

DIVISION 15 - MECHANICAL

SECTION 15410 - PLUMBING FIXTURES

PART 1 - GENERAL

1.01 SUMMARY

Provide plumbing fixtures and trim as scheduled.

1.02 SUBMITTALS

- A. Submit in accordance with Section 01330 - SUBMITTAL PROCEDURES
- B. Manufacturer's Data: Submit manufacturer's technical data for all materials.
- C. Operation and Maintenance Data: Submit operation and maintenance data including maintenance schedules, spare parts requirements, and procedures.
- D. LEED Submittals: Submit LEED submittal requirements according to Section 01352 - LEED REQUIREMENTS.

1.03 QUALITY ASSURANCE

- A. Single Source: Provide similar plumbing fixtures and trim from a single manufacturer.
- B. All work shall conform to the current edition of the Uniform Plumbing Code.

1.04 RELATED WORK

- A. Section 01352 - LEED REQUIREMENTS.
- B. Section 15400 – PLUMBING.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Acceptable Manufactures:
 - 1. Fixtures: Kohler, American Standard, Eljer, Acorn or approved equal.
 - 2. Faucets: Kohler, American Standard, Eljer, Moen, Sloan, Chicago, or approved equal.
 - 3. Water Closet Seats: Kohler, American Standard, Olsonite, Beneke, or approved equal.
 - 4. Electric Water Coolers, Drinking Fountains, and Bottle Fillers: Haws, Halsey Taylor, Elkay, Acorn, or approved equal.
- B. Where applicable, refer to the Index Creations cross reference "Blue Books". Fixtures, fittings, equipment or appliances listed as similar in the "Blue Books" shall be acceptable under this paragraph. Prequalification is not required.

- C. All fixtures shall include accessories to comply with the energy conservation and water conservation requirements of the Building Code and Plumbing Code of the County.
- D. All fixtures designated "Accessible" shall conform to the accessible requirements of the Building Code of the County, and Americans with Disabilities Act Accessibility Guidelines (ADAAG). Sections [602 for Drinking Fountain and Water Coolers] [604 for Water Closets,] [605 for Urinals,] [606 for Lavatories,] [607 for Bathtubs,] [608 for Showers,] [606 for Sinks,] [309 for Controls and Operating Mechanisms].
- E. Faucet hole covers shall be provided for extra faucet holes. Faucet hole covers shall be polished stainless steel.
- F. All plumbing fixtures shall include stops, P-traps, trap arms and escutcheons of the following type unless otherwise specified.
 - 1. Stops shall be chrome plated brass with compression fittings, chrome plated copper tubing risers and chrome plated brass escutcheons.
 - 2. P-traps and Trap Arm shall be 17 gauge chrome plated brass with slip joint. Slip joints which are not accessible, such as tub waste fittings, shall be soldered.
- G. Electronic sensor operated valves, or faucets shall be 120 volts UL Listed, or 24 volts UL Listed with transformer supplied with the valve, or faucet. Wiring up to and including a junction box in the plumbing wall space shall be provided and installed under DIVISION 16 of these specifications. All wiring from junction box provided in the plumbing wall space to valves and sensor shall be provided and installed under this section of the specifications in accordance with applicable sections of DIVISION 16 - ELECTRICAL. All wiring including 24 volt wiring shall be placed in conduit. Solenoid and compression valves, strainers, control modules and transformers shall be installed in a recessed stainless steel wall box.

2.02 FIXTURE SCHEDULE

The following general description is given for quality only. Substitutes are acceptable if approved in writing by the Architect.

- A. WATER CLOSET Commercial Type (WC-4): Shall be floor mounted floor outlet, 1.28 gallons per flush maximum, flush valve, siphon jet, elongated bowl, vitreous china with mounting bolts, washers, china bolt caps, and 1-1/2 inches top spud.
American Standard 2234.001 "Madera FloWise 15" Height" (1.28 gpf)
Seat: White solid plastic commercial weight elongated open front seat with self-sustaining check hinges: American Standard #5901.100 Heavy duty open front less cover or approved equal.
Flush valve assembly shall be chrome-plated brass diaphragm type with vacuum breaker, one inch angle control screwdriver stop with bumper, wall and spud escutcheons.
- B. WATER CLOSET Ligature Resistant Type (WC-2): Shall be on-floor, wall outlet,

1.28 gallons per flush maximum, flush valve, blowout jet, ligature resistant elongated bowl, 304 Stainless steel and polished to a satin finish, rear mount, concealed flush valve style with 1-1/2" NPT connection.

