

PART 1 GENERAL**1.01 DESCRIPTION**

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

1.02 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. In addition, meet the following:
 - 1. Comply with lead free (less than or equal to 0.25 percent) products in drinking water systems.
 - 2. NSF 61 Appendix 'G' Compliant.
 - 3. ISO 9001 Certified.
 - 4. IAPMO Low Lead Certification
 - 5. California Standard AB 1953
- E. Field Wiring: Comply with requirements of Section 22 0500.

1.06 WARRANTY

- A. Warranty of materials and workmanship as required by Section 22 00 00 and Division 1, General Requirements.
- B. In addition, provide:
 - 1. Faucets: Provide five year extended warranty.
 - 2. Flush Valves: Provide three year extended warranty.

PART 2 PRODUCTS**2.01 PIPING**

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

2.02 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.

2.03 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.
- 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.

2.04 PLUMBING FIXTURES**A. Fixture Trim**

1. 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.
2. Lavatory Grid Strainer: McGuire 155A.
3. Sink Grid Strainer: McGuire 152N.
4. Trim barrier-free wrap for p-traps and supplies by McGuire, Pro-Wrap, Brocar or True-bro.

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.

1. Sink: McGuire 8912-C-DF.
2. Lavatory: McGuire 890-2-C-DF.

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 Single Handle operation, unless otherwise noted, vandal resistant 0.5 gpm low flow, lead free aerator Omni A-400 with grid strainer waste. Chicago 2200-4ABCP, or approved Delta Commercial or American Standard.
2. "LV-1": Wall Hung, 22" x 18" Size, 4 "centers, ADA approved: Kohler K2035 or approve American Standard. Provide with concealed arm hangers and wall backing plate (J.R. Smith 700, or Zurn Z-1231).

E. Water Closet: 1.28 Gallon per Flush Water Closet, Vitreous China. Kohler K4405 or American Standard 3461.128, floor set, top spud, 1.28 GPF flush valve, bolt caps. Flush Valve: Sloan Royal 111-1.28-SG.

1. Install each listed water closet with the following:
 - a. Seat: Solid white reinforced plastic, heavy duty commercial grade, seat with molded in bumpers; open front less cover for elongated bowl with check and self-sustaining hinge. Bemis 2155SSC-000.
2. Floor Mount bottom outlet, elongated bowl
 - . Provide with neoprene gasket at connection from fixture to carrier inlet.
 - a. For back-to-back toilet installations: Use only a 45° double wye fitting.

F. Stainless Steel Sinks: Type 302 18 gauge with "U" channel mounting systems, self-rimming stainless steel sink (unless noted otherwise), top mount, fully undercoated, drawn bowl with satin finish. Just numbers are listed; Elkay or Kohler 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 |
|------|----------|-------------|--------------|-------|
|------|----------|-------------|--------------|-------|

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|-----|------------------------|---|--------------|--|
| S-1 | EXAM | SINGLE, 17X16 ADA /NSF COMPLIANT | 3 HOLE PUNCH | SL-1617-A- GR |
| | | FAUCET, SINGLE LEVEL 4" CENTERS, 1.5 GPM, FIXED STRAINER. | CHICAGO | 2200-4ABCP WITH OMNI A-400 OULET |
| S-2 | DENTAL HANDWASH | SAME AS S-1 | | |
| | | FAUCET: SEE S-1 | | |
| S-3 | LOUNGE, STAFF BREAK | EXISTING | RELOCATE | |
| | | | | |
| S-4 | DENTAL UNIT | BY OTHERS | | |
| | | | | |
| | | | | |

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.
3. Finished Area Floor Drain: Zurn series Z/S-415-6B-P-IC(NH), or JR Smith 2005-Y-A06-NB-P six (6)-inch diameter stainless steel strainer top, trap primer.
4. Unfinished Area or Mechanical Room Floor Drain, Zurn series Z-520-DG-P-Y-IC(NH), or JR Smith 3220-M-P-B nine (9)-inch diameter adjustable ductile iron grate with sediment bucket, trap primer.

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.

K. Emergency Eyewash, "EW-1": Barrier-Free, deck mounted, auto-flow, with 90 degrees swing-down eye-wash for installation behind sink. Chrome plated brass supply arm, eyewash heads with dust covers, internal pressure compensating stream flow-controller internal filter, in-line strainer and emergency fixture sign. For ADA compliance unit must be installed with 27" knee clearance under counter and a maximum height of 34 inches. Guardian GBF1849, Haws, Bradley, Chicago, Speakman, Encon, and Stingray approved.

L. Anti-Contamination Interior Hose Bibb: Arrowhead, brass, Series 251 BFP: Zurn Series Z-1320-PB, encased, non-freeze, anti-siphon, automatic draining; stainless steel box (bronze finish).

M. WH-1 (Non Freeze) Anti-Contamination Wall Hydrant: Zurn Z1320-4, exposed, non-freeze, anti-siphon, automatic draining; chrome (bronze finish).

PART 3 EXECUTION

3.01 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.

3.02 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.

3.03 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.

3.04 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.

3.05 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