Guide to Code Consistency for 2018 WSSC Plumbing and Fuel Gas Code

GCC

Regulatory Services Division
WSSC Water
14501 Sweitzer Lane
Laurel, Maryland 20707

Helping Plumbers, Gasfitters, Designers, and Engineers

What's the purpose of the GCC?

WSSC Water is authorized by the General Assembly to formulate, modify, and enforce rules, regulations, and requirements governing the installation of plumbing and gasfitting systems. As part of this authority WSSC Water has issued The WSSC Plumbing and Fuel Gas Code.

The WSSC Plumbing and Fuel Gas Code dictates required methods, materials, installation, and maintenance practices for plumbing and gasfitting systems. This Guide to Code Consistency (GCC) is intended to assist the user in understanding the Regulatory Services Division's (RSD) interpretation of the Code by providing commentary and illustrating selected provisions.

User shall note that the GCC is to be used in conjunction with the WSSC Plumbing and Fuel Gas Code and not as a substitute for code. The code official alone possesses the authority and responsibility for interpreting the Code.

What is the Jurisdiction of WSSC?

The WSSC Code and WSSC Water staff have jurisdiction over the Washington Suburban Sanitary District (WSSD). WSSC is effectively all of Montgomery and Prince George's Counties, Maryland, except for the Cities of Rockville and Poolesville. WSSC Water does have code jurisdiction in the City of Bowie including areas served by the City of Bowie public water and sewer system.

How will the GCC be updated?

The GCC is a dynamic document and will be updated regularly. The most current documents will be uploaded and available on the RSD website. It is the desire of WSSC Water to provide user with materials and tools that will assist users in meeting regulatory requires. Any suggestions to GCC will be greatly appreciated.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Sleeves and Pipe Protection		Revision	Date
Code: IPC			
Section(s): 305.1, 305.3, & 305.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

Code Reference:

IPC 305.1 Protection against contact. *Metallic piping, except for cast iron, ductile iron and galvanized steel, shall not be placed in direct contact with steel framing members, concrete or cinder walls and floors or other masonry. Metallic piping shall not be placed in direct contact with corrosive soil. Where sheathing is used to prevent direct contact, the sheathing shall have a thickness of not less than 0.008 inch (8 mil) (0.203 mm) and the sheathing shall be made of plastic. Where sheathing protects piping that penetrates concrete or masonry walls or floors, the sheathing shall be installed in a manner that allows movement of the piping within the sheathing.*

IPC 305.3 Pipes through foundation walls. *Any pipe that passes through a foundation wall shall be provided with a relieving arch, or a pipe sleeve pipe shall be built into the foundation wall. The sleeve shall be two pipe sizes greater than the pipe passing through the wall.*

IPC 305.5 Waterproofing of openings. *Joints at the roof and around vent pipes shall be made water tight by the use of lead, copper, galvanized steel, aluminum, plastic or other approved flashings or flashing material. Exterior wall openings shall be made water tight.*

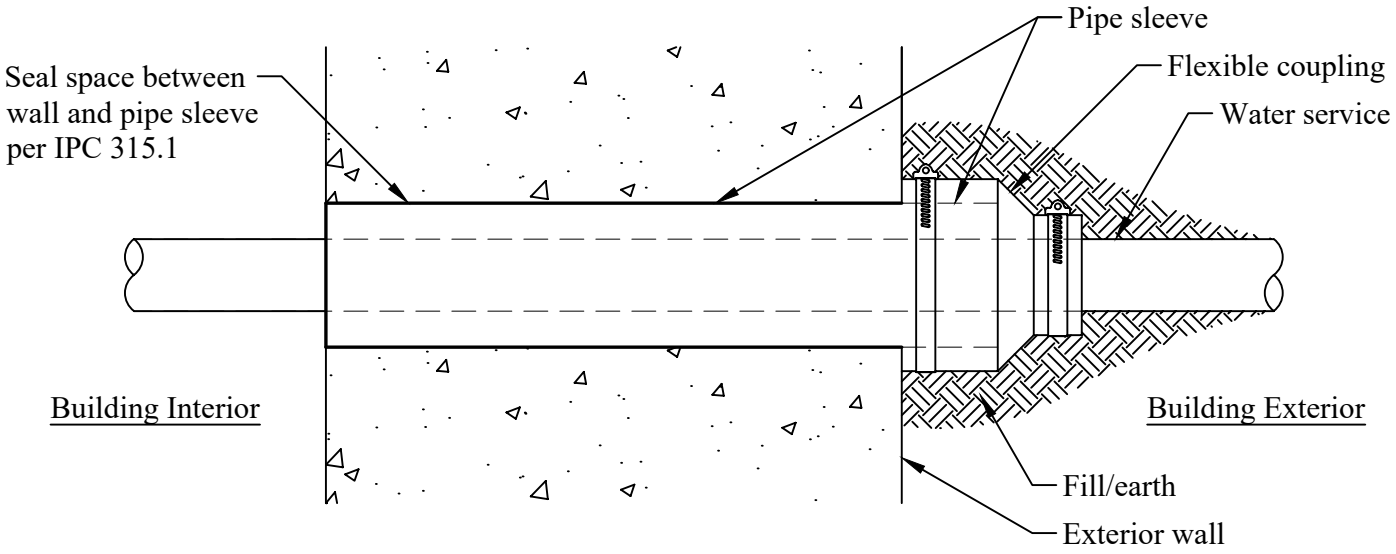
1. For all metallic piping passing through walls or slabs made of concrete, cinders, or other corrosive materials, a sleeve is not required; but is allowed. At minimum, the pipe shall be protected by wrapping or coating.

2. All commercial water service piping passing through foundation walls shall be sleeved. The required sleeve length is limited to the thickness of the foundation wall plus extra material needed to facilitate satisfactory required waterproofing. The penetration through the foundation wall shall be waterproofed on the outside. For water service separation see IPC 603.2 and commentary in this document under 603.2.

3. Water services or distribution lines, where sleeved, shall only be sleeved with smooth wall material such as PVC, CPVC, Polyethylene, or similar conforming to approved materials in IPC Table 605.3; 702.2; or 702.3. Corrugated piping is not approved for use as a sleeve.

4. See IPC 315.1 Sealing of annular spaces for requirements to seal space between wall and pipe sleeve.

4. A flexible coupling that conforms to ASTM D 5926, C 1173 and CSA B602 may be used to waterproof underground transitions between any approved piping material and a sleeve.



5. Residential stacks and building drains do not have to be sleeved, wrapped or coated where they pass through a concrete foundation wall or slab (unless copper or aluminum is used - this is unusual). The penetration through the foundation wall shall be waterproofed on the outside.

6. Commercial water services, water distribution lines, building drains, stacks, and/or similar shall be sleeved when passing through foundation walls or interior concrete/masonry walls. A penetration through the lowest level slab does not require a sleeve. Pipe shall be pre-coated or resistant to concrete aggression; copper shall be wrapped or coated. Waterproofing may be either mechanically gasketed or conventionally sealed.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Stress and Strain		Revision	Date
Code: IPC			
Section(s): 305.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 305.2 Stress and strain. *Piping in a plumbing system shall be installed so as to prevent strains and stresses that exceed the structural strength of the pipe. Where necessary, provisions shall be made to protect piping from damage resulting from expansion, contraction and structural settlement.*

Piping shall be installed per manufacturer's instructions. If a proposed installation is not included in manufacturer's instructions, one of the following shall be required,

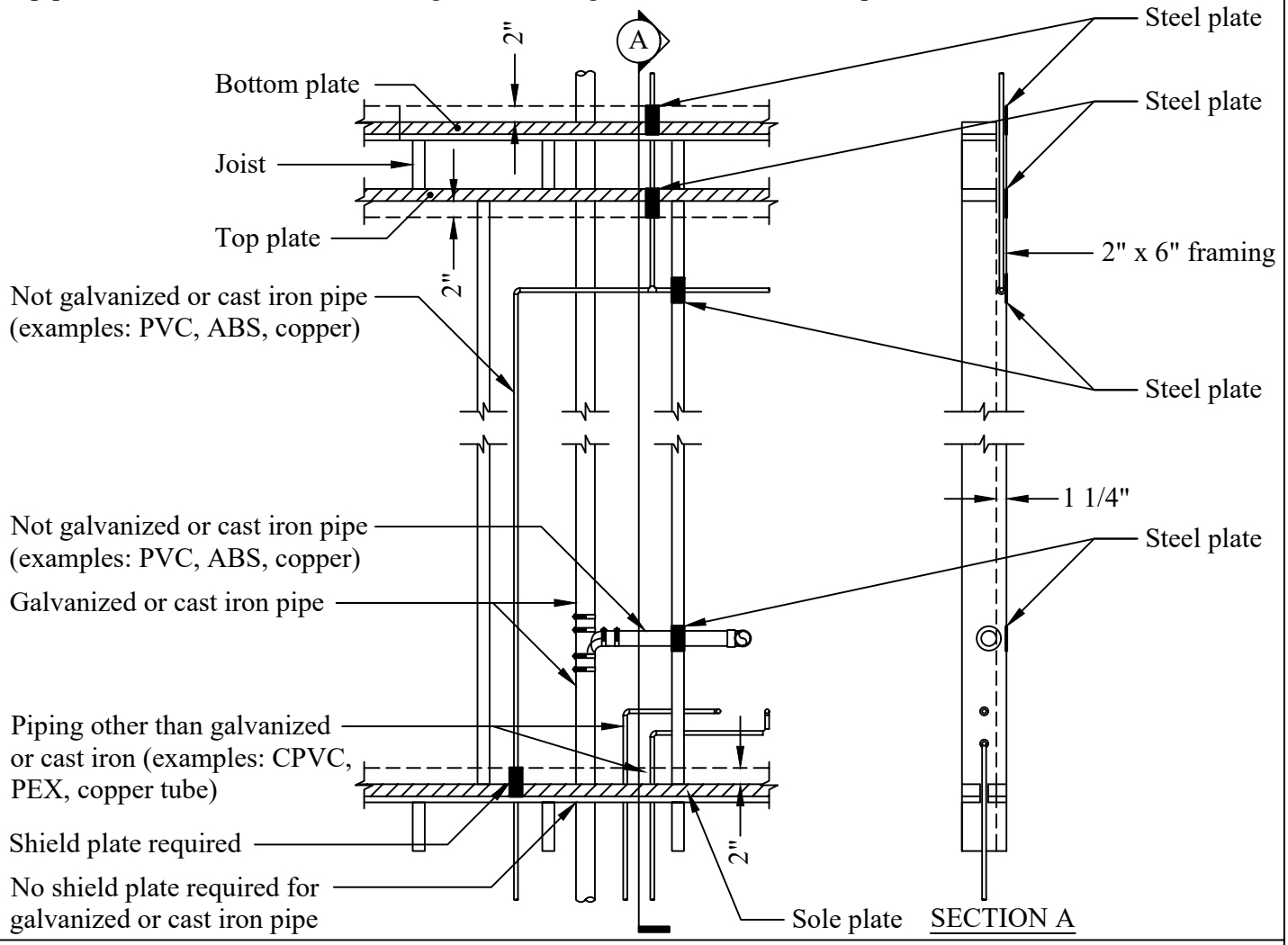
1. Approval of installation direct from piping manufacturer on company letterhead.
2. Plans and specifications for installation of piping signed and sealed by registered professional engineer.
3. WSSC code modification waiver request form approved by Regulatory Services Division.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Shield (Kick) Plates		Revision	Date
Code: IPC			
Section(s): 305.6			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 305.6 Protection against physical damage. *In concealed locations where piping, other than cast-iron or galvanized steel, is installed through holes or notches in studs, joists, rafters or similar members less than 1 1/4 inches (32 mm) from the nearest edge of the member, the pipe shall be protected by steel shield plates. Such shield plates shall have a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage). Such plates shall cover the area of the pipe where the member is notched or bored, and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.*

This Code requirement calls for enlarged shield plates that extend two inches above the bottom sole plate and two inches below the top plate. The qualifier for when a shield is required has also changed; where the pipe is within 1 1/4 inches of the edge of a framing member, a shield is required.



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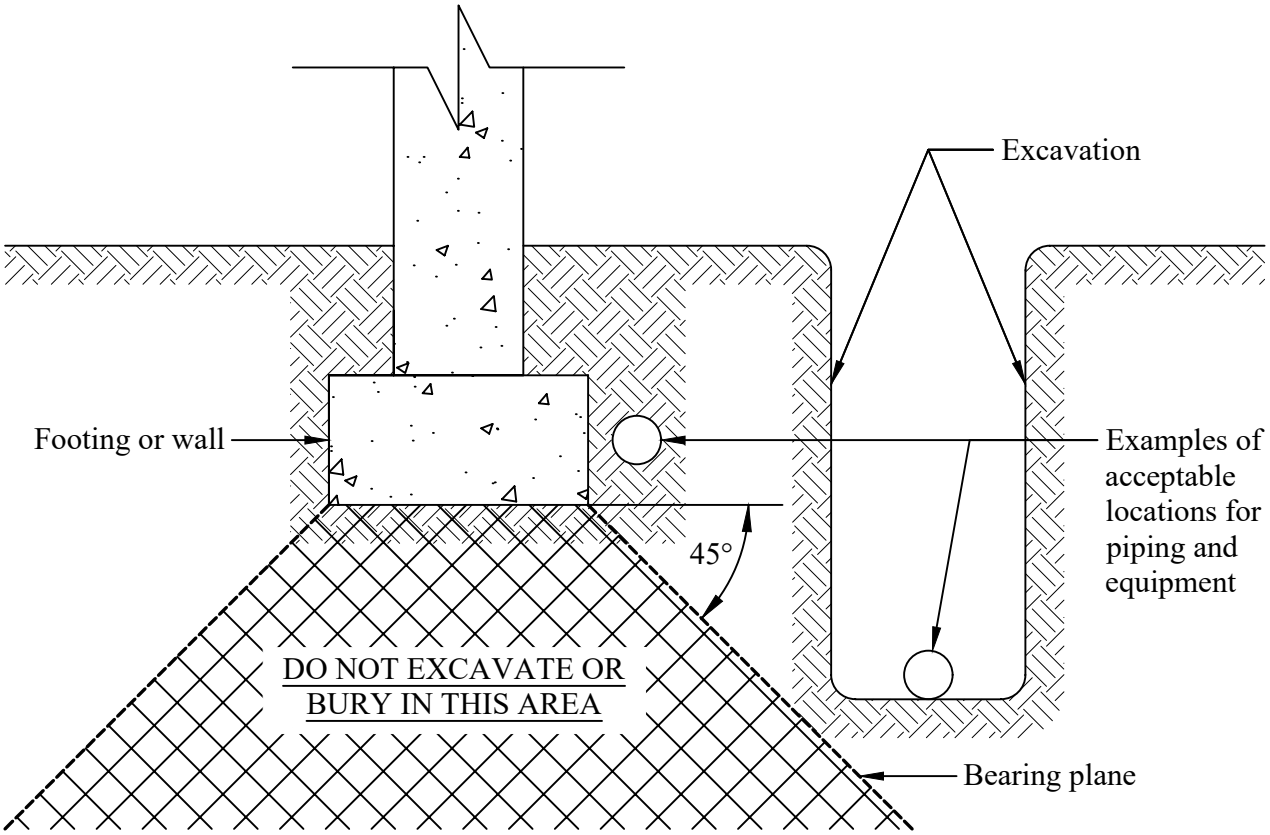
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Protection of Footings		Revision	Date
Code: IPC			
Section(s): 307.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 307.5 Protection of footings. *Trenching installed parallel to footings and walls shall not extend into the bearing plane of a footing or wall. The upper boundary of the bearing plane is a line that extends downward, at an angle of 45 degrees (0.79 rad) from horizontal, from the outside bottom edge of the footing or wall.*

This requirement applies to excavation for all plumbing and fuel gas systems including but not limited to, piping, conduit, tanks, basins, and interceptors.



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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Thermal Expansion Tank Support		Revision	Date
Code: IPC			
Section(s): 308.10			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 308.10 Thermal expansion tanks. *A thermal expansion tank shall be supported in accordance with the manufacturer's instructions. Thermal expansion tanks shall not be supported by the piping that connects to such tanks.*

Thermal expansion tanks shall be installed per manufacturer's installation instructions. Some manufacturer's of thermal expansion tanks do not provide instructions to adequately support tanks. Tanks shall be supported independently of piping systems to prevent stress and train on piping systems.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Service Sinks, Single-user Toilet Fixtures, Public Toilet Facilities		Revision	Date
Code: IPC			
Section(s): 403.1, 403.1.2, & 403.3.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC TABLE 403.1 - MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES

e. For business and mercantile classifications with an occupant load of 15 or fewer, service sinks shall not be required.

IPC 403.1.2 Single-user toilet facility and bathing room fixtures. *The plumbing fixtures located in single-user toilet facilities and bathing rooms, including family or assisted use toilet and bathing rooms that are required by Section 1109.2.1 of the International Building Code, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet facilities and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified for use by either sex.*

IPC 403.3.1 Access. *The route to the public toilet facilities required by Section 403.3 shall not pass through kitchens, storage rooms or closets. Access to the required facilities shall be from within the building or from the exterior of the building. Routes shall comply with the accessibility requirements of the International Building Code. The public shall have access to the required toilet facilities at all times that the building is occupied.*

Minimum Fixture Requirements for Service Sinks - According to the IPC Table 403.1, footnote (e), code allows Business (with 15 or fewer occupants) and Mercantile (with 100 or fewer occupants) occupancies to omit the required service sink. Plans Review approval is required.

Single-user toilet and bathing room fixtures - Shall be identified for use be either sex. Where only two are installed, both shall be accessible. Each counts as ½ toilet towards each sex's required count, providing they are located in public access area.

Access to Public Toilet Facilities - Establishments providing quick transactions such as carry-out only service, having a public access area of 300 sq. ft. or less, do not have to provide toilet facilities for public use.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: High and Low Drinking Fountains/Water Dispensers		Revision	Date
Code: IPC			
Section(s): 410.3 & 410.4			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 410.3 High and low drinking fountains. *Where drinking fountains are required, not fewer than two drinking fountains shall be provided. One drinking fountain shall comply with the requirements for people who use a wheelchair and one drinking fountain shall comply with the requirements for standing persons.*

Exceptions:

1. *A single drinking fountain with two separate spouts that complies with the requirements for people who use a wheelchair and standing persons shall be permitted to be substituted for two separate drinking fountains.*
2. *Where drinking fountains are primarily for children's use, the drinking fountains for people using wheelchairs shall be permitted to comply with the children's provisions in ICC A117.1 and drinking fountains for standing children shall be permitted to provide the spout at 30 inches (762 mm) minimum above the floor.*

IPC 410.4 Substitution. *Where restaurants provide drinking water in a container free of charge, drinking fountains shall not be required in those restaurants. In other occupancies where drinking fountains are required, water dispensers shall be permitted to be substituted for not more than 50 percent of the required number of drinking fountains.*

Combination units comprised of drinking fountain(s) and/or water dispenser(s)/bottle filler(s) will be counted as one unit for permitting purposes as long as the entire unit is served by a single water supply and single drain connection. Fixture count shall follow the number of water supplies or drain connections, whichever is greater. See WSSC 302.4.3 for substitution allowance.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Tempered Water for Public Hand Washing Facilities		Revision	Date
Code: IPC			
Section(s): 419.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 419.5 Tempered water for public hand-washing facilities. *Tempered water shall be delivered from lavatories and group wash fixtures located in public toilet facilities provided for customers, patrons and visitors. Tempered water shall be delivered through an approved water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3.*

Tempered Water, ranging between 85°F (29°C) and 110°F (43°C), is required at hand washing sinks in ***public toilet rooms*** *and other hand washing operations to be used by customers, patrons, employees, patients, inmates and visitors*. An ASSE 1070 water temperature limiting device is required. A single ASSE 1070 device can serve multiple sinks in close proximity. The faucet(s) may tempered water directly from ASSE 1070 or may allow for further mixing at faucet with cold water. By adding a definition of *public hand washing facility* to WSSC's Chapter 2, fixtures such as: classroom sinks in child/adult daycare or schools, medical/dental patient areas and exam room sinks, individual toilet rooms available for similar transient public users, detention centers including cells, and general hand sinks shall be provided with tempered water per IPC 419.5.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Field Fabricated Shower Pan Liners		Revision	Date
Code: IPC			
Section(s): 421.5.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 421.5.2 Shower lining. *Floors under shower compartments, except where prefabricated receptors have been provided, shall be lined and made water tight utilizing material complying with Sections 421.5.2.1 through 421.5.2.6. Such liners shall turn up on all sides not less than 2 inches (51 mm) above the finished threshold level. Liners shall be recessed and fastened to an approved backing so as not to occupy the space required for wall covering, and shall not be nailed or perforated at any point less than 1 inch (25 mm) above the finished threshold. Liners shall be pitched one-fourth unit vertical in 12 units horizontal (2-percent slope) and shall be sloped toward the fixture drains and be securely fastened to the waste outlet at the seepage entrance, making a water-tight joint between the liner and the outlet. The completed liner shall be tested in accordance with Section 312.9.*

Exceptions:

1. *Floor surfaces under shower heads provided for rinsing laid directly on the ground are not required to comply with this section.*
2. *Where a sheet-applied, load-bearing, bonded, waterproof membrane is installed as the shower lining, the membrane shall not be required to be recessed.*

WSSC 107.4.1.4 Close-In. *A close-in inspection shall include all rough-in, including Fuel Gas. Critical inspection factors shall include, but not limited to,: Slope, piping support, sizing, materials, built-in fixtures, fixture carriers, capping or plugging, piping protection, and required tests. Where applicable, a "hung groundwork" shall be installed as a part of the close-in inspection. A field fabricated shower liner or a lined floor for any other purpose shall not require a WSSC close-in inspection. The installer shall be responsible for the integrity and leak tight nature of his/her installation. The installation shall meet IPC Section 421.5 and the applicable manufacturer's installation instructions; testing requirements set forth in this Code and within the applicable manufacturer's instructions shall be followed by the installer and are not subject to inspection by a Code Official.*

