

22 00 00
GENERAL PLUMBING REQUIREMENTS

1. GENERAL

- A. Related sections:
 - i. 00 00 07 – Design Professional Design Process Requirements
 - ii. 00 00 08 – Design Professional Documentation Requirements and Deliverables
 - iii. 00 00 13 - Designing Learning Environments
 - iv. 01 81 00 – Facility Performance Requirements
 - v. 22 07 00 – Plumbing Insulation
 - vi. 22 10 00 – Plumbing Piping
 - vii. 22 40 00 – Plumbing Fixtures
 - viii. 22 45 00 – Emergency Plumbing Fixtures
 - ix. 23 05 53 – Identification for HVAC Piping and Equipment
- B. The Design Professional is recommended to refer to sections 00 00 07 Design Professional Design Process Requirements, 00 00 08 Design Professional Documentation Requirements and Deliverables, and 01 81 00 Facility Performance Requirements before beginning design.
- C. Design Professional shall provide riser diagrams for all plumbing systems.
- D. Design Professional shall refer to 23 05 53 Identification for HVAC Piping and Equipment for information regarding plumbing identification.
- E. Domestic Water
 - i. Provide a valve at each floor in branch line serving that floor (provide 2 valves if system is looped).
 - ii. Provide a valve in hot and cold water at entry to each bathroom and at each fixture.
 - iii. Provide a valve in each service (water, gas, comp air, etc.) at entry to each laboratory and at each lab bench, fume hood, and at terminations for equipment. Valves shall be readily accessible, grouped together and located in lockable valve cabinet(s) at entry to the lab.
 - iv. Design Professional shall determine need for any application specific additional valves that may be required and show these on the plans.
 - v. Hot water - provide re-circulating systems on all systems with dead-leg runs greater than 30 feet.
 - vi. Isolation valves shall be provided in readily accessible locations and coordinated with other disciplines as required.
 - vii. Provide balancing valves and thermometers in hot water circulation lines to assist in balancing.
 - viii. Propress fitting (or other similar mechanical joints) shall not be allowed in new facilities, but may be considered in renovations of existing facilities.
- F. Provide floor drains in all toilet rooms.
- G. Provide trap primers for all floor drains and floor sinks.
- H. Pressure reducing valves (PRVs)
 - i. Shall be suitable for the application. Verify the prevailing mains water pressure and consult the manufacturer’s engineering department to verify the correct selection of the PRV provided irrespective of any model specified on the drawings.



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- ii. Provide pressure gauge downstream and P/T ports up and downstream of every PRV.
- iii. Provide an upstream strainer if installed ahead of the PRV.
- I. Design for Learning Environments
 - i. Avoid locating high traffic plumbing pipe within the classroom space. When plumbing is provided within a classroom wall, ensure that the wall's sound transmission class (STC) rating is adequate. Avoid plumbing layouts which may cause excessive pipe noise through the effects of water hammer.



22 07 00
PLUMBING INSULATION

1. GENERAL

A. Related sections:

- i. 22 00 00 – General Plumbing Requirements
- ii. 22 10 00 – Plumbing Piping

B. All hot and tempered water piping shall be insulated. Cold water piping insulation is not mandatory, but should be provided if required by project conditions.

2. PRODUCTS

A. Insulation shall be performed fiberglass pipe insulation with vapor barrier and an all service jacket.



22 10 00
PLUMBING PIPING

1. GENERAL

A. Related sections:

- i. 22 00 00 – General Plumbing Requirements
- ii. 22 07 00 – Plumbing Insulation
- iii. 22 40 00 – Plumbing Fixtures
- iv. 22 45 00 – Emergency Plumbing Fixtures

2. PRODUCTS

- A. Sanitary sewer piping, buried within 5 feet of building, above and below grade, shall be cast iron pipe with cast iron fittings. For some projects, PVC may be used in lieu of cast iron pipe; coordinate with Project Manager and seek variance, if appropriate.
- B. Water piping, buried within 5 feet of building, and below slab shall be ductile iron pipe with ductile iron or gray iron fittings.
- C. Water piping above grade shall be type “L” copper pipe.
- D. Acid resistant waste and vent piping shall be polypropylene or polyvinylidene Fluoride (PVDF).
- E. Fuel gas piping above grade shall be type “K” copper pipe or steel pipe, schedule 40.