Acorn LR2140-W-2-RM "Secur-Care – Ligature Resistant" (1.28 gpf)

Flush Valve Options:

1. -FVH Flush Valve, Hydraulic (N/A for Top Supply)

Toilet Options

1. -CO1: Cleanout with O-Ring to No-Hub 2-3/7" x 4"

Product Options

1. -EGE: Enviro-Glaze Color Specify EG10
2. -SW: Wall Sleeve

Carriers shall be cast iron providing positive support for wall hung fixture with vertical adjustment to suit mounting height, adjustable extension nipple, chrome plated fixture cap nuts and washers, and pipe fitting either vertical or horizontal to suit piping arrangement. Separate face plate, rod support feet, carrier anchor foot, and carrier assembly shall be provided when necessary to position carrier immediately behind chase wall. Carrier manufacturers shall be Josam, Smith, Wade, Zurn, or approved equal.

- C. WATER CLOSET ACCESSIBLE Commercial Type (WC-3): Shall be floor mounted, floor outlet, 1.28 gallons per flush maximum flush valve, blowout jet, elongated bowl, vitreous china with mounting bolts, washers, china bolt caps, 1-1/2 inches top spud and minimum 2-1/8 inches waste trapway. Maximum height of fixture rim shall be 16.5 inches from finished floor.

American Standard 3043.001 "Madera FloWise 16-1/2" Height" (1.28 gpf)

Flush valve assembly shall be chrome plated brass diaphragm type, with vacuum breaker, one inch angle control screwdriver stop with bumper, wall and spud escutcheons. Valves shall be as manufactured by Sloan, Delany, or Zurn. Flush valve actuator shall be located on the wide side of the water closet stall.

ADA (ADAAG SECTION 309 AND 604) Compliant Handle:

Sloan "Regal" 111-1.28

Delany "Flushboy" F402-1.28-G

Zurn "Aquaflush" Z6000-HET-YO (1.28 gpf)

- D. WATER CLOSET ACCESSIBLE Ligature Resistant Type (WC-1): Shall be on-floor, wall outlet, 1.28 gallons per flush maximum flush valve, siphon jet, elongated bowl, 304 Stainless steel and polished to a satin finish, rear mount, concealed flush valve style with 1-1/2" NPT connection. Maximum height of fixture rim shall be 18 inches from finished floor.

Acorn LR2140-W-2-RM "Secur-Care – Ligature Resistant LR2140" (1.28 gpf)

Flush Valve Options:

1. -FVH Flush Valve, Hydraulic (N/A for Top Supply)

Toilet Options

1. -CO1: Cleanout with O-Ring to No-Hub 2-3/7" x 4"

Product Options

1. -EGE: Enviro-Glaze Color Specify EG10
2. -SW: Wall Sleeve

- E. LAVATORY - WALL HUNG Commercial Type (LAV-3, LAV-4): American Standard 0955001EC "Murro" or approved equal, 22 inches x 21 inches vitreous china wall hung lavatory, 4 inch faucet hole centers, rear overflow, recessed self-draining deck, for concealed arm or wall support.

1. Faucet: Chicago Faucets 3502-E2805ABCP chrome-plated metering faucet with non-aerating spray, vandal-proof. Provide 0.5 gpm flow control device. Connect cold water to both faucet inlet connections if there is no hot water provided.
2. Drain: American Standard 2411.015 or Kohler K-7129-A, 1-1/4 inches chrome-plated brass tailpiece with integral grid (perforated) drain.
3. Shutoff Valve: Brass Craft KTSCR19XC or approved equal 1/2 inch angle 1/4-turn ball supply with loose key stop.
4. Piping: ProFlo PFPTB103 or approved equal, 1-1/4 inches x 1-1/2 inches chrome-plated 17-gauge tubular P-trap and ProFlo PFE11 escutcheon (wall flange).

Notes:

- a. See Architectural drawings for lavatory mounting heights. Mounting height for accessible lavatories shall be in accordance with the accessible clearance requirements of the City and County of Honolulu Building Code and ADAAG Section 606. Fixture substitutions shall show that they meet the accessible clearance requirements of the Building Code and ADAAG Section 606.
- b. Drain piping and water piping insulation shall be molded closed cell vinyl with anti-microbial additive. Installation shall be in compliance with the Americans with Disabilities Act (ADAAG Section 606). Insulation shall be self extinguishing and as manufactured by Truebro, McGuire Products, Brocar Products or approved equal.