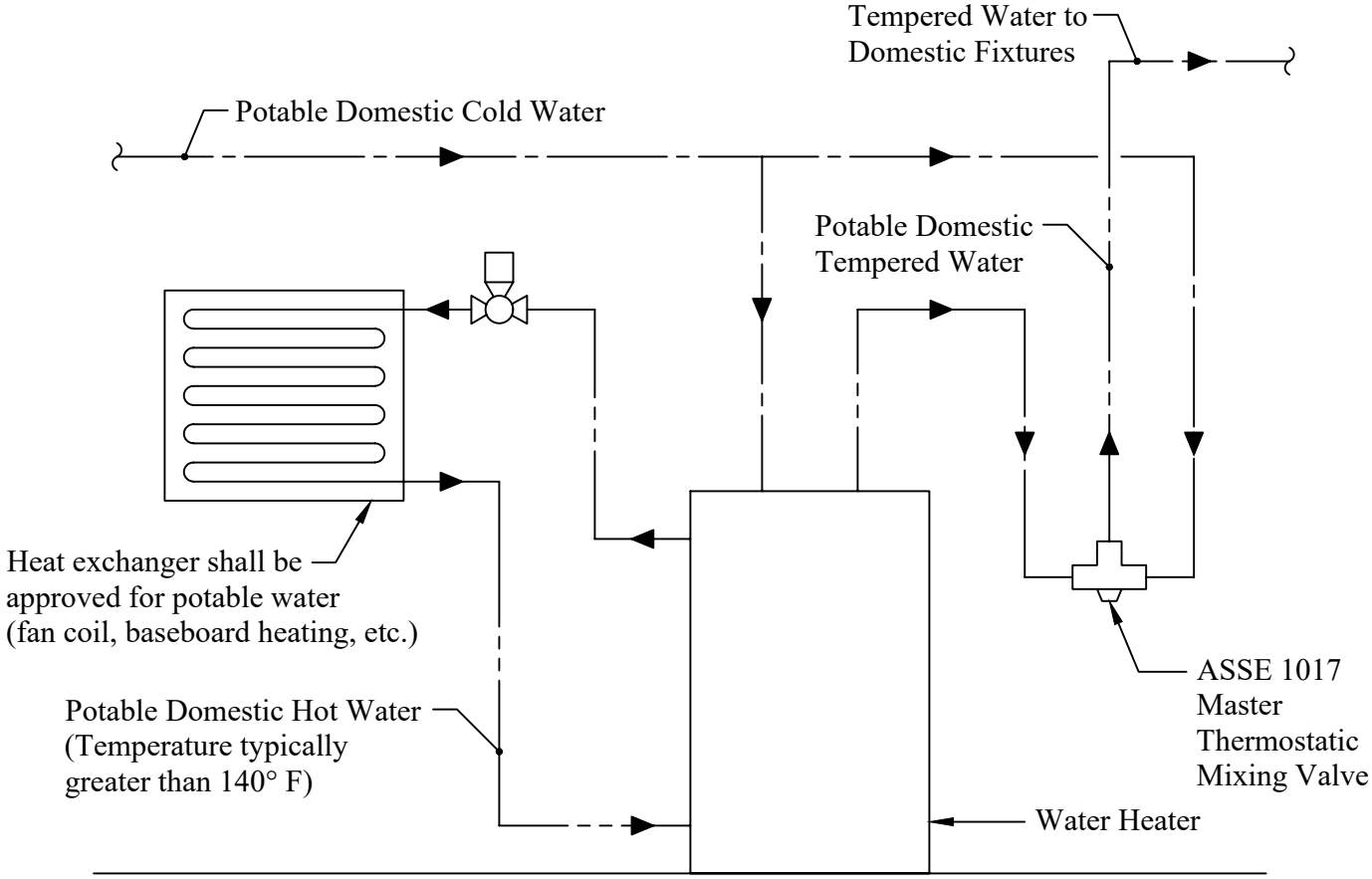
Field installed shower liners shall be sloped at 2% toward the drain(s). A field fabricated shower liner or a lined floor for any other purpose shall not require a WSSC close-in inspection. The installer shall be responsible for the integrity and leak tight nature of his/her installation. Per updates included in the 2012 edition of the IPC, code now allows for a liquid, trowel applied, liner material meeting TCNA A118.10.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Water Heater as Space Heater		Revision	Date
Code: IPC			
Section(s): 501.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 501.2 Water heater as space heater. *Where a combination potable water heating and space heating system requires water for space heating at temperatures greater than 140°F (60°C), a master thermostatic mixing valve complying with ASSE 1017 shall be provided to limit the water supplied to the potable hot water distribution system to a temperature of 140°F (60°C) or less. The potability of the water shall be maintained throughout the system.*

Due to the climate of the Washington Suburban Sanitary District a combination potable water and space heating system typically requires temperatures higher than 140°F (60°C) to produce adequate space heating. A thermostatic mixing valve meeting ASSE 1017 shall be installed on domestic hot water regardless of whether, or not, the initial temperature setting of heater is 140° F or less.



TYPICAL COMBINATION POTABLE WATER HEATING AND SPACE HEATING SYSTEM

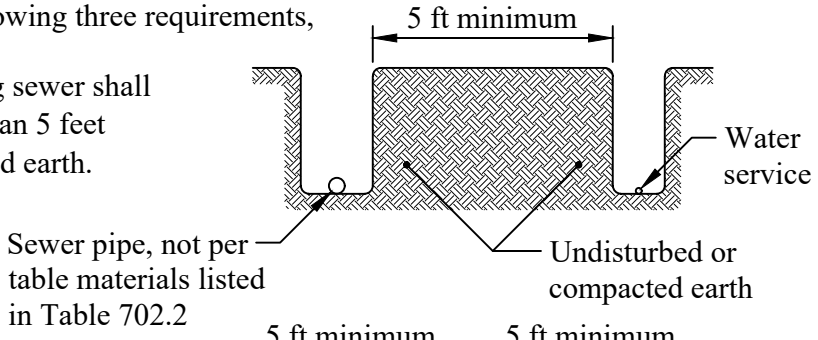
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Separation of Water and Sewer Piping		Revision	Date
Code: IPC			
Section(s): 603.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

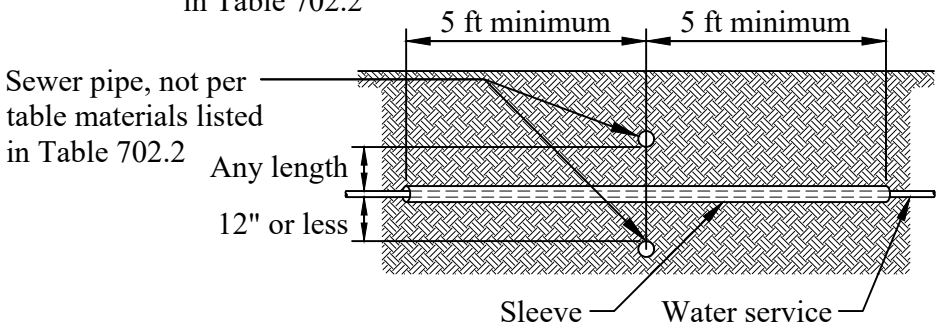
IPC 603.2 Separation of water service and building sewer. *Where water service piping is located in the same trench with the building sewer, such sewer shall be constructed of materials listed in Table 702.2. Where the building sewer piping is not constructed of materials listed in Table 702.2, the water service pipe and the building sewer shall be horizontally separated by not less than 5 feet (1524 mm) of undisturbed or compacted earth. The required separation distance shall not apply where a water service pipe crosses a sewer pipe, provided that the water service is sleeved to a point not less than 5 feet (1524 mm) horizontally from the sewer pipe centerline on both sides of such crossing. The sleeve shall be of pipe materials listed in Table 605.3, 702.2 or 702.3. The required separation distance shall not apply where the bottom of the water service pipe, located within 5 feet (1524 mm) of the sewer, is not less than 12 inches (305 mm) above the highest point of the top of the building sewer.*

There are no separation requirements for water service located in the same trench as building sewer if building sewer is constructed of materials listed in IPC Table 702.2 - Underground Building Drainage and Vent Pipe. Where the building sewer piping is not constructed of materials listed in Table 702.2, the installation is required to meet one of the following three requirements,

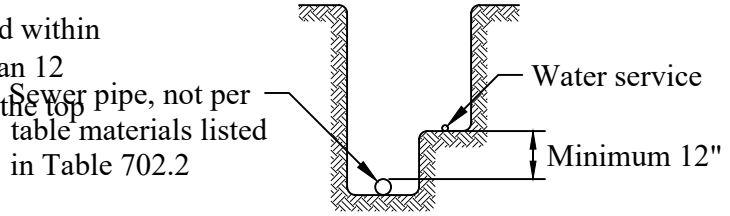
1. The water service pipe and the building sewer shall be horizontally separated by not less than 5 feet (1524 mm) of undisturbed or compacted earth.



2. The water service is sleeved to a point not less than 5 feet (1524 mm) horizontally from the sewer pipe centerline on both sides of such crossing.



3. The bottom of the water service pipe, located within 5 feet (1524 mm) of the sewer, is not less than 12 inches (305 mm) above the highest point of the top of the building sewer.



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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Prohibited Joints and Connections		Revision	Date
Code: IPC			
Section(s): 605.9			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 605.9 Prohibited joints and connections. *The following types of joints and connections shall be prohibited:*

1. *Cement or concrete joints.*
2. *Joints made with fittings not approved for the specific installation.*
3. *Solvent-cement joints between different types of plastic pipe.*
4. *Saddle-type fittings.*

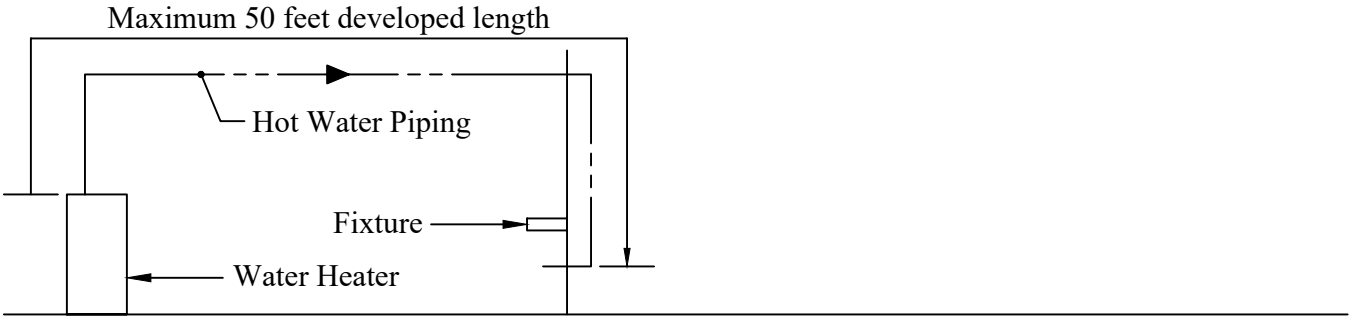
Item number 4 under this section prohibits “saddle-type fittings”. WSSC will strictly enforce this prohibition as it relates to the use of saddle tee valves in all areas of new commercial construction. In residential (Group R-3) occupancies, new saddle tee valves which serve new or existing humidifiers, refrigerators, ice makers, and similar appliances, may be utilized by the appliance installer. Keeping in mind, all new water supply lines are required to be on a long form permit and are subject to SDCs, when applicable. Where such valves pre-exist prior to any retrofit work, (e.g. replacement water heaters and furnaces), such arrangements may remain providing there are no visible signs of compromise.

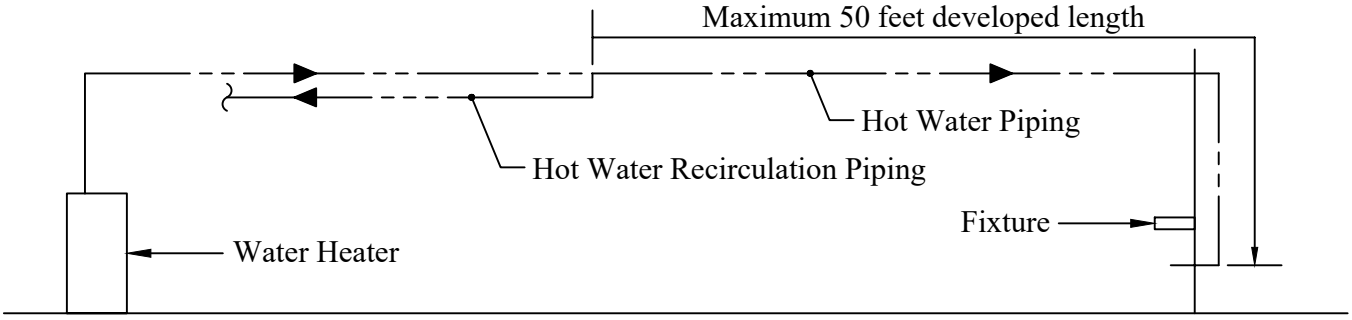
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Hot or Tempered Water Supply to Fixtures		Revision	Date
Code: IPC			
Section(s): 607.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

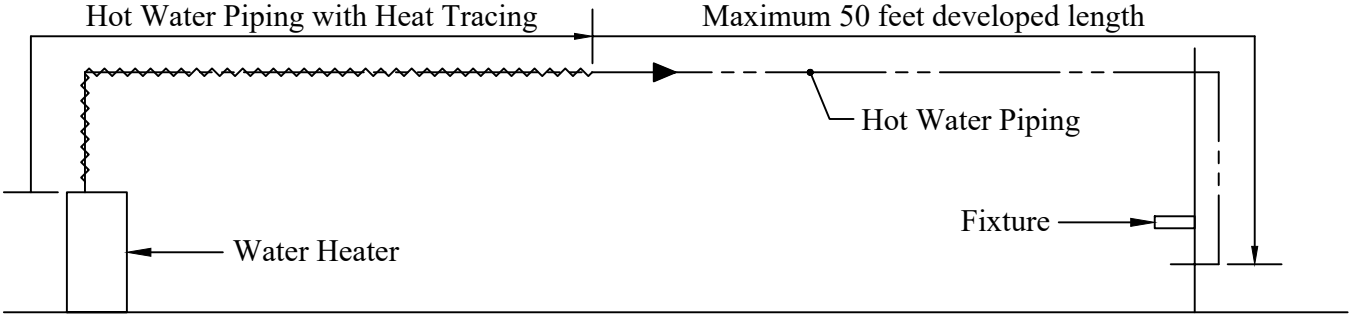
Code Reference:

IPC 607.2 Hot or tempered water supply to fixtures. *The developed length of hot or tempered water piping, from the source of hot water to the fixtures that require hot or tempered water, shall not exceed 50 feet (15 240 mm). Recirculating system piping and heat-traced piping shall be considered to be sources of hot or tempered water.*

The IPC requires the source of tempered or hot water to be within 50 feet of developed pipe length of the fixture. Sources of tempered or hot water include water heater, heat tracing, and hot water recirculation system.







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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Circulation Systems and Heat Trace Systems		Revision	Date
Code: IPC			
Section(s): 607.2.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 607.2.1 Circulation systems and heat trace systems for maintaining heated water temperature in distribution systems. *For Group R2, R3 and R4 occupancies that are three stories or less in height above grade plane, the installation of heated water circulation and temperature maintenance systems shall be in accordance with Section R403.5.1 of the International Energy Conservation Code. For other than Group R2, R3 and R4 occupancies that are three stories or less in height above grade plane, the installation of heated water circulation and heat trace systems shall be in accordance with Section C404.6 of the International Energy Conservation Code.*

Automatic controls, temperature sensors and pumps shall be accessible. Manual controls shall be readily accessible. Heated water circulation systems shall be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. Gravity and thermosyphon circulation systems shall be prohibited. Controls for circulating hot water system pumps shall start the pump based on the identification of a demand for hot water within the occupancy. The controls shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is no demand for hot water. Per IECC C404.6, electric heat trace systems shall comply with IEEE 515.1 or UL 515. Per IECC R404.6, electric heat trace systems shall comply with either IEEE 515.1 or UL 515. Controls for such systems shall automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping in accordance with the times when heated water is used in the occupancy.

The ICC has free access to codes,

https://codes.iccsafe.org/

The 2018 IPC,

https://codes.iccsafe.org/content/IPC2018

The 2018 IECC,

https://codes.iccsafe.org/content/IECC2018

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Pump Controls for Hot Water Storage Systems		Revision	Date
Code: IPC			
Section(s): 607.2.1.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 607.2.1.1 Pump controls for hot water storage systems. *The controls on pumps that circulate water between a water heater and a storage tank for heated water shall limit operation of the pump from heating cycle startup to not greater than 5 minutes after the end of the cycle.*

This section regards the pump between water heater and storage tank, not circulation of of hot or tempered water to fixtures. This section is in the IECC commerical provisions, but not the IECC residential provisions.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Demand Recirculation Controls for Distribution Systems		Revision	Date
Code: IPC			
Section(s): 607.2.1.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 607.2.1.2 Demand recirculation controls for distribution systems. *A water distribution system having one or more recirculation pumps that pump water from a heated water supply pipe back to the heated water source through a cold water supply pipe shall be a demand recirculation water system. Pumps shall have controls that comply with both of the following:*

1. *The control shall start the pump upon receiving a signal from the action of a user of a fixture or appliance, sensing the presence of a user of a fixture, or sensing the flow of hot or tempered water to a fixture fitting or appliance.*
2. *The control shall limit the temperature of the water entering the cold water piping to 104°F (40°C).*

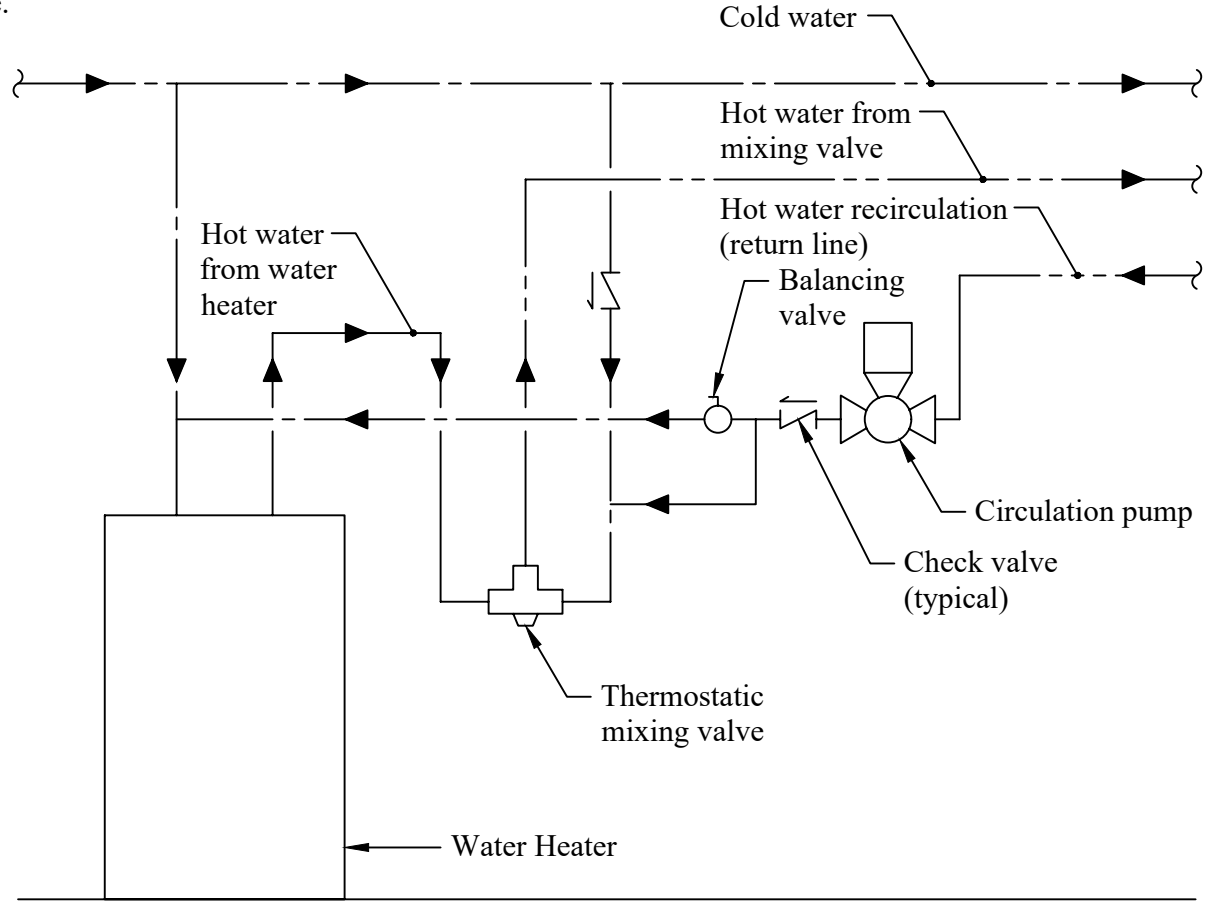
These type of recirculation systems are not typical of new construction and most often used for renovation of existing systems. WSSC Water allows the use of smart pumps. Smart pumps monitor and record the systems hot water usage and uses that data to determine when to turn pump on and off.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Piping for Recirculation Systems Having Master Thermostatic Valves		Revision	Date
Code: IPC			
Section(s): 607.2.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 607.2.2 Piping for recirculation systems having master thermostatic valves. *Where a thermostatic mixing valve is used in a system with a hot water recirculating pump, the hot water or tempered water return line shall be routed to the cold water inlet pipe of the water heater and the cold water inlet pipe or the hot water return connection of the thermostatic mixing valve.*

The IPC requires the hot water recirculation line, return line, to split and connect to cold water supply of water heater and cold water supply of thermostatic mixing valve. Thermostatic mixing valve shall be installed per manufacturer's requirements and may require additional valves, such as check valves and balancing valves. See below for an example of installation of water heater, circulation pump, and mixing valve.



EXAMPLE OF INSTALLATION OF WATER HEATER, CIRCULATION PUMP, AND MIXING VALVE

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Thermal Expansion		Revision	Date
Code: IPC			
Section(s): 607.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 607.3 Thermal expansion control. *Where a storage water heater is supplied with cold water that passes through a check valve, pressure reducing valve or backflow preventer, a thermal expansion control device shall be connected to the water heater cold water supply pipe at a point that is downstream of all check valves, pressure reducing valves and backflow preventers. Thermal expansion tanks shall be sized in accordance with the tank manufacturer's instructions and shall be sized such that the pressure in the water distribution system shall not exceed that required by Section 604.8.*

Check valves, pressure reducing valves, and backflow preventers are one-way valves and only allow water to flow through in one direction. A system becomes closed when a water heater is installed downstream of one-way valve. A one-way valve creates a separation between the volume in the closed system and the larger volume in the water supply. As temperature rises the pressure and/or volume must also increase. In a closed system, the volume of water constant and the pressure in the system increases proportionally to the rise in temperature. The increase in pressure can cause damage to your pipes, fixtures, and the water heater. A system without a one-way valve is considered an open system.

For a closed-system a thermal expansion control device is required, there are two main types of thermal expansion control devices,

- Thermal Expansion Tank
- In-line Pressure Relief Valves
- Flush Tank Toilet Pressure Relief Valves

In-line pressure relief valves require a location to discharge when in operation and under failure can continuously discharge a large quantity of water, often not being discovered until a customer receives a surprisingly high water bill. Flush tank toilet pressure relief valves are installed at fill valve for flush tank toilets. When the pressure relief valve is operated, water is discharged into tank of toilet. The sound of this discharge can sound like a broken toilet and owner might mistakenly remove relief valve or replace entire toilet to remedy problem sound. The owner might also remove the expansion valve when doing other repairs to toilet components.

