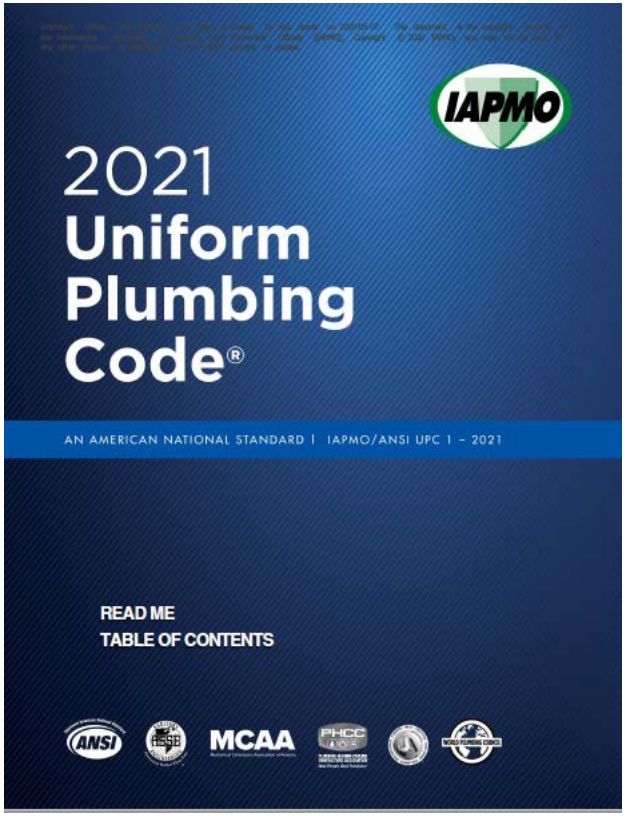
CITY OF AUSTIN
Development
SERVICES DEPARTMENT

Building a Better and Safer Austin Together

2021
Uniform Plumbing Code



Meeting Purpose

To present proposed changes to the 2021 Uniform Plumbing Code

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Reducing Amendments

GOAL: To minimize the number of amendments and return to published code.

Amendments were reduced by more than 50% compared to the 2015 adoption process. The following slides detail some of the major changes proposed in the ordinance.

Reasons for amendments:

1. Council mandated
2. Business needs (chapter 1)
3. Additional options for the public with exempts from permitting
4. Clarification purposes
5. ISO rating

Chapter 25-12: Local Amendments to Uniform Plumbing Code

104.1.1 Persons authorized to obtain permits. A responsible master plumber licensed by the State of Texas and registered with the City may obtain a permit required by the Plumbing Code. Only a responsible master plumber with a master medical gas endorsement may obtain a plumbing permit related to medical gas installations. Only a responsible master plumber with a master water supply protection specialist endorsement may obtain a plumbing permit for ~~a~~an ~~auxiliary water system that supplies plumbing fixtures.~~ potable rain water system.

Exception. An individual who is not licensed as a plumber may obtain a plumbing permit for plumbing work. That may, under state law, be completed by an unlicensed individual.

Note: Modified to align definitions and terms with the published code.

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~~**104.1.2 Homestead permit.** An individual who is not licensed to perform plumbing work may perform plumbing work within a residence and on property owned by the individual. if the work does not include any auxiliary or alternative water system that has components interior to a building or serves plumbing fixtures, except for a gravity gray water system with a maximum discharge capacity of 250 gallons per day for a one-or-two family dwelling or townhome. . An individual must apply for a homestead permit in person, present a picture identification, and file an affidavit stating that the location at which the work is to be completed is the individual's homestead. An individual with a homestead permit may not allow or cause another individual to work under the homestead permit. If the work done under the homestead permit is performed by anyone other than the person who obtained the permit, the building official may suspend or revoke a homestead permit. A homestead permit may not be transferred to another person. If requested by the building official or his designee, a person with a homestead permit must provide proof of residence and ownership.~~

Note: State plumbing license laws already cover this exemption.

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104.1.5 ~~**Special inspections program for timed inspections**~~**Commercial plumbing change-out program.** The building official may establish by rule an inspection program of commercial plumbing components identified in this section in buildings not covered under the International Residential Code or ~~the Special Inspections Programs~~ a change-out program authorized~~included~~ in other technical or building codes. The buildings must be located within Austin full purpose jurisdiction.~~the zoning jurisdiction of the City and, subject to agreement with a municipal utility district or a premises where the City provides water, reclaimed water, or wastewater service, may be located outside of the zoning jurisdiction.~~ This program applies to replacing ~~existing~~ a water heater, ~~and~~ backflow device or assembly, and to repairing or replacing a sewer line in occupied structures~~.~~

Note: Modified to avoid confusion with the IBC Special Inspection Program, to limit where timed inspections occur and to be specific to occupied structures.

