



2021 to 2024 Uniform Plumbing Code Changes

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Presentation Format:

8:30am-12:00pm – Uniform Plumbing Code Changes*

12:00pm-1:00pm – Lunch Break

1:00pm-4:30pm – Plumbing & Gas System Plan Review*

*15 Minute break at approx. halfway point

To access a PDF copy of this presentation, go to this link:

General Expectations & Ground Rules:

- Please silence phones – if you need to take a call, step outside
- Raise your hand at any point in the presentation to pause and discuss
- Your presenter does not know everything
- This is not the forum for debate (we can discuss offline)
- Nothing in this presentation is a formal interpretation from an AHJ

What this class covers:

National model code changes for all adopted sections of the 2024 UPC

This includes:

- Chapters 1-11, and 13-17 excluding sections relating to appliance venting, sewers, fuel gas, and firestopping
- Appendices A, B, I, and M

WA State proposed plumbing code changes (as of 12/31/2025)

Note: Proposed code changes are being introduced for discussion only and may or may not actually be adopted into the 2024 WA State UPC

What this class does not cover:

Updates to the 2024 Uniform Plumbing Code that are clerical in nature.

Example:

2024 UPC:

402.6.1 Closet Rings (Closet Flanges). Closet rings (closet flanges) for water closets or similar fixtures shall be of an approved type and shall be copper alloy, copper, hard lead, cast-iron, galvanized malleable iron, ABS, PVC, or other approved materials. ~~Each such~~Closet rings (closet flanges) shall be approximately 7 inches (178 mm) in diameter and, where installed, shall, together with the soil pipe, present a 1 1/2 inch (38 mm) wide flange or face to receive the fixture gasket or closet seal. *[additional text omitted]*

Note: parts of code sections unrelated to an amendment and not necessary for context will not be reprinted within this presentation (see highlighted text above).

Now on with the presentation...

Chapter 1 - Administration

2021 UPC:

104.3.1 Construction Documents. Construction documents, engineering calculations, diagrams, and other data shall be submitted in two or more sets with each application for a permit. *[additional text omitted]*

2024 UPC:

104.3.1 Construction Documents. Construction documents, engineering calculations, diagrams, and other data shall be submitted in two or more sets, or in a digital format where permitted by the Authority Having Jurisdiction, with each application for a permit. *[additional text omitted]*

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 1 - Administration

2021 UPC:

104.4.5 Suspension or Revocation. The Authority Having Jurisdiction shall be permitted to, in writing, suspend or revoke a permit issued under the provisions of this code where the permit is issued in error or on the basis of incorrect information supplied or in violation of other ordinance or regulation of the Jurisdiction.

2024 UPC:

104.4.5 Suspension or Revocation. The Authority Having Jurisdiction shall be permitted ~~to, in writing,~~ **with written notification, to** suspend or revoke a permit issued under the provisions of this code where the permit is issued in error or on the basis of incorrect information supplied or in violation of other ordinance or regulation of the Jurisdiction. The Authority Having Jurisdiction shall be allowed to stop the permitting process to allow Labor and Industries Plumbing Compliance to investigate the permitting requirements of RCW 18.106.440.

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Chapter 2 - Definitions

2021 UPC:

Appliance. A device that utilizes an energy source to produce light, heat, power, refrigeration, air conditioning, or compressed fuel gas. This definition also shall include a vented decorative appliance.

2024 UPC:

Appliance. A device that utilizes fuel or electricity as an energy source to produce light, heat, power, refrigeration, or air conditioning, ~~or compressed fuel gas~~. This definition also ~~shall~~ includes a vented decorative appliances s and electric storage or tankless water heaters.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 2 - Definitions

2024 UPC:

Body Spray. A shower device for spraying water onto a bather from other than the overhead position.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 2 - Definitions

2021 UPC:

Confined Space. A room or space having a volume less than 50 cubic feet per 1000 British thermal units per hour (Btu/h) (4.83 m³/kW) of the aggregate input rating of all fuel-burning appliances installed in that space.

2024 UPC:

Confined Space. ~~A room or space having a volume less than 50 cubic feet per 1000 British thermal units per hour (Btu/h) (4.83 m³/kW) of the aggregate input rating of all fuel-burning appliances installed in that space~~ **with limited entrance and egress that is not suitable for inhabitants and not intended for continuous human occupancy.**

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Chapter 2 - Definitions

2024 UPC:

Diverter Valve, On-Site Treated Nonpotable Water. A component in the collection system to control inflow and overflow in collection tanks intended for on-site treatment and direct beneficial use.

Diverter Valve, Rainwater. A component in commercial rainwater catchment systems to control high inflow and overflow volumes in rainwater storage tanks.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 2 - Definitions

2021 UPC:

Flood-Level Rim. The top edge of a receptor from which water overflows.

2024 UPC:

Flood-Level Rim. The top edge of a receptor or fixture from which water overflows.

Legend:

New Text

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WA State Proposal

Chapter 2 - Definitions

2024 UPC:

Groundwater. Water that exists beneath the earth's surface.

Mid-Story Guide. A support designed to keep piping in alignment, located mid-way between floors or a floor and ceiling.

Valve, Balancing. A valve that regulates and controls the return of water to the water heater in a recirculating hot water piping system.

Legend:

New Text

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WA State Proposal

Chapter 2 - Definitions

2024 UPC:

Water Heater, Dual Purpose. An appliance intended to be a heat source for both space heating and domestic hot water applications.

Water Station. A designated location intended to provide access to drinking water through a device or appliance.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 2 - Definitions

New or revised definitions not covered in this presentation:

- Anodeless Riser (fuel gas)
- Bonding Jumper (fuel gas)
- Chimney, Metal (appliance venting)
- Essentially Nontoxic Transfer Fluid (non-adopted appendix)
- Gas Piping (fuel gas)
- Gray Water (clerical)
- Joint, Heat-Fusion (clerical)
- Medical Air (clerical)
- Vent Connector, Gas (appliance venting)
- Vented Appliance (appliance venting)

Chapter 3 – General Regulations

2024 UPC:

301.6 Tall Wood (Mass Timber) Buildings. Plumbing systems installed in tall wood (mass timber) buildings, shall comply with the following:

(1) Be designed by a licensed plumbing contractor or a registered design professional in accordance with this code and the building code.

(2) Be designed to accommodate expansion, contraction, and differential movement between parts of a tall wood (mass timber) building in accordance with Section 312.2.

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Chapter 3 - General Regulations

2021 UPC:

308.0 Improper Location.

308.1 General. Piping, fixtures, or equipment shall not be so located as to interfere with the normal use thereof or with the normal operation and use of windows, doors, or other required facilities.

2024 UPC:

308.0 ~~Improper~~ Prohibited Locations.

308.1 General. Piping, fixtures, ~~appliances,~~ or equipment shall not be so located as to interfere with the normal use thereof or with the normal operation and use of windows, doors, or other required facilities.

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Chapter 3 - General Regulations

2021 UPC:

310.1 Fittings. No double hub fitting, single or double tee branch, single or double tapped tee branch, side inlet quarter bend, running thread, band, or saddle shall be used as a drainage fitting, except that a double hub sanitary tapped tee shall be permitted to be used on a vertical line as a fixture connection.

2024 UPC:

310.1 Fittings. No double hub fitting, single or double tee branch, single or double tapped tee branch, side inlet quarter bend, running thread, band, or saddle shall be used as a drainage fitting, ~~except that a double hub sanitary tapped tee shall be permitted to be used on a vertical line as a fixture connection.~~

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Chapter 3 – General Regulations

2024 UPC:

310.9 Female Plastic Connections. Female plastic tapered (NPT) threaded connections shall not be allowed to be used when threaded onto a male metallic connection.

Exception: Female plastic parallel (straight) threaded connections shall be permitted.

310.10 ABS and PVC Transition Joints. Except as provided in Section 705.9.4, PVC and ABS pipe and fittings shall not be solvent welded to dissimilar material.

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Chapter 3 - General Regulations

2021 UPC:

311.0 Independent Systems.

311.1 General. The drainage system of each new building and new work installed in an existing building shall be separate and independent from that of any other building, and, where available, every building shall have an independent connection with a public or private sewer.

Exception: Where one building stands in the rear of another building on an interior lot, and no private sewer is available or can be constructed to the rear building through an adjoining court, yard, or driveway, the building drain from the front building shall be permitted to be extended to the rear building.

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Chapter 3 - General Regulations

2024 UPC:

311.0 Independent Systems.

311.1 General. The drainage system of each new building and new work installed in an existing building shall be separate and independent from that of any other building, and, where available, every building shall have an independent connection with a public or private sewer.

Exception: Where one building stands in the rear of another building on an interior lot, and no public or private sewer is available or can be constructed to the rear building through an adjoining court, yard, or driveway, the building drain from the front building shall be permitted to be extended to the rear building.

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Chapter 3 - General Regulations

2021 UPC:

312.0 Protection of Piping, Materials, and Structures.

2024 UPC:

312.0 Protection of Piping, Tubing, Materials, and Structures.

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Chapter 3 - General Regulations

2021 UPC:

312.9 Steel Nail Plates. Plastic and copper or copper alloy piping penetrating framing members to within 1 inch (25.4 mm) of the exposed framing shall be protected by steel nail plates not less than No. 18 gauge (0.0478 inches) (1.2 mm) in thickness. The steel nail plate shall extend along the framing member not less than 1 1/2 inches (38 mm) beyond the outside diameter of the pipe or tubing.

2024 UPC:

312.9 Steel Nail Plates. Plastic ~~piping or tubing~~, and copper or copper alloy piping ~~or tubing~~ penetrating framing members to within 1 inch (25.4 mm) of the exposed framing shall be protected by steel nail plates not less than No. 18 gauge (0.0478 inches) (1.2 mm) in thickness. The steel nail plate shall extend along the framing member not less than 1 1/2 inches (38 mm) beyond the outside diameter of the pipe or tubing. [~~Fuel gas piping shall be protected in accordance with Section 1210.4.3.~~] Deleted

Legend:

New Text

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WA State Proposal

Chapter 3 - General Regulations

2021 UPC:

313.0 Hangers and Supports.

313.1 General. Piping, fixtures, appliances, and appurtenances shall be supported in accordance with this code, the manufacturer's installation instructions, and in accordance with the Authority Having Jurisdiction.

2024 UPC:

313.0 Hangers, ~~and Supports,~~ and Anchors.

313.1 General. Piping, ~~tubing,~~ fixtures, appliances, and appurtenances shall be supported in accordance with this code, the manufacturer's installation instructions, and in accordance with the Authority Having Jurisdiction. Except as provided for in Section 507.2, Seismic restraints shall be in accordance with the building code.

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Chapter 3 - General Regulations

2021 UPC:

313.2 Material. Hangers and anchors shall be of sufficient strength to support the weight of the pipe and its contents. Piping shall be isolated from incompatible materials.

2024 UPC:

313.2 Material. Hangers, supports, and anchors shall be of sufficient strength to support the weight of the pipe or tubing and its contents. Piping or tubing shall be isolated from incompatible materials.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

402.6 Flanged Fixture Connections. Fixture connections between drainage pipes and water closets, floor outlet service sinks and urinals shall be made using an approved copper alloy, hard lead, ABS, PVC, or iron flanges caulked, soldered, solvent cemented; rubber compression gaskets; or screwed to the drainage pipe. The connection shall be bolted with an approved gasket, washer, or setting compound between the fixture and the connection. The bottom of the flange shall be set on an approved firm base.

Wall-mounted water closet fixtures shall be securely bolted to an approved carrier fitting. The connecting pipe between the carrier fitting and the fixture shall be an approved material and designed to accommodate an adequately sized gasket. Gasket material shall be neoprene, felt, or similar approved types.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

402.6 Flanged Fixture Connections. Fixture connections between drainage pipes and water closets, floor outlet service sinks and urinals shall be made using an approved copper alloy, hard lead, ABS, PVC, or iron flanges caulked, soldered, solvent cemented; rubber compression gaskets; or screwed to the drainage pipe. The connection shall be bolted with an approved gasket, washer, or setting compound between the fixture and the connection. The bottom of the flange shall be set on ~~an approved firm base~~ the top of the finished floor.

Wall-mounted water closet fixtures shall be securely bolted to an approved carrier fitting. The approved carrier fitting shall be securely attached to the structure. The connecting pipe between the carrier fitting and the fixture shall be an approved material and designed to accommodate an adequately sized gasket. Gasket material shall be neoprene, felt, or similar approved types.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

402.6.3 Securing Floor-Mounted, Back-Outlet Water Closet Bowls. Floor-mounted, back-outlet water closet bowls shall be set level with an angle of 90 degrees (1.57 rad) between the floor and wall at the centerline of the fixture outlet. The floor and wall shall have a flat mounting surface not less than 5 inches (127 mm) to the right and left of the fixture outlet centerline. The fixture shall be secured to the wall outlet flange or drainage connection and the floor by corrosion-resistant screws or bolts. The closet flange shall be secured to a firm base.

Where floor-mounted, back-outlet water closets are used, the soil pipe shall be not less than 3 inches (80 mm) in diameter. Offset, eccentric, or reducing floor flanges shall not be used.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

402.6.3 Securing Floor-Mounted, Back-Outlet Water Closet Bowls. Floor-mounted, back-outlet water closet bowls shall be set level with an angle of 90 degrees (1.57 rad) between the floor and wall at the centerline of the fixture outlet. The floor and wall shall have a flat mounting surface not less than 5 inches (127 mm) to the right and left of the fixture outlet centerline. The closet flange shall be secured to the wall mounting surface. Offset, eccentric, or reducing closet flanges shall not be permitted with these fixtures.

The fixture shall be secured to the wall outlet flange or drainage connection and the floor by corrosion-resistant screws or bolts. ~~The closet flange shall be secured to a firm base.~~

~~Where floor-mounted, back-outlet water closets are used, the soil pipe shall be not less than 3 inches (80 mm) in diameter. Offset, eccentric, or reducing floor flanges shall not be used.~~

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

404.2 Overflows. Where a fixture is provided with an overflow, the waste shall be so arranged that the standing water in the fixture shall not rise in the overflow where the stopper is closed or remain in the overflow where the fixture is empty. The over-flow pipe from a fixture shall be connected to the house or inlet side of the fixture trap, except that overflow on flush tanks shall be permitted to discharge into the water closets or urinals served by them, but it shall be unlawful to connect such overflows with any other part of the drainage system.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

404.2 Overflows. Where a fixture is provided with an overflow, the overflow shall comply with Section 404.2.1 and or Section 404.2.2.

404.2.1 Sinks, Lavatories, and Bathtubs. The waste shall be so arranged that the standing water in the fixture shall not rise in the overflow where the stopper is closed or remain in the overflow where the fixture is empty. The overflow pipe from a fixture shall be connected to the house or inlet side of the fixture trap, ~~except that~~

404.2.2 Water Closets and Urinals. Overflows on flush tanks shall be permitted to discharge into the water closets or urinals served by them, ~~but it shall be unlawful to connect such overflows with any other part of the drainage system.~~

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

408.2 Tileable Shower Receptors. Tileable shower receptors and shower kits shall comply with IAPMO PS 106.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC [WA]:

408.2 Water Consumption. Showerheads shall ~~have a~~ **meet the** maximum flow rate of ~~not more than 2.5 gpm~~ **1.8 gallons (6.81 L) per minute measured** at 80 psi (~~9.5 L/m at 552~~ kPa). Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

Exception: Emergency use showers shall be exempt from the maximum water usage rates.

