PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Faucets for [lavatories] [bathtubs] [bathtub/showers] [showers] [and] [sinks].
2. Flushometers.
3. Toilet seats.
4. Protective shielding guards.
5. Fixture support.
6. Disposers.
7. Hot-water dispensers.
8. Water closets.
9. Urinals.
10. Lavatories.
12. Individual showers.
15. Laundry tub.

B. Related Sections include the following:

1. Division 22 Section “Domestic Water Piping.”
2. Division 22 Section “Sanitary Waste Piping Specialties.”
3. Division 22 Section “Emergency Plumbing Fixtures.”
4. Division 22 Section “Drinking Fountains and Water Coolers.”

C. See drawings for “Plumbing Fixture Specification.”

1.2 DEFINITIONS


B. Accessible Fixture: Plumbing fixtures that can be approached, entered, and used by people with disabilities.

C. FRP: Fiberglass-reinforced plastic.

D. PMMA: Polymethyl methacrylate (acrylic) plastic.

E. PVC: Polyvinyl chloride plastic.

1.3 SUBMITTALS

A. Product Data: For each product indicated, include trim, fittings, accessories, appurtenances, supports, materials and finishes, dimensions, construction details, and flow rates.

B. Operation and maintenance data.

1.4 QUALITY ASSURANCE

A. 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.


D. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.

E. Select combinations of fixtures and trim, faucets, fittings, and other components that are compatible.

F. Comply with the following applicable standards and other requirements specified for plumbing fixtures:

1. Enameled, Cast-Iron Fixtures: ASME A112.19.1M.
5. Porcelain-Enameled, Formed-Steel Fixtures: ASME A112.19.4M.
8. Vitreous-China Fixtures: ASME A112.19.2M.

G. Comply with the following applicable standards and other requirements specified for lavatory and sink faucets:

1. Backflow Protection Devices for Faucets with Side Spray: ASME A112.18.3M.
2. Backflow Protection Devices for Faucets with Hose-Thread Outlet: ASME A112.18.3M.

H. Comply with the following applicable standards and other requirements specified for bathtub and shower faucets:

2. Combination, Pressure-Equalizing and Thermostatic-Control Antiscald Faucets: ASSE 1016.

I. Comply with the following applicable standards and other requirements specified for miscellaneous fittings:

2. Brass and Copper Supplies: ASME A112.18.1M.
5. Tubular Brass Drainage Fittings and Piping: ASME A112.18.2.

J. Comply with the following applicable standards and other requirements specified for miscellaneous components:

1. Disposers: ASSE 1008 and UL 430.
2. Grab Bars: ASTM F 446.
5. Off-Floor Fixture Supports: ASME A112.6.1M.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with the specific requirements shown on the Drawings or herein, provide products by the following manufacturers.
2. Faucets: Chicago, Kohler, Symmons, T&S Brass.
15. Disposers: In-Sink Erator; a div. of Emerson Co., KitchenAid, Maytag Co.

2.2 FIXTURE

A. Basis-of-Design Products: Subject to compliance with requirements, provide the product indicated on the Drawings or a comparable product by one of the listed manufacturers.

2.3 FIXTURE SUPPORTS

A. Water-Closet Support: Heavy Duty water-closet combination carrier designed for accessible or standard mounting height as applicable. Include single or double, vertical or horizontal, hub-and-spigot or hubless waste fitting as required for piping arrangement; faceplates; couplings with gaskets; feet; and fixture bolts and hardware matching fixture. Include additional extension coupling, faceplate, and feet for installation in wide pipe space.

B. Urinal Support: Type I, urinal carrier with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture. Include steel uprights with feet. Accessible Fixture Support: Include rectangular steel uprights.

C. Lavatory Support: Type II, lavatory carrier with concealed arms and tie rod. Include steel uprights with feet. Accessible Fixture Support: Include rectangular steel uprights.

2.4 FLUSH VALVES

A. Valve body cover, tailpiece and control stop shall be in conformance with ASTM Alloy Classification for Semi-Red Brass.

B. Required maximum flow shall be factory set, field external adjustment is not acceptable.

C. At all ADA fixtures, handles shall conform to ADA requirements.
D. Valve will be in conformance with the applicable sections of ASSE 1037, ANSI/ASME 112.19.6 and Military Specification V-29193 Standards.