Notes:

- The pressure relief valve that is mounted on the water heater is a safety device. By code, that valve cannot be used as the primary means to control thermal expansion.
- The IPC also requires thermal expansion tanks to be installed per manufacturer's instructions and prohibits supporting tank from piping.
- Many storage tank water heater manufacturers recommend thermal expansion tanks in all applications.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Hot Water Circulation		Revision	Date
Code: IPC			
Section(s): 607.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC ***607.5 Insulation of piping.*** *For other than Group R2, R3 and R4 occupancies that are three stories or less in height above grade plane, piping to the inlet of a water heater and piping conveying water heated by a water heater shall be insulated in accordance with Section C404.4 of the International Energy Conservation Code. For Group R2, R3 and R4 occupancies that are three stories or less in height above grade plane, piping to the inlet of a water heater and piping conveying water heated by a water heater shall be insulated in accordance with Section R403.5.3 of the International Energy Conservation Code.*

IECC C404.4 Insulation of piping. Piping from a water heater to the termination of the heated water fixture supply pipe shall be insulated in accordance with Table C403.11.3. On both the inlet and outlet piping of a storage water heater or heated water storage tank, the piping to a heat trap or the first 8 feet (2438 mm) of piping, whichever is less, shall be insulated. Piping that is heat traced shall be insulated in accordance with Table C403.11.3 or the heat trace manufacturer's instructions. Tubular pipe insulation shall be installed in accordance with the insulation manufacturer's instructions. Pipe insulation shall be continuous except where the piping passes through a framing member. The minimum insulation thickness requirements of this section shall not supersede any greater insulation thickness requirements necessary for the protection of piping from freezing temperatures or the protection of personnel against external surface temperatures on the insulation.

Exception: Tubular pipe insulation shall not be required on the following:

1. The tubing from the connection at the termination of the fixture supply piping to a plumbing fixture or plumbing appliance.
2. Valves, pumps, strainers and threaded unions in piping that is 1 inch (25 mm) or less in nominal diameter.
3. Piping from user-controlled shower and bath mixing valves to the water outlets.
4. Cold-water piping of a demand recirculation water system.
5. Tubing from a hot drinking-water heating unit to the water outlet.
6. Piping at locations where a vertical support of the piping is installed.
7. Piping surrounded by building insulation with a thermal resistance (R-value) of not less than R-3.

IECC R403.5.3 Hot water pipe insulation (Prescriptive). Insulation for hot water piping with a thermal resistance, R-value, of not less than R-3 shall be applied to the following:

1. Piping 3/4 inch (19.1 mm) and larger in nominal diameter.
2. Piping serving more than one dwelling unit.
3. Piping located outside the conditioned space.
4. Piping from the water heater to a distribution manifold.
5. Piping located under a floor slab.
6. Buried piping.
7. Supply and return piping in recirculation systems other than demand recirculation systems.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Disinfection of Potable Water System		Revision	Date
Code: IPC			
Section(s): 610.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 610.1 General. *New potable water systems shall be purged of deleterious matter and disinfected prior to utilization. The method to be followed shall be that prescribed by the health authority or water purveyor having jurisdiction or, in the absence of a prescribed method, the procedure described in either AWWA C651 or AWWA C652, or as described in this section. This requirement shall apply to "on-site" or "in-plant" fabrication of a system or to a modular portion of a system.*

1. *The pipe system shall be flushed with clean, potable water until dirty water does not appear at the points of outlet.*
2. *The system or part thereof shall be filled with a water/chlorine solution containing not less than 50 parts per million (50 mg/L) of chlorine, and the system or part thereof shall be valved off and allowed to stand for 24 hours; or the system or part thereof shall be filled with a water/chlorine solution containing not less than 200 parts per million (200 mg/L) of chlorine and allowed to stand for 3 hours.*
3. *Following the required standing time, the system shall be flushed with clean potable water until the chlorine is purged from the system.*
4. *The procedure shall be repeated where shown by a bacteriological examination that contamination remains present in the system.*

Commercial water distribution piping shall be flushed and disinfected following one of procedures referenced in IPC 610 or utilizing the method detailed in IPC 610. WSSC inspection staff does not have to witness the actual chlorination or de-chlorination processes, or see proof of same. The WSSC Plumbing Inspector shall be presented with a written copy of the final bacteriological testing at the time of final inspection. Lab shall be Water Quality Laboratory certified by the Maryland Department of the Environment. For list of certified labs, visit link below,

https://mde.maryland.gov/programs/Water/water_supply/Documents/MD_Cert_Drink_Water_Lab_List.pdf

Exception: For small commercial projects of newly constructed water piping measuring 160 feet in total length (hot and cold water piping measured separately and then added together) may only require a thorough flushing, in lieu of the chlorination process, providing this action results in potable quality water delivered from the fixture(s) at the time of final inspection. Water quality/testing is the responsibility of the plumber and the WSSC inspector will not be expecting written test results at final inspection. This exception does not apply to Minor Site Utility projects; chlorination and bacteria testing for these projects shall follow parameters outlined on the approved plans.

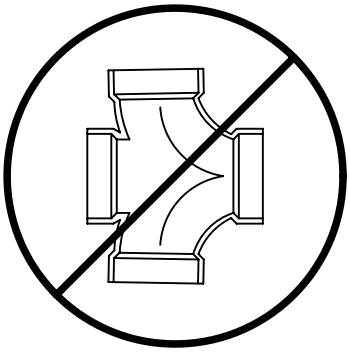
Group R-3 residential (single family home and townhouse) construction, of any size distribution system, may also allow for a thorough flushing in lieu of the published chlorination processes, providing this action results in potable quality water delivered from the fixture(s) at the time of final inspection.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Change in Direction Horizontal to Horizontal		Revision	Date
Code: IPC			
Section(s): 704.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

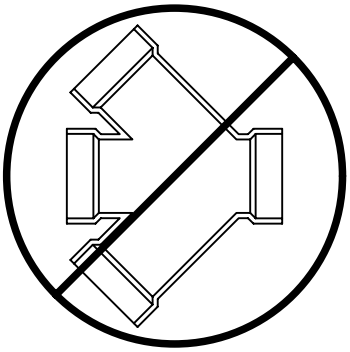
Code Reference:

IPC 704.1 Slope of horizontal drainage piping. *Horizontal drainage piping shall be installed in uniform alignment at uniform slopes. The slope of a horizontal drainage pipe shall be not less than that indicated in Table 704.1 except that where the drainage piping is upstream of a grease interceptor, the slope of the piping shall be not less than 1/4 inch per foot (2-percent slope).*

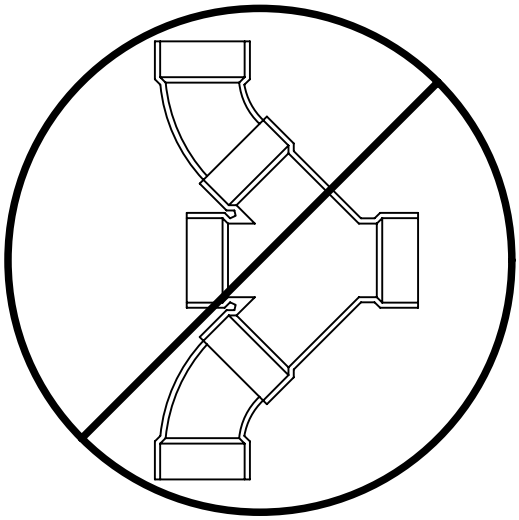
Since it is not possible to obtain slope on both branches, double fittings are prohibited for horizontal to horizontal connections.



Double Sanitary Tee



Double Wye



Double Combination Wye and 1/8 Bend

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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Primer for Solvent Cement PVC Joints		Revision	Date
Code: IPC			
Section(s): 705.10.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 705.10.2 Solvent cementing. *Joint surfaces shall be clean and free from moisture. A purple primer that conforms to ASTM F656 shall be applied. Solvent cement not purple in color and conforming to ASTM D2564, CSA B137.3, CSA B181.2 or CSA B182.1 shall be applied to all joint surfaces. The joint shall be made while the cement is wet and shall be in accordance with ASTM D2855. Solvent-cement joints shall be permitted above or below ground.*

Exception: A primer is not required where both of the following conditions apply:

1. *The solvent cement used is third-party certified as conforming to ASTM D2564.*
2. *The solvent cement is used only for joining PVC drain, waste and vent pipe and fittings in non-pressure applications in sizes up to and including 4 inches (102 mm) in diameter.*

The 2015 IPC was revised with an exception to "not require" primer for solvent cementing of PVC drain, waste and vent pipe and fittings if all of the following requirements are met,

1. Non-pressure applications only
2. Joints shall be 4 inches in diameter or less
3. Solvent cement shall be third-party certified as conforming to ASTM D2564
4. Joints shall be made per ASTM D2855, this includes proper cleaning of the joint

The IPC requires primer to be colored purple. The purpose of the colorant is to show the plumber and the inspector that primer has been applied to joint.

The presence of purple primer on a completed joint is a visual indicator to the inspector that the plumber is making an effort to install joints properly.

Failure to conduct any recognized method of joint preparation shall subject all joints to a minimum of a 20 foot head test (absolutely no elevated air testing will be allowed).

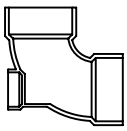
Joints shall be made per pipe and joint manufacturer's instructions.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Heel-inlet or Side-inlet Quarter Bends		Revision	Date
Code: IPC			
Section(s): 706.4			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

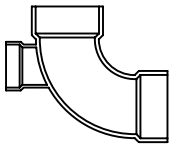
Code Reference:

IPC 706.4 Heel- or side-inlet quarter bends. *Heel-inlet quarter bends shall be an acceptable means of connection, except where the quarter bend serves a water closet. A low-heel inlet shall not be used as a wet-vented connection. Side-inlet quarter bends shall be an acceptable means of connection for drainage, wet venting and stack venting arrangements.*

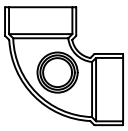
Heel-inlet quarter bends are not allowed as closet bends. The low-heel-inlet of a quarter bend is not allowed as wet vent connection for a fixture drain or as a connection for horizontal wet vent system. Low-heel-inlet quarter bends inlets are allowed as connection for a drain. The side-inlet of a quarter bend has no restrictions and can connect to drains and vents.



Low-heel-inlet quarter bend
Not allowed as water closet bend
Not allowed as wet vent connection for a fixture drain
Not allowed as connection for a horizontal wet vent system
Allowed as connection for drain

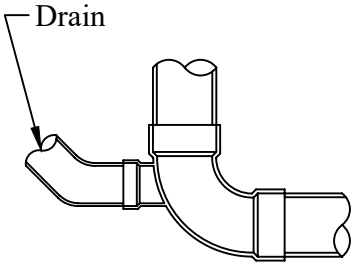


High-heel-inlet quarter bend
Not allowed as water closet bend

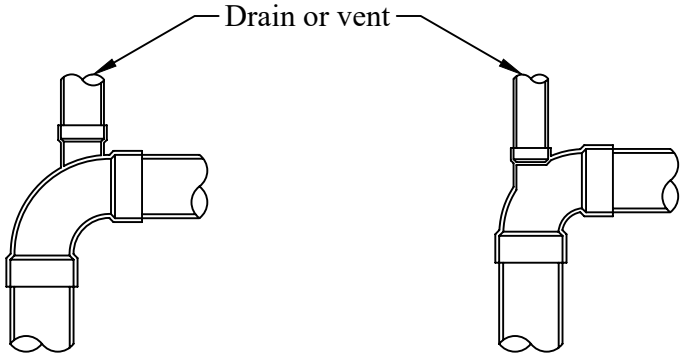


Side-inlet quarter bend
Allowed as water closet bend
No restrictions on use

Applications of Quarter Bends



High-heel-inlet
Allowed for fixture drain or wet vent connection



High-heel-inlet

Low-heel-inlet

Heel Inlet Connections

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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Backflow Prevention for Water Powered Sump Pumps		Revision	Date
Code: IPC			
Section(s): 712.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 712.2 Valves required. *A check valve and a full open valve located on the discharge side of the check valve shall be installed in the pump or ejector discharge piping between the pump or ejector and the gravity drainage system. Access shall be provided to such valves. Such valves shall be located above the sump cover required by Section 712.1 or, where the discharge pipe from the ejector is below grade, the valves shall be accessibly located outside the sump below grade in an access pit with a removable access cover.*

WSSC allows a water powered sump pump to be used as a backup emergency pump. Water powered sump pumps use water pressure and not electricity to pump water from sump basin. WSSC requires the installation of an ASSE 1012 backflow preventer. The backflow preventer shall be listed on permit and installed per WSSC Table 5.1, Application of Backflow Preventers. Drain and vent discharge shall discharge by air gap.

Water powered sump pumps shall be installed and inspected under the appropriate WSSC permit:A Long Form Permit for new installation on new construction. Water powered sump pumps shall be installed and inspected under the appropriate WSSC permit: Long Form Permit for new installation on new construction; Short Form permit for a first time installation or replacement within an existing structure. On a Long Form Permit use fixture code (7G) with the description: “Water Driven Emergency Sump Pump”. The following short description will appear on the permit and inspector's work tickets: “Wtr2EmergPump”. Connection shall be made to an appropriately sized cold water main, including a sub-metered line. No sump pump discharge may be routed to the sanitary; such existing arrangements must be corrected in order to approve the back-up pump. SDC does not apply; these pumps shall only be installed as a back-up.

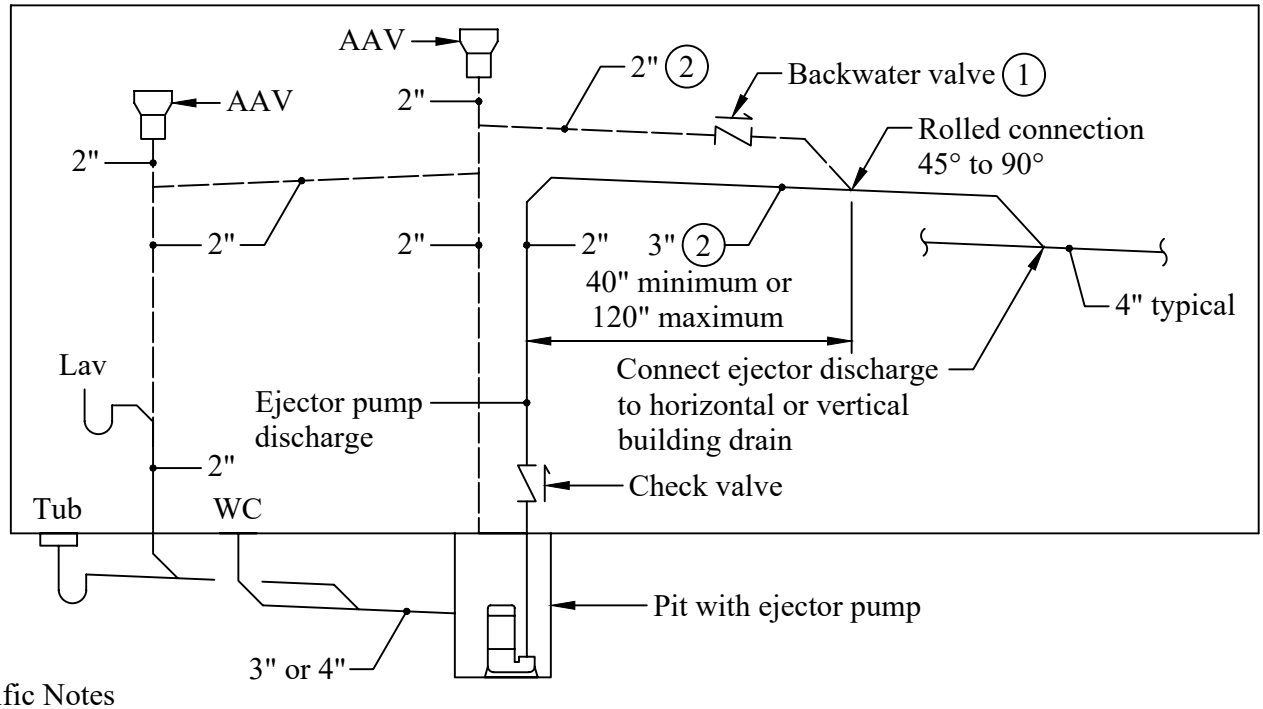
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Air Admittance Valves Serving a Sewage Ejector Pump System		Revision	Date
Code: IPC			
Section(s): 918.8			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 918.8 Prohibited installations. *Air admittance valves shall not be installed in nonneutralized special waste systems as described in Chapter 8 except where such valves are in compliance with ASSE 1049, are constructed of materials approved in accordance with Section 702.5 and are tested for chemical resistance in accordance with ASTM F1412. Air admittance valves shall not be located in spaces utilized as supply or return air plenums. Air admittance valves shall not be used to vent sumps or tanks except where the vent system for the sump or tank has been designed by an engineer. Air admittance valves shall not be installed on outdoor vent terminals for the sole purpose of reducing clearances to gravity air intakes or mechanical air intakes.*

In general, ejector systems shall be served by conventional venting. In the event, conventional venting is not practical, including side wall venting, the following suggested drawing may be utilized as the basis for the creation of an engineered plan. A registered State of Maryland Professional Engineer must design and stamp the final design and be presented to the WSSC Plumbing Inspector at the time of inspection.

See below for an example of design for ejector pump with air admittance valve.



Specific Notes

(1) Backwater valve shall be open port, float actuated type

(2) Sloped at minimum $\frac{1}{8}$" per foot.

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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Trap Seals (Trap Seal Protection Devices)		Revision	Date
Code: IPC			
Section(s): 1002.4.1.4			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IPC 1002.4.1.4 Barrier-type trap seal protection device. *A barrier-type trap seal protection device shall protect the floor drain trap seal from evaporation. Barrier-type floor drain trap seal protection devices shall conform to ASSE 1072. The devices shall be installed in accordance with the manufacturer's instructions.*

The IPC is recognizing the newly created standard ASSE 1072 for Trap Seal Protection Devices. Any product that is constructed, tested, and listed to this new standard will be acceptable as an alternate to mechanically priming or passively priming a trap that is subject to evaporation.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Corrugated Stainless Steel Tubing (CSST) Fuel Gas Pipe Bonding		Revision	Date
Code: IFGC			
Section(s): 310.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IFGC 310.2 CSST. *See referenced code section.*

Corrugated Stainless Steel Tubing (CSST) listed in accordance with ANSI LC 1/CSA 6.26 is an approved piping material for fuel gas (see IFGC 403.5.5). ANSI LC-1/CSA 6.26 sets standards for materials, performance, and installation requirements for "Fuel Gas Piping Systems Using CSST". CSST is not the same as appliance connectors such as those listed under ANSI Z21.24/CGA 6.10, ANSI Z21.75/CSA 6.27, ANSI Z21.54, and ANSI Z21.69/CSA 6.16. CSST is available with a black or yellow jacket. CSST with black jacket is arc-resistant CSST and when installed may not require additional bonding. CSST with yellow jacket has additional requirements for bonding. Bonding is connecting to establish electrical continuity and conductivity. Regarding CSST, bonding is the connection of a metallic piping system to the building electrical service grounding electrode system, or the less common lightening protection grounding electrode system.

Key inspection points for WSSC:

- The bonding jumper shall connect to a metallic pipe, pipe fitting, or CSST fitting. The corrugated stainless steel portion of the gas piping system SHALL NOT be used as the bonding attachment point
- The bonding jumper wire shall be as short as practical, and the bonding clamp can be connected to the piping system at point near the electrical service grounding electrode system
- Where a combination of steel and/or copper, and CSST are installed, the bonding clamp may be attached to any portion of piping to limit length of bonding jumper wire
- Bonding wire shall not be smaller than 6 AWG copper wire or equivalent (4 AWG aluminum wire is the equivalent to 6 AWG copper wire)
- Bonding wire may be solid or stranded
- The length of bonding jumper shall not exceed 75 feet, any additional grounding electrodes installed to meet this requirement requires an electrical permit
- Common locations for bonding connections to the building electrical service grounding electrode system include rod electrode, neutral bus bar at electrical service, concrete encased reinforcing steel, and other properly installed ground or bond wire.
- Bonding connections shall be in accordance with NFPA 70 (National Electric Code)
- Bonding connections to neutral bus bar at electrical service must be performed by licensed electrician
- CSST installer shall have product literature and any manufacturer's required training certificates available for inspection
- CSST may be installed below ground according to manufacturer's requirements
- For additions of gas appliances to existing systems where the requisite electrical permit is likely not present, the WSSC Inspector reserves the right to ensure the bonding work is performed, but ultimately is not responsible for sizing or installation of the bonding system

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Metallic Piping Joints and Fittings & Fittings in Concealed Locations		Revision	Date
Code: IFGC			
Section(s): 403.10 & 404.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IFGC 403.10 Metallic piping joints and fittings. *The type of piping joint used shall be suitable for the pressure-temperature conditions and shall be selected giving consideration to joint tightness and mechanical strength under the service conditions. The joint shall be able to sustain the maximum end force caused by the internal pressure and any additional forces caused by temperature expansion or contraction, vibration, fatigue or the weight of the pipe and its contents.*

IFGC 404.5 Fittings in concealed locations. *Fittings installed in concealed locations shall be limited to the following types:*

1. *Threaded elbows, tees and couplings.*
2. *Brazed fittings.*
3. *Welded fittings.*
4. *Fittings listed to ANSI LC-1/CSA 6.26 or ANSI LC-4.*

Both ANSI LC-1 and ANSI LC-2 fittings are allowed in concealed spaces.

ANSI LC-1/CSA 6.26 - Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing

ANSI LC-4 - Press-Connect Metallic Fittings For Use In Fuel Gas Distribution Systems

The IFGC now recognizes the revised standard ANSI LC-4-2012, the standard includes steel press fittings for steel gas pipe.