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104.2 Exempt Work. A permit shall not be required for the following:

1. The stopping of leaks in drains, soil, waste, or vent pipe, provided, however, that a trap, drain pipe, soil, waste, or vent pipe become defective, and it becomes necessary to remove and replace the same with new material, the same shall be considered as new work and a permit shall be procured and inspection made as provided in this code.

2. The clearing of stoppages, including the removal and reinstallation of water closets, or the repairing of leaks in pipes, valves, or fixtures, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.

3. Work required to repair or replace fixtures and to replace exposed traps, continuous waste piping, fixture supply valves, or faucets if the work does not involve other city departments or inspections from other trades.

4. Other work as determined by the building official

Exemption from the permit requirements of this code shall not be deemed to grant authorization for work to be done in violation of the provisions of the code or other laws or ordinances of this jurisdiction.

For the purpose of this code section a shower, tub or combination tub and shower, new installation or replacement is not exempted from permitting.

Note: Modified to provide additional allowances for the Building Official and clarification regarding tubs and showers.

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104.4.3 Time Limits. City Code Chapter 25-12, Article 13 (Administration of Technical Codes) establishes permit application time limits and requirements applicable to permit expiration and reactivation, including a review fee for expired permits.

104.5 Fees. Fees applicable to this code are set by separate ordinance.

104.6 Offense and Penalty. A person who violates a provision of this code commits a separate offense for each day the violation continues and is subject to the penalty prescribed by Section 25-1-462 (Criminal Enforcement).

Note: Modified to maintain consistency with other codes.

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108.0 The Building Criteria Manual. Additional information on procedures and rules related to administering the Residential Code is available in the Building Criteria Manual.

Note: Creating a pointer to BCM to facilitate the process for changes.

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~~**203.1 ALTERNATE WATER SOURCE** means water from a supply that is not the City's potable water supply and is also referred to as "Auxiliary Water". This definition supersedes the definition used in the 2015 Plumbing Code.~~

~~**218.2 PROPERTY OWNER CUT-OFF** means a full open or full port valve located on the discharge side of a water service from the public water supply. This definition supplements the definitions in Section 218 of the Plumbing Code.~~

Note: Deleted to be consistent with published code definitions and terms.

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PLUMBING SYSTEM means all potable water, building supply, and distribution pipes; all plumbing fixtures and traps; all drainage and vent pipes; and all building drains and building sewers, including their respective joints and connections, devices, receptors, and appurtenances within the property lines of the premises and includes potable water piping, alternate ~~or auxiliary~~ water source systems, irrigation systems, portable water treating or using equipment, medical gas and medical vacuum systems, liquid and fuel gas piping, and water heaters and vents for same. This definition supersedes the definition in the ~~included in Section 218 of the 2015~~ Plumbing Code.

Note: Replacing the word 'auxiliary' with 'alternative' throughout the amendments to match published code.

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309.6 Private Hydrant Lines. Water lines from a private water main to a private fire hydrant with more than 100 gallons capacity, shall have backflow prevention protection as required by Chapter 15-1 (*Cross-Connection Regulations*).

Note: Added the 100 gallon rule to the amendment for water protection purpose.

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312.6 Freeze Protection. Water lines installed outside of the building thermal envelope will require a minimum of 5/8 inch thick insulation with a minimum of R4 value.

Note: Modified to simplify language.

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321.0 REQUIREMENTS FOR FLOOD PLAIN AREAS.

~~**321.1 Definitions.**~~

~~1. **REGULATORY FLOOD DATUM (RFD)** means an established plane of reference from which elevations and depth of flooding may be determined for a specific location of the flood plain. It is the water level of the design flood plus a freeboard factor of one foot. Design flood plus freeboard equals regulatory flood datum.~~

~~2. **W-1 SPACE** means a space that must remain completely dry during flooding to the RFD, with walls that are impermeable to water and water vapor consistent with the Building Code.~~

~~3. **W-2 SPACE** means a space that remains essentially dry during flooding to the RFD, with walls that are impermeable to water but may pass some water vapor or seep slightly consistent with the Building Code.~~

~~**321.2** In this section, plumbing system includes sanitary and storm drainage, sanitary facilities, water supply, and storm water disposal systems.~~

~~**321.3** A sanitary sewer or storm drainage system with an opening below the RFD must be provided with automatic backwater valves or other automatic backflow devices installed in each discharge line passing through an exterior wall. In a W-1 space, a manually operated shut-off valve that can be operated from a location above the RFD must be installed on the lines to serve as supplementary safety provisions for preventing backflow if the automatic backflow device fails.~~

Note: Deleted outdated flood requirements, already exist in IBC. Flood administrators review for these requirements as does the building designer.

