SECTION 224000

PLUMBING FIXTURES

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**NOTE TO SPECIFIER**

*Use this Specification Section for Mail Processing Facilities.*

***This is a Type 1 Specification with completely editable text; therefore, any portion of the text can be modified by the A/E preparing the Solicitation Package to suit the project.***

*For Design/Build projects, do not delete the Notes to Specifier in this Section so that they may be available to Design/Build entity when preparing the Construction Documents.*

*For the Design/Build entity, this specification is intended as a guide for the Architect/Engineer preparing the Construction Documents.*

*The MPF specifications may also be used for Design/Bid/Build projects. In either case, it is the responsibility of the design professional to edit the Specifications Sections as appropriate for the project.*

*Text shown in brackets must be modified as needed for project specific requirements.* *See the “Using the USPS Guide Specifications” document in Folder C for more information.*

*The last date that USPS revised this standard specification section occurs in two places, at the end of this section and in the Table of Contents. If the date in this section matches the date in the Table of Contents, then you are using the latest version. Do not delete or revise the “last revised” date at the end of the section during the development of the Project Manual.*

*The footer in this section should be edited to replace the text, “USPS MPF SPECIFICATION” with the project name, and the blank date in the center should be replaced with the submission date, for interim design reviews, or the issue date of the completed Project Manual.*