Note: WSSC does not extend the approval of steel press fittings for use in below grade or below slab applications.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Rough-in for CSST		Revision	Date
Code: IFGC			
Section(s): 404.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IFGC 404.2 CSST. *CSST piping systems shall be installed in accordance with the terms of their approval, the conditions of listing, the manufacturer's instructions and this code.*

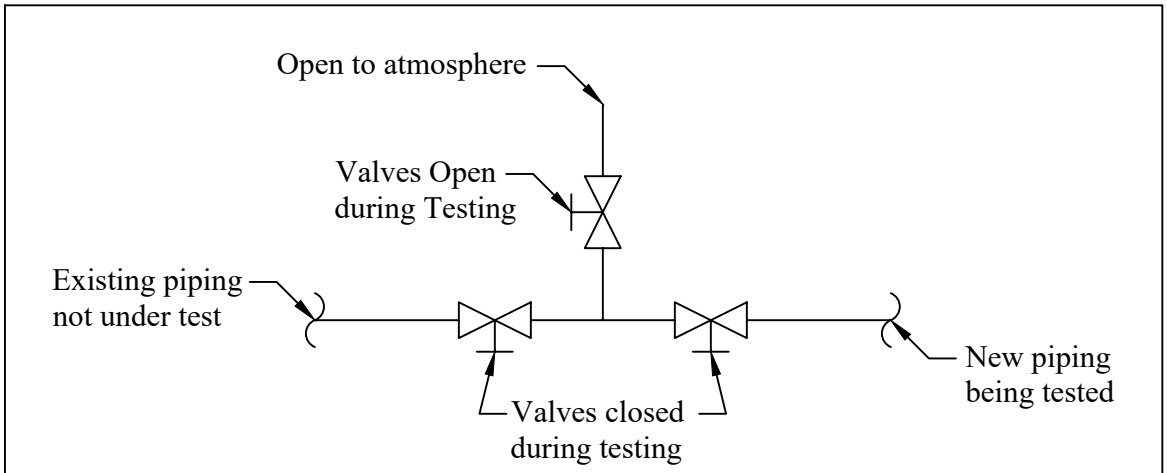
In order to protect the CSST piping system during construction, applications that terminate at floor or wall shall be supported and protected until the termination fitting is connected to the piping in accordance with the manufacturer's instructions.

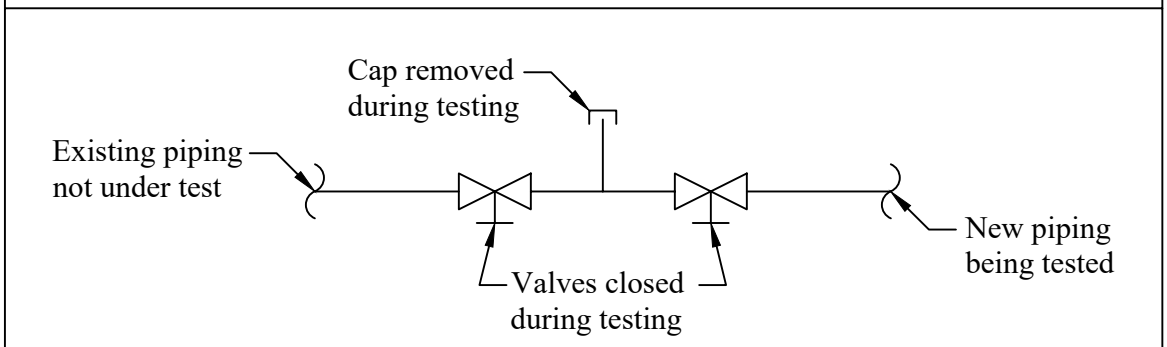
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Double Block and Bleed Valve System		Revision	Date
Code: IFGC			
Section(s): 406.1.4			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IFGC 406.1.4 Section testing. *A piping system shall be permitted to be tested as a complete unit or in sections. A valve in a line shall not be used as a bulkhead between gas in one section of the piping system and test medium in an adjacent section, except where a double block and bleed valve system is installed. A valve shall not be subjected to the test pressure unless it can be determined that the valve, including the valve-closing mechanism, is designed to safely withstand the test pressure.*

See below for examples of double block and bleed valve systems,





Double Block and Bleed Valve Systems

also referred to as "Telltale"

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Sediment Trap		Revision	Date
Code: IFGC			
Section(s): 408.4			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

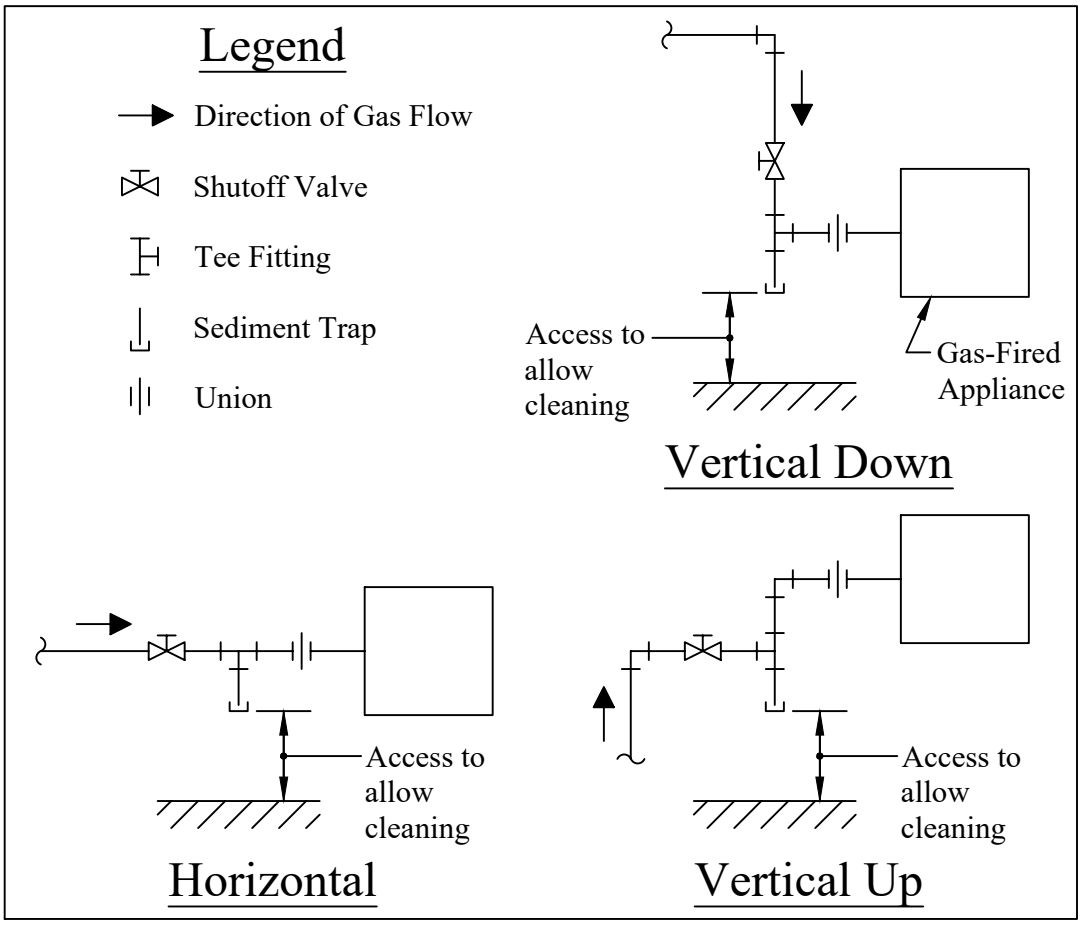
Code Reference:

IFGC 408.4 Sediment trap. *See referenced code section.*

The referenced code section describes requirements for appliance sediment traps. The gasfitter can use a tee fitting to create a sediment trap. The diameter of nipple shall be the same as piping. Three example configurations are shown below. The vertical orientations are preferred over the horizontal configuration. The horizontal configuration being the least effective at trapping sediment.

For new construction the appliance shutoff valve shall be upstream of sediment trap. For retrofits and replacement the requirement for shutoff valve to be upstream of sediment trap will only be enforced if the valve is replaced or the piping is refitted (shutoff valve or sediment trap is removed with the intent of reinstalling).

Examples of Typical Installations of Tee Fitting Sediment Traps



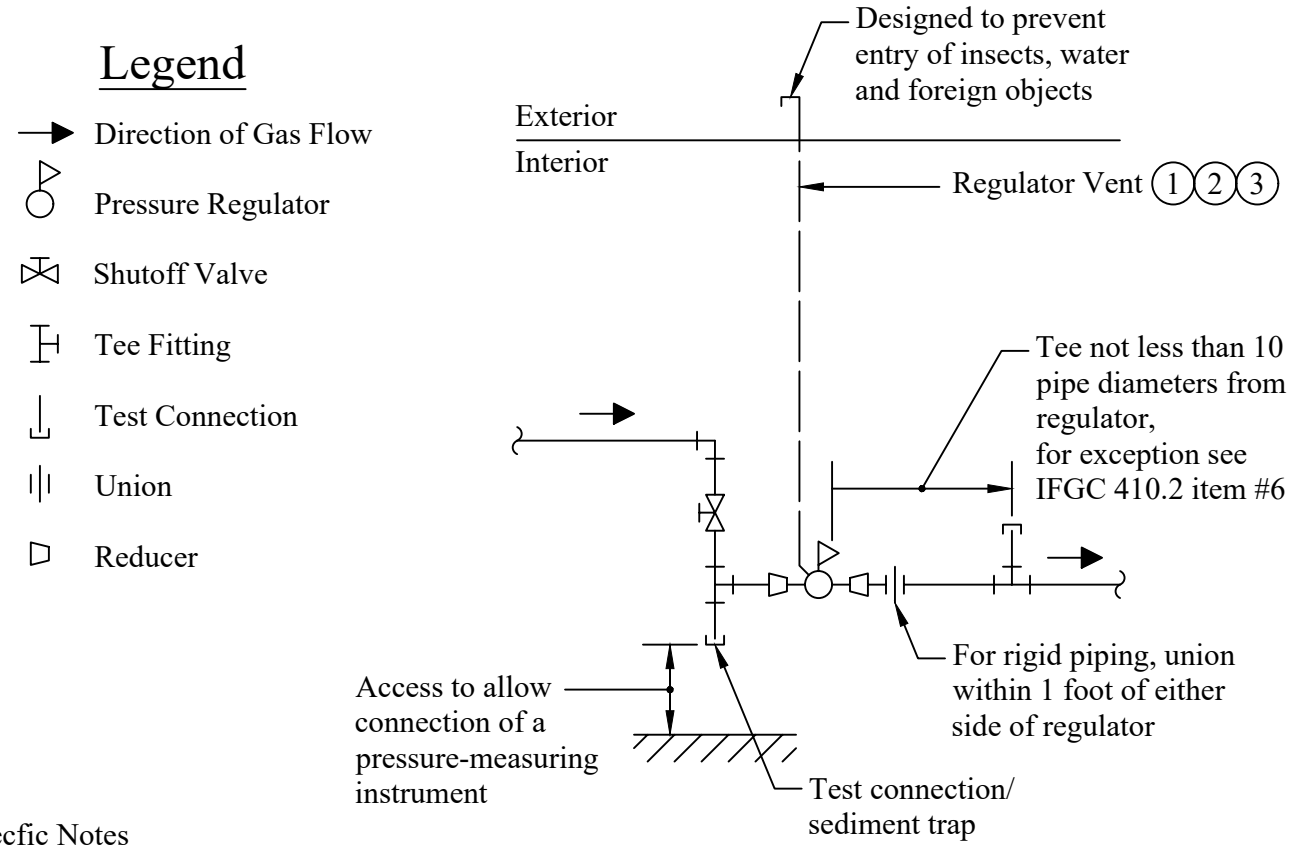
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Pressure Regulators and Venting		Revision	Date
Code: IFGC			
Section(s): 410.2 & 410.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IFGC 410.2. Pressure regulators. *See referenced code section.*

IFGC 410.3 Venting of regulators. *See referenced code section.*

See below for example of pressure regulator installation with test tees, sediment trap, union, and venting below.



Specfic Notes

(1) The diameter of vent piping may be required to be larger than regulator vent connection diameter. Vent piping shall be sized per regulator manufacturer's requirements.

(2) For interior installations, WSSC Water allows vent limiters in lieu of vent pipe. Vent limiters are prohibited outside or locations subject to freezing.

(3) For exterior installations, WSSC Water allows vent protectors in lieu of vent pipe. Vent protectors are prohibited inside building.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Chimney Connections		Revision	Date
Code: IFGC			
Section(s): 503.10.10			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IFGC 503.10.10 Chimney connection. *Where entering a flue in a masonry or metal chimney, the vent connector shall be installed above the extreme bottom to avoid stoppage. Where a thimble or slip joint is used to facilitate removal of the connector, the connector shall be firmly attached to or inserted into the thimble or slip joint to prevent the connector from falling out. Means shall be employed to prevent the connector from entering so far as to restrict the space between its end and the opposite wall of the chimney flue (see Section 501.9).*

The International Building Code recognizes the use of fireclay, rigid refractory material or metal as a thimble to a masonry chimney. The use of metal becomes significantly attractive when the vent connector needs to be enlarged in conjunction with a water heater replacement. The thimble or sleeve must extend from the face of the chimney to the inside face of the vertical liner. Likewise, the vent connector must extend through the sleeve to end at the inside face of the vertical liner. The vent connector must be properly supported and secured in a manner that would prohibit undesired movement in either direction.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Plastic Piping for Appliance Vents		Revision	Date
Code: IFGC			
Section(s): 503.4.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IFGC 503.4.1 Plastic piping. *Where plastic piping is used to vent an appliance, the appliance shall be listed for use with such venting materials and the appliance manufacturer's installation instructions shall identify the specific plastic piping material. The plastic pipe venting materials shall be labeled in accordance with the product standards specified by the appliance manufacturer or shall be listed and labeled in accordance with UL 1738.*

IFGC 503.4.1.1 Plastic vent joints. *Plastic pipe and fittings used to vent appliances shall be installed in accordance with the appliance manufacturer's instructions. Plastic pipe venting materials listed and labeled in accordance with UL 1738 shall be installed in accordance with the vent manufacturer's instructions. Where a primer is required, it shall be of a contrasting color.*

This section of IFGC was revised in 2018.

Revisions in the 2018 edition of the IFGC added the requirements for plastic pipe venting materials "shall be labeled in accordance with the product standards specified by the appliance manufacturer or shall be listed and labeled in accordance with UL 1738" and plastic vent joints to be "plastic pipe venting materials listed and labeled in accordance with UL 1738 shall be installed in accordance with the vent manufacturer's instructions".

The Master Gasfitter shall make manufacturer's installation instructions available to Code Official. Installation instructions shall be on project site for review by Code Official.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Commercial Cooking Appliances Vented by Exhaust Hoods		Revision	Date
Code: IFGC			
Section(s): 505.1.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

IFGC 505.1.1 Commercial cooking appliances vented by exhaust hoods. *Where commercial cooking appliances are vented by means of the Type I or II kitchen exhaust hood system that serves such appliances, the exhaust system shall be fan powered and the appliances shall be interlocked with the exhaust hood system to prevent appliance operation when the exhaust hood system is not operating. The method of interlock between the exhaust hood system and the appliances equipped with standing pilot burner ignition systems shall not cause such pilots to be extinguished. Where a solenoid valve is installed in the gas piping as part of an interlock system, gas piping shall not be installed to bypass such valve. Dampers shall not be installed in the exhaust system.*

Exception: *An interlock between the cooking appliance(s) and the exhaust hood system shall not be required where heat sensors or other approved methods automatically activate the exhaust hood system when cooking operations occur.*

Most gas-fired commercial kitchen appliances are vented by Type I or II exhaust systems (kitchen exhaust hoods). Exhaust systems shall be interlocked, or connected, to prevent gas-fired appliances from being operated when the hood is not in operation. Listed below are some of the common methods for interlocking,

1. A gas solenoid shutoff valve is installed upstream of gas-fired equipment served by kitchen exhaust hood. The valve is normally closed and only opens when exhaust fans are energized. This option is for electronic ignition only, no standing pilots allowed.

2. Appliances with electrical connections can can use contacts/relays to disable appliances when the exhaust system is not in operation. This option is for electronic ignition only, no standing pilots allowed.

The exception meets the intention of interlocking without disabling appliances or gas supply. Sensors, such as heat and optical, are used to detect when appliances under hoods are being used and to control operation of kitchen exhaust fans. Since the appliances are not disabled and gas supply is not shutoff, it may be acceptable to use electronic ignition only or standing pilots.

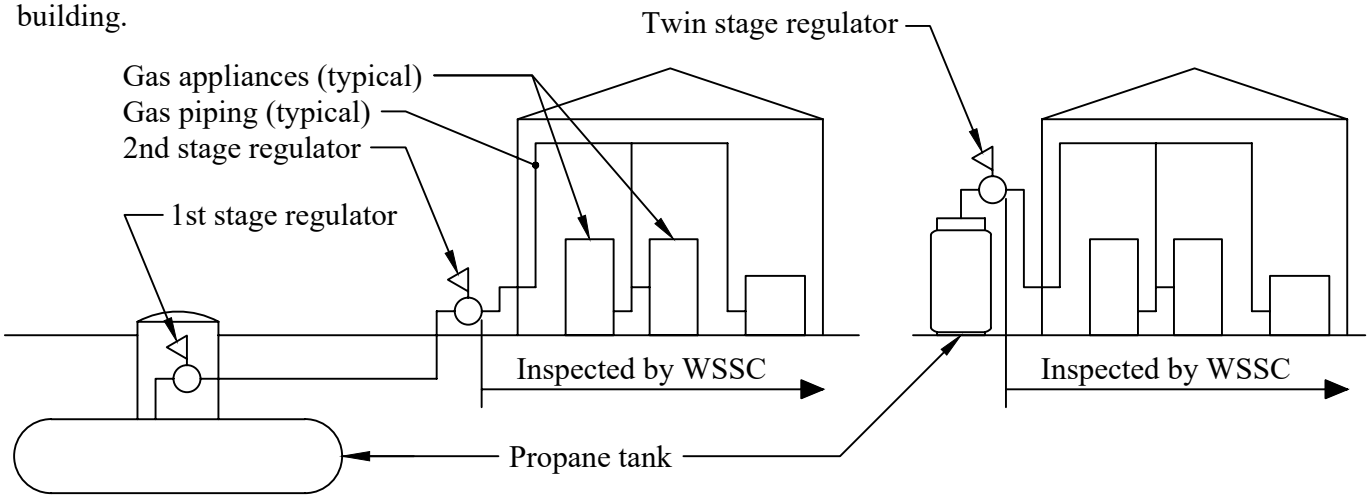
A bypass around the gas solenoid shutoff valve is prohibited.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Fuel Gas System, Propane, Propane Construction Heaters, Safety		Revision	Date
Code: WSSC			
Section(s): 101.4.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 101.4.1 Fuel Gas Systems. *This Code shall apply to the installation of natural and undiluted liquefied petroleum (aka LP or propane) gas piping systems, natural and LP gas utilization equipment and related accessories.*

Propane – As of November 1, 2007, the WSSC is responsible for Propane/LP gas inspections in the WSSD. Permits shall be completed in the normal way; there are no special fixture code designations for propane appliances. WSSC jurisdiction begins at the second stage regulator; this is the regulator that establishes the system pressure for the inside distribution piping. WSSC will not inspect the setting of the tank or the underground line from a remote tank to the building. For a small tank, generally serving a single appliance and located adjacent to the building, WSSC will inspect from the outlet of the tank into the building.



PROPANE TANK AND PIPING WITH 1ST AND 2ND STAGE REGULATORS

PROPANE TANK AND PIPING WITH 2ND STAGE REGULATORS

Temporary Propane Construction Heaters – WSSC shall inspect permanent piping prior to it be utilized to supply temporary heaters; this also includes hard piping temporarily installed (typically on a large scale project), for the sole purpose of supplying temporary heaters. WSSC shall not govern/inspect the portable hoses and heaters used residentially or commercially. See the IFGC, section 101.2.4 which provides an excellent guideline for work outside the scope of WSSC inspection authority and expertise; see item number 1. WSSC does have jurisdiction over all aspects of temporary natural gas construction heaters.

Safety – WSSC Inspectors reserve the right to disclose any unsafe conditions to the attention of MOSHA officials, building officials, the fire department, and/or the gas supplier. Such conditions may be, but not limited to; unsafe/unlisted/damaged appliances, make-up air, appliances or hoses subject to physical damage. This applies to heaters utilizing natural gas as well.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Minimum Isolation Backflow Protection Requirements		Revision	Date
Code: WSSC			
Section(s): 102.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 102.2 Existing Installations. *Plumbing and fuel gas systems lawfully in existence at the time of the adoption of this Code shall be permitted to have their use and maintenance continued if:*

1. *The use, maintenance, or repair is in accordance with the original design and requirements existing at the time of installation, and, if no hazard to life, health, property, or to the Commission's systems; is created by such system; or*

2. *The matter is not specifically governed by the Cross-Connections Control Program (Chapter 5), the Fats, Oils & Grease Program (Chapter 8) or the Industrial Discharge Control Program (Chapter 8).*

Items from Previous Codes that are not in the Current WSSC or ICC Codes – Therefore not Enforced:

The IPC does not have a requirement to meet minimum isolation backflow protection requirements when a water service is replaced. Plumbers should be diligent in their efforts to promote modern backflow protection best practices through customer awareness and completeness of services offered. See WSSC 102.2 in regards to no “grandfather clause” for the absence of needed backflow protections and WSSC 502.3 for triggers requiring containment backflow protection.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Relining Water Piping		Revision	Date
Code: WSSC			
Section(s): 102.3.11.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 102.3.11.2 Water Piping. *Products used in the final stage restoration process shall comply with NSF 61 standards. Restored water piping systems shall be labeled or permanently tagged at the main service valve, riser valves, and on exposed piping at 10-foot minimum intervals. The label shall indicate that the piping has been so restored and shall list precautions regarding future maintenance, including the requirement for flameless pipe joining methods when applicable.*

WSSC 102.3.11.2.1 *All existing backflow prevention assemblies and devices shall be regularly tested or replaced as required. All un-protected hazards shall be abated by an appropriate level of backflow prevention, see Table 5.1.*

WSSC 102.3.11.2.2 *The building's domestic cold water main supply shall be outfitted with a containment backflow prevention assembly or device, commensurate with the degree of hazard (see 502.3.3 & Table 5.1), prior to the on-set of any pipeline restoration activities located downstream of the initial water service main shut-off valve.*

WSSC 102.3.11.2.3 *Buildings restored with epoxy relining products listed for operating temperatures of less than 180 degrees F shall be outfitted with the following items:*

WSSC 102.3.11.2.3.1 *A master thermostatic mixing valve complying with ASSE 1017 shall be provided to safeguard the temperature of the water delivered from the potable domestic hot water distribution system. See 501.1.4. The potability of the water shall be maintained throughout the system.*

WSSC 102.3.11.2.3.2 *The following signage shall be posted at the main water shut-off valve and at the water heater(s): "This building contains water piping retrofitted with an epoxy relining system which shall not be exposed to water temperatures exceeding 140 degrees F."*

Epoxy lining of water services and water distribution piping is growing in popularity. Certain provisions were codified in July 2015:

1. Containment backflow protection shall be installed before any inside relining work begins.
2. Existing backflow shall be tested and un-protected hazards shall have new BFPs installed.
3. Epoxy products listed for under 180°F require an ASSE 1017 mixing valve and special signage.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Trenchless Restoration of Sewer Piping		Revision	Date
Code: WSSC			
Section(s): 102.3.11.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 102.3.11.3 Sewer Piping. *Sewer and Building Drain "trenchless" restoration shall meet this section and IPC 716. Existing piping shall be pre-qualified by flushing and video recording the pipeline prior to commencing work. Where the existing pipeline grade/slope is unsatisfactory, pipe-bursting, relining, or other forms of trenchless reconstruction cannot be utilized. Open trench replacement with adequate bedding of over-excavated areas is required. Restored sewer piping shall be flushed and then flow one gpm of clean water while video recording as a final inspection requirements. Copies of the video recordings for both required video inspections shall be provided to the Code Official.*

The following video inspection provisions shall be followed before and after trenchless sewer/drain work:

1. Video inspection before contracting and mobilization.
2. Trenchless is not allowed as an attempt to correct grade/slope issues.
3. Upon completion, including reconnection(s), thoroughly flush, then video with 1 gpm of clean water flowing.
4. Copies of videos shall be provided to the Inspector, upon request.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Video Inspection and Notification		Revision	Date
Code: WSSC			
Section(s): 102.3.6.2.3 & 102.3.6.2.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 102.3.6.2.3 Video Inspection. *Where video technology is utilized and an off-property lateral or mainline issue is evident/verified, a copy of the video recording shall be retained and forwarded to WSSC in conjunction with the required "commitment"/notification per 102.3.6.2.5.*

WSSC 102.3.6.2.5 Commission Notification. *If an obstruction causing a stoppage is located in the Commission's service connection, the drain cleaner shall notify the Commission's Emergency Call Center by telephone, fax, or electronically within 72-hours. If the stoppage was not cleared the drain cleaner shall notify the Commission by telephone immediately. The drain cleaner shall also inform the Commission, in his or her opinion, what the cause of the obstruction was i.e. soft stoppage, broken/misaligned piping, roots, grease, debris, etc.*

To report via phone please contact the Emergency Call Center (Radio Room): 301-206-4002

To report via fax or electronically, please use the following Sewer Blockage Commitment Form,

www.wsscwater.com/sites/default/files/sites/wssc/files/Sewer%20Blockage%20Commitment%20Form.pdf

This form shall be submitted by email or fax to the following,

Fax: 301-206-8037
Email: emergencycallcenter@wsscwater.com

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Permit Requirement for Replacement of Electric Water Heaters, Residential Type		Revision	Date
Code: WSSC			
Section(s): 106.2.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 106.2.3 Plumbing Maintenance. *The clearing of stoppages in fixture branches; the repairing of incidental leaks in pipes, valves or fixtures; the removal and reinstallation or replacement of existing plumbing fixtures, residential type plumbing appliances including electric water heaters, non-testable backflow devices, and plumbing appurtenances; provided that such repairs do not involve or require the replacement of concealed piping, or the rearrangement of valves, pipes or fixtures.*

The replacement of a residential type electric water heater does not require a Short Form Permit or inspection; effective by code change July 1, 2012, electric water heaters are considered a plumbing appliance and therefore are considered “exempt work.”