2024 UPC:

408.23 Water Consumption. Showerheads shall have a maximum flow rate of not more than 2.5 gpm at 80 psi (9.5 L/m at 552 kPa). **Body sprays shall have a flow rate of not more than 2.5 gpm at 80 psi (9.5 L/m at 552 kPa).**

Legend:

New Text

~~Deleted Text~~

WA State Proposal

State Amendment

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

408.3.2 Temperature Limiting. The maximum water temperature discharging from an individual showerhead shall be limited to 120°F (49°C) by one of the following methods:

- (1) A shower or tub/shower combination valve conforming to ASSE 1016/ASME A112.1016/CSA B125.16 where either:
 - (a) The valve is field-adjusted to the required maximum temperature, or
 - (b) The handle position, stop, or temperature limiting control is set in accordance with the manufacturer's instructions to the required maximum temperature.
- (2) For gang showers supplied by a single water supply pipe, a mixing valve that conforms to ASSE 1069 that is field-adjusted to the required maximum temperature.
- (3) A limiting device conforming to either ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3.
- (4) A water heater conforming to ASSE 1084.
- (5) A temperature actuated flow reduction device conforming to ASSE 1062.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

408.34.2 Temperature Limiting. The maximum water temperature discharging from an individual showerhead shall be limited to 120°F (49°C) by one of the following methods:

(1) A shower or tub/shower combination valve conforming to ASSE 1016/ASME A112.1016/CSA B125.16 where either:

(a) The valve is field-adjusted to the required maximum temperature, or
(b) The handle position, stop, or temperature limiting control is set in accordance with the manufacturer's instructions to the required maximum temperature.

(2) For gang showers supplied by a single water supply pipe, a mixing valve that conforms to ASSE 1069 that is field-adjusted to the required maximum temperature.

~~(3) A limiting device conforming to either ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3.~~

~~(4) A water heater conforming to ASSE 1084.~~

~~(5) A temperature-actuated flow reduction device conforming to ASSE 1062.~~

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

408.4.3 Temperature-Actuated, Flow-Reduction Devices for Individual Fixture Fittings. Temperature-actuated, flow-reduction devices, where installed for individual fixture fittings, shall comply with ASSE 1062. Such devices shall not be used alone as a substitute for the balanced pressure, thermostatic or combination shower valves requirements or as a substitute for bathtub or whirlpool tub water temperature-limiting valves requirements.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC [WA]:

408.4 Waste Outlet. Showers shall have a waste outlet and fixture tailpiece not less than 2 inches (50 mm) in diameter. Fixture tailpieces shall be constructed from the materials specified in Section 701.2 for drainage piping. Strainers serving shower drains shall have a waterway at least equivalent to the area of the tailpiece.

[text of WA State Exception omitted]

2024 UPC:

408.45 Waste Outlet. Showers shall have a waste outlet and fixture tailpiece not less than 2 inches (50 mm) in diameter. Fixture tailpieces shall be constructed from the materials specified in Section 701.2 for drainage piping. Strainers serving shower drains shall ~~have a waterway at least equivalent to the area of the tailpiece~~ comply with ASME A112.18.2/CSA B125.2.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

State Amendment

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

408.5 Finished Curb or Threshold. Where a shower receptor has a finished dam, curb, or threshold, it shall be not less than 1 inch (25.4 mm) lower than the sides and back of such receptor. In no case, shall a dam or threshold be less than 2 inches (51 mm) or exceeding 9 inches (229 mm) in depth where measured from the top of the dam or threshold to the top of the drain. Each such receptor shall be provided with an integral nailing flange to be located where the receptor meets the vertical surface of the finished interior of the shower compartment. The flange shall be watertight and extend vertically not less than 1 inch (25.4 mm) above the top of the sides of the receptor. The finished floor of the receptor shall slope uniformly from the sides towards the drain not less than 1/8 inch per foot (10.4 mm/m), nor more than 1/2 inch per foot (41.6 mm/m). *[additional text omitted]*

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

408.56 Finished Curb or Threshold. Where a shower receptor has a finished dam, curb, or threshold, it shall be not less than 1 inch (25.4 mm) lower than the sides and back of such receptor. In no case, shall a dam or threshold be less than 2 inches (51 mm) or exceeding 9 inches (229 mm) in depth where measured from the top of the dam or threshold to the top of the drain. Each such receptor shall be provided with ~~an integral a~~ nailing flange ~~either integral or field installed in accordance with the manufacturer's installation instructions to be located where the receptor meets the vertical surface of the finished interior of the shower compartment.~~ The flange shall be watertight and extend vertically not less than 1 inch (25.4 mm) above the top of the sides of the receptor. The finished floor of the receptor shall slope uniformly from the sides towards the drain not less than 1/8 inch per foot (10.4 mm/m), nor more than 1/2 inch per foot (41.6 mm/m). *[additional text omitted]*

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC [WA]:

408.6 Shower Compartments. Shower compartments, regardless of shape, shall have a minimum finished interior of ~~1024 square inches (0.6606 m²)~~ nine hundred (900) square inches (0.58 m²) and shall also be capable of encompassing a thirty (30) inch (762 mm) circle. *[additional text omitted]*

Legend:

New Text

~~Deleted Text~~

WA State Proposal

State Amendment

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

408.67 Shower Compartments. Shower compartments, ~~regardless of shape,~~ shall have a ~~minimum~~ finished interior ~~of nine hundred (900) square inches (0.58 m²)~~ and ~~shall also be capable of encompassing a thirty (30) inch (762 mm) circle.~~ in accordance with the following:

- (1) Not less than 1024 square inches (0.6606 m²).
- (2) Be capable of encompassing a 30 inch (762 mm) circle.

[additional text omitted]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

408.7.5 Tests for Shower Receptors. Shower receptors shall be tested for watertightness by filling with water to the level of the rough threshold. The test plug shall be so placed that both upper and under sides of the subpan shall be subjected to the test at the point where it is clamped to the drain.

2024 UPC:

408.~~7~~.5 Tests for Shower Receptors. Shower receptors shall be tested for watertightness by filling with water to ~~the level of the rough threshold~~ **a depth of not less than 2 inches (51 mm) for not less than 15 minutes. Where no threshold is present, a 2 inch (51 mm) barrier shall be temporarily constructed for testing.** The test plug shall be so placed that both upper and under sides of the subpan shall be subjected to the test at the point where it is clamped to the drain.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

411.3 Water Closet Seats. Water closet seats shall be properly sized for the water closet bowl type, and shall be of smooth, non-absorbent material. Seats, for public use, shall be of the elongated type and either of the open front type or have an automatic seat cover dispenser. Plastic seats shall comply with IAPMO Z124.5.

2024 UPC:

411.3 Water Closet Seats. Water closet seats shall be properly sized for the water closet bowl type, and shall be of smooth, non-absorbent material. Seats, for public use, shall be of the elongated type and either of the open front type or have an automatic seat cover dispenser. Water closet seats shall be provided with or without covers. Plastic seats shall comply with IAPMO/~~ANSI~~ Z124.5.

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Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

414.1 Application. Domestic dishwashing machines shall comply with UL 749.
Commercial dishwashing machines shall comply with NSF 3 and UL 921.

2024 UPC:

414.1 Application. Domestic dishwashing machines shall comply with UL 749.
Domestic dishwashing machines containing sanitation features shall comply with NSF/ANSI 184 and UL 749.
Commercial dishwashing machines shall comply with NSF/~~ANSI~~ 3 and UL 921.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

414.4 Lead Content. Dishwashing machines shall comply with the lead content requirements of Section 604.2.

Legend:

New Text

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WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

415.1 Application. Drinking fountains shall be self-closing and comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, or ASME A112.19.3/CSA B45.4. Drinking fountains shall also comply with NSF 61. Permanently installed electric water coolers shall also comply with UL 399.

2024 UPC:

415.1 Application. Drinking fountains shall be self-closing and comply with ASME A112.19.1/CSA B45.2, ASME A112.19.2/CSA B45.1, or ASME A112.19.3/CSA B45.4. Drinking fountains **and bottle filling stations** shall also comply with NSF/**ANSI/CAN** 61. Permanently installed electric water coolers **and bottle filling stations** shall also comply with UL 399.

Legend: **New Text** ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC:

417.6 Low-Pressure Water Dispenser. Beverage faucets shall comply with ASME A112.18.1/CSA B125.1. Low-pressure water dispensers that dispense electrically heated water and have a reservoir vented to the atmosphere shall comply with ASSE 1023. Electric devices that heat water shall comply with UL 499.

2024 UPC:

417.6 Low-Pressure Water Dispenser. Beverage faucets shall comply with ASME A112.18.1/CSA B125.1. ~~Low-pressure water dispensers that dispense electrically heated water and have a reservoir vented to the atmosphere shall comply with ASSE 1023. Electric devices that heat water shall comply with UL 499.~~ Electrically heated or cooled water dispensers shall comply with ASSE 1023.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

417.7 Head Shampoo Sink Faucets. Head shampoo sink faucets shall be supplied with hot water that is limited to not more than 120°F (49°C). Each faucet shall have integral check valves to prevent crossover flow between the hot and cold water supply connections. The means for regulating the maximum temperature shall be in accordance with one of the following:

- (1) A limiting device conforming to ASSE 1070/ASME A112.1070/CSA B125.70.
- (2) A water heater conforming to ASSE 1084.
- (3) A temperature-actuated, flow-reduction device conforming to ASSE 1062.

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Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

417.8 Footbaths and Pedicure Baths. The water supplied to specialty plumbing fixtures, such as pedicure chairs having an integral foot bathtub and footbaths, shall be limited to not more than 120°F (49°C) by a water-temperature-limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or by a water heater complying with ASSE 1084.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2021 UPC [WA]:

420.3 Pre-Rinse Spray Valve. Commercial food service pre-rinse spray valves shall have a maximum flow rate of 1.6 gallons per minute (gpm) at 60 pounds-force per square inch (psi) (6.0 L/m at 414 kPa) **in accordance with ASME A112.18.1/CSA B125.1** and shall be equipped with an integral automatic shutoff.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

State Amendment

Chapter 4 – Plumbing Fixtures and Fixture Fittings

2024 UPC:

420.3 Pre-Rinse Spray Valve. Commercial food service pre-rinse spray valves shall have a maximum flow rate of ~~1.6 gallons per minute (gpm) at 60 pounds-force per square inch (psi) (6.0 L/m at 414 kPa)~~ **in accordance with Table 420.3** and shall be equipped with an integral automatic shutoff.

TABLE 420.3
COMMERCIAL PRE-RINSE SPRAY VALVE MAXIMUM FLOW RATE

PRODUCT CLASS BY SPRAY FORCE	MAXIMUM FLOW RATE, GPM
Product Class 1 (≤ 5.0 ounces-force)	1.00
Product Class 2 (> 5.0 ounces-force and ≤ 8.0 ounces-force)	1.20
Product Class 3 (> 8.0 ounces-force)	1.28

For SI units: 1 gallon per minute = 3.785 L/min, 1 ounce-force = 0.0625 pound-force

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

**TABLE 501.1(1)
WATER HEATERS**

TYPE	STANDARD
Electric, Household Storage	UL 174
Oil-Fired Storage Tank	UL 732
Gas-Fired, 75 000 Btu/h or less, Storage	CSA Z21.10.1
Gas-Fired, Above 75 000 Btu/h, Storage and Instantaneous	CSA Z21.10.3
Electric, Commercial Storage	UL 1453
Solid Fuel-Fired	UL 2523
Electric Instantaneous	UL 499

For SI units: 1000 British thermal units per hour = 0.293 kW

Legend: New Text Deleted Text WA State Proposal

Chapter 5 – Water Heaters

2024 UPC:

**TABLE 501.1(1)
WATER HEATERS**

TYPE*	STANDARD
Electric, Household Storage	UL 174
Oil-Fired Storage Tank	UL 732
Gas-Fired, 75 000 Btu/h or less, Storage	CSA/ANSI Z21.10.1/CSA 4.1
Gas-Fired, <u>Above</u> 75 000 Btu/h, Storage and Instantaneous	CSA/ANSI Z21.10.3/CSA 4.3
<u>Electric</u> , Commercial Storage	UL 1453
Solid Fuel-Fired	UL 2523
Electric Instantaneous	UL 499

For SI units: 1000 British thermal units per hour = 0.293 Kw

* Dual purpose water heaters shall be installed in accordance with this code and the manufacturer's installation instructions.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

504.3.2 Unlisted Water Heaters. Unlisted water heaters shall be installed with a clearance of 12 inches (305 mm) on all sides and rear. Combustible floors under unlisted water heaters shall be protected in an approved manner. [NFPA 54:10.27.2.2].

2024 UPC:

504.3.2 Unlisted Water Heaters. Except as otherwise permitted in this code, unlisted water heaters shall be approved by the Authority Having Jurisdiction prior to being installed. Clearance for unlisted water heaters shall be installed with a clearance of not less than 12 inches (305 mm) on all sides ~~and rear~~. Combustible floors under unlisted water heaters shall be protected in an approved manner. {NFPA 54-~~2018~~:10.27.2.2}

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

504.4 Pressure-Limiting Devices. A water heater installation shall be provided with overpressure protection using an approved, listed device installed in accordance with the terms of its listing and the manufacturer's installation instructions.