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1. GENERAL
	1. SUMMARY
		1. This Section includes the following:
			1. Faucets for lavatories and sinks.
			2. Flushometers.
			3. Toilet seats.
			4. Protective shielding guards.
			5. Fixture supports.
			6. Disposers.
			7. Water closets.
			8. Urinals.
			9. Lavatories.
			10. Kitchen sinks.
			11. Service sinks.
		2. Related Sections include the following:
			1. Division 22 Section "Emergency Plumbing Fixtures."
			2. Division 22 Section "Drinking Fountains and Water Coolers."
	2. DEFINITIONS
		1. ABS: Acrylonitrile-butadiene-styrene plastic.
		2. Accessible Fixture: Plumbing fixture that can be approached, entered, and used by people with disabilities.
		3. FRP: Fiberglass-reinforced plastic.
		4. PMMA: Polymethyl methacrylate (acrylic) plastic.
		5. PVC: Polyvinyl chloride plastic.
	3. SUBMITTALS
		1. Product Data: For each type of product indicated. Documentation indicating flow and water consumption requirements.
		2. Shop Drawings: Diagram power, signal, and control wiring.
		3. Operation and maintenance data.
	4. QUALITY ASSURANCE
		1. 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.
		2. Regulatory Requirements: Comply with requirements in ICC A117.1, "Accessible and Usable Buildings and Facilities and ADA/USPS Handbook RE-4 for plumbing fixtures for people with disabilities.
		3. Regulatory Requirements: Comply with requirements in Public Law 102-486, "Energy Policy Act," about water flow and consumption rates for plumbing fixtures.
		4. NSF Standard: Comply with NSF 61, "Drinking Water System Components--Health Effects," for fixture materials that will be in contact with potable water.
		5. Select combinations of fixtures and trim, faucets, fittings, and other components that are compatible.
		6. Comply with the following applicable standards and other requirements specified for plumbing fixtures:
			1. Enameled, Cast-Iron Fixtures: ASME A112.19.1M.
			2. Vitreous-China Fixtures: ASME A112.19.2M.
			3. Water-Closet, Flush Valve, Tank Trim: ASME A112.19.5.
		7. 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.
			3. Diverter Valves for Faucets with Hose Spray: ASSE 1025.
			4. Faucets: ASME A112.18.1.
			5. Hose-Connection Vacuum Breakers: ASSE 1011.
			6. Hose-Coupling Threads: ASME B1.20.7.
			7. NSF Potable-Water Materials: NSF 61.
			8. Pipe Threads: ASME B1.20.1.
			9. Sensor-Actuated Faucets and Electrical Devices: UL 1951.
			10. Supply Fittings: ASME A112.18.1.
			11. Brass Waste Fittings: ASME A112.18.2.
		8. Comply with the following applicable standards and other requirements specified for miscellaneous fittings:
			1. Atmospheric Vacuum Breakers: ASSE 1001.
			2. Brass and Copper Supplies: ASME A112.18.1.
			3. Manual-Operation Flushometers: ASSE 1037.
			4. Plastic Tubular Fittings: ASTM F 409.
			5. Brass Waste Fittings: ASME A112.18.2.
		9. Comply with the following applicable standards and other requirements specified for miscellaneous components:
			1. Disposers: ASSE 1008 and UL 430.
			2. Flexible Water Connectors: ASME A112.18.6.
			3. Grab Bars: ASTM F 446.
			4. Hose-Coupling Threads: ASME B1.20.7.
			5. Off-Floor Fixture Supports: ASME A112.6.1M.
			6. Pipe Threads: ASME B1.20.1.
			7. Plastic Toilet Seats: ANSI Z124.5.
			8. Supply and Drain Protective Shielding Guards: ICC A117.1.
2. PRODUCTS
	1. LAVATORY FAUCETS
		1. Lavatory Faucets:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. American Standard Companies, Inc.
				2. Bradley Corporation.
				3. Chicago Faucets.
				4. Delta Faucet Company.
				5. Elkay Manufacturing Co.
				6. Just Manufacturing Company.
				7. Kohler Co.
				8. Royal Brass Mfg. Co.
				9. Speakman Company.
				10. T & S Brass and Bronze Works, Inc.
				11. Zurn Plumbing Products Group; Commercial Brass Operation.
			2. Description: Single-handle-control mixing valve. Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture holes; coordinate outlet with spout and fixture receptor.
				1. Body Material: Commercial, solid brass.
				2. Finish: Polished chrome plate.
				3. Maximum Flow Rate: 0.5 gpm.
				4. Centers: 4 inches or Single hole as required.
				5. Mounting: Deck, exposed.
				6. Inlet(s): NPS 3/8 tubing, with NPS 1/2 male adaptor.
				7. Spout: Rigid type.
				8. Spout Outlet: Aerator, 0.5 gpm.
				9. Drain: Grid.
	2. SINK FAUCETS
		1. Sink Faucets:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. American Standard Companies, Inc.
				2. Bradley Corporation.
				3. Broadway Collection.
				4. Chicago Faucets.
				5. Delta Faucet Company.
				6. Elkay Manufacturing Co.
				7. Just Manufacturing Company.
				8. Kohler Co.
				9. Royal Brass Mfg. Co.
				10. Sayco; a Briggs Plumbing Products, Inc. Company.
				11. Speakman Company.
				12. T & S Brass and Bronze Works, Inc.
				13. Zurn Plumbing Products Group; Commercial Brass Operation.
			2. Description: Kitchen faucet without spray. Include hot- and cold-water indicators; coordinate faucet inlets with supplies and fixture holes; coordinate outlet with spout and fixture receptor.
				1. Body Material: Commercial, solid brass.
				2. Finish: Polished chrome plate.
				3. Maximum Flow Rate: 1.5 gpm.
				4. Mixing Valve: Single control.
				5. Centers: 4 inches or 8 inches, as required.
				6. Mounting: Deck], exposed.
				7. Handle(s): Lever.
				8. Inlet(s): NPS 3/8 tubing with NPS 1/2 male adapter.
				9. Spout Type: Swing, solid brass.
				10. Spout Outlet: Aerator].
	3. FLUSHOMETERS
		1. Flushometers:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Coyne & Delany Co.
				2. Sloan Valve Company.
				3. Zurn Plumbing Products Group; Commercial Brass Operation.
				4. TOTO USA, Inc.
			2. Description: Flushometer for urinal and water-closet-type fixture. Include brass body with corrosion-resistant internal components, non-hold-open feature, control stop with check valve, vacuum breaker, copper or brass tubing, and polished chrome-plated finish on exposed parts.
				1. Internal Design: Diaphragm operation.
				2. Style: Exposed.
				3. Stops: Integral screwdriver stops.
				4. Inlet Size: NPS 3/4 for urinals, NPS 1 for water closets.