The homeowner or plumber has the option to apply for a permit and have the work inspected.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Backflow Preventer Test Reporting		Revision	Date
Code: WSSC			
Section(s): 106.2.3.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 106.2.3.1 Testing and Rebuilding of Testable Backflow Preventers. *Testing and rebuilding of testable backflow preventers is exempt of a required permit but shall only be performed by a WSSC registered Cross Connection Technician and requires the submission of a completed WSSC backflow preventer test report to the WSSC Cross Connection Control and Backflow Prevention Office.*

WSSC 106.2.3.1.1 Submittal Deadline. *The Test Report shall be submitted to WSSC within 5 business days of a successful test.*

Test Reports submittals are required with 5 business days of a successful test. Test Reports shall be submitted electronically; exceptions will be granted on a limited case-by-case basis. Copies of the electronically submitted WSSC test reports are required on the jobsite for Final inspection for all testable backflow assemblies.

In general, the plumbing contractor shall only submit successful test results to WSSC. Unsuccessful test shall be repeated following corrective actions; i.e. cleaning, repairing, or replacing of the faulty backflow prevention assembly. If repairs cannot be immediately executed, recharging the system shall follow the following guideline;

1. For failure of just one check (ASSE 1013 and ASSE 1015), the system may be recharged.
2. For failure of two checks,
   a. For an ASSE 1015 serving a fire sprinkler system, the system may be recharged prior to repair.
   b. For an ASSE 1013 serving a fire sprinkler system, the system shall remain off and the fire marshal shall be notified. In cases where the owner is unwilling to order timely corrective actions, the WSSC Cross Connection Control Office shall be notified immediately and a failed test report shall be submitted as well.
   c. For all other testable assemblies, the system shall remain off until the backflow prevention assembly is repaired or replaced.

In cases where the owner is unwilling to order timely corrective actions, the WSSC Cross Connection Control Office shall be notified immediately and a failed test report shall be submitted as well.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: "Ground Work Only" Permit		Revision	Date
Code: WSSC			
Section(s): 106.3.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 106.3.1 Foundation or Sub-Slab Permits. *At the discretion of a code official, certain large scale projects may present and obtain a separate initial permit to install sub-slab Ground Works in conjunction with a County issued 'Foundation Only' building permit. Construction documents/plans submission required under 106.5 shall include load factors for, and adequate identification of, future above slab piping, fixtures, and equipment in order to determine the adequacy of pipe sizing as well as waste and venting configurations served by and routing to the sub-slab piping. Where applicable, the owner shall submit a "hold-harmless" statement, for a project to commence prior to final water and sewer connection design approval and issuance.*

Foundation Only and Sub-slab Permits – In conjunction with a County issued 'foundation only' permit and at the discretion of a WSSC Code Official, WSSC may issue a sub-slab 'Ground Work Only' Permit under the following conditions:

1. Certain large-scale projects only.
2. Plans to include load factors such as water supply fixture units, drainage fixture units, gas load (CFH or BTUs) for sizing and clear depiction of venting methods.
3. Owner to submit a 'hold harmless' acknowledgement; see Plans Review website for a template.
4. Upon release/approval of above-slab plans, the owner/GC/plumber shall discover, disclose to the inspector, and correct all conflicts. The plumbing inspector reserves the right to review both plans and disclose any/all conflicts as well.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Engineer May Submit Permit Application and Plans		Revision	Date
Code: WSSC			
Section(s): 106.4 / 106.4.1 / 106.5.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 106.4 Authorized Permit Applicant. *Application for a permit shall be made by a WSSC registered Master Plumber/Gasfitter licensee, the licensee's authorized representative (proxy) or a State of Maryland registered Professional Engineer, to install all or part of any plumbing or fuel gas system. The applicant shall meet all qualifications established by this Code and/or by other applicable law. The full name and address of the applicant shall be stated in the application.*

> ***WSSC 106.4.1 Purchase of Permits Security Policy.*** *Only the Master Plumber/Gasfitter, their registered representatives (proxies) or State of Maryland registered Professional Engineer will be able to purchase Long Form or Short Form Permits. The identity of the licensee, proxy or engineer will be validated using the Commission's database, along with photo identification such as a driver's license. Although a registered Professional Engineer may apply and purchase a permit on behalf of a property owner, no work shall commence and the permit will remain inactive until a registered Master Plumber/Gasfitter is added to the permit, via WSSC's electronic permit system.*

WSSC 106.5.2 Qualified Agent for the Applicant. *In conjunction with Section 106.4, a registered Professional Engineer (PE) or a WSSC registered Master Plumber/Gasfitter shall submit required construction documents/plans following WSSC published procedures. At their discretion, Code Officials may require that any technical-based inquiry relative to a project be made only by a registered engineer or a minimum of a Journeyman level licensee.*

Engineer May Submit Permit App and Plans – In order to facilitate an earlier start to the Plans Review process, a registered State of Maryland Professional Engineer (P.E.) may submit both the Permit application and Plans using the following guidelines:

1. Within the ePermitting application, under the 'Contact type,' the engineer must be designated as the "Plans Submitter." This is required for the ePlan Review system to communicate with the engineer and 'invite' them (via email), to complete all steps/tasks within the electronic ePlan Review workflow.
2. In cases where the Water and Sewer extension (SEP), Water and Sewer Service Connections (SC), or Site Utility plan (SU) are not reviewed and approved prior to Plumbing Permit submittal, the applicant shall disclose these facts within the Plumbing Permit app and request the project be forwarded to the Plans Review office "Ahead of Water & Sewer Service Connections."
3. Upon approval of the Plans, the Permit application will be held until a Plumber is on board. A "Request" shall be forwarded to the Permit Services office to add the Plumber to the permit. Until this time, the Permit may not be paid for, a registered Master Plumber/Gasfitter must be added on first.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Minor Site Utility Systems		Revision	Date
Code: WSSC			
Section(s): 106.8.3 / 107.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 106.8.3 Minor Site-Utility Permit. *A WSSC registered Master Plumber shall secure a long form permit prior to the construction of a minor site-utility system.*

WSSC 107.5 Minor Site-Utility Systems. *Minor site-utility water and sewer piping and appurtenances shall be installed by a WSSC registered Master Plumber. These systems shall be inspected in accordance with procedures outlined in 107.4.1.1 & 2 and any conditions set forth on the approved Minor Site-Utility plan.*

Certain water systems 4" & larger, sewer systems 6" & larger shall be installed under a plumbing permit and inspected by a WSSC Plumbing Inspector. The inspectors, at their discretion, may accept a test report for the required hydrostatic test.

Per WSSC 2019 Development Services Code

> 701.1.2 Minor Site Utility (MSU). At the discretion of WSSC, site-utility designs of less complexity and or developed length may be waived from the site-utility document review process as outlined in this chapter and may be designated as a 'Minor Site Utility' system. A minor site utility plan (MSU) shall be allowed under the following conditions unless otherwise determined by WSSC:
>
> - No new or abandoned water and/or sewer service connections;
> - The proposed new additional on-property (private) water lines are 4-inches in diameter or larger and the length is 25-feet or less or;
> - The proposed new additional on-property (private) sewer line(s) will be 6-inch in diameter or larger and/or the proposed new pipe is not greaterthan 25-feet in length.
> - Any new or re-development (including sites with less than 25-feet of pipeor no new on-property pipe) as determined by WSSC;
> - Any length of existing pipe on-property to be abandoned.

The plumber shall not connect to the Service Connection (SC) until the the Release for Service (RFS) has been granted through the Development Services Department (DSD). All inquires should be directed to the DSD Pipeline Construction Contract Manager for status of the RFS.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Short Form Permit		Revision	Date
Code: WSSC			
Section(s): 106.9			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 106.9 Short Form Permit. *A Short Form permit shall be allowed for the replacement, repair, or alteration of existing plumbing and fuel gas systems, fixtures, or appliances requiring only one inspection. A Short Form permit may also be used for the direct replacement of all testable backflow preventers provided the existing location and application are acceptable under this Code, assembly listings, and manufacturer's installation instructions.*

The intent of the Short Form Permit (SFP) is for work that will only require one inspection to complete the entire project. Examples include; water or sewer repairs and replacements; gas appliance replacement (water heaters, furnaces, clothes dryers, cooking equipment;) additional gas appliance(s); and limited pipe repairs within the building. Examples of where a Long Form Permit is required; finish basement, even if waste rough-in was present; generators and pool heaters when the appliance is not present and connectable at time of gas test. Basically, if there is a need for multiple plumbing or gas inspections, then a Long Form Permit is required.

The following items may be covered by a Short Form Permit in lieu of a Long Form Permit:

1. First time installation of a residential water treatment system including an ASSE 1012 backflow preventer unless a new receptor (open site) is needed.
2. First time installation of an ASSE 1012 backflow preventer on an existing residential boiler make-up line or a water driven emergency back-up sump pump.
3. First time installation of an ASSE 1024 backflow preventer on a new or replacement gas or electric dryer which has a water misting/steamer connection. In all of these cases, the backflow preventer is considered as a separate inspection item on the short form permit and counts against the allowance of three items per permit.
4. First time installation of non-testable device or devices as response to correcting code deficiency.

Per WSSC 106.7.6 Re-Inspection Fees, a Short Form Permit shall constitute a re-inspection fee. The licensee shall schedule the original Long Form or Short Form permit for inspection.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Obstructed Process		Revision	Date
Code: WSSC			
Section(s): 106.9.3.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 106.9.3.3 Obstructed Process. *If the property owner or agent of the owner obstructs or refuses to allow the licensee to schedule the inspection required under 106.9.3.2, the licensee shall promptly notify WSSC in writing. The notification shall occur within 15 days of installation and it shall include: property owner or owner agent's name; mailing address, job address, phone number(s), email address, permit number, and documentation of attempts to schedule the inspection.*

When a licensee has made a reasonable number of attempts to schedule a short form permit inspection and the property owner is uncooperative or refuses the inspection, the licensee shall notify an Inspection Supervisor in writing (email) and provide pertinent contact information for the property owner and documentation of their attempts to coordinate with same. WSSC will contact the owner in an attempt to highlight the need for the inspection. If still refused,WSSC will administratively schedule and fail the inspection, noting the obstructed process. Under NO circumstance, including an impending expiration of the permit, is a licensee to simply schedule an inspection without the acceptance of the property owner.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Self-Certification		Revision	Date
Code: WSSC			
Section(s): 107.2.1.10 / 107.2.1.11			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 107.2.1.10 Self-Certification, Plumbing Work*. When authorized in advance by the Code Official, the licensee may self-inspect the work, in lieu of an inspection by the Code Official, and certify that the work meets requirements set forth in this Code. It shall be the licensee's responsibility to ensure that all self-inspected work has been so authorized. Self-inspected work shall be subject to re-inspection by the Code Official at any time.*

WSSC 107.2.1.11 Self-Certification, Gasfitting Work. *Gasfitting work shall not be self-certified.*

Exception: Subject to pre-approval by the Code Official, the serving gas utility may self-certify the installation of outdoor gas lights, modification of customer piping in connection with outside meter relocation, and similar outdoor work.

Self-certification is recognized by Code and will be accepted by WSSC Inspection Supervisors on a case by case basis. WSSC will make every attempt to inspect the work as required; including on an overtime basis as needed. The plumbing contractor shall request, in advance, for permission to self-certify where job conditions present safety concerns or when weather hampers WSSC's ability to perform inspections as scheduled. After-hour and weekend emergencies shall go through the emergency inspection request procedure; where overtime vs. self-certification shall be the determination of the responding WSSC official.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Emergency Inspections		Revision	Date
Code: WSSC			
Section(s): 107.3.7			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 107.3.7 Emergency Inspections. *Weekend, holiday, and after-hours emergency inspections shall be performed only after prior notification and prior approval by the Chief Code Official or his/her designee. Examples of emergencies include, but shall not be limited to: Fuel gas repairs where building occupants are without heat in extremely cold weather, fuel gas repairs in multifamily complexes, water service repairs in freezing weather, and repairs to deeply buried piping in highly populated areas or where jobsite conditions pose an imminent threat to public safety.*

Requests for an emergency gas or plumbing inspection (after-hours, weekends, holidays), will be considered only after prior request and approval by Regulatory Services Division staff. Examples of emergencies include gas repairs in multi-family complexes where occupants are without heat, hot water, or cooking facilities; water service repairs in freezing weather; and repairs to deep water/sewer piping in areas where job site conditions pose an imminent threat to public safety.

The most common emergency occurs after an apartment fire. In this situation, the gas utility removes the gas meter to ensure safety. Prior to restoring service, all gas piping must be pressure tested in accordance with Code requirements. In addition, any major health/safety items must be brought up to Code at this time. Typical items include appliance gas cocks, deteriorated vents, and flex-connectors. Each building address requires one short form permit at the time of inspection.

The procedure for requesting an emergency inspection is as follows:

This call must be made as soon as your company has been contracted to perform the work. You must provide the job name and location; permit number; contact person and phone numbers; and the estimated time/date that the emergency inspection will be required. The permit must be on the job site at the time of inspection.

The second call is placed when the work is ready for inspection. The Plumbing Inspector will be dispatched on this call. As a general rule, the Plumbing Inspector will not be dispatched between the hours of 9:00 p.m. and 6:00 a.m.

Emergency Inspection Phone Numbers:

During business hours: (301) 206-4004 Regulatory Services Division
After hours: (301) 206-4002 WSSC Water Emergency Services

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: WSSC Gas Tag		Revision	Date
Code: WSSC			
Section(s): 107.4.1.4			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 107.4.1.4 Close-In. *A close-in inspection shall include all rough-in, including Fuel Gas. Critical inspection factors shall include, but not limited to,: Slope, piping support, sizing, materials, built-in fixtures, fixture carriers, capping or plugging, piping protection, and required tests. Where applicable, a "hung groundwork" shall be installed as a part of the close-in inspection. A field fabricated shower liner or a lined floor for any other purpose shall not require a WSSC close-in inspection. The installer shall be responsible for the integrity and leak tight nature of his/her installation. The installation shall meet IPC Section 417.5 and the applicable manufacturer's installation instructions; testing requirements set forth in this Code and within the applicable manufacturer's instructions shall be followed by the installer and are not subject to inspection by a Code Official.*

The utility gas meter setting may be installed by gas utility and gas service turned on prior to the installation or testing of house lines. The utility gas meter setting includes the gas meter and all other valves and equipment provided by and installed by the gas utility company. House line is an industry term used to describe the gas piping system downstream of the point of delivery, in this case the utility gas meter.

Per IFGC 406.1.4, a valve in a line shall not be used as a bulkhead between gas in one section of the piping system and test medium in an adjacent section, except where a double block and bleed valve system is installed.

Code official shall issue a yellow WSSC gas tag when house lines have passed gas CLOSE-IN inspection.

Coordination between gasfitter and gas utility,

- When the gas utility meter setting is installed before the house lines are installed or tested, the house lines shall not be connected until gas CLOSE-IN inspection is passed.
- When the house lines are installed and have passed gas CLOSE-IN inspection prior to the installation of utility gas meter, the gas utility company will look for yellow WSSC gas tag. The gas utility will not connect utility gas meter setting if there is no yellow WSSC gas tag.
- Final gas connection shall be coordinated by gasfitter, the gas utility may make final connection between utility gas meter setting and house gas lines.

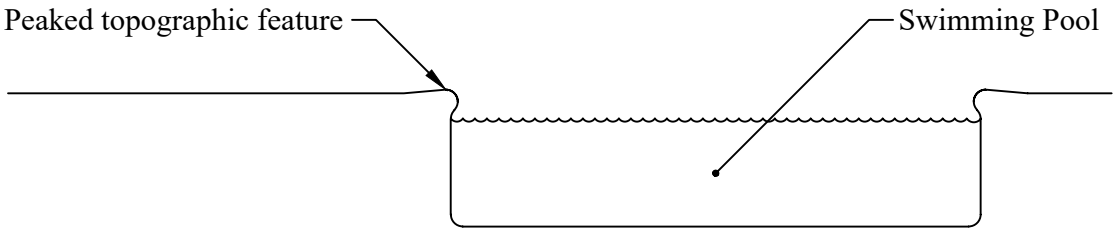
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Pools, Decorative Fountains, Interactive Water Features Storm Water Run-off		Revision	Date
Code: WSSC			
Section(s): 110.2.2.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

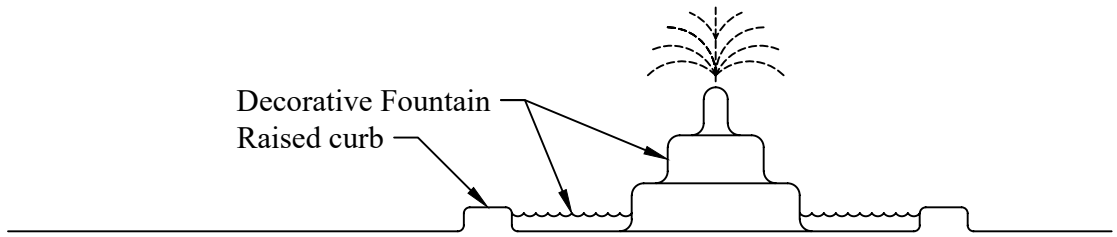
Code Reference:

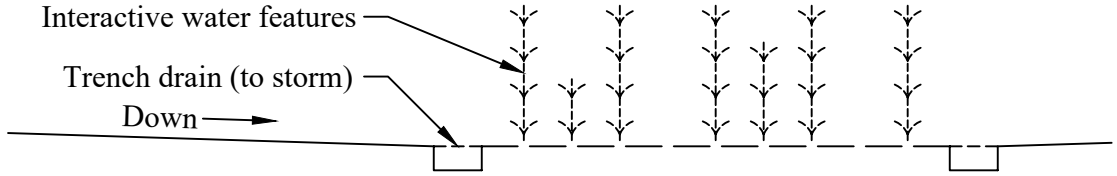
WSSC 110.2.2.1 *In order for outdoor swimming pools, decorative fountains or interactive water features to discharge to the WSSC sanitary sewer system, there shall include a raised curb, other peaked topographic feature, or a diverting trench drain which only allows direct rainfall to enter the feature and all other surface or subsurface waters to be directed away from said feature and not be able to reach the sanitary sewer.*

Protection of Pools, Decorative Fountains, and Interactive Water Features from Storm Water Run-off – In order for various water features to discharge to the sanitary sewer, a means to protect from surface run-off shall be employed:

1. Raised curb or other peaked topographical feature; and/or
2. Diverting trench drain(s) routed to storm







The WSSC Guide to Code Consistency is to be used in conjunction with the WSSC Plumbing and Fuel Gas Code and not as a substitute for code. The code official alone possesses the authority and responsibility for interpreting the code.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Garage and Other Interior Drainage Subject to Storm/Rain Water Intrusion		Revision	Date
Code: WSSC			
Section(s): 110.2.2.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

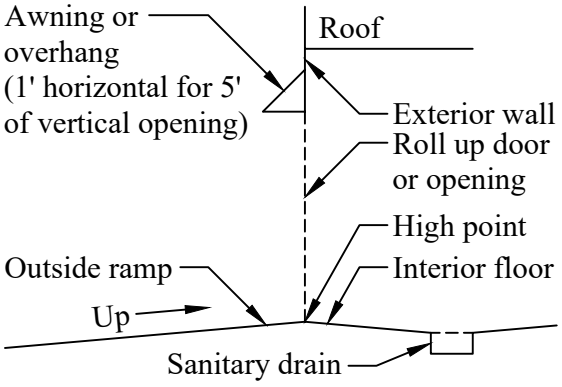
Code Reference:

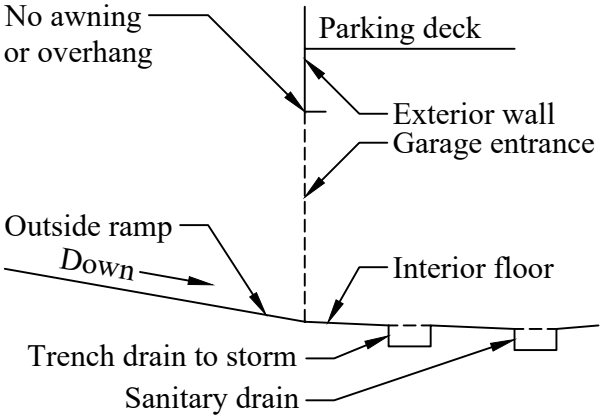
WSSC 110.2.2.2 *Entrances and exits to parking and service garages, vehicle washing facilities, loading docks, and any other similar openings shall protect inside sanitary drains from receiving storm waters by incorporating an overhang equal to or exceeding one (1) foot horizontal per five (5) feet of vertical opening and where applicable, a diverting trench drain for downward sloping ramps/entrances/exits.*

Garage and Other Interior Drainage Subject to Storm/Rain Water Intrusion – Covered parking garages, service garages, vehicle washing facilities, loading docks and similar shall have interior drains piped to the sanitary sewer through a sand/oil interceptor. Entrances and exits, as well as ramps down from roof top parking shall protect inside sanitary drains from receiving storm/rain waters by one or both of the following methods, also open side wall provisions of 302.10/1003.8.3:

1. Incorporate an overhang or awning that projects out: one (1) foot horizontally for every five (5) feet of vertical opening.
2. Utilize a diverting trench drain for downward sloping ramps or for openings without an overhang or awning. Set drain back inside to meet intent of the 1-foot/5-feet overhang rule above.

See the following illustrations for guidance:





The WSSC Guide to Code Consistency is to be used in conjunction with the WSSC Plumbing and Fuel Gas Code and not as a substitute for code. The code official alone possesses the authority and responsibility for interpreting the code.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Capping-off or Abandoning Existing Service Connections		Revision	Date
Code: WSSC			
Section(s): 111.1.5 / 111.1.6			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 111.1.5 Existing Water Connection. *New buildings utilizing an existing water service connection, with either an existing outside or inside water meter setting, shall be required to re-establish a water meter setting, at the Commission's discretion, with the size, type and location of the new water meter as designated by the Commission.*

> ***WSSC 111.1.5.1*** *Existing water connections not being re-used shall be disconnected at the main through an abandonment permit at the expense of the property owner.*

WSSC 111.1.6 Existing Sewer Connection. *New buildings utilizing a previously un-used existing sewer service connection, and existing buildings having the building sewer replaced, shall be required to have a property line cleanout installed within 1-foot of the property line, or at the edge of the right-of-way in the case of right-of-way connections, if such a cleanout does not already exist. The base connection shall be a combination wye and one-eighth bend lying on its back. The cleanout cover assembly shall conform with WSSC Standard Detail S-5.1*

The term cap-off generally indicates disconnected water and sewer service(s); a temporary condition needed to fulfill a condition requested by the building officials prior to their issuance of a building demolition (razing) permit. Cap-offs shall be accomplished at the property line unless another location outside of the area of demolition and reconstruction is justified and pre-approved by the Plumbing Inspector.

Upon request of the owner or agent, inside or outside WSSC meters, up to 1-1/2", shall be removed by WSSC personnel; 2" and larger meters shall be removed by the plumber and returned to the warehouse. Plumbers and WSSC staff should review WSSC's demolition procedures, including an important safety announcement at:

www.wsscwater.com/business--construction/developmentconstruction-services/demolition-practices.html

After cap-off inspection is approved under a short form permit and if the WSSC account is in good standing, the WSSC will correspond to the building permit office that the WSSC services are disconnected and the razing permit can be approved.

Abandonment generally indicates a permanent condition where the service connection is disconnected at the WSSC main. An abandonment is performed under a Abandonment Permit by a utility contractor or a plumber. Where one or more service connections require upsizing or relocation to serve a future use, the original connection(s) shall typically be capped-off first and then abandoned at the time of new service connection construction. Where razed buildings will create an unimproved lot for longer than 24 months, the connections shall be abandoned in addition to being capped-off.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Service Connections, Metering, Fire Protection BFP, Inside Water Meter Piping		Revision	Date
Code: WSSC			
Section(s): 111.2 / 111.4 / 111.5 / 506.8-506.10 / 604.3-604.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 3		

Pursuant to Maryland Law (effective June 1, 2018) and WSSC Code (effective March, 2019) the aforementioned Code Sections/subjects where modified and a description of details follows for each:

1. In Prince Georges County, new condominium units or dwelling units converted to condominium shall be outfitted with individual WSSC water meters on the dedicated cold water main to each unit.
2. WSSC's Permit Services Section or the Development Services Division will determine which projects are required to meet the individual metering requirement.
3. All other forms of multi-unit properties/buildings MAY be designed and constructed to provide individual WSSC meters for each unit. This applies to both Counties and the following property or building types, to include but not limited to, condos, apartments, retail centers, offices, warehouses, etc.
4. No combination (of WSSC master metering plus individual WSSC meters) is permitted (not even allowed as an option; will not be/cannot be supported by the WSSC billing system).
5. Each dwelling unit can only employ one meter; metering multiple delivery points, individual fixtures/fixture groupings, or hot water is not allowable/cannot be supported.
6. Projects which are not required to provide WSSC individual meters may install private "landlord" meters in any location suitable to the property manager.
7. Mixed-Use Properties may have one or many WSSC meters serving the commercial units and one or many WSSC meters serving the residential units, except where individual residential unit meters are required per number 1 above.
8. Multiple WSSC meters shall be installed within a central meter room(s) as follows:
    a. Single meter room only – up to 3 floors or 25,000 gross square feet.
    b. Additional meter rooms may be permitted on a per floor/wing/area basis, including their access requirements, subject to WSSC approval.
    c. Each meter piping assembly requires one valve to be lockable and tamper proof. For units served by 13D or 13R fire protection systems, the required lockable valve shall be downstream of the fire supply branch.
    d. Meter rooms shall have floor drains as detailed in Section 111.5.8.3.3.
    e. Each meter piping assembly/rack shall be permanently identified with a tag/placard/label depicting the unique unit/suite/address served by that meter.
    f. All piping shall also be identified/labeled until it is within the subject unit. Where piping serving multiple units shares ceiling, wall or floor void space it shall be identified/labeled; identification/labeling shall be every 25 feet and within 5 feet of each side of a floor or wall penetration.
    g. Where a meter room has direct access to the outdoors it shall be outfitted with a four-digit combination lock.
    h. In live/work units and existing commercial buildings, water service may be split at the point of entry and up to three individual WSSC meters installed without meeting the above requirement for dedicated rooms and an outside entrance.

Pursuant to Maryland Law (effective June 1, 2018) and WSSC Code (effective March 1, 2019) the aforementioned Code Sections/subjects where modified and a description of details follows for each:

9. Commercial/industrial properties featuring fire hydrants and/or fire sprinkler systems no longer requiring any form of monitoring or metering. Inside fire sprinkler systems shall be protected against backflow with the installation of an ASSE 1015 DCVA or an ASSE 1013 RP type backflow preventer (BFP). ASSE 1048 DCDA and 1047 RPDA type BFPs are no longer required but, may be allowed as an owner's desired specification; when specified by the owner, the submittal for permit or plan review must include an acknowledgement as detailed in 9.c(iii) below. Please refer to the following guidelines to determine the best course of action for the many transitional variations that may present:
    a. In cases where the existing plumbing permit and approved plumbing plan indicated an ASSE 1048 or 1047 BFP, the approved BFP may/should be omitted and replaced with an ASSE 1015 or 1013 respectively, when job progress favorably allows for such a transition; in other words, purchasing or pre-piping has not progressed to a point where the transition will cause an undue hardship in terms of costs or timing. (Rationale: 1048's and 1047's require the owner to have a plumber perform an extra backflow test, every year, forever; so if the assembly is not needed for water registration purposes, then it should be removed in favor of the 1015 or 1013).Where job progress is not favorable, the job may be inspected and finaled-out as is or if the owner elects, they may employ the plumber to execute on the following option:
        i. Order a manufacturer's authorized conversion kit (to remove and plug/cap the bypass feature and install a new manufacturer's issued rating plate). Note: not all manufacturers support this method, so be sure to check first before fully committing to this option. In this scenario, the plumbing permit containing the 1048 shall be 'Canceled'. Plumber is to notify the appropriate Plumbing Inspections Supervisor, who will make all necessary inspection record comments and then forward to the Permits office at #PSU Supervisors for their needed input/formal cancellation.
    b. In cases where the existing plumbing permit and approved plumbing plan mistakenly indicated an ASSE 1048 or 1047 BFP (in other words, the main water is already master metered), the plumber should bring this to WSSC's attention (an Inspections Supervisor or Plans Review), the final course of action will be one of two options:
        i. transition over to an ASSE 1015 or 1013 if the job progress favors an easy transition.
        ii. in cases where job progress is not favorable, WSSC will issue a directive to transition anyway, WSSC will ensure the project is not delayed, and WSSC will honor a claim for the cost of the transition.
        iii. Permit to be canceled per procedure detailed in 9.a.(i) above.

Pursuant to Maryland Law (effective June 1, 2018) and WSSC Code (effective March 1, 2019) the aforementioned Code Sections/subjects where modified and a description of details follows for each:

c. In cases where the existing plumbing permit and approved plumbing plan indicated an ASSE 25.1015 or 1013 BFP and the plumber/construction team mistakenly ordered and installed an ASSE 1048 or 1047, the owner and plumber have the following choices:
    i. replace with the approved ASSE 1015 or 1013, respectively.
    ii. order a manufacturer's authorized conversion kit (to remove and plug/cap the bypass feature and install a new manufacturer's issued rating plate). Note: not all manufacturers support this method, so be sure to check first before fully committing to this option.
    iii. owner can provide WSSC with a written acknowledgement stating: they realize leaving the ASSE 1048 or 1047 in place will trigger the requirement for two annual performance tests, including two applicable test reporting fees. The acknowledgement must also assign cause to how the wrong BFP came to bear: owner, designer, and/or the plumber's doing. Note: under this scenario, WSSC will not set our meter and activate an account; the meter rack (within the bypass feature), may be straight-piped or have the manufacturer furnished 'private' meter installed, when applicable.

10. Where plumbing permits are issued on or after March 1, 2019, residential properties (SFD or TH's) featuring fire sprinkler systems of type 13D or 13R shall have the fire sprinkler supply connection (tee) located downstream (after) the WSSC meter.
    a. for town homes that feature a 13R type system (garages or 4 stories requiring high flow), the plumber should indicate the need for a 1" ultrasonic meter on the permit application and more importantly, indicate the need for a 1" ultrasonic meter again when ordering the meter (add to comments).
    b. For any projects underway and seeking relief from the ASSE 1048 or 1047 and its permit, refer to the scenarios described above under 9.a. - 9.c. follow the instructions for the matching option.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Apprentice Supervision		Revision	Date
Code: WSSC			
Section(s): 113.6.9			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 113.6.9 Apprentice Plumber/Gasfitter. *An Apprentice Plumber/Gasfitter license shall authorize the licensee to assist in providing plumbing and sewer and drain cleaning services, and gasfitting services, under the direction and control of a WSSC-licensed Master Plumber/Gasfitter on the jobsite; or under a WSSC-licensed Journeyman Plumber/Gasfitter on the jobsite who is under the direction and control of a WSSC-licensed Master Plumber/Gasfitter.*

WSSC Water will register apprentices by issuing a non-expiring license. This license will allow apprentice tradesmen to be better connected to their career path and have a sense of belonging to their trade.

Apprentices shall not work unsupervised Each project site must have a WSSC Water licensed Master or Journeyman Plumber or Gasfitter supervising the work being performed. A site consists of the following,

1. A single project with no more than four single family structures
2. Single commercial complex
3. A single apartment unit
4. A row of townhouses
5. Any Short Form Permit gasfitting work, such as furnaces and hot water heaters

Any situation which does not meet these general guidelines shall be forwarded by inspector to their Depot Supervisor.

Inspectors can check for licenses at their own discretion.

If an inspector has suspicion or knowledge that projects sites are not being supervised or that unlicensed plumbing and gasfitting work is being performed, the inspector shall forward information to Depot Supervisor.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Winterization and Shutoff Valves for Hose Connections		Revision	Date
Code: WSSC			
Section(s): 302.3.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.3.3 IPC Section 305.4, Freezing, *is hereby AMENDED by ADDING Section 305.4.2, to provide requirements for draining or protecting various seasonal applications as follows:*

(IPC as amended)
IPC 305.4.2 Winterization. *For seasonal uses, a means to facilitate de-watering water lines in areas subject to freezing and protection of fixture traps shall be provided as follows:*

> ***IPC 305.4.2.1*** *Piping arrangements shall include a means to drain water piping at all low points and a means to relieve any vacuum to enable drain down. For draining water piping at low points, opening fixture outlets, removing fixture stop valve components, boiler drains and similar drain ports are acceptable methods. Trapped piping arrangements shall be prohibited where piping is intended to be winterized.*

WSSC 302.6.8 IPC Section 606.2, Location of shutoff valves*, is hereby AMENDED by MODIFYING Item number 2, to include various nomenclatures for hose bibb type connections and to specifically include "frost-free" type bibbs as requiring a shutoff valve for servicing.*

(IPC as amended)
IPC 606.2 Location of shutoff valves.

> *2. On the water supply pipe to each sillcock, hose bibb, wall or yard hydrant, irrigation supply, decorative fountain or general water outlet including "frost-free" or "frost-proof" type devices. See Amended Section 302.3.3 (added IPC 305.4.2) for winterization requirements.*

A shutoff valve is required for each individual water supply to sillcocks, hose bibbs, wall or yard hydrants, irrigation supplies, decorative fountains or general water outlets. This includes "frost-free" or "frost-proof" type devices.

If the water supply is subject to freezing, the piping arrangements shall include a means to drain water piping at all low points and a means to relieve any vacuum to enable drain down. A shutoff valve with bleed/drain port is an acceptable method to relieve vacuum. Again, this is only required where the water supply is subject to freezing.

Means to winterize is not required for piping that will only be subject to freezing due to unknown future construction. For example, a “frost-free” or “frost-proof” exterior hose bibb in a house with piping in conditioned basement does not require winterization and means to drain. In the future the homeowner may choose to finish basement and in the process enclose the supply piping in the new exterior wall assembly and require means to winterize. Although there is potential for hose bibb to require winterization in the future, the requirements for winterization only apply to current construction plans.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Testing		Revision	Date
Code: WSSC			
Section(s): 302.3.5 / 302.3.6			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

Code Reference:

WSSC 302.3.5 IPC Section 312.5, Water Supply System Test, *is hereby AMENDED by ADDING provisions to recognize safe air testing practices for rigid plastic piping systems in winter months, all to read as follows:*

(IPC as amended)
IPC 312.5 Water supply system test. *Upon completion of a section of or the entire water supply system, the system, or portion completed shall be tested and proved tight under a water pressure not less than the working pressure of the system; or, for piping systems other than plastic, by an air test of not less than 50 psi (344kPa). This pressure shall be held for at least 15 minutes. The water utilized for tests shall be obtained from a potable source of supply. The required tests shall be performed in accordance with this section and Section 107. Subject to 105.1.4, testing for plastic piping systems shall follow a two step process in winter months:*
(1) The system shall be air tested with 5 psi prior to wall close-in by the plumbing contractor using a safe and reliable method, see manufacture's recommendations and requirements. DO NOT leave air pressure charged on an unmanned project and NO other work may be performed on premises during an air test.
(2) Then after permanent heat is available and prior to final inspection the plumbing contractor shall fill the CPVC or PVC system with water equal to system working pressure. The water test shall be held for 24 hours without loss.

WSSC 302.3.6 IPC Section 312.6*, Gravity Sewer Test, is hereby AMENDED by ADDING provisions to allow air as a test medium, all to read as follows:*

(IPC as amended)
IPC 312.6 Gravity sewer test. *Gravity sewer tests shall consist of plugging the end of the sewer at the point of connection with the public sewer, filling the building sewer with water or air, testing with 5 psi of air or not less than a 10-foot (3048mm) head of water and maintaining such pressure for 15 minutes.*

WSSC 302.3.5 & IPC 312 Testing - In general, all phases of completed piping shall be tested. The following represents the practical application of these code sections; Note: The inspector is not required to witness the release of test, but reserves the right to do so.

Drainwaste and vent piping - Follow manufacturer's instructions regarding maximum test parameters for test balls, plugs, caps, etc. For uppermost branch intervals, fill to minimum 2” in a bathtub or shower when applicable, above trap arms in other cases.

Sewer - It is acceptable to use water or air for testing. Do not exceed air test pressure limitations for plastic pipe materials. It is recommended to use water for testing. The inspector is not required to witness the release (water flow or air) of test pressure, but reserves the right to do so.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Testing		Revision	Date
Code: WSSC			
Section(s): 302.3.5 / 302.3.6			
Initial Issue Date: 04/01/2021	Sheet: 2 of 2		

Limits of testing - Small drain waste and vent piping add-ons, limited ground works, and basic sewers will not require testing under the following limitations: 10 fittings including tie-in and clean-outs; and 40 feet of pipe (do not count length of dry vent).

Water service and/or distribution piping - Is to be hydrostatically tested (per Code) equal to, or greater than, the working pressure within the building.

Winter testing, general - The use of water for all above mentioned testing may be suspended in the winter; this is intended to provide a practical solution for the duration of time until permanent heat is available. The use of air shall be allowed as outlined in the product manufacturer's guidelines. The inspector will witness all testing as normal with the exception of plastic water and/or drain waste and vent piping.

Winter testing, plastic piping - the plumbing contractor shall be responsible for a two step process as follows: (1) Shall be tested prior to wall close-in by the plumbing contractor using a safe and reliable method. DO NOT leave air pressure charged on an unmanned project and NO other work may be performed on premises during the test. (2) Then after permanent heat is available and prior to final inspection the plumbing contractor shall fill the plastic water distribution system with water, at not less than working pressure, to meet the Code prescribed requirement; and/or fill plastic domestic waste and vent systems with water as described above. In lieu of water, a smoke test may be utilized for drain waste and vent piping following the parameters of IPC 312.4.

Chemical additives or antifreeze - The use of chemical additives or antifreeze is not recommended for any above test method. The methods described above provide reasonable and safe alternatives. The use of chemical additives or antifreeze creates a potential for human error in regards public safety and environmental impact. When used, the Master Plumber shall ensure and safeguard with redundant check points, that the proper and safe type of chemical additives or antifreeze is used.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Domestic Hot Water Recommended Practices		Revision	Date
Code: WSSC			
Section(s): 302.5.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

Code Reference:

WSSC 302.5.1 IPC Section 501, *General, is hereby AMENDED by ADDING Sections 501.1.1 - 501.1.4 to provide scope of applicability and general parameters for minimum and maximum water temperature for domestic hot water as follows:*

(IPC as amended)
IPC 501.1.1 Applicability. *The provisions contained within Chapter 5 of the IPC and herein shall be applicable to new construction and replacement of domestic hot water generating equipment.*

IPC 501.1.2 Recommended Minimum Best Practices. *In order to safeguard against scalding as well as water borne bacteria growth, an optimal hot water system will incorporate all of the following parameters:*

> ***IPC 501.1.2.1*** *Guarded Domestic Hot Water Delivery Outlets*
> ***IPC 501.1.2.2*** *Water Storage at 140°F or greater*
> ***IPC 501.1.2.3*** *Domestic hot water is tempered by a master thermostatic mixing valve, complying with ASSE 1017, to limit the water delivered at any non-guarded domestic hot water delivery outlet to a maximum temperature of 125°F.*

IPC 501.1.2.4 As a recommendation*, the above* ***shall not*** *be construed as a code requirement. The intent is to identify potential scalding and bacterial growth hazards associated with hot water systems.*

IPC 501.1.3 Minimum and Maximum Storage Temperatures. *Where water is* ***stored*** *for domestic use, the water within the storage tank shall maintain a minimum of 120°F, not including draw down and recovery. Where an ASSE 1017 master thermostatic mixing valve is* ***not*** *utilized, hot water storage temperatures shall not exceed 125°F.*

IPC 501.1.4 Maximum Delivery Temperature. *In general, domestic hot water temperature shall be limited to 140°F at any point of delivery from the distribution system. Where guarded domestic hot water delivery outlets are* ***not*** *utilized (older construction), hot water* ***delivery*** *temperatures shall not exceed 125°F.*

WSSC has codified recommended practices for hot water. These code sections are not intended to be enforced as code, but rather depict what could/should be a best practice. System design practices should include the risks of scalding and pathogens, such as Legionella. Hot water storage temperature, distribution temperature, delivery temperature, system temperature loss, recirculation, stagnation, pipe and equipment insulation, occupants, and anti-scald and mixing valves are just some of the important components of hot water system that can increase or reduce the risks of pathogens and scalding.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Domestic Hot Water Recommended Practices		Revision	Date
Code: WSSC			
Section(s): 302.5.1			
Initial Issue Date: 04/01/2021	Sheet: 2 of 2		

Guarded Domestic Hot Water Delivery Outlets - Faucets and other delivery outlets that incorporate a form of scald prevention or tempering as required by this Code. Items include, but are not limited to, bathtubs, showers, bidets, public hand washing facilities.

Public Hand Washing Facility - Lavatory or group hand washing fixture located in a public toilet facility or other hand wash operation to be used by customers, patrons, employees, patients, inmates and visitors. Uses include, but are not limited to, patient service areas, wash fountains, detention center including cells, classroom sinks, and general hand sinks.

Water Storage at 140°F or greater - ASHRAE recommends storing water at 140°F, Legionella dies in around 32 minutes at 140°F.

Domestic hot water is tempered by a master thermostatic mixing valve, complying with ASSE 1017, to limit the water delivered at any non-guarded domestic hot water delivery outlet to a maximum temperature of 125°F. Non-guarded outlets include those with other anti-scald or approved mixing valves. Time to scald injury is typically 30 seconds or more at a temperature of 125°F, 5 seconds at 131°F.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Mixing Valves for Adult Care & Child Care, & Heat Transfer Systems for Hot Water		Revision	Date
Code: WSSC			
Section(s): 302.5.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.5.2 IPC Section 501*, General, is hereby AMENDED by ADDING Sections 501.9 and 501.10, to provide requirements for mixing valves to be utilized for all adult care and child care fixtures and where any heat transfer systems produces domestic hot water as follows:*

(IPC as amended)
IPC 501.9 Nursing Homes, Hospitals and Adult and Child Care Facilities*. A master thermostatic mixing valve complying with ASSE 1017 shall be provided to safeguard the temperature of the water delivered from the potable domestic hot water distribution system. See 501.1.4. The potability of the water shall be maintained throughout the system.*

IPC 501.10 Heat Transfer Systems. *A master thermostatic mixing valve complying with ASSE 1017 shall be provided to safeguard the temperature of the water delivered from the potable domestic hot water distribution system. See 501.1.4. The potability of the water shall be maintained throughout the system.*

Nursing Homes, Hospitals and Adult and Child Care Facilities - Requires a master thermostatic mixing valve meeting ASSE 1017 where domestic hot water is used. The mixing valve shall be located at the water heater unless otherwise engineered and approved by the WSSC Plans Review office.