2024 UPC:

504.4 Pressure-Limiting Devices. A water heater installation shall be provided with overpressure protection using an approved, listed device installed in accordance with the terms of its listing and the manufacturer's installation instructions. Pressure relief devices shall have a pressure setting greater than the water service pressure and not exceed 150 psi (1034 kPa) as required in Section 608.4.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2024 UPC:

504.7 Lead Content. Water heaters shall comply with the lead content requirements of Section 604.2.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

507.5 Drainage Pan. Where a water heater is located in an attic, in or on an attic ceiling assembly, floor-ceiling assembly, or floor-subfloor assembly where damage results from a leaking water heater, a watertight pan of corrosion-resistant materials shall be installed beneath the water heater with not less than 3/4 of an inch (20 mm) diameter drain to an approved location. Such pan shall be not less than 1 1/2 inches (38 mm) in depth.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2024 UPC:

507.5 Drainage Pan. Where a water heater is located in an attic, in or on an attic ceiling assembly, floor-ceiling assembly, or floor-subfloor assembly ~~or~~ where damage results from a leaking water heater, a watertight pan of corrosion-resistant materials shall be installed beneath the water heater ~~with not less than 3/4 of an inch (20 mm) diameter drain to an approved location. Such pan shall be not less than 1 1/2 inches (38 mm) in depth.~~ in accordance with the following:

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2024 UPC:

507.5 Drainage Pan (cont)

...in accordance with the following:

- (1) The drainage pan shall be provided with not less than 3/4 of an inch (20 mm) diameter drain to an approved location. The terminating end of the drainpipe shall be readily visible.
- (2) The drainage pan shall be not less than 1 1/2 inches (38 mm) in depth.
- (3) Where a drainage pan pipe is installed, the material of the piping shall be rated for the temperature rating of the water heater and shall be approved for use with the liquid being discharged.
- (4) Discharge from a relief valve into a drainage pan shall be prohibited.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 5 – Water Heaters

2021 UPC [WA]:

507.13 Installation in Residential Garages. Appliances in residential garages and in adjacent spaces that open to the garage and are not part of the living space of a dwelling unit shall be installed so that all burners, and burner-ignition devices, and ignition sources are located not less than 18 inches (457 mm) above the floor unless listed as flammable vapor ignition resistant.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

State Amendment

Chapter 5 – Water Heaters

2024 UPC:

507.13 Installation in Residential Garages. Appliances in residential garages and in adjacent spaces that open to the garage and are not part of the living space of a dwelling unit shall be installed so that all heating elements, switches, burners and burner-ignition devices are located not less than 18 inches (457 mm) above the floor ~~unless listed as flammable vapor ignition resistant.~~

Exception: Listed flammable vapor ignition resistant (FVIR) appliances. {NFPA 54:9.1.10.1}

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

507.24 Installation Instructions. The installing agency shall conform to the appliance and equipment manufacturer's recommendations in completing an installation. The installing agency shall leave the manufacturer's installation, operating, and maintenance instructions in a location on the premises where they are readily available for reference and guidance of the Authority Having Jurisdiction, service personnel, and the owner or operator. [NFPA 54:9.1.22]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2024 UPC:

507.243 Installation Instructions. The installer~~ing agency~~ shall conform to the appliance and equipment manufacturer's recommendations in completing an installation. The installer~~ing agency~~ shall leave the manufacturer's installation, operating, and maintenance instructions ~~in a location~~ on the premises ~~where they are readily available for reference and guidance of the Authority Having Jurisdiction, service personnel, and the owner or operator.~~ [NFPA 54:9.1.220]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

507.25 Protection of Outdoor Appliances. Appliances not listed for outdoor installation but installed outdoors shall be provided with protection to the degree that the environment requires. Appliances listed for outdoor installation shall be permitted to be installed without protection in accordance with the provisions of its listing and the manufacturer's installation instructions.

2024 UPC:

507.254 Protection of Outdoor Appliances. Appliances not listed for outdoor installation but installed outdoors shall be provided with protection to the degree that the environment requires. Appliances listed for outdoor installation shall be permitted to be installed without protection in accordance with ~~the provisions of its listing and~~ the manufacturer's installation instructions.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

507.26 Accessibility for Service. All appliances shall be located with respect to building construction and other equipment so as to permit access to the appliance. Sufficient clearance shall be maintained to permit cleaning of heating surfaces; the replacement of filters, blowers, motors, burners, controls, and vent connections; the lubrication of moving parts where necessary; the adjustment and cleaning of burners and pilots; and the proper functioning of explosion vents, if provided. For attic installation, the passageway and servicing area adjacent to the appliance shall be floored. [NFPA 54:9.2.1]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2024 UPC:

507.265 Accessibility for Service. All appliances shall be located with respect to building construction and other equipment so as to permit access for repair or replacement of ~~to~~ the appliance. ~~Sufficient~~ Clearance shall be maintained to permit removal of the appliance; cleaning of heating surfaces; the replacement of filters, blowers, motors, burners, controls, and vent connections; the lubrication of moving parts where necessary; the adjustment and cleaning of burners and pilots; and the proper functioning of explosion vents, if provided. For attic installation, the passageway and servicing area adjacent to the appliance shall be floored in accordance with Section 508.4. [NFPA 54:9.2.1]

Unless otherwise specified, clearances of not less than 30 inches (762 mm) in depth, width, and height of working space shall be maintained.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

508.0 Appliances on Roofs.

2024 UPC:

508.0 Appliances on Roofs, in Attics or Under-Floor Spaces.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

508.2.2 Electrical Power. All appliances requiring an external source of electrical power for its operation shall be provided with the following:

- (1) A readily accessible electrical disconnecting means within sight of the appliance that completely de-energizes the appliance.
- (2) A 120 V-ac grounding-type receptacle outlet on the roof adjacent to the appliance on the supply side of the disconnect switch. [NFPA 54:9.4.2.3]

2024 UPC:

508.2.2 Electrical Power. Appliances requiring an external source of electrical power shall be installed in accordance with NFPA 70. [NFPA 54:9.4.2.3]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

508.4 Appliances in Attics and Under-Floor Spaces. An attic or under-floor space in which an appliance is installed shall be accessible through an opening and passageway, not less than as large as the largest component of the appliance, and not less than 22 inches by 30 inches (559 mm by 762 mm).

2024 UPC:

508.4 Appliances in Attics and Under-Floor Spaces. An attic or under-floor space in which an appliance is installed shall be accessible through an opening and passageway; ~~not less~~ **larger** than ~~as large as~~ the largest component of the appliance, and not less than 22 inches by 30 inches (559 mm by 762 mm). **{NFPA 54:9.5.1}**

Legend:

New Text

~~Deleted Text~~

WA State Proposal

Chapter 5 – Water Heaters

2021 UPC:

508.4.1 Length of Passageway. Where the height of the passageway is less than 6 feet (1829 mm), the distance from the passageway access to the appliance shall not exceed 20 feet (6096 mm) measured along the centerline of the passageway. [NFPA 54:9.5.1.1]

2024 UPC:

508.4.1 Length of Passageway. Where the height of the passageway is less than 6 feet (1829 mm), the distance from the passageway access to the appliance shall not exceed 20 feet (6096 mm) measured along the centerline of the passageway. [NFPA 54:9.5.1.1]

Where the height of the passageway is 6 feet (1829 mm) or more, the distance from the passageway access to the appliance shall not exceed 50 feet (15 240 mm) measured along the centerline of the passageway.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2021 UPC [WA]:

603.2 Approval of Devices or Assemblies. *[first paragraph omitted]*

All devices or assemblies installed in a potable water supply system for protection against backflow shall be maintained in good working condition by the person or persons having control of such devices or assemblies. Such devices or assemblies shall be tested ~~at the time of installation, repair, or relocation and not less than on an annual schedule thereafter, or more often where required by the Authority Having Jurisdiction in accordance with Section 603.4.2 and WAC 246-290-490.~~ If found to be defective or inoperative, the device or assembly shall be replaced or repaired. No device or assembly shall be removed from use or relocated or other device or assembly substituted, without the approval of the Authority Having Jurisdiction.

Testing shall be performed by a ~~certified backflow assembly tester or repairer...~~ *[additional text omitted]* Washington State Department of Health certified backflow assembly tester.

Legend: New Text ~~Deleted Text~~ WA State Proposal State Amendment

Chapter 6 – Water Supply and Distribution

2024 UPC [WA]:

603.2 Approval of Devices or Assemblies. *[first paragraph omitted]*

All devices or assemblies installed and inspected in a potable water supply system for protection against backflow shall be maintained in good working condition by the person or persons having control of such devices or assemblies. ~~All Such devices or approved backflow prevention assemblies as defined by WAC 246-290-010~~ shall be tested in accordance with Section 603.4.2 and WAC 246-290-490. If found to be defective or inoperative, the device or assembly shall be replaced or repaired. No device or assembly shall be removed from use or relocated, or other device or assembly substituted, without the approval of the Authority Having Jurisdiction.

~~Testing shall be performed by a Washington State Department of Health certified backflow assembly tester.~~

Legend:

New Text

~~Deleted Text~~

WA State Proposal

State Amendment

Chapter 6 – Water Supply and Distribution

2024 UPC [WA]:

**TABLE 603.2
BACKFLOW PREVENTION DEVICES, ASSEMBLIES, AND METHODS**

DEVICE, ASSEMBLY, OR METHOD ¹	APPLICABLE STANDARDS	DEGREE OF HAZARD				INSTALLATION ^{2,3}
		POLLUTION (LOW HAZARD)		CONTAMINATION (HIGH HAZARD)		
		BACK- SIPHONAGE	BACK- PRESSURE	BACK- SIPHONAGE	BACK- PRESSURE	
Backflow preventer for Carbonated Beverage Dispensers (two independent check valves with a vent to the atmosphere)	ASSE 1022	X	X	X	X	Installation includes carbonated beverage machines or dispensers. These devices operate under intermittent or continuous pressure conditions.

Legend:

New Text

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WA State Proposal

State Amendment

Chapter 6 – Water Supply and Distribution

2024 UPC [WA]:

**TABLE 603.2
BACKFLOW PREVENTION DEVICES, ASSEMBLIES, AND METHODS**

DEVICE, ASSEMBLY, OR METHOD ¹	APPLICABLE STANDARDS	DEGREE OF HAZARD				INSTALLATION ^{2,3}
		POLLUTION (LOW HAZARD)		CONTAMINATION (HIGH HAZARD)		
		BACK-SIPHONAGE	BACK-PRESSURE	BACK-SIPHONAGE	BACK-PRESSURE	
Backflow preventer with intermediate atmospheric vent	ASSE 1012	X	X	—	—	Installation of potable water connections to water boilers. No high-hazard chemicals shall be introduced into the system using such devices. Designed to operate under continuous pressure conditions. May discharge water.
Backflow preventer with intermediate atmospheric vent and pressure reducing valve	ASSE 1081	X	X	—	—	Installation of potable water connections to water boilers. No high-hazard chemicals shall be introduced into the system using such devices. Designed to operate under continuous pressure conditions. May discharge water.

Legend: New Text Deleted Text WA State Proposal State Amendment

Chapter 6 – Water Supply and Distribution

2024 UPC [WA]:

**TABLE 603.2
BACKFLOW PREVENTION DEVICES, ASSEMBLIES, AND METHODS**

DEVICE, ASSEMBLY, OR METHOD ¹	APPLICABLE STANDARDS	DEGREE OF HAZARD				INSTALLATION ^{2,3}
		POLLUTION (LOW HAZARD)		CONTAMINATION (HIGH HAZARD)		
		BACK- SIPHONAGE	BACK- PRESSURE	BACK- SIPHONAGE	BACK- PRESSURE	
Chemical dispenser with integral backflow protec- tion	ANSI/CAN/ ASSE/IAPMO 1055	X	—	X	—	Shall be installed in accordance with manufacturer's installation instructions with dedicated water supply whenever possible.

Legend:

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WA State Proposal

State Amendment

Chapter 6 – Water Supply and Distribution

Examples of common (but incorrect) installation of ASSE 1055 chemical dispenser:



Images from unknown source

Chapter 6 – Water Supply and Distribution

2021 UPC:

[W] TABLE 603.2
BACKFLOW PREVENTION DEVICES, ASSEMBLIES, AND METHODS (continued)

DEVICE, ASSEMBLY, OR METHOD ¹	APPLICABLE STANDARDS	DEGREE OF HAZARD				INSTALLATION ^{2,3}
		POLLUTION (LOW HAZARD)		CONTAMINATION (HIGH HAZARD)		
		BACK-SI-PHONAGE	BACK-PRESSURE	BACK-SI-PHONAGE	BACK-PRESSURE	
Laboratory faucet back-flow preventer	ASSE 1035	—	—	X	X	Installation includes laboratory faucets. Such devices are not for use under continuous pressure conditions. No valve downstream. ⁴

2024 UPC:

[W] TABLE 603.2
BACKFLOW PREVENTION DEVICES, ASSEMBLIES, AND METHODS (continued)

DEVICE, ASSEMBLY, OR METHOD ¹	APPLICABLE STANDARDS	DEGREE OF HAZARD				INSTALLATION ^{2,3}
		POLLUTION (LOW HAZARD)		CONTAMINATION (HIGH HAZARD)		
		BACK-SI-PHONAGE	BACK-PRESSURE	BACK-SI-PHONAGE	BACK-PRESSURE	
Laboratory faucet back-flow preventer	ASSE 1035	X	—	X	X	Installation includes laboratory faucets. Such devices are not for use under continuous pressure conditions. No valve downstream. ⁴

Legend: New Text Deleted Text WA State Proposal

Chapter 6 – Water Supply and Distribution

2021 UPC [WA]:

603.5.6 Protection from Lawn Sprinklers and Irrigation Systems. Potable water supplies to systems having no pumps or connections for pumping equipment, and no chemical injection or provisions for chemical injection, shall be protected from backflow by one of the following devices:

- (1) Atmospheric vacuum breaker (AVB)
- (2) Pressure vacuum breaker backflow prevention assembly (PVB)
- (3) Spill-resistant pressure vacuum breaker (SVB)
- (4) Reduced-pressure principle backflow prevention assembly (RP)
- (5) A double check valve backflow prevention assembly (DC) may be allowed when approved by the water purveyor and the Authority Having Jurisdiction.

Legend: New Text ~~Deleted Text~~ WA State Proposal State Amendment

Chapter 6 – Water Supply and Distribution

2024 UPC:

603.5.6 Protection from Lawn Sprinklers and Irrigation Systems. Potable water supplies to systems having no pumps or connections for pumping equipment, and no chemical injection or provisions for chemical injection, shall be protected from backflow by one of the following devices:

- (1) Atmospheric vacuum breaker (AVB)
- (2) Pressure vacuum breaker backflow prevention assembly (PVB)
- (3) Spill-resistant pressure vacuum breaker (SVB)
- (4) Reduced-pressure principle backflow prevention assembly (RP)
- (5) A valve complying with IAPMO PS 72

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2021 UPC [WA]:

603.5.12 Beverage Dispensers. Potable water supply to ~~carbonators~~ **beverage dispensers, carbonated beverage dispensers, or coffee machines** shall be protected by an air gap or a vented backflow preventer that complies with ASSE 1022 ~~a listed reduced pressure principle backflow preventer as approved by the Authority Having Jurisdiction for the specific use.~~ **The backflow preventer shall comply with Section 603.4.3.** ~~For carbonated beverage dispensers, The~~ piping downstream of the backflow preventer shall not be ~~of copper, copper alloy, or other materials~~ affected by carbon dioxide ~~gas~~.

Legend:

New Text

~~Deleted Text~~

WA State Proposal

State Amendment

Chapter 6 – Water Supply and Distribution

2024 UPC:

603.5.12 Beverage Dispensers. Potable water supply to ~~beverage dispensers,~~ carbonated beverage dispensers, ~~or coffee machines~~ shall be protected by an air gap or a vented backflow preventer that complies with ASSE 1022. For carbonated beverage dispensers, piping material installed downstream of the backflow preventer shall not be affected by carbon dioxide gas. Non-carbonated beverage dispensers, such as ice makers and coffee machines, shall be protected by a air gap or dual check backflow preventer that comply with ASSE 1032 or ASSE 1024.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC [WA]:

603.5.12 Beverage Dispensers. Potable water supply to carbonators shall be protected by a listed and approved reduced pressure principle backflow preventer compliant with WAC 246-290-490 as approved by the authority having jurisdiction for the specific use. The backflow preventer shall comply with Section 603.4.3. The piping downstream of the backflow preventer shall not be of copper, copper alloy, or other material that is affected by carbon dioxide. Non-carbonated beverage dispensers, such as ice makers, espresso and coffee machines, shall be protected by an air gap or dual check backflow preventer that comply with ASSE 1032 or ASSE 1024.

Legend:

New Text

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WA State Proposal

State Amendment

Chapter 6 – Water Supply and Distribution

2024 UPC:

603.5.19 Garbage Can Washers. Where garbage can washers are connected to a potable water supply system, the connection shall be protected against backflow in accordance with Table 603.2.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2021 UPC:

603.5.21 Chemical Dispensers. The water supply to chemical dispensers shall be protected against backflow. The chemical dispenser shall comply with ASSE 1055 or the water supply shall be protected by one of the following methods:

- (1) Air gap
- (2) Atmospheric vacuum breaker (AVB)
- (3) Pressure vacuum breaker backflow prevention assembly (PVB)
- (4) Spill-resistant pressure vacuum breaker (SVB)
- (5) Reduced-pressure principle backflow prevention assembly (RP)

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC:

603.5.2~~1~~2 Chemical Dispensers. The water supply to chemical dispensers shall be protected against backflow: by one of the following: ~~The chemical dispenser shall comply with ASSE 1055 or the~~

(1) The chemical dispenser shall comply with ASSE/IAPMO 1055 or the Where an installation involves a water source coming from a faucet with an integrated vacuum breaker device, a pressure bleed device conforming to IAPMO PS 104 shall be used to protect the vacuum breaker device.

(2) wWater supply shall be protected by one of the following methods:

- (1a) Air gap
- (2b) Atmospheric vacuum breaker (AVB)
- (3c) Pressure vacuum breaker backflow prevention assembly (PVB)
- (4d) Spill-resistant pressure vacuum breaker (SVB)
- (5e) Reduced-pressure principle backflow prevention assembly (RP)

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC [WA]:

603.5.22 Chemical Dispensers. The water supply to chemical dispensers shall be protected against backflow. The chemical dispenser shall be protected by one of the following:

~~(1) The chemical dispenser shall comply with ASSE/IAPMO 1055 or the Where an installation involves a water source coming from a faucet with an integrated vacuum breaker device, a pressure bleed device conforming to IAPMO PS 104 shall be used to protect the vacuum breaker device.~~

~~(2) Water supply shall be protected by one of the following methods:~~

- ~~(a1)~~ Air gap
- ~~(b2)~~ Atmospheric vacuum breaker (AVB)
- ~~(c3)~~ Pressure vacuum breaker backflow prevention assembly (PVB)
- ~~(d4)~~ Spill-resistant pressure vacuum breaker (SVB)
- ~~(e5)~~ Reduced-pressure principle backflow prevention assembly (RP)

Legend: New Text ~~Deleted Text~~ WA State Proposal State Amendment

Chapter 6 – Water Supply and Distribution

2021 UPC:

604.5 Flexible Connectors. Flexible water connectors shall be installed in readily accessible locations, and where under continuous pressure shall comply with ASME A112.18.6/CSA B125.6. Flexible water connectors with an excess flow shutoff device shall comply with CSA B125.5/IAPMO Z600.

2024 UPC:

604.5 Flexible Connectors. Flexible water connectors shall be installed in ~~readily~~ accessible locations, and where under continuous pressure shall comply with ASME A112.18.6/CSA B125.6. Flexible water connectors with an excess flow shutoff device shall comply with CSA B125.5/IAPMO Z600.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

Definitions:

Accessible. Where applied to a fixture, connection, appliance, or equipment, “accessible” means having access thereto, but which first may require the removal of an access panel, door, or similar obstruction.

Accessible, Readily. Having a direct access without the necessity of removing a panel, door, or similar obstruction.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC:

605.2.2 Solvent Cement Joints. Solvent cement joints for CPVC pipe and fittings shall be clean from dirt and moisture. Solvent cements shall comply with ASTM F493, requiring the use of a primer shall be orange in color. The primer shall be colored and shall comply with ASTM F656. Listed solvent cement that complies with ASTM F493 and that does not require the use of primers, yellow, ~~green~~, or red in color, shall be permitted for pipe and fittings that comply with ASTM D2846, 1/2 of an inch (15 mm) through 2 inches (50 mm) in diameter or ASTM F442, 1/2 of an inch (15 mm) through 3 inches (80 mm) in diameter. Apply primer where required inside the fitting and to the depth of the fitting on pipe. Apply liberal coat of cement to the outside surface of pipe to depth of fitting and inside of fitting. Place pipe inside fitting to forcefully bottom the pipe in the socket and hold together until joint is set.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2021 UPC:

605.12 PVC Plastic Pipe and Joints. PVC plastic pipe and fitting joining methods shall be installed in accordance with the manufacturer's installation instructions and shall comply with Section 605.12.1 through Section 605.12.3.

PVC piping shall not be exposed to direct sunlight unless the piping does not exceed 24 inches (610 mm) and is wrapped with not less than 0.04 of an inch (1.02 mm) thick tape or otherwise protected from UV degradation.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC:

605.12 PVC Plastic Pipe and Joints. PVC plastic pipe and fitting joining methods shall be installed in accordance with the manufacturer’s installation instructions and shall comply with Section 605.12.1 through Section 605.12.3. PVC piping shall not be exposed to direct sunlight.

Exception: ~~unless the piping does~~ PVC piping in a location exposed to direct sunlight shall not exceed 24 inches (610 mm) in length and ~~is~~be wrapped with not less than 0.04 of an inch (1.02 mm) thick UV resistant tape or otherwise protected from UV degradation.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC:

605.15 Dielectric Unions. Dielectric unions where installed at points of connection where there is a dissimilarity of metals shall be in accordance with ASSE 1079 or IAPMO PS 66.

605.16.1 Copper or Copper Alloy Pipe or Tubing to Threaded Pipe Joints. Joints from copper or copper alloy pipe or tubing to threaded pipe shall be made using copper alloy adapter, copper alloy nipple [minimum 6 inches (152 mm)], dielectric fitting, or dielectric union in accordance with ASSE 1079 or IAPMO PS 66. *[remainder of section omitted]*

605.16.3 Stainless Steel to Other Materials. Where connecting stainless steel pipe to other types of piping, mechanical joints of the compression type, dielectric fitting, or dielectric union in accordance with ASSE 1079 or IAPMO PS 66 and designed for the specific transition intended shall be used.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2021 UPC:

606.1 General. Valves up to and including 2 inches (50 mm) in size shall be copper alloy or other approved material. Sizes exceeding 2 inches (50 mm) shall be permitted to have cast iron or copper alloy bodies. Each gate or ball valve shall be a fullway or full-port type with working parts of the non-corrosive material. Valves carrying water used in potable water systems intended to supply drinking water shall comply with the requirements of NSF 61 and ASME A112.4.14, ASME B16.34, ASTM F1970, ASTM F2389, AWWA C500, AWWA C504, AWWA C507, IAPMO Z1157, MSS SP-67, MSS SP-70, MSS SP-71, MSS SP-72, MSS SP-78, MSS SP-80, MSS SP-110, MSS SP-122, or NSF 359.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC:

606.1 General. Valves up to and including 2 inches (50 mm) in size shall be copper alloy or other approved material. Sizes exceeding 2 inches (50 mm) shall be permitted to have ~~bodies of~~ cast iron, ~~or~~ copper alloy, ~~bodies~~ or other approved materials. Each gate or ball valve shall be a fullway or full-port type with working parts of the non-corrosive material. Where valves are made from copper alloys containing more than 15 percent zinc by weight and are used in plastic piping systems, they shall be resistant to dezincification and stress corrosion cracking in compliance with NSF/ANSI 14. Valves carrying water used in potable water systems shall comply with the requirements of ASME A112.4.14, ASME B16.34, ASTM F1970, ASTM F2389, AWWA C500, AWWA C504, AWWA C507, IAPMO Z1157, MSS SP-67, MSS SP-70, MSS SP-71, MSS SP-72, MSS SP-78, MSS SP-80, MSS SP-110, MSS SP-122, or NSF/~~ANSI~~ 359. Valves intended to supply drinking water shall also comply with the requirements of NSF/ANSI/CAN 61

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC:

606.5 Control Valve. A control valve shall be installed immediately ahead of each water-supplied appliance and immediately ahead of each slip joint or appliance supply.

Parallel water distribution systems shall provide a control valve either immediately ahead of each fixture being supplied or installed at the manifold, and shall be identified with the fixture being supplied. Where parallel water distribution system manifolds are located in attics, crawl spaces, or other locations not accessible, a separate shutoff valve shall be required immediately ahead of each individual fixture or appliance served.

606.5.1 Manifolds. Field installed manifolds for water distribution shall conform with the applicable requirements for valves, pipes, and fittings as referenced in this code. Manufactured water distribution manifolds shall be in accordance with IAPMO IGC 109.

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Chapter 6 – Water Supply and Distribution

2024 UPC:

607.2 Private Well Water Tanks. Pressurized potable water tanks for private well water systems shall comply with ASSE 1099/WSC-PST 2000.

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WA State Proposal

Chapter 6 – Water Supply and Distribution

2024 UPC:

608.2 Excessive Water Pressure. Where static water pressure in the water supply piping ~~is exceeding~~ **exceeds** 80 psi (552 kPa), an approved-type pressure regulator preceded by an adequate strainer shall be installed and the static pressure reduced to 80 psi (552 kPa) or less. Pressure regulators for potable water distribution systems shall comply with ASSE 1003 **or AWWA C530**. *[additional text omitted]*

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Chapter 6 – Water Supply and Distribution

2024 UPC:

608.2 Excessive Water Pressure (cont).

An approved expansion tank shall be installed in the cold water distribution piping downstream of each such regulator to prevent ~~excessive~~ pressure exceeding 80 psi from developing due to thermal expansion ~~and to maintain the pressure setting of the regulator~~. Expansion tanks used in potable water systems intended to supply drinking water shall comply with NSF/ANSI/CAN 61. The expansion tank shall be properly sized, securely fastened to the structure, and installed in accordance with the manufacturer's installation instructions and listing. Systems designed by a licensed plumbing contractor or by registered design professionals shall be permitted to use approved pressure relief valves in lieu of expansion tanks provided such relief valves have a maximum pressure relief setting of 100 psi (689 kPa) or less.

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Chapter 6 – Water Supply and Distribution

2024 UPC:

608.3 Expansion Tanks, and Combination Temperature and Pressure-Relief Valves. A water system provided with a check valve, backflow preventer, or other normally closed device that prevents dissipation of building pressure back into the water main, independent of the type of water heater used, shall be provided with an approved, listed, and adequately sized expansion tank or other approved device having a similar function to control thermal expansion. Pre-pressurized water expansion tanks shall comply with IAPMO/~~ANSI~~ Z1088. Such expansion tank or other approved device shall be installed on the building side of the check valve, backflow preventer, or other device and shall be sized, securely fastened to the structure, and installed in accordance with the manufacturer's installation instructions. *[additional text omitted]*

Exception: An expansion tank shall not be required for an instantaneous non-storage water heater.

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Chapter 6 – Water Supply and Distribution

2024 UPC:

609.8.3 Hot-Water Recirculating Pumps. For healthcare facilities, long term care facilities, hotels, or motels, devices that automatically turn off the recirculation pump(s) shall not be required.

2024 UPC [WA]

609.8.3 Hot-Water Recirculating Pumps. For healthcare facilities, long term care facilities, hotels, or motels, devices that automatically turn off the recirculation pump(s) shall not be required unless specifically required by the locally adopted Energy Code.

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Chapter 6 – Water Supply and Distribution

2024 UPC [WA]

609.13 Meters. Water meters shall be installed in accordance with the manufacturer's installation instructions. Water meters intended to supply domestic hot or cold water shall be in accordance with NSF/ANSI/CAN 61.

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Chapter 6 – Water Supply and Distribution

2024 UPC:

**TABLE 611.1
DRINKING WATER TREATMENT UNITS**

APPLICATION	RESIDENTIAL		COMMERCIAL
	POINT OF USE	POINT OF ENTRY	
Aesthetic Contaminant Reduction (filters)	NSF/ANSI 42	NSF/ANSI 42	ASSE 1087 and NSF/ANSI 42*
Health Related Contaminant Reduction (filters)	NSF/ANSI 53	NSF/ANSI 53	ASSE 1087 and NSF/ANSI 53 *
Water Softener	–	NSF/ANSI 44	ASSE 1087
Ultraviolet Water Treatment	NSF/ANSI 55	NSF/ANSI 55	ASSE 1087
Reverse Osmosis	NSF/ANSI 58	NSF/ANSI/CAN 61	ASSE 1087
Distillation	NSF/ANSI 62	NSF/ANSI 62	ASSE 1087

* Required for commercial modular systems only.

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Chapter 7 – Sanitary Drainage

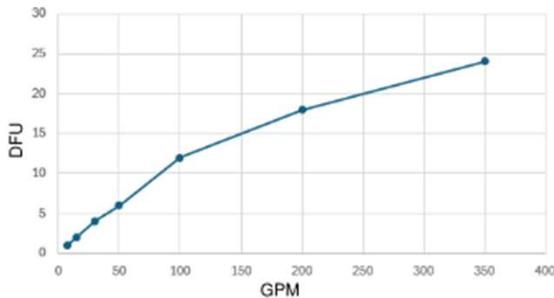
2024 UPC [WA]:

**TABLE 702.2
DISCHARGE CAPACITY IN GALLONS PER MINUTE FOR
INTERMITTENT FLOW ONLY***

GPM	FIXTURE UNITS
Up to 7-1/2	Equals 1 Fixture Unit
Greater than 7-1/2 to 15	Equals 2 Fixture Units
Greater than 15 to 30	Equals 4 Fixture Units
Greater than 30 to 50	Equals 6 Fixture Units
<u>Greater than 50 to 100</u>	<u>Equals 12 Fixture Units</u>
<u>Greater than 100 to 200</u>	<u>Equals 18 Fixture Units</u>
<u>Greater than 200 to 350</u>	<u>Equals 24 Fixture Units</u>

For SI Units: 1 gallon per minute = 0.06 L/s

* Discharge capacity exceeding 350 gallons per minute (21 L/s) shall be determined by the Authority Having Jurisdiction.



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Chapter 7 – Sanitary Drainage

2021 & 2024 UPC:

**TABLE 703.2
MAXIMUM UNIT LOADING AND MAXIMUM LENGTH OF DRAINAGE AND VENT PIPING**

SIZE OF PIPE (inches)	1¼	1½	2	3	4	5	6	8	10	12
Maximum Units										
Drainage Piping ¹										
Vertical	1	2 ^{2.7}	16 ³	48 ⁴	256	600	1380	3600	5600	8400
Horizontal	1	1 ⁷	8 ³	35 ⁴	216 ⁵	428 ⁵	720 ⁵	2640 ⁵	4680 ⁵	8200 ⁵
Maximum Length										
Drainage Piping										
Vertical, (feet)	45	65	85	212	300	390	510	750	–	–
Horizontal (unlimited)										
Vent Piping										
Horizontal and Vertical ⁶										
Maximum Units	1	8 ³	24	84	256	600	1380	3600	–	–
Maximum Lengths, (feet)	45	60	120	212	300	390	510	750		

For SI units: 1 inch = 25 mm, 1 foot = 304.8 mm

Legend: New Text Deleted Text WA State Proposal

Chapter 7 – Sanitary Drainage

2021 UPC:

Notes:

1. Excluding trap arm.
2. Except for sinks, urinals, and dishwashers – exceeding 1 fixture unit.
3. Except for six-unit traps or water closets.
4. **Not to exceed five water closets or five six-unit traps.**
5. Based on 1/4 inch per foot (20.8 mm/m) slope. For 1/8 of an inch per foot (10.4 mm/m) slope, multiply horizontal fixture units by a factor of 0.8.
6. The diameter of an individual vent shall be not less than 1 1/4 inches (32 mm) nor less than one-half the diameter of the drain to which it is connected. Fixture unit load values for drainage and vent piping shall be computed from Table 702.1 and Table 702.2(2). Not to exceed one-third of the total permitted length of a vent shall be permitted to be installed in a horizontal position. Where vents are increased one pipe size for their entire length, the maximum length limitations specified in this table do not apply. This table is in accordance with the requirements of Section 901.3.
7. Up to 8 public lavatories are permitted to be installed on a 1 1/2 inch (40 mm) vertical branch or horizontal sanitary branch sloped at 1/4 inch per foot (20.8 mm/m).