				5. Trip Mechanism: Oscillating, lever-handle actuator.
				6. Consumption: 0.5 gal./flush for urinals, 1.28 gal./flush for water closets.
				7. Tailpiece Size: NPS 3/4 for urinals, NPS 1-1/4 for water closets length to top of bowl.
	4. TOILET SEATS
		1. Toilet Seats:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Bemis Manufacturing Company.
				2. Centoco Manufacturing Corp.
				3. Church Seats.
				4. Olsonite Corp.
			2. Description: Toilet seat for water-closet-type fixture.
				1. Material: Molded, solid plastic with antimicrobial agent.
				2. Configuration: Open front without cover.
				3. Size: Elongated.
				4. Hinge Type: SS, self-sustaining.
				5. Class: Standard commercial.
				6. Color: White.
	5. PROTECTIVE SHIELDING GUARDS
		1. Protective Shielding Pipe Covers:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Engineered Brass Co.
				2. Insul-Tect Products Co.; a Subsidiary of MVG Molded Products.
				3. McGuire Manufacturing Co., Inc.
				4. Plumberex Specialty Products Inc.
				5. TCI Products.
				6. TRUEBRO, Inc.
				7. Zurn Plumbing Products Group; Tubular Brass Plumbing Products Operation.
			2. Description: Manufactured plastic wraps for covering plumbing fixture hot- and cold-water supplies and trap and drain piping. Comply with Americans with Disabilities Act (ADA) requirements.
	6. FIXTURE SUPPORTS
		1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
			1. Josam Company.
			2. MIFAB Manufacturing Inc.
			3. Smith, Jay R. Mfg. Co.
			4. Tyler Pipe; Wade Div.
			5. Watts Drainage Products Inc.; a div. of Watts Industries, Inc.
			6. Zurn Plumbing Products Group; Specification Drainage Operation.
		2. Water-Closet Supports:
			1. Description: Combination carrier designed for accessible mounting height of wall-mounting, water-closet-type fixture. 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.
		3. Urinal Supports:
			1. Description: Type [I, urinal carrier with fixture support plates and coupling with seal and fixture bolts and hardware matching fixture] [II, urinal carrier with hanger and bearing plates] for wall-mounting, urinal-type fixture. Include steel uprights with feet.
			2. Accessible-Fixture Support: Include rectangular steel uprights.
		4. Lavatory Supports:
			1. Description: Type [I, lavatory carrier with exposed arms and tie rods] [II, lavatory carrier with concealed arms and tie rod] [III, lavatory carrier with hanger plate and tie rod] for wall-mounting, lavatory-type fixture. Include steel uprights with feet.
			2. Accessible-Fixture Support: Include rectangular steel uprights.
	7. DISPOSERS
		1. Disposers:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Franke Consumer Products, Inc.; Kitchen Systems Div.
				2. General Electric Company.
				3. In-Sink-Erator; a div. of Emerson Electric Co.
				4. KitchenAid.
				5. Maytag Co.
			2. Description: Batch-feed, food-waste disposer. Include reset button; wall switch; corrosion-resistant chamber with jam-resistant, cutlery- or stainless-steel grinder or shredder; NPS 1-1/2 outlet; quick-mounting, stainless-steel sink flange; antisplash guard; and combination cover/stopper.
				1. Type: Batch-feed, stainless steel construction with lifetime lubrication and replaceable hammers and rind kicker.
				2. Shock absorbing mounting
				3. Model: [Not applicable] [Sound-insulated chamber] [Sound-insulated chamber and stainless-steel outer shell].
				4. Motor: 115-V ac, 1725 rpm, 1 hp with overload protection.
	8. WATER CLOSETS
		1. Water Closets:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. American Standard Companies, Inc.
				2. Briggs Plumbing Products, Inc.
				3. Crane Plumbing, L.L.C./Fiat Products.
				4. Eljer.
				5. Gerber Plumbing Fixtures LLC.
				6. Kohler Co.
				7. TOTO USA, Inc.
			2. Description: Accessible, floor-mounting, floor-outlet, vitreous-china fixture designed for flushometer valve operation.
			3. Supply: NPS 1 chrome-plated brass or copper with screwdriver stop.
			4. Style: Flushometer valve.
				1. Bowl Type: Elongated, siphon-jet design. Include bolt caps matching fixture.
				2. Height: Standard or Accessible as indicated on drawings.
				3. Design Consumption: 1.28 gal./flush.
				4. Color: White.
			5. Flushometer: [ ].
			6. Toilet Seat: [ ].
	9. URINALS
		1. Urinals:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. American Standard Companies, Inc.
				2. Briggs Plumbing Products, Inc.
				3. Crane Plumbing, L.L.C./Fiat Products.
				4. Eljer.
				5. Kohler Co.
				6. TOTO USA, Inc.
			2. Description: Accessible, wall-mounting, back-outlet, vitreous-china fixture designed for flushometer valve operation.
				1. Type: Siphon jet.
				2. Strainer or Trapway: Open trapway with integral trap. Stainless steel strainer
				3. Design Consumption: 0.5 gal./flush.
				4. Color: White.
				5. Supply Spud Size: NPS 3/4.
				6. Outlet Size: NPS 3.
				7. Flushometer:
				8. Fixture Support: Urinal carrier.
	10. LAVATORIES
		1. Lavatories:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. American Standard Companies, Inc.
				2. Eljer.
				3. Kohler Co.
				4. Briggs Plumbing Products, Inc.
				5. Crane Plumbing, L.L.C./Fiat Products.
				6. Eljer.
				7. Gerber Plumbing Fixtures LLC.
				8. TOTO USA, Inc.
			2. Description: Accessible, wall fixture.
				1. Type: With back.
				2. Size: 20 by 18 inches minimum, rectangular.
				3. Faucet Hole Punching: Three holes, 4-inch centers.
				4. Faucet Hole Location: Top.
				5. Color: White.
				6. Faucet: Lavatory with grid drain.
				7. Supplies: NPS 3/8 chrome-plated copper with stops.
				8. Protective Shielding Guard(s): Where designated.
				9. Fixture Support: Lavatory concealed arm carrier.
	11. KITCHEN SINKS
		1. Kitchen Sinks:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Dayton Products, Inc.
				2. Elkay Manufacturing Co.
				3. Franke Consumer Products, Inc., Kitchen Systems Div.
				4. Just Manufacturing Company.
				5. Kohler Co.
				6. Moen, Inc.
				7. Revere Sink.
				8. Sterling Plumbing Group, Inc.
			2. Description: One-compartment, counter-mounting, stainless-steel kitchen sink.
				1. Overall Dimensions: 25 x 22 x 8.
				2. Metal Thickness: 0.050 inch
				3. Bowl:

Drain: 3-1/2-inch crumb cup[, outlet for disposer].

Location: Centered in bowl.

* + - * 1. Sink Faucet:
				2. Supplies: NPS 1/2 chrome-plated copper with stops.
				3. Drain Piping: NPS 1-1/2 chrome-plated, cast-brass P-trap; 0.045-inch- thick tubular brass waste to wall; continuous waste; and wall escutcheon(s).
				4. Disposer: As designated.
	1. SERVICE SINKS
		1. Service Sinks:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. American Standard Companies, Inc.
				2. Commercial Enameling Company.
				3. Eljer.
				4. Kohler Co.
				5. Crane Plumbing, L.L.C./Fiat Products.
				6. Eljer.
				7. Kohler Co.
			2. Description: Trap-standard- and wall-mounting, enameled, cast-iron fixture with roll-rim with back and stainless steel rim guard on front and sides.
				1. Size: 22 by 18 inches.
				2. Color: White.
				3. Faucet: Service sink faucet with vacuum breaker, adjustable wall brace, pail hook, integral stops, 3/4-inch hose thread on spout.
				4. Drain: Grid with NPS 3 outlet.
				5. Trap Standard: NPS 3 enameled, cast iron with cleanout and floor flange.
				6. Fixture Support: Service Sink wall support.
1. EXECUTION
	1. INSTALLATION
		1. Assemble plumbing fixtures, trim, fittings, and other components according to manufacturers' written instructions.
		2. Install off-floor supports, affixed to building substrate, for wall-mounting 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.
		3. Install back-outlet, wall-mounting fixtures onto waste fitting seals and attach to supports.
		4. Install floor-mounting fixtures on closet flanges or other attachments to piping or building substrate.
		5. Install wall-mounting fixtures with tubular waste piping attached to supports.
		6. Install fixtures level and plumb according to roughing-in drawings.
		7. 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.
		8. Install trap and tubular waste piping on drain outlet of each fixture to be directly connected to sanitary drainage system.
		9. Install tubular waste piping on drain outlet of each fixture to be indirectly connected to drainage system.
		10. Install flushometer valves for accessible 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.
		11. Install tanks for accessible, tank-type water closets with lever handle mounted on wide side of compartment.
		12. Install toilet seats on water closets.
		13. Install faucet-spout fittings with specified flow rates and patterns in faucet spouts if faucets are not available with required rates and patterns. Include adapters if required.
		14. Install water-supply flow-control fittings with specified flow rates in fixture supplies at stop valves.
		15. Install faucet flow-control fittings with specified flow rates and patterns in faucet spouts if faucets are not available with required rates and patterns. Include adapters if required.
		16. Install traps on fixture outlets.
			1. Exception: Omit trap on fixtures with integral traps.
			2. Exception: Omit trap on indirect wastes, unless otherwise indicated.
		17. Install disposer in outlet of each sink indicated to have disposer. Install switch where indicated or in wall adjacent to sink if location is not indicated.
		18. Install escutcheons at piping wall and ceiling penetrations in exposed, finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding fittings. Escutcheons are specified in Division 22 Section "Common Work Results for Plumbing."
		19. Seal joints between fixtures and walls, floors, and countertops using sanitary-type, one-part, mildew-resistant silicone sealant. Match sealant color to fixture color. Sealants are specified in Division 07 Section "Joint Sealants."
	2. CONNECTIONS
		1. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
		2. Connect fixtures with water supplies, stops, and risers, and with traps, soil, waste, and vent piping. Use size fittings required to match fixtures.
		3. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."
		4. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."
	3. FIELD QUALITY CONTROL
		1. Verify that installed plumbing fixtures are categories and types specified for locations where installed.
		2. Check that plumbing fixtures are complete with trim, faucets, fittings, and other specified components.
		3. Inspect installed plumbing fixtures for damage. Replace damaged fixtures and components.
		4. Test installed fixtures after water systems are pressurized for proper operation. Replace malfunctioning fixtures and components, then retest. Repeat procedure until units operate properly.
		5. Install fresh batteries in sensor-operated mechanisms.
	4. PROTECTION
		1. Provide protective covering for installed fixtures and fittings.
		2. Do not allow use of plumbing fixtures for temporary facilities unless approved in writing by Owner.

END OF SECTION

USPS MPF Specification Last Revised: 10/1/2022