E. Triple seal packing at valve handle.

F. Skirted high back pressure vacuum breaker.

G. Non-hold open ADA handle.

H. UPC, ADA and IAPMO listed.

I. Chromo plated cover for flush valve body to have female thread.

2.5 PLASTER TRAPS

A. Plaster and Sediment Traps: Manufactured unit with removable screens or strainer and removable cover, and designed to trap and retain waste material.

1. Material: Cast-iron or steel with acid-resistant lining and coating body.

2.6 NEUTRALIZATION TANK

A. Neutralization Tank: Rotationally molded, seamless, high density polyethylene tank, with welded cover, top mounted inlet and outlet, 3-inch front handhole.

1. Provide limestone chips as recommended by manufacturer.

PART 3 - EXECUTION

3.1 FIXTURE INSTALLATION

A. Assemble fixtures, trim, fittings, and other components according to manufacturers’ written instructions.

B. Install off-floor supports affixed to building substrate, for wall-hanging fixtures.

1. Use carrier supports with waste fitting and seal for back-outlet fixtures.
2. Use carrier supports without waste fitting for fixtures with tubular waste piping.
3. Use chair-type carrier supports with rectangular steel uprights for accessible fixtures.

C. Install back-outlet, wall-hanging fixtures onto waste fitting seals and attach to supports.

D. Install floor-mounting fixtures on closet flanges or other attachments to piping or building substrate.

E. Install wall-hanging fixtures with tubular waste piping attached to supports.
F. Install floor-mounting, back-outlet water closets attached to building floor substrate and wall bracket and onto waste fitting seals.

G. Install counter-mounting fixtures in and attached to casework.

H. Install fixtures level and plumb according to manufacturers' written instructions and roughing-in drawings.

I. Install water-supply piping with stop on each supply to each fixture to be connected to water distribution piping. Attach supplies in a rigid manner to supports or substrate within pipe spaces behind fixtures. Install stops in locations where they can be easily reached for operation.

J. Install chrome plated brass trap and tubular waste piping on drain outlet of each fixture to be directly connected to sanitary drainage system.

K. Install chrome plated tubular waste piping on drain outlet of each fixture to be indirectly connected to drainage system.

L. Install flushometer valves for accessible compliant water closets and urinals with handle mounted on wide side of compartment. Install other actuators in locations that are easy for people with disabilities to reach.

M. Install tanks for accessible, compliant tank-type water closets with lever handle mounted on wide side of compartment.

N. Install toilet seats on water closets.

O. Install faucet-spout fittings with specified flow rates and patterns aerator in faucet spouts if faucets are not furnished with required rates and patterns.

P. Install shower head with flow-control with specified maximum flow rates.

Q. Install traps on fixture outlets.

1. Exception: Omit trap on fixtures with integral traps.
2. Exception: Omit trap on indirect waste piping.

R. Install disposer in outlet of sinks indicated to have disposer. Install switch where indicated or in wall adjacent to sink if location is not indicated.

S. Install escutcheons at piping for wall and ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding fittings.

T. Set bathtubs, shower receptors, and service basins in leveling bed of cement grout. Seal joints between fixtures and walls, floors, and counters using sanitary-type, one-part, mildew-resistant, silicone sealant. Match sealant color to fixture color.

U. Provide pre-insulated drains, off-set drains, p-traps, and drain pipe exposed for accessible compliant lavatories and sinks.

3.2 CONNECTIONS
A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. 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.

C. Supply and Waste Connections to Fixtures and Equipment Specified in Other Sections: Connect fixtures and equipment with water supplies, stops, risers, traps, and waste piping specified. Use size fittings required to match fixtures and equipment. Connect to plumbing piping.

D. Ground equipment according to Division 26.

E. Connect wiring according to Division 26.

3.3 FIELD QUALITY CONTROL

A. Verify that installed plumbing fixtures are categories and types specified for locations where installed.

B. Check that plumbing fixtures are complete with trim, faucets, fittings, and other specified components.

C. Inspect installed plumbing 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.

E. Install fresh batteries in sensor-operated mechanisms.

3.4 PROTECTION

A. Provide protective covering for installed fixtures and fittings. Replace any damaged fixture or fittings.

B. Do not allow use of fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION