.
- h. Fixture Support: concealed arms.

2. Lavatory Faucet: Symmons Model #S-20-2-G-OFG-FR-IPS.

- a. Maximum Flow Rate: provide 0.5 GPM flow restrictor outlet spray, vandal resistant.
- b. Body Material: Cast brass.
- c. Finish: Polished chrome plate.
- d. Type: Single-control mixing.
- e. Centers: 4 inches.
- f. Mounting: Deck, exposed.
- g. Handle: ADA Lever, with limit stop.
- h. Inlets: 1/2" IPS.
- i. Spout: Rigid.
- j. Operation: ceramic control components.
- k. Offset grid drain assembly for ADA lavatories.
- l. Tempering Device: No

3. Under Sink Protective Pipe Covering: Truebro Inc., Lav Guard

- a. Under sink protective pipe covering for hot- and cold-water supplies, and trap and drain piping, complying with ADA requirements.
- b. Molded impact-resistant, stain-resistant, antimicrobial vinyl.
- c. UV protection to prevent discoloration and fading
- d. Color: white

2.3 INDIVIDUAL SHOWERS

A. Tub/Shower Unit (**P-3**): Aqua Glass Model #836033B

1. Finished surface: Sanitary-grade polyester Gelcoat
2. Unit dimensions: 60" x 32-1/2" x 79-3/4" O.D
3. Seat: Removable teakwood
4. Back side of unit shall be constructed of molded reinforced fiberglass with a cellular inner core and a reinforced polyester protective exterior coating for superior overall rigidity
5. Fire Rating: Class B fire rating and a flame spread of less than 75 by ASTM E-84 and E-162. Unit shall have a smoke density rating of less than 450 to meet ASTM E-84 and NFPA 258 specifications.
6. The approximate weight of the unit shall be 165 lbs.
7. A self-supported wooden base shall be attached to the sump of the unit to form an integral part with an inner and outer coating of reinforced fiberglass with polyester resin to allow for an above-the-floor installation of waste, overflow and drainage.
8. Grab Bars: Unit shall have two (2) grab bars mounted horizontally on flat back wall. One (1) grab bar mounted horizontally on valve wall. One (1) straight grab bar mounted horizontally on dry wall. All grab bars will be 1-1/2" O.D. 18 gauge type 304 stainless steel, mounted with stainless steel nuts and bolts and fastened from the back side of the unit with 3" x 3" metal mounting plates to meet ASTM F-446 specifications.
9. Curtain and Rod: 1" O.D. 18 gauge type 304 stainless steel curtain rod with green commercial grade vinyl shower curtain shall be included with the unit.
10. The unit shall comply with ANSI A117.1-1992 and (ADA) The Americans with Disabilities Act of 1991.

B. Tub/Shower Mixing Valve: Symmons Temptrol Model #S-96-2-131-L-V-X.

1. Maximum Flow Rate: 2.5 gpm, unless otherwise indicated.
2. Body Material: Cast brass.
3. Finish: Polished chrome plate.
4. Type: Single-handle pressure balance.
5. Mounting: Concealed.
6. Handle: Lever with adjustable stop screw to limit handle turn. Set limit to a maximum shower temperature of 110 degrees F.
7. Diverter Valve
8. Anti-scald Device: Integral with mixing valve.
9. Supply Connections: 1/2". Provide integral service stops.
10. Shower Head Material: Metallic with chrome-plated finish.
11. Integral Volume Control: Required.

C. ADA Roll-in Shower (**P-3A**): Aqua Glass Model #836336A

1. Finished surface: Sanitary-grade polyester gel coat.
2. Unit dimensions: 63-1/2" x 37" x 79-1/4" O.D.
3. Molded reinforced fiberglass with a reinforced polyester protective exterior coating for superior overall rigidity

4. Fire Rating: Class B fire rating and a flame spread of less than 75 by ASTM E-84 and E-162. Unit shall have a smoke density rating of less than 450 to meet ASTM E-84 and NFPA 258 specifications.
5. The approximate weight of the unit shall be 270 lbs.
6. A self-supported wooden base shall be attached to the sump of the unit to form an integral part with an inner and outer coating of reinforced fiberglass with polyester resin. Unit shall be recessed in sub-floor with overall depth determined by thickness of finished floor material. Threshold of unit shall be level with finished floor.
7. Grab Bars: Unit shall have one continuous grab bar encompassing both end walls and back wall. This wrap around grab bar will be 1-1/2" O.D. 18 gauge type 304 stainless steel, mounted with stainless steel nuts and bolts and fastened from the back side of the unit with 3" x 3" metal mounting plates to meet ASTM F-446 specifications.
8. A 1" O.D. 18 gauge type 304 stainless steel curtain rod with green commercial grade vinyl shower curtain shall be included with the unit.
9. Unit shall incorporate a textured bottom in bathing area with a self-caulking brass shower drain.
10. The unit shall comply with ANSI A117.1-1998 and (ADA) The Americans with Disabilities Act of 1991.