- F. LAVATORY - WALL HUNG Ligature Resistant Type (LAV-1, LAV-2): Whitehall WH3740BAR "Ligature Resistant ADA Compliant Bariatric Stainless Steel Basin Powder Coated White", 22 inches x 20 inches 304 stainless steel wall hung lavatory, 4 inch faucet hole centers, rear overflow, basin, countertop, backsplash, and side splash. Conceal P-trap, trap cover to be constructed of 18 gage, type 304 stainless steel and powder coated white. Fixture is rated at 1,000 lbs when used with an appropriate system.

1. Faucet: Whitehall WH3375-SO "Ligature Resistant Sensor Activated Faucet" chrome-plated electronic faucet with non-aerating spray, vandal-proof. Provide 0.5 gpm flow control device, multi-stream laminar spray nozzle, 9VDC sensor and faucet connections. Faucet valve shall be sensor activated and include Auto-Purge feature. Connect cold water to both faucet inlet connections if there is no hot water provided.

2. Drain: American Standard 2411.015 or Kohler K-7129-A, 1-1/4 inches chrome-plated brass tailpiece with integral grid (perforated) drain.
3. Shutoff Valve: Brass Craft KTSCR19XC or approved equal 1/2 inch angle 1/4-turn ball supply with loose key stop.
4. Piping: ProFlo PFPTB103 or approved equal, 1-1/4 inches x 1-1/2 inches chrome-plated 17-gauge tubular P-trap and ProFlo PFE11 escutcheon (wall flange).

Notes:

- a. See Architectural drawings for lavatory mounting heights. Mounting height for accessible lavatories shall be in accordance with the accessible clearance requirements of the City and County of Honolulu Building Code and ADAAG Section 606. Fixture substitutions shall show that they meet the accessible clearance requirements of the Building Code and ADAAG Section 606.
 - b. Drain piping and water piping insulation shall be molded closed cell vinyl with anti-microbial additive. Installation shall be in compliance with the Americans with Disabilities Act (ADAAG Section 606). Insulation shall be self extinguishing and as manufactured by Truebro, McGuire Products, Brocar Products or approved equal.
- G. CORNER FLOOR SERVICE SINK (MS): Kohler K-6710 "Whitby" or approved equal. 28 inches x 28 inches acid-resisting enameled cast iron service sink complete with drain strainer and K-8940 removable vinyl coated wire rim guard. Kohler K-838T60-4A "Triton Bowe" or approved equal mixing faucet with 2.2 gpm faucet flow restrictor, pail hook, vacuum breaker, hose thread spout, and loose key stops. Include rubber hose and wall hook. Connect cold water to both faucet connections if there is no hot water provided.
- H. WASH MACHINE SUPPLY FITTING: Symmons W-400 "Laundry-Mate" Water Control Valve for automatic washing machine with square head cock shut off on risers.
- I. WASHER BOX: Symmons LM600 "Laundry-Mate" box with 3/4 inch hose outlets, 2 inch drain and 1/2 inch angle screwdriver stops with escutcheon.
- J. LABORATORY SINK (SK-1 and SK-2):
- (SK-1): Elkay ELUH2816PD "Lustertone Classic Stainless Steel 30-1/2" x 18-1/2" x 7-1/2" Single Bowl Undermount Sink with Perfect Drain"
- (SK-2): Elkay ELUHAD281655PD "Lustertone Classic Stainless Steel 30-1/2" x 18-1/2" x 5-3/8" Single Bowl Undermount ADA Sink w/Perfect Drain"
1. Faucet shall be Chicago Faucet model 434-ABCP, for hot and cold water, single lever, pulldown side spray, chrome plated. Integral, tubular brass spout. Dual-pattern 1.5 GPM outlet. 1/2" NPSM supply inlets for 3/8" or 1/2" flexible riser.
 2. Plumber shall provide and install faucet, tailpiece, p-trap, trap arm, chrome plated brass 1/2 inch 1/4-turn ball supply stops, escutcheons, and accessories necessary to complete final connection.
- K. LAUNDRY SINK – Ligature Resistant Type (SK-3):**

(SK-3) Elkay ELUHAD141455PD “Lusterstone Classic Stainless Steel 16-1/2” x 16-1/2” x 5-3/8” Single Bowl Undermount ADA Sink w/Perfect Drain”