22 40 00
PLUMBING FIXTURES

1. GENERAL

- A. Related sections:
 - i. 22 00 00 – General Plumbing Requirements
 - ii. 22 10 00 – Plumbing Piping
 - iii. 06 61 00 – Solid Surface Fabrications
 - iv. 09 00 00.01 – Custodial Storage
- B. Flow rates for fixtures and fitting shall comply with or be less than GA State Amendments to International Plumbing Code, Table 604.4

2. PRODUCTS

- A. Sensor actuated flush valves and faucets are not allowed. If the Design Professional feels that circumstances for a particular project warrant sensor actuated flush valves, the Design Professional shall discuss with Project Manager and determine if a variance request should be submitted.
- B. Acceptable manufactures and/or products are:
 - i. Lavatories – Sensor Type Faucets (If allowed)
 - a. Equal to Sloan: ETF 600 (Hardwire)
 - b. Equal to Sloan: SF2350 (Battery)
 - c. Equal to Speakman Sensorflo: S-8701 (Battery)
 - ii. Lavatories – Meeting faucets require pre-approval by the Project Manager.
 - a. American Standard
 - b. Delta
 - c. Encore
 - d. Kohler
 - e. Moen
 - f. T&S Brass
 - iii. Teaching Labs – Two Handle Faucets with Vacuum Breaker in Spout
 - a. Chicago
 - b. T&S Brass
 - c. Water Saver
 - iv. Urinals 0.5 GPF Max.
 - a. Equal to American Standard: Washbrook 6590.001 (0.5 GPF)
 - b. Equal to Crane: 7399 (0.5 GPF)
 - c. Equal to Zurn: Z5738 (0.125 GPF)
 - d. Equal to Zurn: Z5798 (0.125 GPF)
 - v. Urinals – Sensor Flushometers (If allowed)
 - a. Equal to Sloan: Optima 186 ES-S Series
 - b. Equal to Zurn: ZEG6003EV (For Pint Urinal)
 - vi. Urinals – Manual Flushometers
 - a. Equal to Sloan: 186 HEU Series (0.125 GPF & 0.5 GPF)
 - b. Equal to Zurn: Z6003AV-ULF (For 0.125 GPF Urinal) Z6003AV-EWS (0.5 GPF)
 - vii. Water Closets
 - a. Equal to American Standard: AFWALL 3351.001/3461.001 (1.28 GPF)
 - b. Equal to American Standard: Madera 3451.001



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- c. Equal to Crane: 3346NS (Wall)
 - d. Equal to Crane: 3H701 (ADA Floor)
 - e. Equal to Kohler: K04325 (Wall)
 - viii. Water Closets – Manual Flushmeters
 - a. Equal to Sloan: 111-1.28 (1.28 GPF)
 - b. Equal to Zurn: Z-6000AV-HET (1.28 GPF)
 - ix. Water Coolers / Bottle filling Station: Wall mounted electric drinking fountain shall be complete filtered bi-level dual fountain cooler and bottle filling station, ADA compliant, no touch sensor activation on bottle filler, cooler shall have push bar activation, water filter, flexible bubblers, refrigerated unit, 8 GPH of 50F water at 90F ambient and 80F inlet water, lead free design; Equal to Elkay LZSTL8WSLK. (Single Unit: Elkay EZH2O model # LZS8WSLK) Provide 17 gauge, chrome plated cast brass P-trap with cleanout and flexible 1/2" supply with wheel handle angle valve.
 - x. Kitchen Sinks – 18 Gauge
 - a. Double Bowl - Equal to Elkay LR 3322
 - b. Single Bowl - Equal to Elkay LR 2522
 - c. Bar Sink – Equal to Elkay BCR 15
 - xi. Kitchen Faucets
 - a. Equal to Wolverine Brass
 - b. Equal to Moen
 - xii. Service Sink – 24 x 24 x 17
 - a. Equal to Stern Williams SBC-1700BP
 - xiii. Service Sink Faucet
 - a. Equal to Wolverine
 - b. Equal to T&S
 - c. Equal to Kohler
 - xiv. Laundry Sink – 23 x 21 ½ x 33 ½ Tall
 - a. Equal to Fiat FL1
 - b. Equal to Mustee
 - xv. Laundry Sink Faucet
 - a. Equal to Wolverine
 - b. Equal to T&S
 - c. Equal to Moen
 - xvi. Wall Hung Lavatory – China
 - a. Equal to Kohler K2005-0
 - xvii. Drop –In Vanity Sink / China
 - a. Equal to Kohler K2196-4-0
- C. For UGA Housing Only (New Construction) – Acceptable products:**
- i. Water Closet – Dorm Rooms: Floor mounted, tank type, two piece vitreous china toilet with bottom outlet, elongated bowl, universal height, SanaGloss finish, chrome trip lever, 1.28 gallons per flush (GPF), cotton color; equal to Toto CST744ELG(#01). Seat (Dorm Rooms): Commercial plastic elongated seat with closed front and cover. Seat and cover shall include soft close hinge system, cotton color; equal to Toto SS154 (#01).
 - ii. ADA Water Closet: ADA Toilets with roll up area on right side of fixture shall be provided with right hand chrome trip level; equal to Toto CST744ELRG.