D. ADA Shower Mixing Valve: Symmons Temptrol Model #S-96-300-B30-L-V-X.

1. Maximum Flow Rate: 2.5 gpm, unless otherwise indicated.
2. Body Material: Cast brass.
3. Finish: Polished chrome plate.
4. Type: Single-handle pressure balance.
5. Mounting: Concealed.
6. Handle: Lever with adjustable stop screw to limit handle turn. Set limit to a maximum shower temperature of 110 degrees F.
7. Diverter Valve: Not required.
8. Anti-scald Device: Integral with mixing valve.
9. Supply Connections: 1/2". Provide integral service stops.
10. Shower Head Material: Metallic with chrome-plated finish.
11. Head Type: Hand held, slide-bar mounted. Wall/hand shower to have flexible metal hose, in-line vacuum breaker, wall connection, and flange. Provide 30" slide bar for hand shower mounting.
12. Spray Pattern: Fixed.
13. Integral Volume Control: Required.

2.4 SINKS

A. Manufacturers

1. Elkay Manufacturing Co.
2. Just Manufacturing Co
3. Advance Tabco

B. Kitchen Sink (P-4):

1. Elkay Manufacturing Co., Model #LRAD2521
 - a. Overall Size: 25" X 21-1/4" X 5-1/2".

- b. Single compartment, counter mounted, self-rimming
 - c. Type 304 Stainless steel
 - d. Underside undercoating to dampen sound and prevent condensation.
 - e. Hole punchings: Four holes on 4" centers.
 - f. Supplies: NPS 1/2 chrome-plated copper with stops.
 - g. Drain Piping: 1-1/2" offset drain, 1 1/2" inlet to 2" outlet cast-brass trap, 0.045-inch-thick tubular brass waste to wall, and wall escutcheon.
 - h. Strainer basket
2. Kitchen Sink Faucet: Symmons Symmetrix Model #S-23-2-IPS
- a. Maximum Flow Rate: 2.5 gpm, unless otherwise indicated.
 - b. Body Material: Copper or brass underbody.
 - c. Finish: Polished chrome plate.
 - d. Mixing Valve: Single control.
 - e. Centers: 8 inches.
 - f. Mounting: Deck, exposed.
 - g. Faucet hose and spray mounted on escutcheon.
 - h. ADA single lever handle
 - i. Handle limit stop
 - j. Operation: Ceramic control components
 - k. Inlets: 1/2" IPS connections.
 - l. Spout: Swing, shaped tube.
 - m. Spout Outlet: Aerator.
 - n. Vacuum Breaker: Not required.
 - o. Tempering Device: no
- C. ADA Kitchen Sink (**P-4A**):
1. Elkay Manufacturing Co., Model #LRAD2521
- a. Overall Size: 25" X 21-1/4" X 5-1/2".
 - b. Single compartment, counter mounted, self-rimming
 - c. Type 304 Stainless steel
 - d. Underside undercoating to dampen sound and prevent condensation.
 - e. Hole punchings: Four holes on 4" centers.
 - f. Supplies: NPS 1/2 chrome-plated copper with stops.
 - g. Drain Piping: 1-1/2" offset drain, 1 1/2" inlet to 2" outlet cast-brass trap, 0.045-inch-thick tubular brass waste to wall, and wall escutcheon.
 - h. Strainer basket
2. Kitchen Sink Faucet: Same as P-4
3. Protective Shielding Guards: Truebro Basin Guard.
- a. High-impact, stain resistant, PVC
 - b. Provide wall anchors and tamper-resistant screws
 - c. UV protection to prevent discoloration and fading
 - d. Color: White

