

PART 1 GENERAL**1.1 DESCRIPTION**

- A. The requirements of this section apply to the plumbing system.
- B. Provide fixtures specified and shown on the Drawings.

1.2 QUALITY ASSURANCE

- A. Code: Comply with requirements of the Oregon State Plumbing Specialty Code.
- B. Fixture Color: White unless indicated otherwise.
- C. Utility Connections: Make utility and equipment connections and install distribution piping as shown on the Drawings and specified herein. Verify size, location, depth, elevation and arrangement of connection points before bidding or starting work.
- D. Potable Water Valves: Potable water valves not limited to faucets, mixing valves, or pressure reducing valves. Valves shall meet NSF Standard 61, Section 9, for drinking water faucets and shall be brass construction. Brass components which contact water within the faucet shall be from brass which contains no more than 3 percent lead by dry weight.
- E. Field Wiring: Comply with requirements of Section 22 0500.

PART 2 PRODUCTS**2.1 PIPING**

- A. Piping, fittings, supports and related items as specified in related Sections 22 0500, 22 1000, and 22 0700.

2.2 SITE WORK MATERIALS

- A. Precast concrete vaults of size required and indicated on the Drawings complete with access suitable for the installation and with suitable inspection plates.

2.3 INTERIOR PLUMBING MATERIALS

- A. Cleanouts:
 - 1. Manufacturer: J.R. Smith, Zurn, Wade, Ancon, or accepted substitute.
 - 2. Types:
 - a. Tile Floor Cleanouts: Smith 4053-U with square heavy-duty nickel bronze top, taper thread, bronze plug, and vandalproof screws.
 - b. Carpeted Floor Cleanout: Smith 4023-U-X with round heavy-duty nickel bronze top, taper thread, bronze plug, carpet clamping device and vandalproof screws.
 - c. Concrete Floor Cleanout: Smith 4023 with round heavy-duty nickel bronze top.
 - d. Wall Cleanouts: Smith 4472-U, bronze ferrule with raised head bronze plug, stainless steel shallow cover and vandalproof screws.
 - e. Outside Area Walks and Drives: Smith 4253-U-G with galvanized cast iron body, top secured with vandalproof screws, taper thread and bronze plug. Install in 18" x 18" x 6" deep concrete pad flush with grade.

- B. Flashing: Minimum 4# sheet lead; to extend horizontally 10" from edge of vent penetrations or rain drain body and vertically 12" minimum up from roof turned over and down into hub of vent or finished with bronze cap providing counterflashing for screwed pipe.
- C. Air Chambers and Shock Arrester: Precharged bellows or sealed piston type manufactured to meet PDI WH-201 and ASSE 1010 Standards. Size in accordance with PDI procedures. Jay R. Smith, PPP, Wade, Zurn, Ancon, or accepted substitute.
- D. Priming Valves: Smith 2699, Wade W8800T, Zurn Z1022, Ancon MS810 or equivalent Precision Plumbing. Locate in closets, under counters or in walls behind Milcor or access panels as specified in Section 22 0500. Use copper specified in Section 22 1000, Pipe & Pipe Fittings, for all underground priming lines.
- E. Traps: Except chrome plated fixture traps. Recessed drainage pattern for threaded pipe and same grade as pipe for cast iron pipe; with cleanout plugs in trap body in all above grade locations.
- F. Domestic Hot Water Circulator: Bronze body, bronze fitted, in-line circulator with sleeve bearing. Bell and Gossett or equivalent Grundfos, Thrush, Taco or Armstrong.
- G. Single Fixture Tempering Valve: Thermostatic mixing valve. Watts MMV. ASSE 1016 listed. Bronze/brass construction with stainless steel disc and springs, copper thermostat.
- H. Pressure Reducing Valve: Single seat type with renewable stainless steel seat and valve. Size and capacity as shown on Drawings. Bronze bodies with screwed connections on valves 2-1/2" and smaller and flanged steel bodies on valves 3" and larger. Install each PRV with strainer on inlet or internal strainer. Leslie, Spence, Fisher, Watts, Foster, Cash-Acme, or accepted substitute.
- I. Backflow Preventer: Where indicated on the Drawings, install a reduced pressure backflow preventer complete with shutoff valves, two separate check valves, differential relief valve and test cocks. USC Foundation for Cross Connection Control, State Health Officials and serving utilities approved. Bronze bodies on units 2" and smaller, and cast iron bodies with bronze trim on units 2-1/2" and larger.
- J. Gas Pressure Regulators: AGA approved size and capacity as required for connected load with propane fuel. Maxitrol, Rockwell, Fisher, Reliance, or accepted substitute.
- K. Domestic Water Balancing Valve: Balancing fitting with differential pressure taps, brass or bronze body and trim. B&G "Circuit Setter" or equivalent Taco, Armstrong, Thrush, Wheatley, Flow Design or accepted substitute.
- L. Thermometers: Mercury-in-glass, adjustable stem, separable sockets, plus 40 to 240 degrees F range (unless indicated otherwise) thermometers. Weiss numbers are listed. Equivalent Marshalltown, Taylor, Trerice, Wekler or accepted substitute.
 - 1. Wide case (9") in equipment rooms and all major equipment items. Weiss "9VS" series.
 - 2. Narrow case (7") in all other locations. Weiss "7VS" series.