1. **Faucet: Whitehall WH3375-SO “Ligature Resistant Sensor Activated Faucet” chrome-plated electronic faucet with non-aerating spray, vandal-proof. Provide 0.5 gpm flow control device, multi-stream laminar spray nozzle, 9VDC sensor and faucet connections. Faucet valve shall be sensor activated and include Auto-Purge feature. Connect cold water to both faucet inlet connections if there is no hot water provided.**
2. **Drain: Elkay LKPD1 “Perfect Drain Fitting Type 304 Stainless Steel Body and Strainer”.**
3. **Shutoff Valve: Brass Craft KTSCR19XC or approved equal 1/2 inch angle 1/4-turn ball supply with loose key stop.**
4. **Piping: ProFlo PFPTB103 or approved equal, 1-1/4 inches x 1-1/2 inches chrome-plated 17-gauge tubular P-trap and ProFlo PFE11 escutcheon (wall flange).**

Notes:

- b. **See Architectural drawings for lavatory mounting heights. Mounting height for accessible lavatories shall be in accordance with the accessible clearance requirements of the City and County of Honolulu Building Code and ADAAG Section 606. Fixture substitutions shall show that they meet the accessible clearance requirements of the Building Code and ADAAG Section 606.**
 - b. **Drain piping and water piping insulation shall be molded closed cell vinyl with anti-microbial additive. Installation shall be in compliance with the Americans with Disabilities Act (ADAAG Section 606). Insulation shall be self extinguishing and as manufactured by Truebro, McGuire Products, Brocar Products or approved equal.**
- L. **SHOWER ACCESSIBLE Commercial Type (SH-2):**
1. **Chicago Faucets SH-TP2-11-013 shower valve shall be chrome-plated brass single handle pressure balanced mixing valve with temperature limit stops, screwdriver check stops, 1/2 inch inlets and outs, wall elbow with in-line vacuum breaker shower head with ball joint, 2.5 gpm flow restrictor, mounting plate and bolts to suit installation.**
 2. **Shower drain shall be same as specified floor drain commercial type.**
- M. **SHOWER ACCESSIBLE Ligature Resistant Type (SH-1):**
1. **Whitehall WH538-FH-CSH-SRCH shower heads are chrome-plated brass with 14 gage type 304 stainless steel white mounting flange powder coated and provides a vandal and ligature resistant shower head with a conical shape. Temperature and pressure mixing valve automatically mixes hot and cold water, 1/2 inch inlets and outs, spray pattern is non-adjustable multi-stream style and provides 1.5 gpm flow rate.**

2. Shower drain shall be same as specified floor drain ligature resistant type.
- N. BOTTLE FILLER (LIGATURE RESISTANT): Acorn Whitehall Model WHBF3 or approved equal. Semi-Recessed Pushbutton operated Ligature Resistant Cup Filler. Unit also has a strong, Ligature Resistant, and Vandal-Resistant design for years of trouble-free service. When installed properly the Cup Filler complies with ADA forward and side reach requirements. Cup Filler is fabricated of type 304 stainless steel and provided with EG10 White powder coating. Unit is certified to ANSI A117.1, Public Law 111-380 (NO-LEAD), CHSC 116875 and NSF/ANSI 61, Section 9. Optional WF3000 PFAS Certification for Lead, Bacteria, Chlorine, Microplastics, and NSF/ANSI for Cyst and total PFAS reduction.
- O. ICE MAKER: Scotsman HID207AX-1 “Meridian Air-cooled Ice and Water Dispenser Nugget-Style Countertop with Touchfree Infrared 196 Lb/Day ENERGY STAR” with UV-LED Sanitation, 115V/60HZ/1PH, and 1/2” water inlet connection.
- P. HOSE BIBB (INTERIOR): Chicago No. 952 chrome plated sill faucet with integral vacuum breaker, 3/4 inch hose thread outlet, lock shield cap, No. 293-6 loose key tee handle and 1/2 inch female inlet. Chicago No. 1771 built-in chrome plated straightway loose key shutoff valve with 1/2 inch female inlet and outlet and wall flange.
- Q. HOSE BIBB (EXTERIOR): Chicago No. 998 rough chrome plated exterior sill faucet with integral vacuum breaker, 3/4 inch hose thread outlet, No. 293-6 removable tee handle, lock shield cap, 3/4 inch female inlet, McDonald 9802W or Lunkenheimer 454 3/4 inch bronze square head service cock.
- R. FLOOR DRAIN Commercial Type (FD-2): Smith 2010-A (Round Top) or approved equal. Cast iron body and flashing collar with nickel bronze adjustable heel proof and vandal proof grate. When indicated on drawing, floor drain body shall be provided with a trap primer connection. Size of strainer shall be 6 inches, 8 inches, and 10 inches diameter for drain outlet sizes 2 inches, 3 inches, and 4 inches respectively. Outlet size shall be as indicated on drawings.
- S. FLOOR DRAIN Ligature Resistant Type (FD-1): Smith 2005-A (Round Top) or approved equal. Cast iron body and flashing collar with nickel bronze adjustable heel proof and vandal proof grate. When indicated on drawing, floor drain body shall be provided with a trap primer connection. L Speedi-Set Service Weight. Size of strainer shall be 6 inches, 8 inches, and 10 inches diameter for drain outlet sizes 2 inches, 3 inches, and 4 inches respectively. Outlet size shall be as indicated on drawings.
- T. FUNNEL FLOOR DRAIN (FFD): Same as floor drain specified above with 4 inches diameter bronze funnel, Smith 3580-PB, Josam F4 Wade EF-4, Zurn ZB-328 or approved equal. When indicated on drawing, floor drain body shall be provided with a trap primer connection. Strainer and funnel shall be bronze finish.
- U. AREA DRAIN - SECURED YARD (AD): Smith 1610T or approved equal. Cast iron body, ADA Flat Strainer, bronze clamp ring, shallow sump with flashing flange. Provide vandal proof screws. Outlet size shall be as indicated on drawings.
- V. TRAP SEAL PRIMER VALVE: Precision Plumbing Products Trap Primer, MIFAB M-500-NPB, or approved equal. Pressure drop activated type, corrosion resistant brass material, with no springs or diaphragms, integral vacuum breaker