Heat transfer systems require a master thermostatic mixing valve meeting ASSE 1017 where domestic hot water is produced through any form of heat transfer (residential or commercial). Examples include, but are not limited to: boilers, solar, refrigeration recovery, process water, geothermal.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Water Heater Sizing		Revision	Date
Code: WSSC			
Section(s): 302.5.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.5.3 IPC Section 501*, General, is hereby AMENDED by ADDING Sections 501.11 and Table 501.11, to provide guidelines for minimum sizing criteria for storage and instantaneous type water heaters, all to read as follows:*

IPC 501.11 Water heater sizing. *Storage type water heating appliances, serving singular residential units, are recommended to meet the minimum sizing criteria as shown in Table 501.11. For all other occupancies, an adequate capacity of hot water shall be provided to meet peak demand. Where instantaneous water heating is utilized, sizing of the water heater(s) shall be based on hot water demand as established under IPC Appendix E; utilize Tables E 103.3(2) & 103.3(3) to establish the minimum required hot water gpm flow.*

Table 501.11

First Hour Rating[1]

Number of Bathrooms	1 to 1.5			2 to 2.5				3 to 3.5			
Number of Bedrooms	1	2	3	2	3	4	5	3	4	5	6
First Hour Rating, Gallons	42	54	54	54	67	67	80	67	80	80	80

[1] The first hour rating is found on the "Energy Guide" label

Code language and a new table provides a guideline for residential water heater sizing. It is only a guideline. As an alternative, smaller heaters with higher storage temperatures, coupled with a mixing valve, may also be used to provide adequate quantities of hot water.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Required Pan		Revision	Date
Code: WSSC			
Section(s): 302.5.4			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.5.4 IPC Section 504.7*, Required Pan, is hereby* ***AMENDED*** *to* ***CLARIFY*** *where water heater safe pans shall and shall not be required, to avoid conflict with subsequent IPC prescriptive language that is not enforceable in a practical manner, all to read as follows:*

(IPC as amended)
IPC 504.7 Required Pan. *Where water heaters or hot water storage tanks are installed in locations where leakage of the tanks or connections will cause damage, the tank or water heater shall be installed in a galvanized steel pan having a minimum thickness of 24 gauge, or other pans approved for such use. This requirement shall apply only to water heaters located above habitable space or the lowest habitable level. Pans shall not be required in basements or for slab-on-grade constructions, whether finished or unfinished.*

Pans are not required for tankless water heaters. For tank type storage water heaters a pan is not required in basements, above crawl spaces, or slab on grade applications regardless if adjacent areas are finished or unfinished. Per IPC 504.7, a plastic pan shall not be installed beneath a gas-fired water heater. When a pan is optionally installed, they shall comply as noted above.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Tracer Wire		Revision	Date
Code: WSSC			
Section(s): 302.6.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.6.3 IPC Section 603*, Water Service, is hereby AMENDED by ADDING Sections 603.3, to provide provisions that will enable non-metallic water services constructed under this code to be locatable, all to read as follows:*

IPC 603.3 Tracer wire. *Non-metallic water services connecting to public or private supply systems shall be locatable. At a minimum, an insulated, solid, copper tracer wire, 10 awg minimum, and suitable for direct burial or an equivalent product shall be utilized. The wire shall be installed in the same trench as the water service within 12 inches (305 mm) of the pipe, from the building wall to the point where the pipeline connects to a public system (typically at the property line or a mainline right-of-way), or to a private system to the point of transition (typically the pitless adapter at the well casing).*

IPC 603.3.1 Wire Exposure. *Where the water and sewer share a trench, the wire(s) may be routed to the terminus of the building sewer cleanout; when separated, rout the wire to the property-line valve box or well casing; or for outside meter only applications, a terminal post shall be installed. In all cases, the wire shall be adequately exposed for future use by location detection equipment operators as follows:*

IPC 603.3.1.1 *Where the cleanout terminates six (6) inches above grade, the end of the wire shall be held in place by the cleanout cap/cover assembly.*
IPC 603.3.1.2 *Where the cleanout terminates in paved areas, the end of the wire shall remain exposed within the void between the pipe and the cleanout access assembly.*
IPC 603.3.1.3 *Where water and sewer are in separate trenches, the tracer wire shall wrap twice around the property-line valve box and the end of the wire left tucked inside the tightly fastened cover or is secured to the well casing in an approved manner.*
IPC 603.3.1.4 *Where water and sewer are in separate trenches, without an exposed appurtenance, a terminal stake shall be installed within 2' of the foundation wall directly above where the water service enters the structure.*

Tracer wire is required with all non-metallic water services to make the pipeline locatable in the future. Required for all new services and full replacements. Not required for “trenchless” replacements.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Limits of Underslab Piping and Restraints		Revision	Date
Code: WSSC			
Section(s): 302.6.4			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

Code Reference:

WSSC 302.6.4 IPC Section 603, *Water Service, is hereby AMENDED by ADDING Sections 603.4 and 603.5, to provide provisions limiting the length of underslab piping in coordination with provisions of National Fire Protection Association (NFPA) regarding accessibility of fire protection water services for maintenance and to specify the means of piping restraint, all to read as follows:*

IPC 603.4 Limit of Underslab Piping. *For commercial applications where the water service conveys water for fire protection, the water service shall be routed vertical and penetrate the lowest relative slab within five (5) feet of the outside wall which it passed under.*

IPC 603.5 Restraint. *For piping systems greater than 2" in diameter, restraint of the terminal end of horizontal piping and the final vertical "spool" section shall be as follows:*

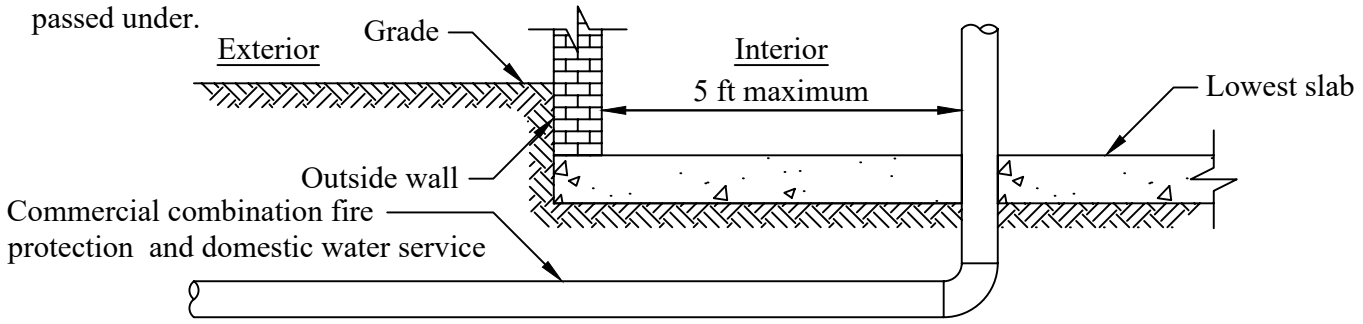
IPC 603.5.1. *Through-wall applications require an engineered design, which may be part of a site utility or minor site utility plan. Piping shall not be restrained by anchoring to a cinder block wall or similar construction incapable of withstanding the horizontal surge pressures expected.*

IPC 603.5.2 *Restraining the final water service elbow (which directs the line vertical through the slab), with strapping, rods, retaining gland or other proprietary means of restraint shall require an engineered design, which may be part of a site utility or minor site utility plan.*

IPC 603.5.3 *Blocking of the final water service elbow shall conform to the dimensions included in WSSC Standard Detail B/1.0 and re-orient the block 90 degrees in relation to the elbow. Do not allow the concrete to impede the installation or service of the gland bolts or strapping/rodding.*

IPC 603.5.4 *The final vertical "spool" section shall be restrained to the final vertical elbow by strapping/rodding unless part of an alternate engineered design. Use 3/4 inch rods through 6 inch and 7/8 inch rods for 8 - 12 inch pipe.*

For commercial applications where the water service conveys water for fire protection, the water service shall be routed vertical and penetrate the lowest relative slab within five (5) feet of the outside wall which it passed under.



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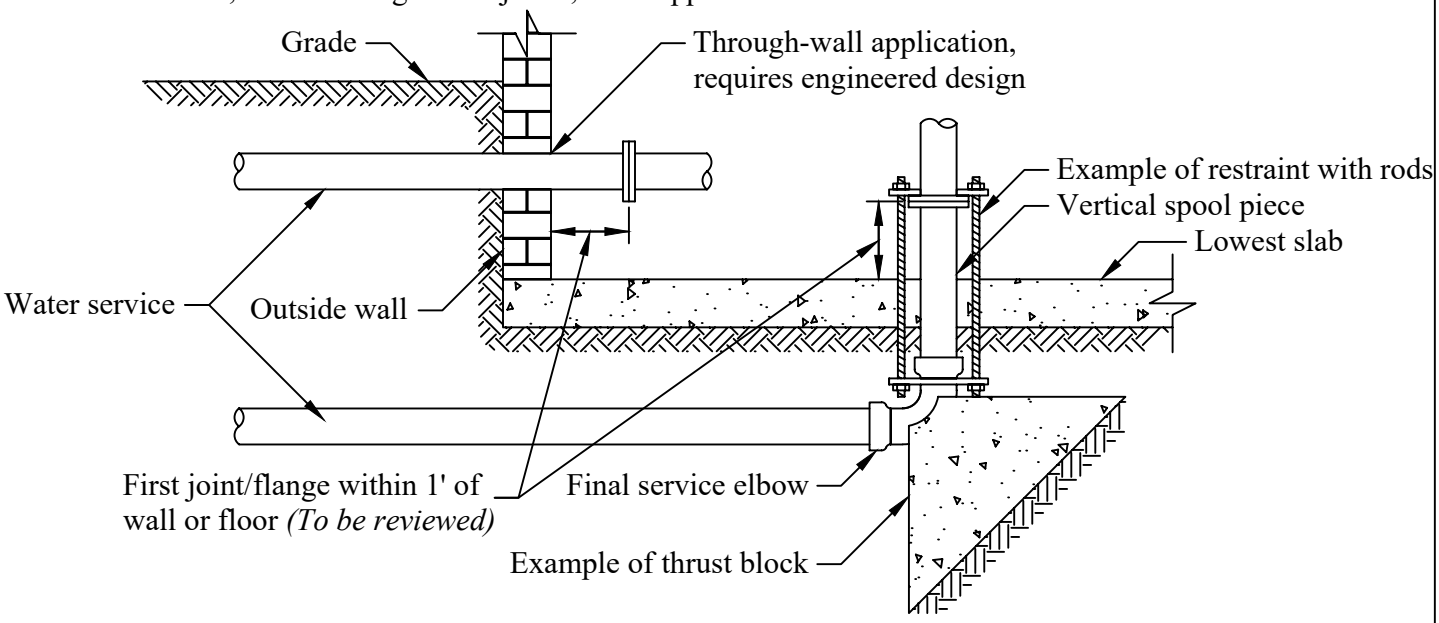
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Limits of Underslab Piping and Restraints		Revision	Date
Code: WSSC			
Section(s): 302.6.4			
Initial Issue Date: 04/01/2021	Sheet: 2 of 2		

For piping greater than 2" in diameter,

Applications where water service enters building through a vertical wall require an engineered design, plans shall be stamped and signed by Professional Engineer (civil, structural, mechanical).

The final service elbow which directs service vertically shall be blocked, or restrained by a proprietary means of restraint. Blocking shall conform to WSSC Standard Detail B/1.0 and does not require an engineered design. Restraining the elbow by proprietary means of restraint requires an engineered design, plans shall be stamped and signed by Professional Engineer (civil, structural, mechanical). Examples of proprietary means of restraint include, locking mechanical or push-on joints, mechanical joints utilizing set screw retainer glands, bolted flange joints, heat-fused or welded joints, pipe clamps and tie rods, threaded or grooved joints, other approved methods or devices.



The final vertical spool section shall be restrained by rods or proprietary means of restraint. To restrain the vertical "spool" piece with rods, the minimum number of rods and diameter of rods shall be per NFPA Table 10.8.3.1.2.2.

NFPA 24 - Table 10.8.3.1.2.2 Rod Number - Diameter Combinations

Nominal Pipe Size (in.)	5/8 in. (15.9 mm)	3/4 in. (19.1 mm)	7/8 in. (22.2 mm)	1 in. (25.4 mm)
4	2	-	-	-
6	2	-	-	-
8	3	2	-	-
10	4	3	2	-
12	6	4	3	2
14	8	5	4	3
16	10	7	5	4

Note: This table has been derived using pressure of 225 psi (15.5 bar) and design stress of 25,000 psi (172.4 MPa)

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Water Sizing		Revision	Date
Code: WSSC			
Section(s): 302.6.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.6.5 IPC Section 604*, Design of Building Water Distribution System, is hereby AMENDED by MODIFYING Section 604.1, to describe, and provide details for, the alternate means of sizing water distribution systems as follows:*

(IPC as amended)
IPC 604.1 General. *The design of the water distribution system shall conform to accepted engineering practice. Methods utilized to determine pipe sizes shall meet one of the specified methods below:*

See referenced codes for entire amendment of ***IPC 604.1 General.***

The WSSC Inspection and Plan Review Staff are recognizing four sizing methods for sizing of water service connections, water services, and water distribution systems;

1. IPC 604.1.1 IPC Appendix E, Section E103.3 Segment Loss Method
2. IPC 604.1.2 IPC Appendix E, Section E201. Size of water-service mains, branch mains and risers. This is the most attractive method for sizing residential inside distribution systems. The key is to only use the developed length for each segment and not apply the overall developed length from the main in the street.
3. IPC 604.1.3 Existing Service Connection Size Validation (Residential Only). This section should be followed to provide relief of requirements to upsize existing service connections where homes are replaced, significantly renovated, or are “first time” construction on an undeveloped lot. Emphasis should be placed on hydraulic demand for fire sprinkler systems and expected plumbing fixture use frequencies/demands. Owners may have to submit an acceptance affidavit.
4. Engineered Designs, plans review required.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Responsibility for Booster Pumps and Pressure Reducing Valves		Revision	Date
Code: WSSC			
Section(s): 302.6.6			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.6.6 IPC Section 604, Design of Building Distribution System, *is hereby AMENDED by ADDING Section 604.7.1 and 604.8.3, to provide provisions that will identify the property owner and/or their design and construction team to be the final responsible party when determining the need for a booster pump and/or a pressure reducing valve, all to read as follows:*

IPC 604.7.1 Insufficient Pressure. *The property owner and/or their design and construction team shall be the final responsible party for determining when/how a booster pump system is needed to supplement a building water distribution system's inadequate pressure. Booster pumps shall not be allowed to overcome undersized piping.*

IPC 604.8.3 Excessive Pressure. *The property owner and/or their design and construction team shall be the final responsible party for determining when/how a pressure reducing valve/regulator is needed to restrict the building water distribution system's pressure to 80 psi or less per IPC Section 604.8.*

Code language clarifies that the property owner, along with their design and construction team, are responsible for determining where booster pumps and pressure reducing valves are needed.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Lead Content of Water Supply Pipe and Fittings		Revision	Date
Code: WSSC			
Section(s): 302.6.7			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.6.7 IPC Section 605.2, Lead content of water supply pipe and fittings, *is hereby AMENDED by MODIFYING Section 605.2, to align with and incorporate federal regulations mandating low lead plumbing fixtures, fittings and other components as follows:*

(IPC as amended)
IPC 605.2, Lead content of water supply pipe and fittings. *Pipe and pipe fittings, including valves and faucets, utilized in the water supply system shall have a maximum of 8-percent lead content. Pipe, fittings, faucets, valves, etc located within the flow path from the water service connection to a faucet or outlet intended for human consumption/ingestion shall not exceed a weighted average lead content of 0.25% with respect to the wetted surface areas of the pipe, fittings, faucets, valves, etc. Pipe, fittings, faucets, valves, etc in the flow path to human consumption/ingestion shall meet NSF standards 61-Annex G and 372.*

Modifications to this IPC section codify WSSC's requirement for lead reduction/elimination in pipe and fittings. WSSC revised this section to align with State and Federal Laws. Products will have to meet two NSF listings: a revised NSF 61, displayed as NSF 61-G, as well as NSF 372.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Tracer Wire		Revision	Date
Code: WSSC			
Section(s): 302.7.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.7.2 IPC 703, Building Sewer, *is hereby AMENDED by ADDING Section 703.7, to provide provisions that will enable building sewers constructed under this code to be locatable, all to read as follows:*

IPC 703.7 Tracer wire. *Building sewer piping that discharges to public or private systems shall be locatable. At a minimum, an insulated, solid, copper tracer wire, 10 awg minimum, and suitable for direct burial or an equivalent product shall be utilized. The wire shall be installed in the same trench as the sewer within 12 inches (305 mm) of the pipe from the terminal end of the building sewer cleanout (at the building wall) to the point where the gravity building sewer connects to a public system (typically at the property line or a mainline right-of-way), or to a private system to the point of transition (typically the inlet of a septic tank). For a building pressure sewer, the tracer wire shall run from within 30 inches of the building wall to the access opening of the property-line valve box.*

IPC 703.7.1 Wire Exposure. *At the terminus of the building sewer cleanout or the property-line valve box, the wire shall be adequately exposed for future use by location detection equipment operators as follows:*

IPC 703.1.1 *Where the cleanout terminates six (6) inches above grade, the end of the wire shall be held in place by the cleanout cap/cover assembly.*

IPC 703.1.2 *Where the cleanout terminates in paved areas, the end of the wire shall remain exposed within the void between the pipe and the cleanout access assembly.*

IPC 703.1.3 *For pressure sewer applications, the tracer wire shall wrap twice around the property-line valve box and the end of the wire left tucked inside the tightly fastened cover.*

Tracer wire is required with metallic and non-metallic building sewers to make the pipeline locatable in the future. Required for all new sewers and full replacements. Not required for “trenchless” replacements or for segments that enter or exit private manholes.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Cleanout Equivalent		Revision	Date
Code: WSSC			
Section(s): 302.7.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

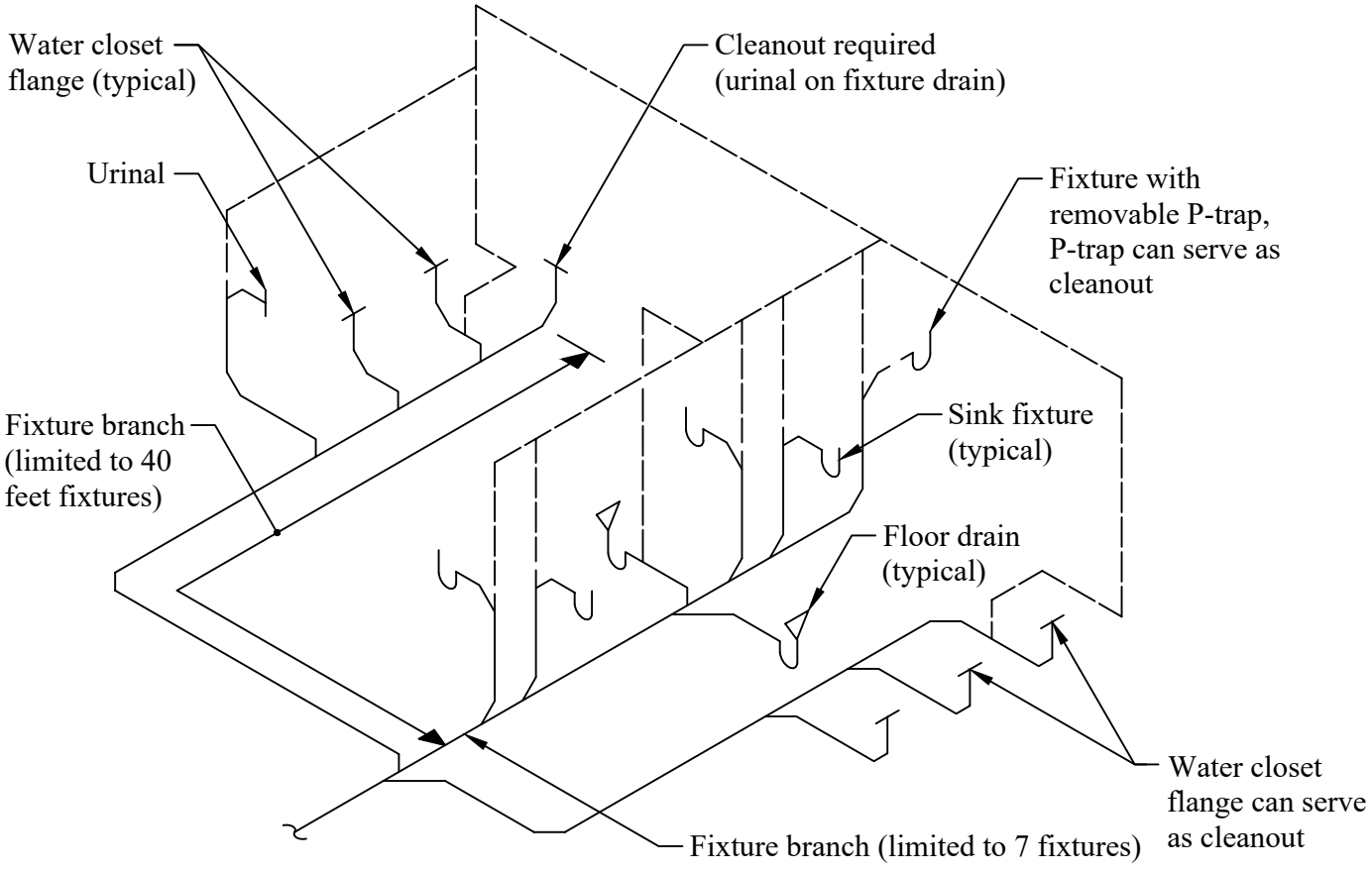
Code Reference:

WSSC 302.7.3 IPC 708.1, Cleanouts required, *is hereby AMENDED by ADDING to the Exception under Section 708.1.1, to codify cleanout equivalents, all to read as follows:*

Exceptions:

1. *Horizontal fixture drain piping serving a non-removable trap shall not be required to have a cleanout for the section of piping between the trap and the vent connection for such trap.*
2. *Cleanouts shall not be required for fixture drains or fixture branches serving up to 7 fixtures. This exception is limited to 40 feet of developed length of piping as measured from a readily accessible and removable P-trap or a water closet flange. This exception does not cover fixture branches serving one or more urinals.*

Allows for the removal of a fixture trap or fixture in lieu of a cleanout; limited to 7 fixtures on fixture branches up to 40 feet; exception ***does not*** apply to branches with urinals, building drains, building drain branches, and building sewers.