2.4 PLUMBING FIXTURES

- A. Stops: Furnish stop valves for all fixtures. Loose key style, in wall, angle or straight through pattern to fit installation. Kohler, Speedway, Chicago, Eastman, Brasskraft, or accepted substitute.

- B. Fixture Traps: Exposed fixture tailpieces, traps, and wastes shall be chrome plated 17 gauge seamless brass tube with cast brass nuts and deep or box style escutcheons as required to conceal rough piping. Products to be stamped with manufacturer's name and material gauge. McGuire, Keeney, Zurn, or approved.
- C. Provide compliant fixture piping protector kit on all exposed accessible fixture traps and water supplies. White anti-microbial molded PVC. IPS Truebro "Lav Guard 2", McGuire "ProWrap", Plumberex "Pro-extreme", or approved substitute.
- D. Lavatory, Vitreous China:
1. Faucet: Chrome plated brass body with ADA Dual Handle operation, unless otherwise noted, vandal resistant 0.5 gpm aerator with grid strainer waste. Symmons Unity s-6610 or approved Moen Commercial or American Standard.
 2. "LV-1": Wall Hung, 20" x 18" Size: Harwich 1412 or approve American Standard or Kohler. Provide with concealed arm hangers and wall backing plate (J.R. Smith, Josam, Wade, Watts, or Zurn).
- E. Water Closet: 1.6 Gallon per Flush Water Closet, Pressure assist vessel and trip lever, Vitreous China: Elongated water closet bowl shall be designed for jet flushing action.
1. Install each listed water closet with the following:
 - a. Seat: Solid white heavy weight molded plastic seat, with molded in bumpers; open front less cover for elongated bowl with check and self-sustaining hinge. Hinge and hardware to be Crane EconoMiser 3840.
 - b. For Non-Back-to-Back Installation provide with wall carrier that includes anchor lug at the back and support rod/foot device. Jay R. Smith, Zurn, or approved.
 2. Floor Mount back outlet, two piece toilet. Provide with neoprene gasket at connection from fixture to carrier inlet.
- F. Stainless Steel Sinks: Type 302 or 304, 23 gauge, self-rimming stainless steel sink (unless noted otherwise), fully undercoated, drawn bowl with satin finish. Elkay numbers are listed; Just is approved. Install with stainless steel crumb cup strainer outlet or grid strainer (as noted), flange tail piece, and 1-1/2" trap. For faucets, besides the listed model, Moen, American Standard are allowed. Sinks shall be punched for faucet specified. Coordinate number of holes required. Cock hole covers are not allowed. Provide with tail piece as required for dishwasher or AC condensate drain per drawings.