- iii. Water Closet – Public Areas: Floor mounted, flush valve type with bottom outlet, 1.28 GPF, elongated bowl and SanaGloss finish; equal to Toto CT705EN(G). Seat (Public Area): Elongated open front seat less cover; equal to Toto SC534. Flush Valve shall be chrome plated brass, exposed, diaphragm type with vacuum breaker; Sloan Royal 111-1.28 or equal by Toto or Zurn.
- iv. ADA Water Closet – Public Areas: Same as Water Closet – Public Areas except ADA toilets in public areas shall be ADA height: Toto CT705ELN(G). Flush handle shall be installed on wide roll up side of fixture.
- v. Urinal: ADA compliant, wall hung, vitreous china, 0.125 GPF (pint), washout type flush action, 3/4" inlet top spud, 2" outlet, SanaGloss finish, cotton color; equal to Toto UT105UG(#01). Flush Valve: manual operated, exposed, 0.125 GPF flush (pint), chrome plated brass valve with vacuum breaker and adjustable tailpiece; Sloan 186-0.13 or equal by Toto or Zurn.
- vi. Dorm Room Vanity Sink: Sink basin shall be integral counter mounted type. Faucet: ADA compliant, chrome plated brass, 4" center set single handle faucet with metal pop-up waste assembly, adjustable temperature limit stop and 1.5 GPM laminar flow aerator; equal to Moen Commercial 8432 with Moen 52608 aerator.
- vii. ADA Dorm Room Vanity Sink: Same as Dorm Room Vanity Sink except with offset tailpiece and insulation kit on piping below fixture.
- viii. Counter Lavatories – Public Areas: Fixture: 17"x13" (overall) 18 gauge, type 304 under mount stainless steel lavatory with undercoating and overflow assembly; equal to Elkay ELU1511 or equal by Just Manufacturer. Faucet: ADA compliant, chrome plated brass, 4" center set single handle faucet with grid drain waste assembly, adjustable temperature limit stop and 0.5 GPM aerator; equal to Moen Commercial 8434 with Moen 16350 aerator.
- ix. Wall Hung Lavatory: ADA compliant, 21"x18" wall hung, vitreous china lavatory, 4" faucet centers, front overflow; equal to Toto LT307.4. Faucet: ADA compliant, chrome plated brass, 4" center set single handle faucet with grid drain waste assembly, adjustable temperature limit stop and 0.5 GPM aerator; equal to Moen Commercial 8434 with Moen 16350 aerator.
- x. Dorm Showers: Enclosures shall include solid surface panels and shower pans. Provide 2" shower drain with stainless steel strainer and securing nut in each shower compartment; equal to Zurn FD-2270. Valve and trim shall be manual pressure balancing mixing valve with check stops, lever handle and low flow showerhead (1.5 GPM). Equal to Moen 8350 valve with Moen 52716EP15 head. Provide with chrome plated arm and flange; equal to Moen A704. Provide Rinse Ace diverter between shower arm and head at each fixed showerhead; Rinse Ace WCRA-4050.
- xi. ADA Dorm Shower: Enclosures shall include solid surface panels and shower pans as specified by the Architect. Provide 2" shower drain with stainless steel strainer and securing nut in each shower compartment; equal to Zurn FD-2270. Valve and trim shall be manual pressure balancing mixing valve with check stops, level handle and low flow showerhead (1.5 GPM). Equal to Moen 8350 valve with Moen 52716EP15 head. Provide with chrome plated arm and flange; equal to Moen A704. Provide with ADA hand held showerhead (1.5 GPM) on slide bar; equal to Moen 52710 EP15. Diverter to control showers heads shall be