and backflow preventer, distribution unit and UPC approval.

- W. THERMOSTATIC MIXING VALVE: Valve shall be thermostatic type, pressure-balanced or combination thermostatic and pressure-balanced. Thermostatic mixing valve shall be sized according to the flow capacity required from the valve. The body shall be of heavy cast bronze, and interior parts shall be brass, bronze, corrosion-resisting steel or copper. The valve shall be equipped with necessary stops, check valves, and unions on the inlets and shall be lead-free compliant. Permissible tempered water temperature variation above and below setpoint shall be per ASSE 1017 requirements.
- X. ELECTRONIC LAVATORY FAUCET RECESSED VALVE BOX: MIFAB or approved equal. Box shall be 16 gauge satin coat steel box with stainless steel type 304 door and frame. Box shall be waterproof with continuously welded joints. Door shall be provided with a continuous hinge and key operated cylinder lock. Box size shall be indicated on drawings.

PART 3 - EXECUTION

3.01 FIXTURE INSTALLATION

- A. Set all plumbing fixtures in an approved workmanlike manner. Point up edges against wall with approved sealant.
- B. Flanges at wall penetrations shall be flush against wall and shall not spin when rotated by hand.
- C. Adjust equipment and plumbing fixtures and trim to operate properly and clean all fixtures just prior to final inspection.
- D. Rough outlets for all fixtures shall be set exactly to the measurements furnished by the manufacturer; fixtures in batteries with their rough outlets set in a straight line at equal spacing.
- E. Verify fixture rough-in height and location with architectural drawings.
- F. Each fixture shall be installed at the exact height and location shown on architectural drawings, or as directed.
- G. Fixture supplies, trap and trap arm shall be set square with wall, in line with fixture outlets without any offsets, angles, or bends.
- H. Each fixture shall be set level and in continuous contact with floor or wall; fixture in batteries shall be set on one line, at equal spacing.
- I. Joints between fixtures and walls or floor shall be adequately sealed, forming a smooth, even watertight joint. China caps shall be securely sealed into place over floor flange bolts, entirely covering washer and bolt hole.
- J. Wall Supports: Proper provisions for supporting all wall hung plumbing fixtures are totally within the scope of this section of the specifications. All metal supports shall receive one coat of red lead and oiled before erection.
- K. Chrome plated brass wall escutcheons shall be provided for all piping. Exposed piping shall be chrome plated. Pipe within cabinets shall be considered exposed and shall therefore be chrome plated.

3.02 TESTING AND ADJUSTING

- A. All work completely installed and tested as required by this section and the applicable plumbing ordinances, and proven leak tight before inspection is required. Providing of all required equipment and labor to make the test and repeating of the tests to the satisfaction of those making the inspection is within the scope of this section of the specifications.
- B. Procedure:
 - 1. Plumbing Fixtures: Filled with water and checked for leaks and/or retarded flow.
 - 2. All Valves: Adjusted and balanced to provide for the proper operation of the various fixtures. After disinfecting, strainer and aerator screens shall be removed, cleaned and reinstalled.

3.03 SPARE-PARTS DATA

After approval of materials and equipment and 2 months prior to the date of beneficial occupancy, the Contractor shall furnish a complete list of parts and supplies, with current source of supply.

END OF SECTION