Legend: **New Text** ~~Deleted Text~~ WA State Proposal

Chapter 7 – Sanitary Drainage

2024 UPC:

Notes:

1. Excluding trap arm.
2. Except for sinks, urinals, and dishwashers – exceeding 1 fixture unit.
3. Except for six-unit traps or water closets.
4. **Not to exceed five-six water closets or five six-unit traps.**
5. Based on 1/4 inch per foot (20.8 mm/m) slope. For 1/8 of an inch per foot (10.4 mm/m) slope, multiply horizontal fixture units by a factor of 0.8.
6. The diameter of an individual vent shall be not less than 1 1/4 inches (32 mm) nor less than one-half the diameter of the drain to which it is connected. Fixture unit load values for drainage and vent piping shall be computed from Table 702.1 and Table 702.2(2). Not to exceed one-third of the total permitted length of a vent shall be permitted to be installed in a horizontal position. Where vents are increased one pipe size for their entire length, the maximum length limitations specified in this table do not apply. This table is in accordance with the requirements of Section 901.3.
7. Up to 8 public lavatories are permitted to be installed on a 1 1/2 inch (40 mm) vertical branch or horizontal sanitary branch sloped at 1/4 inch per foot (20.8 mm/m).

Legend:

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WA State Proposal

Chapter 7 – Sanitary Drainage

2024 UPC:

705.10.3 Plastic Pipe to Other Materials. Where connecting plastic pipe to other types of plastic or other types of piping material; approved listed adapter or transition fittings and listed for the specific transition intended shall be used. Except as provided in Section 705.9.4, PVC and ABS pipe and fittings shall not be solvent welded to any other unlike material.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 7 – Sanitary Drainage

2024 UPC:

707.4.1 Load Rated Cover. Cleanout floor covers and top rims meant to take loads shall be rated for the loading in accordance with ASME A112.36.2M.

Legend:

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WA State Proposal

Chapter 7 – Sanitary Drainage

2021 UPC:

708.0 Grade of Horizontal Drainage Piping.

708.1 General. Horizontal drainage piping shall be run in practical alignment and a uniform slope of not less than 1/4 inch per foot (20.8 mm/m) or 2 percent toward the point of disposal provided that, where it is impractical due to the depth of the street sewer, to the structural features, or to the arrangement of a building or structure to obtain a slope of 1/4 inch per foot (20.8 mm/m) or 2 percent, such pipe or piping 4 inches (100 mm) or larger in diameter shall be permitted to have a slope of not less than 1/8 inch per foot (10.4 mm/m) or 1 percent, where first approved by the Authority Having Jurisdiction.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 7 – Sanitary Drainage

2024 UPC:

708.0 Grade of Horizontal Drainage Piping.

708.1 General. ~~Building drain and other~~ **H**orizontal drainage piping shall be run in practical alignment and a uniform slope of not less than 1/4 inch per foot (20.8 mm/m) or 2 percent toward the point of disposal. ~~provided that, w~~

~~_____~~ **W**here it is impractical due to the depth of the street sewer, ~~to the~~ structural features, or to the arrangement of a building or structure to obtain a slope of 1/4 inch per foot (20.8 mm/m) or 2 percent, ~~such pipe or~~ **building drain** piping 4 inches (100 mm) or larger in diameter shall be permitted to have a slope of not less than 1/8 inch per foot (10.4 mm/m) or 1 percent, ~~where~~ **when** first approved by the Authority Having Jurisdiction.

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Chapter 7 – Sanitary Drainage

2021 & 2024 UPC Definition:

Building Drain. That part of the **lowest piping of a drainage system** that receives the discharge from soil, waste, and other drainage pipes inside the walls of the building and conveys it to the building sewer beginning 2 feet (610 mm) outside the building wall.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 7 – Sanitary Drainage

2024 UPC:

710.6 Backwater Valves. Backwater valves, gate valves, fullway ball valves, unions, motors, compressors, air tanks, and other mechanical devices required by this section shall be located where they will be accessible for inspection and repair and, unless continuously exposed, shall be enclosed in a masonry pit fitted with an adequately sized removable cover.

Backwater valves shall comply with ASME A112.14.1 or IAPMO IGC 305, and have bodies of cast-iron, plastic, copper alloy, or other approved materials; shall have noncorrosive bearings, seats, and self-aligning discs; and shall be constructed to ensure a positive mechanical seal. Such backwater valves shall remain open during periods of low flows to avoid screening of solids and shall not restrict capacities or cause excessive turbulence during peak loads. Unless otherwise listed, valve access covers shall be bolted type with gasket, and each valve shall bear the manufacturer's name cast into the body and the cover.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 7 – Sanitary Drainage

2024 UPC:

710.9 Alarm. Such sumps and receiving tanks shall be automatically discharged and, wherein a “public use” occupancy, shall be provided with dual pumps or ejectors arranged to function alternately in normal use and independently. Such pumps shall be capable of running continuously in case of overload or mechanical failure of one of the pumps or ejectors. The pumps shall have an audio and visual alarm, readily accessible, that signals pump failure or an overload condition. The lowest inlet shall have a clearance of not less than 2 inches (51 mm) from the high-water or “starting” level of the sump.

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Chapter 8 – Indirect Wastes

2024 UPC [WA]:

801.8 Elevator Hoistway Drainage. Drainage from elevator hoistways shall be indirectly connected to the building drainage system in accordance with ASME A17.1. Such discharge may be routed to an approved disposal area where first approved by the Authority Having Jurisdiction. No discharge from an elevator hoistway may be directly connected to the building drainage system.

Legend:

New Text

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WA State Proposal

Chapter 8 – Indirect Wastes

2024 UPC:

807.1 Non-Classed Apparatus. Commercial dishwashing machines, silverware washing machines, and other appliances, devices, equipment, or other apparatus not regularly classed as plumbing fixtures, which are equipped with pumps, drips, or drainage outlets, shall be permitted to be drained by indirect waste pipes discharging through an air break into an approved type of open receptor.

2021 UPC [WA]:

414.3 Drainage Connection. Domestic dishwashing machines shall discharge indirectly through an air gap fitting in accordance with Section 807.3 into a waste receptor, a wye branch fitting on the tailpiece of a kitchen sink, or dishwasher connection of a food waste disposer. Commercial dishwashing machines shall discharge indirectly through an air gap.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 8 – Indirect Wastes

2024 UPC:

807.3 Domestic Dishwashing Machine. No domestic dishwashing machine shall be directly connected to a drainage system or food waste disposer without the use of an approved dishwasher air gap fitting on the discharge side of the dishwashing machine. Listed dishwasher air gap fittings shall be installed with the flood-level (FL) marking at or above the flood level of the sink or drainboard, whichever is higher.

809.0 Drinking Fountains.

809.1 General. Drinking fountains shall be permitted to be installed with indirect wastes through an air break.

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Chapter 8 – Indirect Wastes

2024 UPC:

814.2 Condensate Control. Where an equipment or appliance is installed in a space where damage is capable of resulting from condensate overflow, a drain line shall be provided and shall be drained in accordance with Section 814.1. An additional protection method for condensate overflow shall be provided in accordance with one of the following:

- (1) A water level detecting device that will shut off the equipment or appliance in the event the primary drain is blocked. Such detecting device shall be in accordance with the manufacture's installation instructions.
- (2) An additional watertight pan of corrosion-resistant material, with a separate drain line, installed beneath the cooling coil, unit, or the appliance to catch the overflow condensate due to a clogged primary condensate drain.
- (3) An additional separate drain line at a level that is higher than the primary drain line connection of the drain pan. *[additional text omitted]*

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 8 – Indirect Wastes

2021 UPC:

814.3 Condensate Waste Pipe Material and Sizing. *[first 3 paragraphs omitted]*

Air-conditioning waste pipes shall be constructed of materials specified in Chapter 7.

2024 UPC:

814.3 Condensate Waste Pipe Material and Sizing. *[first 3 paragraphs omitted]*

Air-conditioning waste pipes, 1¼ of an inch (32 mm) and larger in size, shall be constructed of materials specified in Chapter 7. Condensate waste piping less than 1¼ of an inch (32 mm) in size shall be permitted to be PVC, CPVC, PE, PP, copper, or other rigid materials approved by the Authority Having Jurisdiction.

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Chapter 8 – Indirect Wastes

2024 UPC:

814.4 Appliance Condensate Drains. Condensate drain lines from individual condensing appliances shall be sized as required by the manufacturer’s instructions. Condensate drain lines serving more than one appliance ~~shall be approved by the Authority Having Jurisdiction prior to installation~~ connecting to a common indirect waste pipe shall have the connections to the indirect waste pipe protected by a sanitary waste valve complying with ASME A112.18.8, condensate trap complying with IAPMO IGC 196, or trap with a trap primer.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 8 – Indirect Wastes

2021 UPC:

814.5 Point of Discharge. Air-conditioning condensate waste pipes shall connect indirectly, except where permitted in Section 814.6, to the drainage system through an air gap or air break to trapped and vented receptors, dry wells, leach pits, or the tailpiece of plumbing fixtures. A condensate drain shall be trapped in accordance with the appliance manufacturer's instructions or as approved.

2024 UPC:

814.5 Point of Discharge. Air-conditioning condensate waste pipes shall connect indirectly, ~~except where permitted in Section 814.6,~~ to the drainage system through an air gap or air break to trapped and vented receptors, dry wells, **mop sinks,** leach pits, or the tailpiece of plumbing fixtures. **An individual** condensate drain shall be trapped in accordance with the appliance manufacturer's instructions or ~~as approved in~~ **accordance with Section 814.4.**

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Chapter 8 – Indirect Wastes

2024 UPC [WA]:

814.5 Point of Discharge. Air-conditioning condensate waste pipes shall connect indirectly to the drainage system through an air gap or air break to trapped and vented receptors, dry wells, mop sinks, leach pits, or the tailpiece of plumbing fixtures. An individual condensate drain shall be trapped in accordance with the appliance manufacturer's instructions or in accordance with Section 814.4.

814.5.1 Heat Pump Water Heater Condensate Drains. Condensate drains from heat pump water heaters shall not be discharged into a septic system.

“Heat pump water heaters can produce approximately three gallons of condensate a day. If heat pump water heater condensate is drained into a septic system it can dilute the bacterial action of the septic tank so that it slows or stops, preventing the system from functioning properly. This will likely develop overtime and cause issues for homeowners, property owners, and tenants down the line. We may need to add a user note for cold climates that are running the condensate out of the building and on to the ground that the lines will need protection from freezing.”

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 9 – Vents

2024 UPC:

906.7 Frost or Snow Closure. Where frost or snow closure is likely to occur in locations having minimum design temperature below 0°F (-17.8°C), vent terminals shall be not less than ~~2~~**3** inches (76 mm) in diameter, but in no event smaller than the required vent pipe. The change in diameter shall be made inside the building not less than 1 foot (305 mm) below the roof in an insulated space and terminate not less than 10 inches (254 mm) above the roof, or in accordance with the Authority Having Jurisdiction.

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Chapter 9 – Vents

2021 UPC:

910.4 Size. Each waste pipe and each trap in such a system shall be not less than two pipe sizes exceeding the sizes required by Chapter 7 of this code, and not less than two pipe sizes exceeding a fixture tailpiece or connection.

2024 UPC:

910.4 Connections and Size. Branches serving traps shall connect to the main line at an angle not exceeding 2 percent. Each waste pipe and each trap in such a system shall be not less than two pipe sizes exceeding the sizes required by Chapter 7 of this code, and not less than two pipe sizes exceeding a fixture tailpiece or connection.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 9 – Vents

2021 UPC [WA]:

911.1 Circuit Vent Permitted. A maximum of eight floor-outlet ~~water closets, showers, bathtubs, or floor drains~~ fixtures connected to a horizontal branch drain shall be permitted to be circuit vented. *[additional text omitted]*

Exception: Back-outlet and wall-hung water closets shall be permitted to be circuit vented provided that no floor-outlet fixtures are connected to the same horizontal branch.

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Chapter 9 – Vents

2024 UPC:

911.1 Circuit Vent Permitted. A maximum of eight floor-outlet water closets, showers, bathtubs, or floor drains connected to a horizontal branch shall be permitted to be circuit vented. *[additional text omitted]*

Exception: Back-outlet and wall-hung water closets shall be permitted to be circuit vented provided that no floor-outlet fixtures are connected to the same horizontal branch. Back-outlet and wall-hung water closets shall connect horizontally to the horizontal circuit vented drain.

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Chapter 10 – Traps and Interceptors

2024 UPC:

TABLE 1002.2
HORIZONTAL LENGTHS OF TRAP ARMS (EXCEPT FOR WATER CLOSETS AND SIMILAR FIXTURES)^{1, 2, 3}

TRAP ARM PIPE DIAMETER (inches)	DISTANCE TRAP TO VENT MINIMUM (inches)	LENGTH MAXIMUM (inches)
1/4	2 1/2	30
1/2	3	42
2	4	60
3	6	72
4	8	120
Exceeding 4	2 x Diameter	120

For SI units: 1 inch = 25.4 mm

Notes:

1. Maintain 1/4 inch per foot slope (20.8 mm/m).
2. The developed length between the trap of a water closet or similar fixture (measured from the **top face** of the closet flange to the inner edge of the vent) and its vent shall not exceed 6 feet (1829 mm).
3. **Horizontally wet vented bathtubs, showers and similar fixtures shall be limited to a maximum of 6 feet (1830 mm) for 1 1/2 inch (40 mm) fixture drains and 8 feet (2440 mm) for 2 inch (50 mm) fixture drains, maintaining 1/4 inch per foot slope (20 mm/m).**

Legend: **New Text** ~~Deleted Text~~ WA State Proposal

Chapter 10 – Traps and Interceptors

2021 UPC:

1007.2 Trap Seal Primers. Potable water supply trap seal primer valves shall comply with ASSE 1018. Drainage and electronic design type trap seal primer devices shall comply with ASSE 1044.