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~~**321.4** If the dryness of a space depends on a sump pump system, all interior storm water drainage or seepage, appliance drainage, and under-slab drain tile systems must be directly connected to a sump pump and discharged at an elevation of five feet above the RFD.~~

~~**321.5** A septic tank or disposal bed is not allowed in a 25-year flood hazard area. In other flood hazard areas, the use of a septic tank or disposal bed must be approved by Austin Water Utility.~~

~~**321.6**~~ **(1)** A potable water supply system that is located in the flood hazard area must be designed and installed in a manner that prevents contamination from floodwaters up to the RFD.

~~**321.7**~~ **(2)** An approved backflow preventer or device must be installed on main water service lines to a building entry location to protect the system from backflow or back siphonage of waters or other contaminants in the event of a line break. A device must be installed at an accessible location and must be maintained consistent with the Plumbing Code.

~~**321.8 Establishment of flood hazard areas.** The City establishes a flood hazard area that includes the following:~~

~~1. Areas of special flood hazard areas identified by the Federal Emergency Management Agency in the current scientific and engineering report entitled "The Flood Insurance Study (FIS) for Williamson County, Texas and Incorporated Areas" dated December 20, 2019, with accompanying Flood Insurance Rate Maps (FIRM) dated December 20, 2019, the current scientific and engineering report entitled "The Flood Insurance Study for Travis County, Texas and Incorporated Areas" dated January 6, 2016, with accompanying Flood Insurance Rate Maps dated January 6, 2016, and any revisions are adopted by reference and declared to be part of this section.~~

~~2. The 100-year and 25-year floodplains as defined in the Austin City Code are adopted by reference and declared to be part of this section.~~

Note: Deleted outdated flood requirements, already exist in IBC. Flood administrators review for these requirements as does the building designer.

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407.4 Transient Public lavatories. A lavatory that ~~is intended to~~ serves the transient public, ~~like those~~ in Group A, B, and M type occupancies as defined in the Building Code, must be equipped with self-closing or metering faucets.

Note: Modified to meet intent of the code.

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~~**408.5.1 Accessible shower stalls.** In a Group I (Institutional) occupancy, as defined by the Building Code, a room that contains an accessible shower with a threshold or curb that is less than ½ inch in height or a roll-in accessible shower must be equipped with a Plumbing Code-approved emergency floor drain that is installed outside of the shower stall.~~

Note: Deleted due to additional requirements that don't exist for other types of occupancies.

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~~**412.3 Substitution for water closets.** In a bathroom or toilet room of an assembly or educational occupancy, as defined by the Building Code, up to 67 percent of the required water closets may be urinals. In a bathroom or toilet room of all other occupancies, up to 50 percent of the required water closets may be urinals.~~

Note: Deleted from plumbing amendments and inserted into building amendments with the fixture count table pertaining to design criteria.

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~~**412.1.1 Non-water urinals.** A urinal without water must have a barrier liquid sealant to maintain a trap seal; must allow the uninhibited flow of waste through the urinal to the sanitary drainage system; and must be cleaned and maintained consistent with the manufacturer's instructions after installation. When a urinal without water is installed, at least one water supplied fixture (WSFU) must be installed upstream on the same drain line to facilitate drain line flow and rinsing; and must have a water distribution line rough-in to the urinal location to allow for the installation of an approved backflow prevention device in the event of a retrofit. If the authority having jurisdiction determines that a urinal without water is not maintained consistent with the manufacturer's instructions and that the urinal is a health hazard or detrimental to public health and safety, it must be retrofitted with a flushometer type urinal that complies with Section 412.1. If public health is compromised, the Building Official may to establish a timeline to retrofit the urinal.~~

Note: Back published code.

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422.0 Minimum Number of Required Fixtures. Minimum number of required fixtures will be determined as per 2021 International Building Code chapter 29 Plumbing Systems. Each building must be provided with sanitary facilities, including facilities designed for a person with a disability as determined by the Development Services Department.

422.1 Toilet Facilities for Workers. Toilet facilities shall be provided and maintained in a sanitary condition for the use of workers during construction.

Note: Modified to minimize the design criteria to one location.

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504.7 Appliances Elevated Above an Occupied Space in Occupancy Covered under the International Building Code. Storage type water heaters exceeding a capacity of 17 gallons shall not be installed 8 feet above the finish floor, unless permanent access is provided that support a 300 pound concentrated load that complies with the requirements of the building code or permanent lifting equipment designed by a registered design professional is installed or lifting equipment access is provided from entry point to location of appliance.

504.7.1 One and two family dwellings and townhouse type occupancy. A storage type water heater that exceeds a capacity of 17 gallons may not be installed in an attic or above a ceiling in a residential occupancy unless the water heater is accessible through a vertical door opening located in an occupied space on the same floor level.

Note: 2015 ordinance restricted water heater installations to commercial sites the same as residential water heaters, this change provides options for the commercial installation. This requirement exist due to safety concerns and imposing loads on non-bearing construction.