2.5 MOP SERVICE BASINS

A. Mop Sink (P-6):

1. Fiat Products, Model #MSB3624
 - a. Size: 24 by 24 inches by 10 inches high
 - b. Material: Precast molded stone basin
 - c. Floor mounted, flush-to-wall
 - d. Color: White.
 - e. Drain: 3" Stainless steel outlet, with combination dome strainer and lint basket.
 - f. Mop hanger: Fiat Products, Model #889-CC; 24" long by 3" wide, stainless steel, with three (3) rubber tool grips.
 - g. Hose and Bracket: Fiat Products, Model #832-AA; 30" heavy duty 5/8" rubber hose with 3/4" chrome coupling, and 5" long by 3" wide bracket with rubber grip
 - h. Splash Shields: Coordinate with Architect
 - i. Furnish and install a tube of sealant for sealing gap between fixture and wall.
2. Mop Sink Faucet: Chicago Model #540-LD897SWXF
 - a. Maximum Flow Rate: 2.5 gpm, unless otherwise indicated.
 - b. Body Material: Cast brass.
 - c. Finish: Polished or rough brass.
 - d. Mixing Valve: Two-lever handle.
 - e. Operation: Quatern cartridge
 - f. Centers: 8 inches.
 - g. Mounting: Back/wall, exposed.
 - h. Handles: Chicago #369 ADA lever handles.
 - i. Inlets: 1/2" NPT female union.
 - j. Spout: vacuum breaker spout with pail hook and wall brace.
 - k. Spout Outlet: 3/4" male thread hose outlet.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine roughing-in for water soil and for waste piping systems and supports to verify actual locations and sizes of piping connections and that locations and types of supports match those indicated, before plumbing fixture installation. Use manufacturer's roughing-in data if roughing-in data are not indicated.
- B. Examine walls, floors, and cabinets for suitable conditions where fixtures are to be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 FIXTURE INSTALLATION

- A. Assemble fixtures, trim, fittings, and other components according to manufacturers' written instructions.
- B. Coordinate slab-recess required for shower bases.
- C. Install floor-mounting fixtures on closet flanges or other attachments to piping or building substrate.
- D. Install counter-mounting fixtures in and attached to casework.
- E. Install fixtures level and plumb according to manufacturers' written instructions and roughing-in drawings.
- F. 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.
- G. Install trap and tubular waste piping on drain outlet of each fixture to be directly connected to sanitary drainage system.
- H. Install tubular waste piping on drain outlet of each fixture to be indirectly connected to drainage system.
- I. Install tanks for accessible, tank-type water closets with lever handle mounted on wide side of compartment.
- J. Install toilet seats on water closets.
- K. Install traps on fixture outlets.
- L. Install escutcheons at piping wall-ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding fittings. Refer to Division 15 Section "Basic Mechanical Materials and Methods" for escutcheons.
- M. Set bathtubs, shower receptors, and service basins in leveling bed of cement grout. Refer to Division 15 Section "Basic Mechanical Materials and Methods" for grout.
- N. Seal joints between fixtures and walls, floors, and counters using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color.

3.3 CONNECTIONS

- A. Piping installation requirements are specified in other Division 15 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect water supplies from water distribution piping to fixtures.
- C. Connect drain piping from fixtures to drainage piping.

- D. Supply and Waste Connections to Plumbing Fixtures: Connect fixtures with water supplies, stops, risers, traps, and waste piping. Use size fittings required to match fixtures. Connect to plumbing piping.

3.4 FIELD QUALITY CONTROL

- A. Verify that installed fixtures are categories and types specified for locations where installed.
- B. Check that fixtures are complete with trim, faucets, fittings, and other specified components.
- C. Inspect installed fixtures for damage. Replace damaged fixtures and components.
- D. Test installed fixtures after water systems are pressurized for proper operation. Replace malfunctioning fixtures and components, then retest. Repeat procedure until units operate properly.

3.5 ADJUSTING

- A. Operate and adjust faucets and controls. Replace damaged and malfunctioning fixtures, fittings, and controls.
- B. Adjust water pressure at faucets and shower valves to produce proper flow and stream.
- C. Replace washers and seals of leaking and dripping faucets and stops.

3.6 CLEANING

- A. Clean fixtures, faucets, and other fittings with manufacturers' recommended cleaning methods and materials. Do the following:
 - 1. Remove faucet spouts and strainers, remove sediment and debris, and reinstall strainers and spouts.
 - 2. Remove sediment and debris from drains.

3.7 PROTECTION

- A. Provide protective covering for installed fixtures and fittings.
- B. Do not allow use of fixtures for temporary facilities unless allowed in Division 1.

END OF SECTION 15410