2024 UPC:

1007.2 Trap Seal Primers. Potable water supply trap seal primer valves shall comply with ASSE 1018. Drainage ~~and or~~ electronic design type trap seal primer devices shall comply with ASSE 1044 ~~or IAPMO PS 76~~.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 10 – Traps and Interceptors

2024 UPC:

1009.0 Interceptors (Clarifiers) and Separators.

1009.1 Where Required. Interceptors (clarifiers) (including grease, oil, sand, solid interceptors, etc.) shall be required by the Authority Having Jurisdiction where they are necessary for the proper handling of liquid wastes containing grease, flammable wastes, sand, solids, acid or alkaline substances, or other ingredients harmful to the building drainage system, the public or private sewer, or to public or private sewage disposal. [A list of acceptable interceptor standards is referenced in Table 1009.1.](#)

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Chapter 10 – Traps and Interceptors

2024 UPC:

TABLE 1009.1
APPROVED INTERCEPTORS (CLARIFIERS)

APPLICATION	STANDARD
Fats, Oil, Grease (FOG)	ASME A112.14.3, ASME A112.14.4, ASME A112.14.6, CSA B481, ANSI/CAN/IAPMO Z1001, PDI G-101, PDI G-102
Solid Waste	IAPMO IGC 167
Non-petroleum Oil	ASME A112.14.6, IAPMO PS 80, PDI G-102
Petroleum Oil	ASTM D6104, IAPMO IGC 183, IAPMO IGC 325

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Chapter 10 – Traps and Interceptors

2024 UPC:

1014.0 Grease Interceptors.

1014.1 General. Where it is determined by the Authority Having Jurisdiction that waste pretreatment is required, an approved type of grease interceptor(s) shall comply with ASME A112.14.3, ASME A112.14.4, CSA B481, ANSI/CAN/IAPMO Z1001, PDI G-101, or PDI G-102, and sized in accordance with Section 1014.2.1 or Section 1014.3.6, shall be installed in accordance with the manufacturer's installation instructions... *[additional text omitted]*

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 10 – Traps and Interceptors

2021 UPC:

1017.0 Oil and Flammable Liquid Interceptors.

1017.1 Interceptors Required. Repair garages and gasoline stations with grease racks or grease pits, and factories that have oily, flammable, or both types of wastes as a result of manufacturing, storage, maintenance, repair, or testing processes, shall be provided with an oil or flammable liquid interceptor that shall be connected to necessary floor drains. The separation or vapor compartment shall be independently vented to the outer air. Where two or more separation or vapor compartments are used, each shall be vented to the outer air or shall be permitted to connect to a header that is installed at a minimum of 6 inches (152 mm) above the spill line of the lowest floor drain and vented independently to the outer air. The minimum size of a flammable vapor vent shall be not less than 2 inches (50 mm), and, where vented through a sidewall, the vent shall be not less than 10 feet (3048 mm) above the adjacent level at an approved location. The interceptor shall be vented on the sewer side and shall not connect to a flammable vapor vent. Oil and flammable interceptors shall be provided with gastight cleanout covers that shall be readily accessible. The waste line shall be not less than 3 inches (80 mm) in diameter with a full-size cleanout to grade. Where an interceptor is provided with an overflow, it shall be provided with an overflow line [not less than 2 inches (50 mm) in diameter] to an approved waste oil tank having a minimum capacity of 550 gallons (2082 L) and meeting the requirements of the Authority Having Jurisdiction. The waste oil from the separator shall flow by gravity or shall be pumped to a higher elevation by an automatic pump. Pumps shall be adequately sized and accessible. Waste oil tanks shall have a 2 inch (50 mm) minimum pump-out connection at grade and an 1½ inch (40 mm) minimum vent to atmosphere at an approved location not less than 10 feet (3048 mm) above grade.

1017.2 Design of Interceptors. Each manufactured interceptor that is rated shall be stamped or labeled by the manufacturer with an indication of its full discharge rate in gpm (L/s). The full discharge rate to such an interceptor shall be determined at full flow. Each interceptor shall be rated equal to or greater than the incoming flow and shall be provided with an overflow line to an underground tank.

Interceptors not rated by the manufacturer shall have a depth of not less than 2 feet (610 mm) below the invert of the discharge drain. The outlet opening shall have not less than an 18 inch (457 mm) water seal and shall have a minimum capacity as follows: Where not more than three motor vehicles are serviced, stored, or both, interceptors shall have a minimum capacity of 6 cubic feet (0.2 m³), and 1 cubic foot (0.03 m³) of capacity shall be added for each vehicle up to 10 vehicles. Above 10 vehicles, the Authority Having Jurisdiction shall determine the size of the interceptor required. Where vehicles are serviced and not stored, interceptor capacity shall be based on a net capacity of 1 cubic foot (0.03 m³) for each 100 square feet (9.29 m²) of the surface to be drained into the interceptor, with a minimum of 6 cubic feet (0.2 m³).

Legend:

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WA State Proposal

Chapter 10 – Traps and Interceptors

2024 UPC:

10170 Oil and Flammable Liquid Interceptors.

10171 Interceptors Required. Repair garages and gasoline stations with grease racks or grease pits, and factories that have oily, flammable, or both types of wastes as a result of manufacturing, storage, maintenance, repair, or testing processes, shall be provided with an oil or flammable liquid interceptor. Floor drains in such locations shall be connected directly to oil and flammable liquid interceptors.

10172 Interceptor Design Alternatives. Oil interceptors shall comply with IAPMO IGC 183 or be in accordance with Section 1017.3 through Section 1017.4.

10173 Interceptor Details. Oil and flammable liquid interceptors shall be in accordance with the following:

- (1) The separation or vapor compartment shall be independently vented to the outer air. Where two or more separation or vapor compartments are used, each shall be vented to the outer air or shall be permitted to connect to a header that is installed at a minimum of 6 inches (152 mm) above the spill line of the lowest floor drain and vented independently to the outer air.
- (2) The minimum size of a flammable vapor vent shall be not less than 2 inches (50 mm), and, where vented through a sidewall, the vent shall be not less than 10 feet (3048 mm) above the adjacent level at an approved location.
- (3) The interceptor shall be vented on the sewer side and shall not connect to a flammable vapor vent. Oil and flammable interceptors shall be provided with gastight cleanout covers that shall be readily accessible.
- (4) The waste line shall be not less than 3 inches (80 mm) in diameter with a full-size cleanout to grade.
- (5) Where an interceptor is provided with an overflow, it shall be provided with an overflow line [not less than 2 inches (50 mm) in diameter] to an approved waste oil tank having a minimum capacity of 550 gallons (2082 L) and meeting the requirements of the Authority Having Jurisdiction.
 - (a) The waste oil from the separator shall flow by gravity or shall be pumped to a higher elevation by an automatic pump.
 - (b) Pumps shall be adequately sized and accessible.
 - (c) Waste oil tanks shall have a 2 inch (50 mm) minimum pump-out connection at grade and an 1½ inch (40 mm) minimum vent to atmosphere at an approved location not less than 10 feet (3048 mm) above grade.

10174 Design of Interceptors. Each manufactured interceptor that is rated shall be stamped or labeled by the manufacturer with an indication of its full discharge rate in gpm (l/s). The following shall apply:

- (1) The full discharge rate to such an interceptor shall be determined at full flow. Each interceptor shall be rated equal to or greater than the incoming flow and shall be provided with an overflow line to an underground tank.
- (2) Interceptors not rated by the manufacturer shall have a depth of not less than 2 feet (610 mm) below the invert of the discharge drain. The outlet opening shall have not less than an 18 inch (457 mm) water seal and shall have a minimum capacity as follows:
 - (a) Where not more than three motor vehicles are serviced, stored, or both, interceptors shall have a minimum capacity of 6 cubic feet (0.2 m³), and 1 cubic foot (0.03 m³) of capacity shall be added for each vehicle up to 10 vehicles.
 - (b) Above 10 vehicles, the Authority Having Jurisdiction shall determine the size of the interceptor required.
 - (c) Where vehicles are serviced and not stored, interceptor capacity shall be based on a net capacity of 1 cubic foot (0.03 m³) for each 100 square feet (9.29 m²) of the surface to be drained into the interceptor, with a minimum of 6 cubic feet (0.2 m³).

← Previously in Section 1017.2

Previously in Section 1017.1

Legend:

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WA State Proposal

Chapter 10 – Traps and Interceptors

2024 UPC:

1017.1 Interceptors Required. Repair garages and gasoline stations with grease racks or grease pits, and factories that have oily, flammable, or both types of wastes as a result of manufacturing, storage, maintenance, repair, or testing processes, shall be provided with an oil or flammable liquid interceptor ~~that shall be connected to necessary floor drains.~~ Floor drains in such locations shall be connected directly to oil and flammable liquid interceptors.

1017.2 Interceptor Design Alternatives. Oil interceptors shall comply with IAPMO IGC 183 or be in accordance with Section 1017.3 through Section 1017.4.

1017.3 Interceptor Details. Oil and flammable liquid interceptors shall be in accordance with the following:

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Chapter 11 – Storm Drainage

2021 UPC:

1101.13.1 Locations. Rain leaders and conductors connected to a building storm sewer shall have a cleanout installed at the base of the outside leader or outside conductor before it connects to the horizontal drain. Cleanouts shall be placed inside the building near the connection between the building drain and the building sewer or installed outside the building at the lower end of the building drain and extended to grade.

2024 UPC:

1101.13.1 Locations. Rain leaders and conductors connected to a building storm sewer shall have a cleanout installed at the base of the ~~outside~~ leader or ~~outside~~ conductor before it connects to the horizontal drain. Cleanouts shall be placed inside the building near the connection between the building drain and the building sewer or installed outside the building at the lower end of the building drain and extended to grade.

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Chapter 11 – Storm Drainage

2021 & 2024 UPC:

1104.0 Values for Continuous Flow.

1104.1 General. Where there is a continuous or semi-continuous discharge into the building storm drain or building storm sewer, as from a pump, ejector, air-conditioning plant, or similar device, 1 gpm (0.06 L/s) of such discharge shall be computed as being equivalent to 24 square feet (2.2 m²) of roof area, based upon a rate of rainfall of 4 inches per hour (in/h) (102 mm/h).

2024 UPC [WA]:

1104.0 Values for Continuous Flow.

1104.1 General. Where there is a continuous or semi-continuous discharge into the building storm drain or building storm sewer, as from a pump, ejector, air-conditioning plant, or similar device, 1 gpm (0.06 L/s) of such discharge shall be computed as being equivalent to ~~24~~ **96** square feet (~~2.2~~ **8.9** m²) of roof area, based upon a rate of rainfall of ~~4~~ **1** inches per hour (in/h) (~~102~~ **25** mm/h).

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WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2021 UPC:

1302.1 Risk Categories. Activities, systems, or equipment shall be designed to meet Category 1 through Category 4 requirements, as detailed in this chapter. [NFPA 99:4.1]

2024 UPC:

1302.1 Risk Categories. All ~~A~~ activities, as well as systems, or equipment that are new or altered, shall be designed to meet Category 1 through Category 4 requirements, as detailed in this chapter. ~~{[NFPA 99:4.1]}~~

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2021 UPC:

1303.9 Work Performed in Occupied Healthcare Facilities. In existing, occupied, inpatient healthcare facilities, all plumbing systems installation and remodel work shall be performed by personnel certified in accordance with ASSE/IAPMO 12010, ASSE/IAPMO 12030 and ASSE/IAPMO 12040.

2024 UPC:

1303.9 Work Performed in Occupied Healthcare Facilities. In existing, occupied, inpatient healthcare facilities, all plumbing systems installation and remodel work shall be performed by personnel certified in accordance with ASSE/IAPMO/~~ANSI~~ 12010, ~~ASSE/IAPMO 12030 and ASSE/IAPMO 12040.~~

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

TABLE 1305.1
STANDARD DESIGNATION COLORS AND OPERATING PRESSURES FOR GAS AND VACUUM SYSTEMS
[NFPA 99: TABLE 5.1.11]

GAS SERVICE	ABBREVIATED NAME	COLORS (BACKGROUND/ TEXT)	STANDARD GAUGE PRESSURE
Medical Air	Med Air	Yellow/Black	50-55 psi
Carbon Dioxide	CO ₂	Gray/black or gray/white	50-55 psi
Helium	He	Brown/white	50-55 psi
Nitrogen	N ₂	Black/white	55 160-185 psi
Nitrous Oxide	N ₂ O	Blue/white	50-55 psi
Oxygen	O ₂	Green/white or white/green	50-55 psi
Oxygen/carbon dioxide mixtures	O ₂ /CO ₂ n% (n = % of CO ₂)	Green/white	50-55 psi
Medical-surgical vacuum	Med Vac	White/black	15 inch to 30 inch HgV
Waste anesthetic gas disposal	WAGD	Violet/white	Varies with system type
<u>Medical-surgical vacuum/ WAGD combination</u>	<u>Med-surg/WAGD</u>	<u>White/black and violet/white</u>	<u>15 inch to 30 inch HgV</u>
Other mixtures	Gas A% / Gas B%	Colors as above, major gas for background/minor gas for text	None
Nonmedical air (Category-3 gas-powered device) and dental air	-	Yellow and white diagonal stripe/black	None
Nonmedical and Category-3 vacuum and dental vacuum	-	White and black diagonal stripe/black boxed	None
Laboratory air	-	Yellow and white checkerboard/black	None
Laboratory vacuum	-	White and black checkerboard/black boxed	None
Instrument air	-	Red/white	50 160-185 psi

For SI units: 1 pound-force per square inch = 6.8947 kPa, 1 inch of mercury vacuum (HgV) = 3.386 kPa

Legend: New Text Deleted Text WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1311.4 Location. Medical air intakes shall be located as follows:

- (1) The medical air intake shall be located a minimum of 25 feet (7620 mm) from ventilating system exhausts, fuel storage vents, combustion vents, plumbing vents, ~~and~~ vacuum ~~and WAGD~~ discharges, or areas that can collect vehicular exhausts or other noxious fumes.

[items 7-9 omitted]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1312.4 Vacuum Filtration. Central supply systems for vacuum ~~other than liquid ring pumps~~ shall be provided with inlet filtration with the following characteristics:

- (1) Filtration shall be at least duplex to allow one filter to be exchanged without impairing ~~the~~ vacuum system.
- (2) Filtration shall be located on the patient side of the vacuum producer.
- (3) Filters shall be efficient to 0.3 μ and 99.97 percent HEPA or better, per DOE-STD-3020.

[items 4-10 omitted]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1314.5 Valve Types. New or replacement valves shall be permitted to be of any type as long as they meet the following conditions:

(1) They have a minimum Cv factor in accordance with Table 1314.5(1) or 1314.5(2).

[items 2-7 omitted]

~~(8) They have threaded purge ports on the patient side and the source side.~~

~~(9) They have a minimum working pressure equal to or greater than the relief valve protecting the piping system on which the valve is installed for any positive-pressure service. [NFPA 99:5.1.4.1.6]~~

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WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

**TABLE 1314.5(1)
POSITIVE PRESSURE GASES
[NFPA 99: TABLE 5.1.4.1.6(a)]**

VALVE SIZE (inch)	MINIMUM Cv (full open)
1/2	17
3/4	31
1	60
1 1/4	110
1 1/2	169
2	357
2 1/2	390
3	912
4	1837

For SI units: 1 inch = 25.4 mm

**TABLE 1314.5(2)
VACUUM AND WAGD
[NFPA 99: TABLE 5.1.4.1.6(b)]**

VALVE SIZE (inch)	MINIMUM Cv (full open)
1/2	17
3/4	31
1	60
1 1/4	110
1 1/2	169
2	357
2 1/2	196
3	302
4	600
5	1022
6	1579
8	3136

For SI units: 1 inch = 25.4 mm

Legend: New Text Deleted Text WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2021 UPC:

1314.10.1 Readily Accessible. A zone valve in each medical gas or vacuum line shall be provided for each Category 1 space and anesthetizing location for moderate sedation, deep sedation, or general anesthesia specific for the occupancy. These zone valves shall be located as follows:

[item 1 omitted]

(2) They are readily accessible in an emergency. [NFPA 99:5.1.4.6.2]

2024 UPC:

(2) They are **installed where they are visible and accessible at all times** ~~readily accessible in an emergency~~. [NFPA 99:5.1.4.6.2]

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WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1317.0 Warning Systems.