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508.2 Roof Drainage and Rails. Equipment shall be installed on a well-drained surface of the roof. Guards must be provided where an appliance, equipment, fan, solar system, or other components require service and are located within 10 feet of a roof edge or open side of a walking surface and the edge or walking surface is located 30 inches above the grade below. Rigid fixed rails or guards at least 42 inches in height must be provided on the exposed side. The guard must be constructed to prevent a 21-inch-diameter sphere from passing through and must extend at least 30 inches beyond each end of the appliance, equipment, fan, or component. If a parapet or other building structure is used in lieu of a guard, it must be at least 42 inches in height.

Exception: Guards shall not be required where a permanent fall arrest anchorage connector system in accordance with ASSE Z359.1 is installed.

Note: Modified to match language from IBC and exception added.

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601.3 Identification of a potable and non-potable water system. If potable water and non-potable water systems are installed on the same site, then each system must be labeled and identified consistent with the requirements in Section 601.3.1 through Section 601.3.4.

Exception. Potable water piping inside a building does not require labeling if the non-potable water system does not enter the building.

Note: Added exception to clarify that labeling is not required when the chances of a cross-connection do not exist.

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~~**601.3.1 Potable water.** The system must be identified using a green background and white lettering.~~

~~**601.3.2 Color and information.** A water system must be identified with a colored pipe or sleeve and coated with paints, wraps, and materials that are compatible with the piping. Except as required in Section 601.3.3, a non-potable water system must have a yellow background with black uppercase lettering and labeled "CAUTION: NONPOTABLE WATER, DO NOT DRINK". A non-potable water system must be identified in a manner that designates the liquid being conveyed and shows the direction of normal flow. The size of letters and length of the color field must comply with Table 601.3.3. For piping above grade, the background color and the required information must be indicated every 20 feet (6096 mm) but not less than once per room, on both sides of the wall or partition penetrated by the piping, and at least once in every story height traversed by risers. For piping below grade, the background color and the required information must be indicated every five feet.~~

601.3.1 Existing Irrigation System. ~~**Exception.**~~ The pipe and components of an existing irrigation system that is converted to an ~~auxiliary~~ alternate water source located below grade may remain unmarked until disturbed. Any repair, additions, or alterations must be identified consistent with Section 601.3.2. All pipe and components located above grade or accessible within a subsurface vault must be identified consistent with Section 601.3.2.

Note: Back to published code leaving the exception to clarify that existing systems could remain without labeling until work was performed on those individual areas then the labeling requirement would need to apply.

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Table 603.2

Backflow Prevention Devices, Assemblies, and Methods

Table 603.2

Backflow Prevention Devices, Assemblies, and Methods

DEGREE OF HAZARD

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	
Air gap	ASME A112.1.2	X	–	X	–	See Table 603.3.1 in this chapter.
Air gap fittings for use with plumbing fixtures, appliances, and appurtenances	ASME A112.1.3	X	–	X	–	Air gap fitting is a device with an internal air gap, and typical installation includes plumbing fixtures, appliances, and appurtenances. The critical level shall not be installed below the flood level rim.
Atmospheric vacuum breaker (consists of a body, checking member and atmospheric port)	ASSE 1001 or CSA B64.1.1	X	–	X	–	Upright position. No valve downstream. Minimum of six 6 inches or listed distance above all downstream piping and flood level rim of receptor. [4,5]
Antisiphon fill valve (ballcocks) for gravity water	ASSE 1002/ASME A112.1002/	X	–	X	–	Installation of gravity water closet flush tank and urinal tanks with the fill valve installed with the

Note: Requiring all devices to meet USC approval and TCEQ requirement.

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~~**603.5.7 Outlets with hose attachments.** A potable water outlet with a hose attachment, other than a water heater drain, boiler drain, or clothes washer connection, must be protected by a non-removable hose bib type backflow preventer, a non-removal hose bib type vacuum breaker, or by an atmospheric vacuum breaker installed at least 6 inches (152 mm) above the highest point of usage located on the discharge side of the last valve. In a climate that experiences freezing temperatures, a listed self-draining frost-proof hose bib with an integral backflow preventer or vacuum breaker must be used. A standard hose bib is allowed if protected by additional pipe insulation with an R-value of at least four up to the edge or wall flange of the hose bib~~

Note: Back to published code.

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603.5.12 Beverage dispensers. The potable water supply to a beverage dispenser or coffee machine shall be protected by an air gap, DCVA, or vented backflow preventer consistent with ASSE 1022 installed and maintained per the manufacturer's requirements. ~~The potable water supply to a beverage dispenser or coffee machine must be protected by an air gap or vented backflow preventer consistent with ASSE 1022.~~

Note: Modified to add option for a double check valve assembly as a method of protecting the water supply.