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- provided; equal to Moen 8360. Provide Rinse Ace diverter between shower arm and head at each fixed showerhead; Rinse Ace WCRA-4050.
- xii. Kitchen Sink – Apartment: 30"x18"x5-1/2" deep, two compartment, 18 gauge, under mount, type 304 stainless steel sink with drain opening in center rear of each compartment; equal to Elkay ELUHAD3118 or equal by Just Manufacturer. Provide basket strainers with tailpiece. Sink faucets shall be 8" center set with 8" spout with single handle faucet, ceramic disc cartridge with 1.5 GPM aerators, side spray. Equal to Moen 8707 series faucet with 52611 aerator. Provide 17-gauge chrome plated offset tailpiece and 17-gauge chrome plated cast brass p-trap with cleanout. Provide supplies to wall with wheel handle angle stops.
- xiii. Kitchen Sink – Student Kitchen: 30" x 18" x 5-1/2" deep, two compartment, 18 gauge, under mount, type 304 stainless steel sink with drain opening in center rear of each compartment; equal to Elkay ELUHAD3118 or equal by Just Manufacturer. Provide basket strainers with tailpiece. Sink faucets shall be 8" center set with 8" spout with single handle faucet, ceramic disc cartridge with 1.5 GPM aerators, and no side spray. Equal to Moen 8701 series faucet with 52611 aerator. Provide 17-gauge chrome plated offset tailpiece and 17 gauge chrome plated cast brass p-trap with cleanout. Provide supplies to wall with wheel handle angle stops.
- xiv. Kitchen Sink – Catering Kitchen: 30" x 18" x 5-1/2" deep, two compartment, 18 gauge, under mount, type 304 stainless steel sink with drain opening in center rear of each compartment; equal to Elkay ELUHAD3118 or equal by Just Manufacturer. Provide basket strainers with tailpiece. Sink faucets shall be 8" center set with 8" spout with single handle faucet, ceramic disc cartridge with 1.5 GPM aerators, and no side spray. Equal to Moen 8701 series faucet with 52611 aerator. Provide 17-gauge chrome plated offset tailpiece and 17 gauge chrome plated cast brass p-trap with cleanout. Provide supplies to wall with wheel handle angle stops.
- xv. Service Sinks: 24"x24"x12" deep, floor type, terrazzo mop sink with stainless steel caps and wall guards; equal to Stern Williams SBC-1700-BP or comparable product by Fiat. Faucet shall be chrome plated brass and include vacuum breaker spout with hose thread outlet, pail hook, wall support, integral check stops, service stops, lever handles with color indicators, 1/4 turn ceramic disc cartridge. Equal to Moen 8124 series.
- xvi. Laundry Sinks: 23"x21-1/2"x33-1/2" tall, molded stone floor mounted sink on metal legs. Legs shall be white baked enamel angle legs that slip into molded sockets with leveling devices. Equal to Fiat FL1 or equal by Mustee. Faucet shall be deck mounted, chrome plated metal construction, 4" center set, 5-1/2" spout, small lever style handles; Equal to Moen 74998.
- xvii. Water Coolers: Wall mounted electric drinking fountain shall be complete filtered bi-level dual fountain cooler and bottle filling station, ADA compliant, no touch sensor activation on bottle filler, cooler shall have push bar activation, water filter, flexible bubblers, refrigerated unit, 8 GPH of 50F water at 90F ambient and 80F inlet water, lead free design; Equal to Elkay LZSTL8WSLK. Provide 17 gauge, chrome plated cast brass P-trap with cleanout and flexible 1/2" supply with wheel handle angle valve.



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- xviii. Bath Tub at Apartment: Tub fixture to be 60"x30"x14" high enameled cast iron tub with structural composite backing, slip resistant surface, integral apron; Kohler K-715 or equal by American Standard or Toto. Valve and trim shall be manual pressure balancing mixing valve with check stops, lever handle and low flow showerhead (1.5 GPM). Equal to Moen 8350 value with equal to Moen 52716EP15 head. Provide with chrome plated arm and flange; equal to Moen A704. Provide with ADA hand held showerhead (1.5 GPM) on slide bar; equal to Moen 52710EP15. Diverter to control shower heads shall be provided; equal to Moen 8360. Provide chrome plated brass tub spout equal to Moen 15856. Provide Rinse Ace diverter between shower arm and head at each fixed shower head; Rinse Ace WCRA-4050.



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22 45 00

EMERGENCY PLUMBING FIXTURES

1. GENERAL

A. Related sections:

i. 22 00 00 – General Plumbing Requirements

2. PRODUCTS

A. Emergency Showers shall be equal to the Speakman Company – SE238 Life Saver or Guardian GBF1670 Emergency Shower

i. Emergency showers are third-party certified to meet or exceed the provisions of ANSI Z358.1-2009.

B. Eye/Face Washes shall be equal to Guardian G1750P or Speakman SE-580