1317.1 Category 1. All master, area, and local alarm systems used for medical gas and vacuum systems shall include the following:

[items 1-11 omitted]

(12) Communication devices that do not use electrical wiring for signal transmission ~~will be~~ and are supervised such that failure of communication ~~shall~~ initiates an alarm.

[items 13-14 omitted]

(15) Alarm switches/sensors installed so as to be removable and accessible for service and testing. [NFPA 99:5.1.9.1]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1320.2.1 Medical Vacuum Systems. Vacuum systems **and WAGD systems** fabricated from copper tubing shall be permitted to have branch connections made using mechanically formed, drilled, and extruded tee-branch connections that are formed in accordance with the tool manufacturer's instructions. Such branch connections shall be joined by brazing, as described in Section 1321.0. [NFPA 99:5.1.10.3.3]

Legend: **New Text** ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1321.8.7 On-Site Recleaning. *[first paragraph omitted]*

Other aqueous cleaning solutions shall be permitted to be used for on-site recleaning permitted in this section, provided that they are ~~as recommended~~ in accordance with the mandatory requirements of CGA G-4.1. [NFPA 99:5.1.10.4.3.10, 5.1.10.4.3.11]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1322.4 Axially Swaged Fittings. Axially swaged, ~~elastic strain preload~~ fittings providing metal-to-metal seals, suitable for service at 300 psig (2070 kPa) and able to withstand ~~having~~ a temperature of rating not less than 1000°F (538°C) ~~and a pressure rating not less than 300 psi (2068 kPa)~~, and that, when complete, are permanent and non-separable shall be permitted to be used to join copper or stainless steel tube. Axially swaged, ~~elastic strain preload~~ fittings shall be installed by qualified technicians in accordance with the manufacturer's instructions. [NFPA 99:5.1.10.7.1, 5.1.10.7.2]

Legend:

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WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1323.13.1 Pipe Labeling. Piping shall be labeled by stenciling or adhesive markers that identify the patient medical gas, the medical support gas, or the vacuum system and include the following:

[items 1 & 2 omitted]

~~(3) Where positive pressure gas piping systems operate at pressures other than the standard gauge pressure in Table 1305.1, the operating pressure in addition to the name of the gas. [NFPA 99:5.1.11.1.1]~~

Legend: New Text Deleted Text WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1323.13.2 Pipe Pressure Labeling. Where positive pressure gas piping systems operate at pressures other than the standard gauge pressure in Table 1305.1, the operating pressure in addition to the name of the gas shall be labeled.[NFPA 99:5.1.11.1.2]

1323.13.23 Location of Pipe Labeling. *[remainder of section omitted]*

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WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1323.14 Identification of Shutoff Valves. Shutoff valves shall be identified with the following:

- (1) Name or chemical symbol for the specific medical gas or vacuum system.
- (2) Gas or vacuum system color code in accordance with Table 1305.1.
- (~~2~~3) Room or areas served.
- (~~3~~4) Caution to not close or open the valve except in emergency. [NFPA 99:5.1.11.2.1]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1323.15 Identification. Station outlets and inlets shall be identified as to the name or chemical symbol for the specific medical gas or vacuum provided and shall include the following:

- (1) Name of the gas or vacuum system or the chemical symbol in accordance with Table 1305.1
- (2) Gas or vacuum system color code in accordance with Table 1305.1

[remainder of section omitted]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1324.5.4 Standing Pressure Tests – for Positive Pressure Medical Gas Piping Systems. After successful completion of the initial pressure tests under Section 1324.5 through Section 1324.5.1.2, medical gas distribution piping shall be subjected to a standing pressure test. [NFPA 99:5.1.12.2.6]

1324.5.4.1 Time Frame for Testing. Tests shall be conducted after the final installation of station outlet valve bodies, faceplates, and **all** other distribution system components (~~e.g. pressure alarm devices, pressure indicators, line pressure relief valves, manufactured assemblies, hose~~). [NFPA 99:5.1.12.2.6.1]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1324.5.5 Standing Pressure Tests – Medical Vacuum Piping Systems.

[remainder of 1324.5.5 and sections 1324.5.5.1 thru 1324.5.5.4 omitted]

1324.5.5.5 Conclusion of Test. ~~At the conclusion of the test, there shall be no change in the vacuum other than~~ The leakage over the 24-hour test shall not exceed 0.5 percent of the starting pressure [e.g., 0.125 inch (0.3 mm) HgV starting at 25 inches (635 mm) HgV] except that attributed to specific changes ~~of~~ in ambient temperature. [NFPA 99:5.1.12.2.7.5]

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WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1325.0 Category 2 Piped Gas and Vacuum Systems.

1325.1 General. Category 2 piped gas or piped vacuum system requirements shall be permitted when all of the following criteria are met:

- (1) Only moderate sedation (**as defined in Chapter 2**); minimal sedation; ~~(as defined in Chapter 2)~~; or no sedation is performed. Deep sedation and general anesthesia shall not be permitted.

[remainder of section omitted]

Legend: **New Text** ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1326.0 Category 3 Piped Gas and Vacuum Systems.

1326.1 General. Category 3 piped gas and vacuum systems shall be permitted when all of the following criteria are met:

- (1) Only ~~moderate sedation~~; minimal sedation, as defined in Chapter 2; or no sedation is performed. Deep sedation, ~~moderate sedation~~, and general anesthesia are not performed.

[remainder of section omitted]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2021 UPC:

1326.3 Medical Air Supply Systems. Category 3 systems shall comply with Section 1310.0 through Section 1311.6, except as follows:

- (1) Medical air compressors, dryers, after coolers, filters, and regulators shall be permitted to be simplex.
- (2) The facility staff shall develop their emergency plan to deal with the loss of medical air. [NFPA 99:5.3.3.5]

2024 UPC:

1326.3 Medical Air Supply Systems. Category 3 ~~central supply~~ systems shall ~~comply with Section 1310.0 through Section 1311.6, except as follows~~ be permitted to consist of the following:

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1326.3 Medical Air Supply Systems. Category 3 central supply systems shall be permitted to consist of the following:

- (1) Gas cylinder or cryogenic liquid container headers in accordance with NFPA 99
- (2) Oxygen concentrator supply units in accordance with NFPA 99
- (3) Cylinder manifolds for gas cylinders in accordance with NFPA 99
- (4) Manifolds for cryogenic liquid containers in accordance with NFPA 99
- (5) Cryogenic fluid central supply systems in accordance with NFPA 99
- (6) Medical air compressor systems in accordance with NFPA 99
- (7) Proportioning air systems in accordance with NFPA 99
- (8) Medical-surgical vacuum systems in accordance with of NFPA 99
- (9) Waste anesthetic gas disposal systems (WAGDs) in accordance with NFPA 99
- (10) Instrument air compressor systems in accordance with NFPA 99 {NFPA 99:5.3.3.5}

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WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2021 UPC:

1326.4 Oxygen Central Supply Systems Using Concentrators. Category 3 oxygen supply systems using concentrators shall be permitted to consist of two sources, one of which shall be a cylinder header with sufficient cylinder connections for one average day's supply. [NFPA 99:5.3.3.6]

2024 UPC:

[full section deleted]

Legend:

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WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1326.54 Medical–Surgical Vacuum. Category 3 systems shall comply with Section 1307.3 through Section 1309.13 and Section 1312.0 through Section 1313.5, except as follows:

- (1) Medical–surgical vacuum systems shall be permitted to be simplex.
- (2) The facility staff shall develop their an emergency plan to deal with the loss of medical–surgical vacuum. [NFPA 99:5.3.3.7]
- (3) Emergency electrical service shall conform to the requirements of Section 6.6 of NFPA 99 and NFPA 70. [NFPA 99:5.3.3.7]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1326.9 Warning Systems. Warning systems associated with Category 3 systems shall provide the master, area, and local alarm functions of a Category 1 system as required in Section 1317.0, except as follows:

- (1) Warning systems shall be permitted to be a single alarm panel (i.e., a combination master/area alarm panel).
- (2) The alarm panel shall be located in an area of continuous surveillance while the facility is in operation.
- (3) Pressure and vacuum switches/sensors shall be mounted at the source equipment with a pressure indicator at the master alarm panel. [NFPA 99:5.3.9]
- (4) Electrical power for warning systems shall be in accordance with Section 6.6 of NFPA 99 for Category 3 and Category 4 spaces. [NFPA 99:5.3.9]

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 13 – Health Care Facilities and Medical Gas and Medical Vacuum Systems

2024 UPC:

1327.2 Emergency Shutoff Valves (Oxygen and Nitrous Oxide). ~~Emergency shutoff valves shall be provided in accordance with the following:~~

(1) ~~Where a central~~ **All Category 2** medical gas ~~systems supply is remote from a single~~ **systems** ~~treatment facility, the main supply line~~ shall ~~be provided with~~ **have** an emergency shutoff valve ~~located in the single treatment facility so as to be~~ accessible from all use-point locations in an emergency.

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WA State Proposal

Chapter 15 – Alternate Water Sources for NonPotable Applications

2024 UPC:

1501.7 Minimum Water Quality Requirements. The minimum water quality for alternate water source systems shall meet the applicable water quality requirements for the intended application as determined by the Authority Having Jurisdiction. In the absence of water quality requirements, for on-site treated nonpotable systems, the water quality requirements of **IAPMO IGC 324 or NSF/ANSI 350** shall apply. ~~The EPA/625/R-04/108 contains recommended water reuse guidelines to assist regulatory agencies to develop, revise, or expand alternate water source water quality standards.~~

Exception: Water treatment is not required for gray water used for subsurface irrigation.

Legend: **New Text** ~~Deleted Text~~ WA State Proposal

Chapter 15 – Alternate Water Sources for NonPotable Applications

2021 UPC:

1503.2.4 Rainwater Diversion Valves. Rainwater diversion valves ranging from 6 inches (150 mm) to 12 inches (300 mm) in diameter shall comply with IAPMO IGC 352. Valves shall be accessible and include a filter located upstream of the valve when required.

2024 UPC:

[entire section relocated to Ch 16]

Legend:

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WA State Proposal

Chapter 15 – Alternate Water Sources for NonPotable Applications

2024 UPC:

1505.5 Water Pressure. Reclaimed (recycled) water systems supplying water to water closets, urinals, and trap primers shall be capable of delivering not less than 15 pounds-force per square inch (psi) (103 kPa) residual pressure at the highest and most remote outlet served. Where the water pressure in the reclaimed water supply system within the building exceeds 80 psi (552 kPa), a pressure reducing valve reducing the pressure to 80 psi (552 kPa) or less to water outlets in the building shall be installed.

Reclaimed Water. Nonpotable water provided by a water/wastewater utility that, as a result of tertiary treatment of domestic wastewater, meets requirements of the public health Authority Having Jurisdiction for its intended uses.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 15 – Alternate Water Sources for NonPotable Applications

2024 UPC:

1506.5 Water Pressure. On-site treated non-potable water systems supplying water to water closets, urinals, and trap primers shall be capable of delivering not less than 15 pounds-force per square inch (psi) (103 kPa) residual pressure at the highest and most remote outlet served. Where the water pressure in the on-site treated non-potable water supply system within the building exceeds 80 psi (552 kPa), a pressure reducing valve reducing the pressure to 80 psi (552 kPa) or less to water outlets in the building shall be installed.

On-Site Treated Nonpotable Water. Nonpotable water, including gray water that has been **collected, treated, and intended to be used on-site** and is suitable for direct beneficial use.

Legend: New Text ~~Deleted Text~~ WA State Proposal

Chapter 15 – Alternate Water Sources for NonPotable Applications

2024 UPC:

1506.7 On-Site Treated Nonpotable Water Devices and Systems. Devices or equipment used to treat on-site treated nonpotable water to maintain the minimum water quality requirements determined by the Authority Having Jurisdiction shall be listed ~~or~~ **and** labeled (third-party certified) by a listing agency (accredited conformity assessment body) or approved for the intended application. Devices or equipment used to treat on-site treated nonpotable water for use in the water closet and urinal flushing, surface irrigation, and similar applications shall comply with **IAPMO IGC 324**, NSF/**ANSI** 350 or approved by the Authority Having Jurisdiction.

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Chapter 16 – NonPotable Rainwater Catchment Systems

2021 UPC:

1603.3 Construction. Rainwater storage tanks shall be constructed of solid, durable materials not subject to excessive corrosion or decay and shall be watertight.

2024 UPC:

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Chapter 16 – NonPotable Rainwater Catchment Systems

2024 UPC:

1603.54 Minimum Water Quality. The minimum water quality for harvested rainwater shall meet the applicable water quality requirements for the intended applications as determined by the Authority Having Jurisdiction. In the absence of water quality requirements determined by the Authority Having Jurisdiction, the minimum treatment and water quality shall be in accordance with Table 1603.54, IAPMO IGC 324 or NSF/ANSI 350.

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Chapter 16 – NonPotable Rainwater Catchment Systems

2021 UPC:

1603.5.1 Treatment. If the quality of the tested water cannot consistently be maintained at the minimum levels specified in Table 1603.5, then the system shall be equipped with an appropriate treatment device meeting applicable NSF standards referenced in Chapter 17.

2024 UPC:

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Chapter 16 – NonPotable Rainwater Catchment Systems

2021 UPC:

1503.2.4 Rainwater Diversion Valves. Rainwater diversion valves ranging from 6 inches (150 mm) to 12 inches (300 mm) in diameter shall comply with IAPMO IGC 352. Valves shall be accessible and include a filter located upstream of the valve when required.

2024 UPC:

~~1503.2.4~~**1603.20 Rainwater Diversion Valves.** ~~Rainwater diversion valves ranging from 2 inches (50 mm) through 4 inches (100 mm) in diameter shall comply with IAPMO PS 59.~~ Rainwater diversion valves ranging from 6 inches (150 mm) to 12 inches (300 mm) in diameter shall comply with IAPMO IGC 352. Valves shall be accessible and include a filter located upstream of the valve when required.