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~~**606.2.1 Property owner cut off (POCO).** A customer or property owner is required to install, on the side where the water services enters the property, a customer or property owner cut-off valve and to maintain the valve. The valve may not be located inside of a City meter box or vault. A "POCO" valve installed on a meter extension must be ball valves, full port, with stainless steel handles, threaded and conform to MSS-SP-110. The threads must comply with ASME B1.20.1.~~

606.2.1 **Full way valve installation location.** A full way valve installed on the discharge side of the water meter is prohibited from being installed inside the City of Austin meter box or vault.

Exception. A full way valve on the discharge side of the water meter may be installed in the City of Austin meter box or vault due to space limitations with written consent from Austin Water.

Note: Reverted back to published code, and provided an exception for the location of the full-way valve with space limitations.

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~~**Definitions.** In Sections 615.1 through 615.3:~~

~~**HYDROZONING** means the practice of grouping sprinkler heads into zones with similar vegetation, soil types, slopes, and sunlight availability.~~

~~**ISOLATION VALVE** means the valve used to isolate all or part of the irrigation system for repairs, maintenance, winter, or emergency shut-down.~~

~~I. **Requirements for new commercial and multi-family landscape irrigation installation.** A new commercial or multi-family irrigation system must be designed and installed to include:~~

~~1. spray irrigation that is limited to areas that are more than six feet wide (medians, buffer strips, and parking lots islands should not be spray irrigated);~~

~~2. above-ground irrigation emission devices that are located at least six inches from impervious cover surfaces;~~

~~3. master valve for the system;~~

~~4. circuit remote control valves that have adjustable flow controls;~~

~~5. serviceable in-head check valves that are adjacent to paved areas where the elevation differences may cause low head drainage;~~

~~6. a rain shut-off device that shuts off the irrigation system automatically at or before ½ inch rainfall;~~

~~7. zone valves and circuits that are separated based on hydro zoning; and~~

~~8. an isolation valve that is located between the meter and the backflow prevention device.~~

Note: Back to published code.

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~~**710.1.1 Back water valves installed on single building drains.** If the building drains are not split, or if all building drains go through a backwater valve, the building sewer must be provided with a vent downstream from the backwater valve. The aggregate cross sectional of the vent may not be less than the largest required building sewer, as determined in Table 703.2. The vent must extend through the roof or, when permitted, be combined with other vent pipes not less than six inches above the next upstream manhole cover. A drainage fittings must be used on all parts of the vent below the lowest floor level. An accessible cleanout is required in the vertical portion of the vent.~~

~~**710.2 Sewer discharge.** Drainage piping that serves fixtures located below the crown level of the main sewer must discharge into an approved watertight sump or receiving tank that is located to receive the sewage or waste by gravity. The sewage or other liquid waste must be lifted and discharged from the sump or tank into the building drain or building sewer by approved ejectors, pumps, or other equally efficient approved mechanical devices. In a one or two family dwelling or townhome, discharge piping may not run within or under the building and may not be tied back into the building drain unless the piping is accessible.~~

Note: Back to published code.

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~~**711.0 SUDS RELIEF.**~~

~~**711.1 General.** A drainage connection may not be made into a drainage piping system within eight feet (2438 mm) of a vertical to horizontal change of direction of a stack that contains suds-producing fixtures. For purposes of this section, bathtubs, laundries, washing machines standpipes, kitchen sinks, and dishwashers may be considered suds-producing fixtures. If a parallel vent stack is required, it shall connect to the drainage stack at a point that is eight feet (2438 mm) above the lowest point of the drainage stack.~~

~~**Exceptions.** Single-family residences or stacks that are less than three stories in height.~~

Note: Back to published code.

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712.1 Testing procedures for drain, waste, and vent piping. Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements.

712.3 Trench drains. . Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements. ~~A pre-manufactured trench drain must be tested in place to assure the tightness of the drain by plugging the drain and filling the drain with water to the overflow of the trench drain. This test must be performed before concrete is poured into place.~~

723.0 Building sewer test. ~~A building sewer must be tested by plugging the end of the building sewer at its point of connection with the public sewer or private sewage disposal system and completely filling the building sewer with water from the lowest to the highest point, or by an approved equivalent low-pressure air test. A building sewer must be water tight at all points. A building sewer may be vacuum tested by plugging all inlets and outlets and testing with five inches of vacuum for five minutes with no loss.~~ Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements.

723.1 Manhole test. ~~A manhole tested with water must be tested by plugging all outlets and filling the manhole to the overflow. The water test must be performed when the manhole is fully exposed with no visible leakage. A manhole may also be vacuum tested by plugging all inlets and outlets and testing with five inches of vacuum for five minutes with no loss.~~ Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements.