MARK	LOCATION	DESCRIPTION	MANUFACTURER	MODEL
S-1	EXAM, LAB EAST, CONF.	15x15	DAYTON	D11515
		FAUCET: 4.5" GOOSENECK, WRIST BLADES, 4" CENTERS, FIXED STRAINER.	DELTA	27C4844
S-2	PROCEDURE ROOMS, LAB WEST	SINGLE BOWL 25X22, TOP MOUNT, 22 GA SS	DAYTON	DD12522
		FAUCET: 4.5" GOOSENECK, WRIST BLADES, 4" CENTERS, FIXED STRAINER.	DELTA	27C4844
S-3	LOUNGE	SINGLE BOWL 25X22, TOP MOUNT, 22 GA SS	DAYTON	DD12522
		DECK MOUNTED SWING LONG	DELTA	140-DST

		SPOUT, SINGLE HANDLE WITH SIDE SPRAYER		
S-4	MEDS	SINGLE BOWL 25X22, TOP MOUNT, 22 GA SS	DAYTON	DD12522
		FAUCET: 4.5" GOOSENECK, WRIST BLADES, 4" CENTERS, FIXED STRAINER.	DELTA	27C4844
S-5	SOILED UTILITY	Wall Hung, VITREOUS CHINA 20" x 18"	HARWICH	1412
		FAUCET: 4.5" GOOSENECK, WRIST BLADES, 4" CENTERS, FIXED STRAINER.	DELTA	27C4844

- G. Drinking Fountain "DF-1": Wall mounted, 14 gauge, stainless steel, dual height with push button operator and vandal resistant bottom cover plate. Provide with stainless steel wall plate and upper basin extension for ADA compliance. Chilled water cooler rated at 8 gallons per hour. Provide with bottle filler Elkay LVRCTL8WS2K.
- H. Drains:
1. Zurn, Jay R. Smith, Wade and Ancon. Numbers scheduled on drawings represent minimum acceptable standard for locations involved.
 2. Install 4 pound sheet lead flashing, extending not less than 10" from and clamped to all drains not completely cast-in-place in a homogeneous material.
- I. Fixtures Furnished by Owner (and/or Under Another Section): Some fixtures will be furnished by the Owner (and/or under another specification section). Include under this section the required rough-ins, 3/8" chrome plated supplies with stops, 1-1/2" chrome plated cast brass "P" trap (or, on kitchen sinks, 2" cast iron "P" traps) for each sink compartment, and make final connection. Verify all rough-ins and connection requirements before commencing work.
- J. Service Sump (Mop Basin)"SS-1":
1. Faucet exposed, brass body, rough plated, long spout, top brace, hose end spout with bucket hook, vacuum breaker and integral stops in shanks. Chicago 897, T & S B-0665-BSTP, or equal Zurn, Delta Commercial, mounted 24" above rim. Install with 18 gauge type 302, No. 4 finish stainless steel splash on the two walls.
 2. Molded stone 24" x 24" x 10" deep with vinyl bumper guard and 3" brass body strainer outlet. Fiat, Mustee, Swan or approved substitute.

PART 3 EXECUTION

3.1 PIPING

- A. Install in accordance with Section 22 0500, 22 1000, 22 0700, and 22 3000.
- B. Shock Arrestors and Air Chambers: Install at end of mains, in a battery of three or more flush valve-operated fixtures water header, ahead of quick closing and solenoid operated valves. Size per PDI recommendations where size is not indicated. Provide access panels.

- C. Trap Priming: Traps serving floor drains, floor sinks, catch basins, and similar fixtures shall be primed in accordance with Code requirements.

3.2 CLEANOUTS

- A. Where required by code, at each change of sewer direction 45 degrees or greater and more than 10' long, at end of each branch or main and spaced not greater than 100' apart, as required by code and/or as shown on Drawings.

3.3 FIXTURE INSTALLATION AND CONNECTION

- A. All exposed fixture connections and piping shall be plated with polished chrome. Where chair carriers or special carrier design are not indicated, provide 3/16" thick by 6" wide steel to waste or vent piping and to available building construction.
- B. All fixtures in contact with finished walls shall be caulked with waterproof, white, non-hardening sealant which will not crack, shrink or change color with age.
- C. All fixtures and component parts shall conform to governing codes.

3.4 FIXTURE CLEANING

- A. Remove construction protection, tags and labels and thoroughly clean all plumbing equipment and trim and scour all fixtures just prior to building acceptance.

3.5 CHEMICAL WATER TREATMENT

- A. Analyze the water condition and determine chemicals required for treatment. Provide sufficient chemicals for the initial fill and provide a list of the chemicals required for the Operating and Maintenance Manuals specified. The list shall include probable quantities of each chemical required for one year, availability of each chemical and the name and address of the supplier.

END OF SECTION