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Chapter 17 – Referenced Standards

2024 UPC:

TABLE 1701.1
REFERENCED STANDARDS

Standard Number	Standard Title	Application	Referenced Section
<u>ASME A112.18.8-2020</u>	<u>Sanitary Waste Valves for Plumbing Drainage Systems</u>	<u>Sanitary Waste Valves</u>	<u>814.4</u>
<u>ASSE 1099-2021/WSC PST 2000-2021</u>	<u>Pressurized Water Storage Tanks</u>	<u>Valves</u>	<u>607.2</u>
<u>ASTM F1216-2021</u>	<u>Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube</u>	<u>Piping</u>	<u>715.3.1</u>
<u>ASTM F2561-2020</u>	<u>Standard Practice for Rehabilitation of a Sewer Service Lateral and Its Connection to the Main Using a One Piece Main and Lateral Cured-in-Place Liner</u>	<u>Piping</u>	<u>715.3.1</u>
<u>ASTM F2599-2020</u>	<u>Standard Practice for the Sectional Repair of Damaged Pipe by Means of an Inverted Cured-In-Place Liner</u>	<u>Piping</u>	<u>715.3.1</u>
<u>ASTM F3240-2019</u>	<u>Standard Practice for Installation of Seamless Molded Hydrophilic Gaskets (SMHG) for Long-Term Watertightness of Cured-in-Place Rehabilitation of Main and Lateral Pipelines</u>	<u>Piping</u>	<u>715.3.1</u>

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Chapter 17 – Referenced Standards

2024 UPC:

TABLE 1701.1
REFERENCED STANDARDS

Standard Number	Standard Title	Application	Referenced Section
<u>AWWA C530-2017</u>	<u>Pilot-Operated Control Valves</u>	<u>Valves</u>	<u>608.2</u>
<u>ASSE/IAPMO/ANSI Series 5000-2015</u>	<u>Cross-Connection Control Professional Qualifications Standard</u>	<u>Certification</u>	<u>603.2, 603.4.2</u>
<u>ASSE/IAPMO/ANSI Series 6000-2021</u>	<u>Professional Qualifications Standard for Medical Gas Systems Personnel</u>	<u>Certification</u>	<u>1323.10</u>
<u>IAPMO IGC 196-2018</u>	<u>Condensate Traps and Overflow Switches for Air-Conditioning Systems</u>	<u>Condensate Traps</u>	<u>814.4</u>
<u>IAPMO PS 104-2019</u>	<u>Pressure Relief Connection for Dispensing Equipment</u>	<u>Valves</u>	<u>603.5.22(1)</u>
<u>NSF/ANSI 184-2019</u>	<u>Residential Dishwashers</u>	<u>Appliances</u>	<u>414.1</u>
<u>UL-17-2008</u>	<u>Vent or Chimney Connector Dampers for Oil-Fired Appliances (with revisions through September 25, 2013)</u>	<u>Fuel Gas, Vent Dampers</u>	<u>509.14.1</u>
<u>ASSE 1099-2021/WSC PST 2000-2021</u>	<u>Pressurized Water Storage Tanks</u>	<u>Valves</u>	<u>607.2</u>

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Chapter 17 – Referenced Standards

2024 UPC:

TABLE 1701.2
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

Document Number	Document Title	Application
ARCSA/ASPE 78-2015	Stormwater Harvesting System Design for Direct End-Use Applications	Miscellaneous
ASABE/ICC 802-2014	Landscape Irrigation Sprinkler and Emitter Standard	Irrigation
ARCSA/ASPE 78-2015	Stormwater Harvesting System Design for Direct End-Use Applications	Miscellaneous
WQA/ASPE/ANSI S-803-2017	Sustainable Drinking Water Treatment Systems	Miscellaneous
ASSE 12010-2021	Environment of Care, Infection Control and Construction Risk Assessment Professional Qualification Standard	Professional Qualifications
ASTM F1216-2016	Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube	Piping
ASTM F2561-2020	Rehabilitation of a Sewer Service Lateral and Its Connection to the Main Using a One-Piece Main and Lateral Cured-in-Place Liner	Piping
ASTM F2599-2020	Sectional Repair of Damaged Pipe by Means of an Inverted Cured-In-Place Liner	Piping
ASTM F3240-2019	Installation of Seamless Molded Hydrophilic Gaskets (SMHG) for Long-Term Water-tightness of Cured-in-Place Rehabilitation of Main and Lateral Pipelines	Piping

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Chapter 17 – Referenced Standards

2024 UPC:

TABLE 1701.2
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

Document Number	Document Title	Application
<u>Energy Star-2007</u>	<u>Program Requirements for Commercial Ice Machines</u>	<u>Miscellaneous</u>
<u>ASSE/IAPMO/ANSI 5110-2015</u>	<u>Backflow Prevention Assembly Testers</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 5120-2015</u>	<u>Cross-Connection Control Surveyors</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 5130-2015</u>	<u>Backflow Prevention Assembly Repairers</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 5140-2015</u>	<u>Fire Protection System Cross-Connection Control Tester</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 5150-2015</u>	<u>Backflow Prevention Program Administrators</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 6015-2021</u>	<u>Bulk Medical Gas/Cryogenic Fluid Central Supply Systems Installers</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 6040-2021</u>	<u>Medical Gas Systems Maintenance Personnel</u>	<u>Professional Qualifications</u>

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Chapter 17 – Referenced Standards

2024 UPC:

TABLE 1701.2
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

Document Number	Document Title	Application
<u>ASSE/IAPMO/ANSI 7010-2020</u>	<u>Installers of Residential Potable Water Fire Sprinkler Systems for One- and Two-Family Dwellings</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 7020-2020</u>	<u>Inspectors of Residential Potable Water Fire Sprinkler Systems for One- and Two-Family Dwellings</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 12020-2021</u>	<u>Environment of Care, Infection Control and Construction Risk Assessment Professional Qualification Standard for Construction and Maintenance Employers</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 12060-2021</u>	<u>Water Quality Program Professional Qualifications Standard for Employers and Designated Representatives</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 12061-2021</u>	<u>Water Quality Program Professional Qualifications Standard for Plumbers</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 12062-2021</u>	<u>Water Quality Program Professional Qualifications Standard for Pipefitters and HVAC Technicians</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 12063-2021</u>	<u>Water Quality Program Professional Qualifications Standard for Sprinkler Fitters</u>	<u>Professional Qualifications</u>

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Chapter 17 – Referenced Standards

2024 UPC:

TABLE 1701.2
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

Document Number	Document Title	Application
<u>ASSE/IAPMO/ANSI 13010-2015 (R2020)</u>	<u>Professional Qualifications Standard for the Service Plumber</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 16010-2019</u>	<u>Plumbing Inspector</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 16040-2019</u>	<u>Plumbing Plan Examiner</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 21110-2017</u>	<u>Rainwater Catchment Systems Installers</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 21120-2017</u>	<u>Rainwater Catchment Systems Designers</u>	<u>Professional Qualifications</u>
<u>ASSE/IAPMO/ANSI 21130-2017</u>	<u>Inspectors of Rainwater and Stormwater Catchment Systems</u>	<u>Professional Qualifications</u>
<u>IAPMO IGC 262-2020</u>	<u>Corrugated Thermoplastic Tanks</u>	<u>DWV Components</u>
<u>IAPMO IGC 324-2019</u>	<u>Alternate Water Source Systems for Multi-Family, Residential, and Commercial Use</u>	<u>Miscellaneous</u>
<u>IAPMO PS 104-2019</u>	<u>Pressure Relief Connection for Dispensing Equipment</u>	<u>Valves</u>

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Chapter 17 – Referenced Standards

2024 UPC:

TABLE 1701.2
STANDARDS, PUBLICATIONS, PRACTICES, AND GUIDES

Document Number	Document Title	Application
<u>ASABE/ICC 802-2014</u>	<u>Landscape Irrigation Sprinkler and Emitter Standard</u>	<u>Irrigation</u>
<u>PSAI Z4.1-2016</u>	<u>For Sanitation – In Places of Employment: Minimum Requirements</u>	<u>Miscellaneous</u>
<u>WQA/ASPE/ANSI S-803-2017</u>	<u>Sustainable Drinking Water Treatment Systems</u>	<u>Miscellaneous</u>

ABBREVIATIONS IN TABLE 1701.1 AND TABLE 1701.2

ASABE American Society of Agricultural and Biological Engineers, 2950 Niles Road, Street Joseph, MI 49085.

WSC Water Systems Council, 1101 30th Street, NW, Suite 500, Washington, D.C. 20007.

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Appendix A

Recommended Rules for Sizing the Water Supply System

2021 UPC:

A 104.1 Residual Pressure. Decide what is the desirable minimum residual pressure that shall be maintained at the highest fixture in the supply system. Where the highest group of fixtures contains flushometer valves, the residual pressure for the group shall be not less than 15 pounds-force per square inch (psi) (103 kPa). For flush tank supplies, the available residual pressure shall be not less than 8 psi (55 kPa).

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Appendix A

Recommended Rules for Sizing the Water Supply System

2024 UPC:

A 104.1 Residual Pressure. Decide what is the desirable minimum residual pressure that shall be maintained at the highest fixture in the supply system. ~~Where the highest group of fixtures contains flushometer valves, the~~ **available** residual pressure ~~for the group~~ shall be not less than 15 pounds-force per square inch (psi) (103 kPa). ~~For flush tank supplies, the available residual pressure shall be not less than 8 psi (55 kPa).~~ **Where fixtures, fixture fittings, or both are installed that require a residual pressure exceeding 15 psi (103 kPa), that minimum residual pressure shall be provided.**

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Appendix A

Recommended Rules for Sizing the Water Supply System

2024 UPC:

**TABLE A 103.1
WATER SUPPLY FIXTURE UNITS (WSFU) AND MINIMUM FIXTURE BRANCH PIPE SIZES³**

APPLIANCES, APPURTENANCES, OR FIXTURES ²	MINIMUM FIXTURE BRANCH PIPE SIZE ^{1,4} (inches)	PRIVATE	PUBLIC	ASSEMBLY ⁶
Sinks	–	–	–	–
Bar	½	1.0	2.0	–
Clinical Faucet	½	–	3.0	–
Clinical Flushometer Valve with or without faucet	1	–	8.0	–
Kitchen, domestic <u>with or without dishwasher</u>	½	1.5	1.5	–
Laundry	½	1.5	1.5	–
Service or Mop Basin	½	1.5	3.0	–
Washup, each set of faucets	½	–	2.0	–

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Appendix B

Explanatory Notes on Combination Waste and Vent Systems

2021 UPC:

B 101.2 General Requirements. Combination waste and vent systems, as outlined in Section 910.0 of this code, cover the horizontal wet venting of a series of traps using a common waste and vent pipe. Pipe sizes not less than two pipe sizes larger than those required for a conventional system are designed to maintain a wetted perimeter or flow line low enough in the waste pipe to allow adequate air movement in the upper portion, thus balancing the system. **Sinks, lavatories, and other fixtures that rough in above the floor, shall not be permitted on a combination waste and vent system**, which, at best, is merely an expedient designed to be used in locations where it would be structurally impractical to provide venting in a conventional manner.

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Appendix B

Explanatory Notes on Combination Waste and Vent Systems

2024 UPC:

B 101.2 General Requirements. Combination waste and vent systems, ~~(which at best are merely an expedient designed to be used in locations where it would be structurally impractical to provide continuous venting of fixtures)~~ as outlined in Section 910.0 of this code, cover the horizontal wet venting of a series of traps using a common waste and vent pipe. Pipe sizes not less than two pipe sizes larger than those required for a conventional system are designed to maintain a wetted perimeter or flow line low enough in the waste pipe to allow adequate air movement in the upper portion, thus balancing the system. ~~Sinks, lavatories, and other~~ **One and two unit** fixtures **that rough in above the floor**, shall ~~not~~ be permitted ~~on~~ **to connect to** a combination waste and vent system when located as required in Section 910.7, ~~which, at best, is merely an expedient designed to be used in locations where it would be structurally impractical to provide venting of fixtures in a conventional manner.~~

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Appendix B

Explanatory Notes on Combination Waste and Vent Systems

2024 UPC:

910.7 Fixtures. No water closet or urinal shall be installed on such a system. Other one, two, **or three** unit fixtures remotely located from the sanitary system and adjacent to a combination waste and vent system shall be permitted to be connected to such system in the conventional manner by means of waste and vent pipes of regular sizes, providing that the two pipe size increase required in Section 910.4 is based on the total fixture unit load connected to the system.

See Appendix B of this code for explanatory notes on the design of combination waste and vent systems.

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Appendix B

Explanatory Notes on Combination Waste and Vent Systems

Examples of fixture types now permitted to connect to CWV systems:

2-Unit Fixtures (with above-floor rough-in):

- Domestic dishwashers (might conflict with B 101.3)
- Bar Sinks
- Sets of Lavatories
- Domestic kitchen sinks (with or without food waste disposer, dishwasher or both)
- Clothes washers (might conflict with B 101.3)

Appendix B

Explanatory Notes on Combination Waste and Vent Systems

Excerpt from B 101.2:

“Due to its oversize characteristics, such a waste system is not self-scouring and, consequently, care shall be exercised as to the type of fixtures connected to it and the location of cleanouts.”

Excerpt from B 101.3:

“Caution shall be exercised to exclude appurtenances delivering large quantities or surges of water (such as pumps, sand interceptors, etc.) from combination waste and vent systems so that adequate venting will be maintained.”

Potential conflicts or extra discretion needed:

Clothes washers, domestic dishwashers, domestic kitchen sinks (esp w/food disposal).

**Appendix I
Installation Standards**

[No Revisions]

**Appendix M
Peak Water Demand Calculator**

[No Revisions]

Chapter 3–17 Acknowledgements

New or revised adopted code sections not covered in this presentation:

- 301.2.3 (clerical)
- 402.6.1 (clerical)
- 405.3 (clerical)
- 409.6 & 409.6.1 (clerical)
- 409.6.2 (clerical)
- 414.3 (clerical)
- 417.1 (clerical)
- 420.2 (clerical)
- 422.1.1 thru 422.7 (not adopted)
- Table 422.1 (not adopted)
- 501.1 (clerical)
- 506.2.2 & 506.6 (not adopted)
- 507.7 thru 507.8 (not adopted)
- 507.18 thru 507.21 (not adopted)
- 508.2.2.1 Exception (clerical)
- 508.4.4 (clerical)
- 509.1.1 thru 510.2.18 (not adopted)
- 604.1 & 604.9 (clerical)
- Table 604.1 (clerical – add'l standards)
- 606.9, 607.3, 607.6 & 608.1 (clerical)
- 608.7 & 609.8.2 (clerical)

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Chapter 3–17 Acknowledgements (cont.)

New or revised adopted code sections not covered in this presentation:

- 611.1.2 & 611.2 (clerical)
- Table 611.4 (clerical)
- 612.1 (clerical)
- Table 707.2 (clerical)
- 713.2 thru 718.1 (not adopted)
- 803.3 (clerical)
- 905.5 (clerical)
- 1001.2 & 1003.1 (clerical)
- 1014.3.4 (clerical)
- 1106.2 (clerical)
- All of Ch. 12 (not adopted)
- 1309.6 & 1309.7 (clerical)
- 1317.1 items 3, 8, 9, 14 (clerical)
- 1323.10 (clerical)
- 1323.14.3 (clerical)
- 1324.5.4.5-1324.5.4.7 (clerical)
- 1324.5.6.2 thru 1324.5.7.3 (clerical)
- 1502.4 (clerical)
- 1602.1 (clerical)
- Adjustments to existing Ch 17 standards

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End of Presentation

Be sure to sign the course roster for CEU's!