1108.0 Methods of testing storm drainage systems. ~~Except for outside leaders and perforated or open jointed drain tile, the piping of a storm drain system must be tested when rough piping installation is complete, by water or air, and proven tight. The authority having jurisdiction may require cleanout plugs to be removed to determine if the pressure reached all parts of the system. A test required by this section must be conducted consistent with Section 1106.2.1 or 1106.2.2.~~ Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements.

1106.2.1 Test procedures for material other than polyvinyl chloride (PVC) drainage piping. ~~This section applies to piping material that is not PVC.~~ Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements.

1304.2 Testing requirements. Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements.

1106.2.2 Testing procedures for plastic roof drainage piping. Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements.

1213.1.6.1 Testing process for gas systems. . Required testing process located in the Building Criteria Manual Section 5.6.2 Plumbing Systems test requirements.

Note: All testing requirements are in the process of being moved to the Building Criteria Manual in an effort to separate processes from technical requirements.

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~~**804.1 Standpipe receptors.** A plumbing fixture or other receptor that receives the discharge of indirect waste pipes must be approved for the proposed use; must be the appropriate shape and capacity to prevent splashing or flooding; and must be located where it can be readily accessed for inspection and cleaning. A standpipe receptor for a clothes washer may not extend more than 30 inches (762 mm) or be less than 18 inches (457 mm) above its trap. The trap for a clothes washer standpipe must be roughed in at least six inches (152 mm) but no more than 18 inches (457 mm) above the floor. The trap may not be installed below the floor. Except for a standpipe for a clothes washer that is co-located in a toilet or bathroom area, an indirect waste receptor may not be installed in a toilet room, closet, cupboard, storeroom, or other portion of the building that is not generally used by the occupants.~~

804.1.1 Hub Drain.~~**Exception.**~~ A hub drain that receives discharge from a water heater temperature and pressure valve drain, pan drain, condensation drain, and other similar clear water waste drains may be located under the kitchen sink cabinet, water heater closet, walk-in storage room, and other similar accessible locations.

Note: Back to published code with modification made to create allowances for the hub drain.

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~~**909.0 Special venting for island fixtures.** A trap for an island sink and similar equipment must be roughed in above the floor and may be vented by extending the vent above the height of the drain board and then returning it downward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent must be connected to the horizontal drain through a wye branch fitting and must, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye branch immediately below the floor and extending to the nearest partition and then through the roof to the open air or it may be connected to other vents at a point not less than six inches (152 mm) above the flood-level rim of the fixtures served. A drainage fitting must be used on all parts of the vent below the floor level and a slope of at least ¼ inch per foot (20.8 mm/m) must be maintained back to the drain. The return bend used under the drain board must be one piece fitting or an assembly of a 45 degree (0.79 rad), a 90 degree (1.6 rad), and a 45 degree (0.79 rad) elbow in the order named. Pipe sizing must comply as otherwise required by the Plumbing Code. A cleanout that is accessible must be installed in the vertical portion of the foot vent.~~

> ~~**Exception.** A deep seal P-trap may be installed under the floor of the island fixtures if the trap and trap vent are at least two inches in diameter and the trap vent is located in the nearest partition wall. The vent riser must contain a cleanout and the vent must continue through the roof to open air. The vent must take off no more than three feet downstream from the trap being served. Pipe sizing must comply as otherwise required by the Plumbing Code.~~

~~**1007.0 Trap seal protection.** Except when the authority having jurisdiction determines it is not necessary for safety or sanitation, a floor drain or similar trap directly connected to the drainage system and subject to infrequent use must be protected with a trap seal primer. When structurally feasible, a trap for a floor drain or similar fixture must be primed by methods that utilize gravity flow wastewater from acceptable plumbing fixtures. A fixture used for grease or food particle wasting may not be used for trap seal priming. The trap seal primer must be accessible for maintenance.~~

Note: Back to published code leaving definition for deep seal trap to allow for an alternative method of compliance.

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~~**1010.0 Slaughterhouses, packing establishments, and other similar establishments.** An establishment that slaughters fish, fowl, or other animals; a meat packing or curing establishment; an establishment that renders tallow or fat; a soap factory; or an establishment that cures hides must connect to and drain or discharge into an approved grease interceptor (also referred to as a clarifier) or other pre-treatment system as necessary to comply with Chapter 15-10 *(Wastewater Regulations)* of the City and as authorized by Austin Water Utility.~~

~~**1012.0 Commercial and industrial laundries.** Laundry equipment in a commercial or industrial building must discharge into a pre-treatment system as necessary to comply with Chapter 15-10 *(Wastewater Regulations)* of the City Code and as authorized by Austin Water Utility.~~

~~**1013.0 Bottling establishments.** Before discharging into the drainage system, a bottling plant or establishment must discharge process waste into an interceptor or other pre- treatment system as necessary to separate broken glass or other solids from liquid waste, to comply with Chapter 15-10 *(Wastewater Regulations),* and as authorized by Austin Water Utility.~~

Note: Back to published code.

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~~**1101.1 Where Required.** Roofs and courtyards must drain into a separate storm sewer system or to some other place of disposal, satisfactory to the authority having jurisdiction. For one-and-two family dwellings, storm water may be discharged on flat areas such as streets or lawns so long as the storm water flows away from the building and to an approved location. For new construction or additions, the post construction site discharge is not to exceed the discharge rate prior to construction.~~

Note: Back to published code.

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~~**1212.10 Liquefied petroleum gas systems**. In addition to being licensed by the State of Texas Board of Plumbing Examiners, an installer may be required by a regulatory authority such as the Texas Railroad Commission and the Austin Fire Department to be certified or licensed to install gas piping and appurtenances. A certification may include certified welder, certified installer of factory designed gas piping systems, or certified or licensed LP Gas piping installer. When installation, alteration, repair or testing of the gas piping system is complete, the installer must identify all piping installations that require certified or licensed personnel and must attach to the end of the piping, nearest the service entrance, a decal or tag made of metal or other permanent material that includes the following:~~

~~1. The installer's name;~~

~~2. the license or certification number; and~~

~~3. the date piping was installed, altered, repaired, or tested~~

Note: Deleted to follow the rules adopted by the Railroad Commission.

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1502.3 Cross-Connection Inspection and testing. Initial and subsequent inspections and tests shall be performed on both the potable and alternate water source systems. The potable and alternate water source system shall be isolated from each other and independently inspected and tested to ensure there is no cross-connection in accordance with Section 1502.3.1 through section 1502.3.4.

Exception.

1. Gravity type exterior non-potable condensate collection systems do not require cross-connection testing.

2. Non-potable condensate collection systems less than 500 gallon capacity and used for outdoor applications do not require cross-connection testing.

Note: Testing requirements were more stringent in the published code.

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1502.3.1 Visual system inspection. . Before commencing the cross-connection testing, a dual system inspection shall be conducted by a licensed professional, registered with the Authority Having Jurisdiction, as follows.~~Before commencing cross-connection testing, the applicant must conduct a dual system inspection using a registered professional authorized by the City and other authorities with jurisdiction that checks:~~

~~the meter locations of alternate water source and potable water lines to verify that no modifications were made and no cross-connections are visible;~~

~~the pumps and equipment, equipment room signs, and exposed piping in equipment room;~~

~~the valves to ensure that valve lock seals are still in place and intact; and~~

~~Whether the valve control door signs remain inplace.~~

1. Meter Locations of the alternate water source and potable water lines shall be checked to verify that no modifications were made and that no cross-connections are visible.
2. Pumps and equipment, equipment room signs and exposed piping in equipment rooms shall be checked.
3. Valves shall be checked to ensure that the valve lock seals are still in place and intact, Valve control door signs shall be checked to verify that no signs have been removed.

Note: Modified for clarification and to meet local requirements.

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1502.3.2 Cross-Connection Test. The procedure for determining cross-connection shall be followed by a licensed professional, registered with the Authority Having Jurisdiction, to determine whether a cross-connection has occurred as follows:

1. The potable water system shall be activated and pressurized. The alternate water source system shall be shut down, depressurized, and drained.
2. The potable water system shall remain pressurized for a minimum period specified by the Authority Having Jurisdiction while the alternated water source is empty. The minimum period the alternate water source system is to remain depressurized shall be determined on a case-by-case basis, taking into account the size and complexity of the potable and the alternate water source distribution systems, but in no case shall that period be less than 1 hour.
3. The drain on the alternate water source system shall be checked for flow during the test and fixtures, potable and alternate water source, shall be tested and inspected for flow. Flow from an alternate source system outlet indicates a cross-connection. No flow from a potable water outlet shall indicate that it is connected to the alternate water source system.
4. The potable water system shall then be depressurized and drained.
5. The alternate water source system shall then be activated and pressurized.
6. The alternate water source system shall remain pressurized for a minimum period specified by the Authority Having Jurisdiction while the potable water system is empty. The minimum period the potable water system is to remain depressurized shall be determined on a case-by-case basis, but in no case shall that period be less than 1 hour.
7. Fixtures, potable, and alternate water source shall be tested and inspected for flow. Flow from a potable water system outlet indicates a cross-connection. No flow from an alternate water source outlet will indicate that it is connected to the potable water system.
8. The drain on the potable water system shall be checked for flow during the test and at the end of the test.
9. Where there is no flow detected in the fixtures which would indicate a cross-connection, the potable water system shall be re-pressurized.

Note: Modified to match terms and definitions from the published code, for clarification, and to meet the requirement for qualified testers.

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~~**1502.7 Drawings and specifications.** Before a permit is issued for a gray water system or during construction, the following information is required with, or in, a plot plan:~~

~~1. drawn to scale and completely dimensioned and shows lot lines and structures, direction and approximate slope of the surface, location of present or proposed retaining walls, drainage channels, water supply lines, wells, paved areas, and structures on the plot; includes the number of bedrooms and plumbing fixtures in each structure; shows the location of a private sewage disposal system and expansion area or building sewer connecting to the public sewer; and shows the proposed location of the gray water system;~~

~~2. details of construction necessary to ensure compliance with the requirements of this chapter and a full description of the complete installation, methods, construction, and materials as required by the authority having jurisdiction;~~

~~3. details for holding tanks, including dimensions, structural calculations, bracings, and other pertinent data as required;~~

~~4. a log of soil formations and groundwater level based on test holes dug in proximity to proposed irrigation area, together with a statement of water absorption characteristics of the soil at the proposed site based on approved percolation tests; and~~

~~5. Distance between the plot and surface waters such as lakes, ponds, rivers, or streams, and the slope between the plot and the surface water, when in close proximity.~~

Note: Back to published code in section 1503.7.

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1505.4 Connections to Potable or Reclaimed (Recycled) Water Systems. Reclaimed (recycled) water systems shall have no connection to a potable water supply or alternate water source system. Potable water is permitted to be used as makeup water for a reclaimed (recycled) water storage tank provided the water supply inlet is protected by an air gap.

Note: Added to provide exception to protecting potable water from non-potable water.

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~~**1505.0 OTHER ON-SITE NON-POTABLE WATER SYSTEMS.**~~

~~**1505.1 Applicability.** This chapter applies when installing, constructing, altering, or repairing an auxiliary or alternate water source system that is not specifically identified in the Plumbing Code (referred to as "other on-site non-potable water systems"). Well water, lake water, river water, condensate collection water, and other water sources that do not originate from sewage are types of other on-site non-potable water systems.~~

~~**1505.1.1 Cross-connection safeguards.** A site served by other on-site non-potable water systems must protect the public drinking water supply consistent with the requirements in Section 603.5.21 of the Plumbing Code.~~

~~**1505.2 General.** Installation, construction, alteration, and repair of other on-site non- potable water systems intended to supply uses such as water closets, urinals, trap primers for floor drains and sinks, irrigation, industrial processes, water features, cooling tower makeup and other uses are subject to approval by the authority having jurisdiction.~~

~~**1505.3 Plumbing plan submission.** A permit may not be issued until after plumbing plans that include data satisfactory to the authority having jurisdiction are submitted and approved. The authority having jurisdiction must approve changes or connections to the other on-site non-potable water system or to the potable water system within a site that contains another on-site non-potable water system.~~

~~**1505.4 System changes.** The City must approve changes or connections to the other on- site non-potable water system or to the potable water system within a site that contains another on-site non-potable water system are subject to approval by the authority having jurisdiction.~~

~~**1505.5 Connections to potable or reclaimed (recycled) water systems.** Other on-site non-potable water systems may not be connected directly to a potable water supply or an alternate water source system. If the potable or reclaimed (recycled) water supply connection is protected by an air gap or reduced pressure principle backflow preventer installed consistent with the Plumbing Code, then potable or reclaimed (recycled) water may be used as makeup water for another on-site non-potable water system.~~

~~**Exception.** If well water is the source of the other on-site non-potable water system, a direction connection to a reclaimed (recycled) water system with or without backflow protection is prohibited.~~

~~**1505.6 Initial cross-connection test.** Before a building is occupied or the system is activated, a cross-connection test that complies with Section 1501.11 is required. Final approval cannot be granted until the test is deemed successful by the City.~~

~~**1505.7 Sizing.** Other on-site non-potable water system distribution piping for indoor applications must be sized based on the sizing for portable water piping that is required by the Plumbing Code.~~

~~**1505.8 Other on-site non-potable water system materials.** Other on-site non-potable water system materials must comply with Sections 1505.8.1 through 1505.8.2.~~

~~**1505.8.1 Water supply and distribution materials.** Unless otherwise provided for in this Section, other on-site non-potable water system supply and distribution materials must comply with the Plumbing Code's requirements for potable water supply and distribution systems.~~

~~**1505.8.2 Storage tanks.** Other on-site non-potable water storage tanks must comply with Section 1505.10.4.~~

~~**1505.9 Other on-site non-potable water system color and marking information.** The requirements in 601.3 apply to other on-site non-potable water systems.~~

~~**1505.10 Design and installation.**~~

~~**1505.10.1 Outside hose bibs.** An outside hose bib may be allowed on other on-site non-potable water systems and, if used, must be marked with the words "CAUTION: NONPOTABLE WATER, DO NOT DRINK" and the figure:~~

Note: Deleted because requirements are now covered in published code.

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Appendix N. Impact of Water Temperature on the Potential for Scalding and Legionella Growth.

Note: Added for guidance on legionella growth.

Questions/Comments

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