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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Building Sewer Cleanout - Outside Only Installations		Revision	Date
Code: WSSC			
Section(s): 302.7.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.7.5 IPC 708.1, Cleanouts required, *is hereby AMENDED by MODIFYING Section 708.1.3 to require all building sewer cleanouts be installed outside, all to read as follows:*

(IPC as amended)
IPC 708.3.1 Building drain and building sewer junction. *The junction of the building drain and the building sewer shall be served by a cleanout that is located at the junction. The cleanout piping shall extend from the wye fitting connection to grade, terminating outside of the structure. In un-paved areas, the cleanout shall extend six (6) inches above grade; in paved areas, access shall comply with WSSC Standard Detail S5.1 or S5.2.*

In 2015, the WSSC Plumbing and Fuel Gas Code was revised to require ***all*** building sewer cleanouts to be installed outside of the structure. Exception to the requirement, where the face of the building wall is 10' or less from the property line clean out, the building sewer cleanout may be waived in favor of a readily accessible building drain cleanout installed in one of the following two ways,

1.) At grade level, residential garage, where garage floor slopes to the outdoors. Non-traffic bearing cover is allowed if located outside of normal wheel path.

2.) An unfinished area, minimum of 80 square feet (net), suitable for operation of drain cleaning equipment. The maximum distance from the inside cleanout to the property line cleanout is 40 feet.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Backwater Valves (BWV)		Revision	Date
Code: WSSC			
Section(s): 302.7.8			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

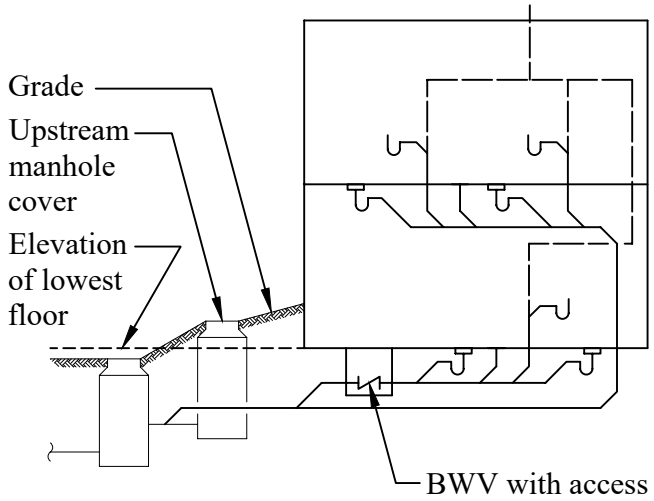
Code Reference:

WSSC 302.7.8 IPC Section 715, Backwater Valves, *is hereby AMENDED by MODIFYING Section 715.1 to recognize private manholes and by* ***ADDING*** *Section 715.6, to specify marking and labeling requirements for backwater valve access as follows:*

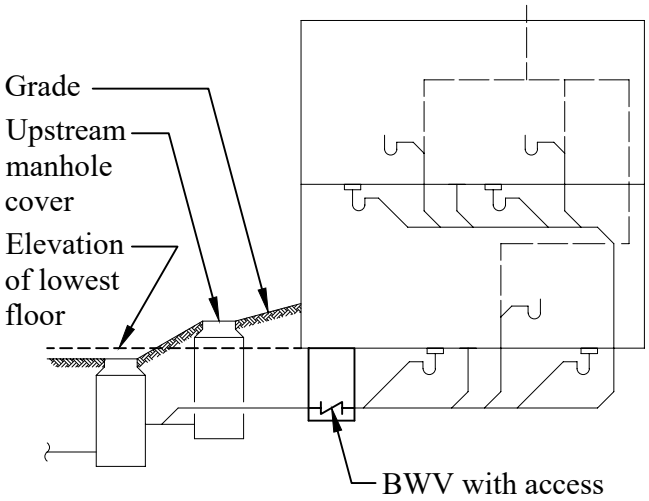
(IPC as amended)
IPC 715.1 Sewage backflow. *Where plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in a public or private sewer, such fixtures shall be protected by a backwater valve installed in the building drain, or horizontal branch serving such fixtures. Plumbing fixtures installed on a floor with a finished elevation above the elevation of the manhole cover of the next upstream manhole in a public or private sewer shall not discharge through a backwater valve.*

All new work requires a BWV where the rim height of the lowest fixture is either below the elevation of the next upstream manhole cover (public or private) or below the elevation of the of the cover for the manhole (public or private) for which the building sewer directly connects. Where the BWV is retrofitted in and it is the only work purposed, separation of upper floor drainage from lower floor drainage is not required; although still a strong recommendation, if practical. For remodeling work, a BWV will not be required if a limited number of fixtures are added, altered or replaced and the scope of work does not lend to installation of a BWV that would protect all the fixtures on that level. Where the building sewer connects directly to a public or private manhole (manhole tap), use this manhole's rim elevation for calculation purposes.

The access cover shall be labeled warning against covering the access with finish flooring. Also, a tag must be affixed to the main water supply valve indicating use and location of the BWV(s).



New Work



Retrofit

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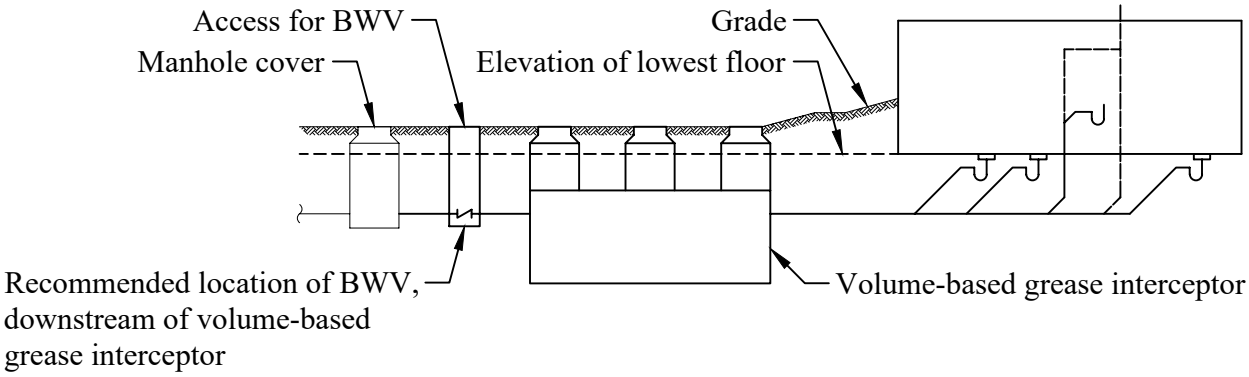
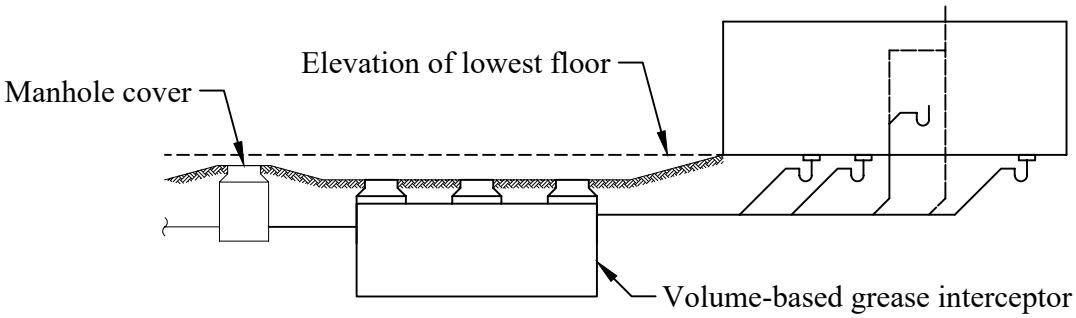
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Backwater Valves (BWV)		Revision	Date
Code: WSSC			
Section(s): 302.7.8			
Initial Issue Date: 04/01/2021	Sheet: 2 of 2		

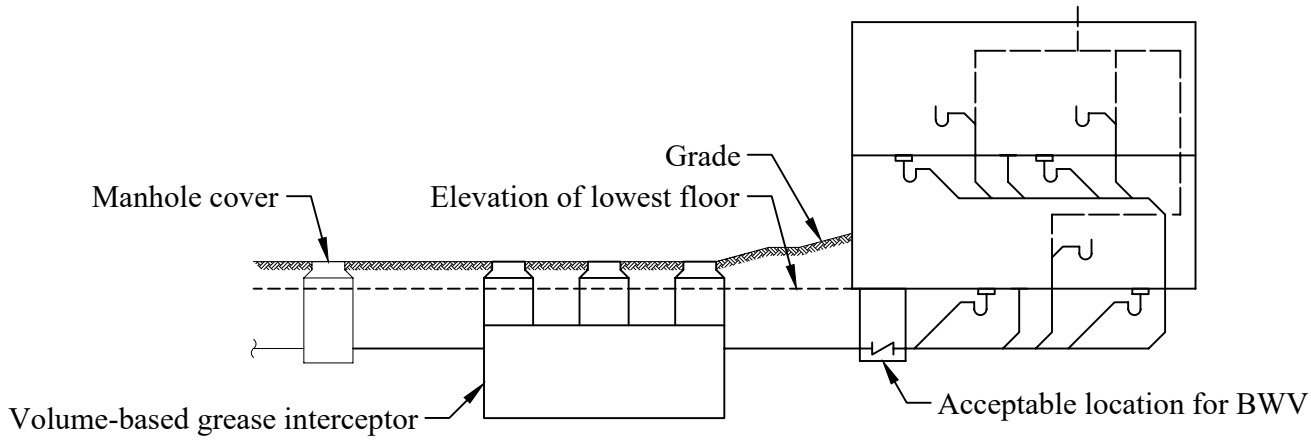
Backwater valves and volume-based grease interceptors - It is highly recommended to install a BWV downstream of an outdoor grease interceptor where a BWV is required due to the elevation of the connected fixtures. Access for maintenance/removal shall be required and presented to plan review for approval.



Where fixtures do not require a BWV, a BWV shall not be required solely for the interceptor based on its flood level rim.



Where the grease collection piping is multi-story, it is acceptable to waive the requirement to segregate the lower floor from the upper floor(s) and install the BWV downstream of the GI. The owner/designer may elect to locate the BWV(s) inside the building, within the grease collection piping, and that is acceptable.



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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Vent Connections, Long Pattern and Rolled Fittings		Revision	Date
Code: WSSC			
Section(s): 302.9.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

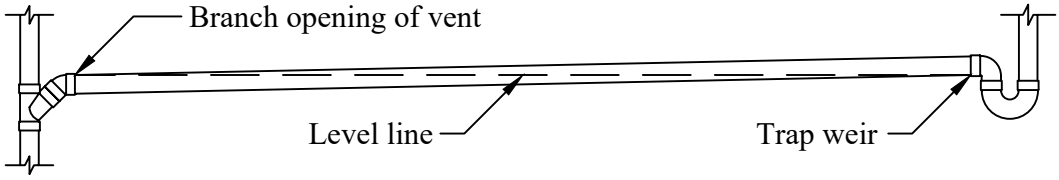
WSSC 302.9.5 IPC 909.2, Venting of fixture drains*, is hereby AMENDED by MODIFYING Section 909.2, to allow certain fittings to be used in venting applications, all to read as follows:*

(IPC as amended)
IPC 909.2 Venting of fixture drains. *The total fall in a fixture drain due to pipe slopeshall not exceed the diameter of the fixture drain, nor shall the branch opening of the vent connection fitting serving a fixture drain, except for water closets, be below the weir of the trap.*

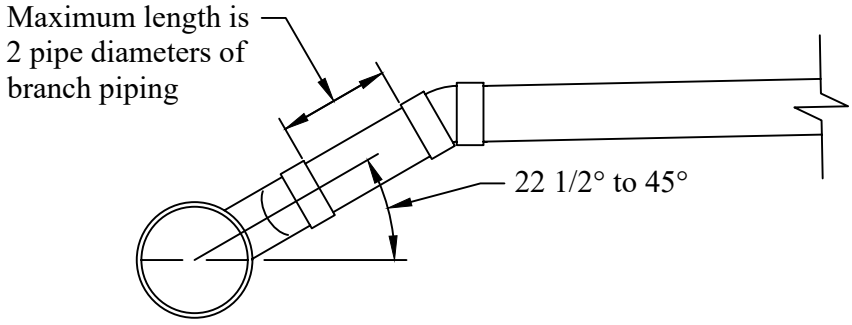
IPC 909.2.1 *Long Pattern Fittings. Long pattern fittings such as a tee-wye, combination wye and eighth bend, double tee-wye, or double combination wye and eighth bend shall be an acceptable vent connection fitting transitioning a horizontal trap arm to a vertical fixture drain or fixture branch drain.*

IPC 909.2.2 *"Rolled Fittings". When connecting trap arms or wet vented fixture branches to a horizontal drain and vent system such as a Wet Vent, Circuit Vent or Combination Waste and Vent, Long pattern fittings, as referenced in 909.2.1, may have the branch "rolled-up" such that the branch is between 22-1/2 - 45 degrees above the horizontal plane. The corresponding 22-1/2 or 45-degree fitting used, to re-establish the horizontal plane for the trap arm, shall be considered the branch opening in reference to trap arm slope and connection provisions of this section. Excluding fittings and socketed fitting "make-ups", the maximum piping used to create the "rolled" connection shall not exceed two (2) pipe diameters in length.*

It is permissible to use long pattern fittings to connect trap arms to a vertical drain when individually or common venting; to determine the “branch opening of the vent” refer to the illustration below:



It is permissible to use rolled fittings to connect trap arms to horizontal drain/vent systems (e.g. *wet vents*, *circuit venting*, or *combination waste and vent*). The inlet opening to the fitting, that re-establishes horizontal plane, shall be the branch opening of the vent connection fitting; maximum length 2 pipe diameters of branch piping.



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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Air Admittance Valves (AAV)		Revision	Date
Code: WSSC			
Section(s): 302.9.6			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 302.9.6 IPC Section 918, Air Admittance Valves, *is hereby AMENDED by ADDING specific sub-sections to Section 918, to codify key components of manufacturer's instructions and provide additional parameters to ensure safe practices as follows:*

(IPC as amended)
IPC 918.2.1 Timing. *In addition to 918.2, air admittance valves shall be installed as close tothe timing of fixture setting as practical to avoid construction debris, dust, painting, or harmful practices that may affect the proper operation of the valve.*

IPC 918.2.2 Painting. *Air admittance valve shall not be painted or otherwise altered in any way.*

IPC 918.4.1 Below Grade. *Air admittance valves are prohibited in pits, vaults, or areas subject to being submerged.*

IPC 918.5.1 Detection. *Air admittance valves shall be located in, or have air exchange with, visible ready access areas. Attics or areas where valve failure would otherwise go ndetected are prohibited.*

IPC 918.5.2 Documentation. *A drawing, schematic, or schedule indicating each valves location, model and size shall be attached at the main water supply valve. In lieu, a tag indicating both the use of air admittance valves and the location of the required documentation shall be affixed at the main water supply valve.*

IPC 918.7.1 Minimum Size Vent. *The minimum size vent shall not be less than one-half the cross-sectional area of the largest portion of the building drain.*

IPC 918.8.1 Additional prohibited installations. *Air admittance valves shall not be used in FOG waste systems, suds-laden waste systems, flammable liquid waste systems, pathogenic waste systems, hospitals, healthcare facilities, adult or child care facilities, or similar at-risk occupancies.*

Code update codifies several key components of product listings and manufacturer's instructions and also provides additional parameters to ensure safe practices such as: prohibiting use of an AAV below grade or in attics.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Carbon Monoxide Alarms, Existing Construction		Revision	Date
Code: WSSC			
Section(s): 402.3.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 304.12.2 Carbon Monoxide Alarms, Existing Construction. *Carbon Monoxide Alarms shall be required for any existing building with R-3 occupancy containing one or more sleeping units or dwelling units follows:*

WSSC 304.12.2.1. *Where any fuel burning appliance is added or replaced, including an outdoor generator or pool heater. Exception - outdoor grill.*

WSSC 304.12.2.2. *Carbon monoxide alarms shall be installed in accordance with the corresponding version of the International Residential Code.*

The purpose of this Code section is to require the installation of carbon monoxide alarms for the addition or replacement of gas equipment. This Code section only applies to Group R-3 Occupanices (single family homes and townhomes). Alarms shall be installed in accordance with the International Residential Code, Section 315 Carbon Monoxide Alarms. Alarms shall be "Plug-in" type, hard wired, or battery powered and shall be UL 2034 listed. Carbon monoxide alarms in dwelling units shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom. Combination carbon monoxide and smoke alarms shall be permitted to be used in lieu of carbon monoxide alarms.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Interior and Exterior Masonry Chimneys		Revision	Date
Code: WSSC			
Section(s): 402.5.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

Code Reference:

WSSC 402.5.1 IFGC Sections 503, Venting of appliances, and 504, Sizing of Category I Appliance Venting Systems. *See referenced code section.*

When gas equipment is installed new or replaced, the following interpretations below shall be strictly adhered to for single and multi-appliance venting where a masonry chimney passageway (flue) is utilized as the vent. In lieu of this general interpretation, detailed information is available on WSSC's Regulatory Services web pages at: https://www.wsscwater.com/gasappliances - click on the Safety Alert. Overall, the latest code changes have resulted in defacto prohibition of masonry chimney's continuing their use for venting residential size/type gas appliances without the retrofit installation of a listed liner system.

503.5.5 Size of chimneys - Methods 2 & 3 have been deleted because they are antiquated sizing methods which discount the science and research on which Section 504 and its Tables are based.

503.5.6 Inspection of chimneys - The Exception under 503.6.1 has been deleted because, with the implementation of the 2015 U.S. Department of Energy requirements, residential water heaters have increased energy efficiencies and therefore, there is no longer an application where an appliance replacement can be viewed as “like for like”.

504.2.9 Chimney and vent locations (Single Appliance Venting) - Under the second paragraph, “interior and” was added to the first sentence just in front of “exterior”. This recognizes that most interior masonry chimneys, in this region, have a significant code temperature exposure in un-heated/un-insulated attics. Because of this, they shall be treated/viewed as exterior chimneys and every application should utilize the exterior sizing tables for interior chimneys as well.

Under number 3, “equipped” was changed to “factory-equipped” to eliminate after-market accessories. And a further restriction added to disqualify any appliance with a damper or fan-assist. These shall be treated as “FAN” appliances when using the sizing tables.

Under number 6, “any” was put in place of “space heating” so that Table 504.2(6) would be used for water heater only applications; where the water heater would need to be of significant minimum size in order to be able to vent into a masonry chimney.

504.3.20 Chimney and vent locations (Multiple Appliance Venting) - Under the second paragraph, “interior and” was added to the first sentence just in front of “exterior”. This recognizes that most interior masonry chimneys, in this region, have a significant code temperature exposure in un-heated/un-insulated attics. Because of this, they shall be treated/viewed as exterior chimneys and every application should utilize the exterior sizing tables for interior chimneys as well.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Interior and Exterior Masonry Chimneys		Revision	Date
Code: WSSC			
Section(s): 402.5.1			
Initial Issue Date: 04/01/2021	Sheet: 2 of 2		

Under number 2, “equipped” was changed to “factory-equipped” to eliminate after-market accessories. And a further restriction added to disqualify any appliance with a damper or fan-assist. These shall be treated as “FAN” appliances when using the sizing tables.

Under number 4, “total” and “all” were put in place so that Table 504.3(7a) or 504.3(7b) would be used for all appliance applications; where the total appliance load would need to be of a significant minimum amount in order to be able to vent into a masonry chimney.

Tables 504.2(6), 504.3(6a), 504.3(6b), 504.3(7a) and 504.3(7b), re-title as “INTERIOR AND EXTERIOR MASONRY CHIMNEY”

Tables 504.2(6), 504.3(6b), and 504.3(7b), delete “Space-heating” from table headings.

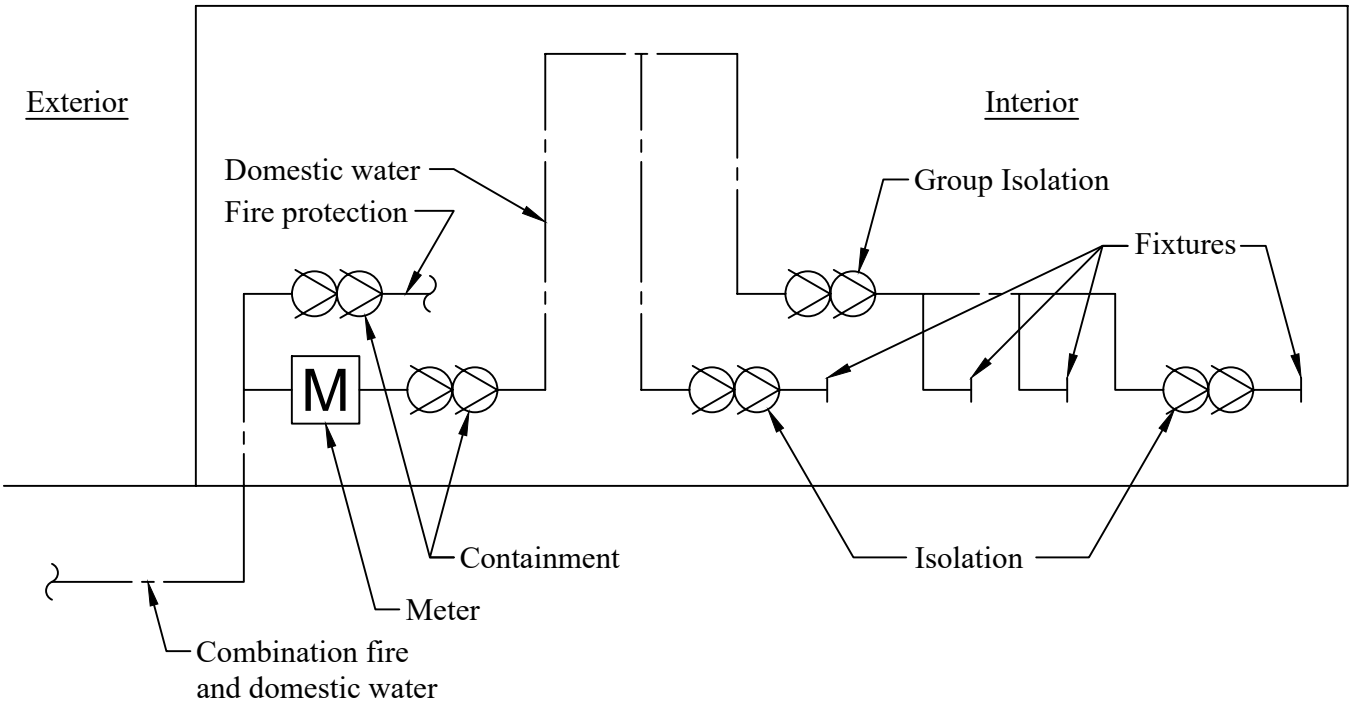
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Containment and Isolation Backflow		Revision	Date
Code: WSSC			
Section(s): 502.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

CONTAINMENT. The appropriate type or method of backflow protection at the beginning of the service connection or immediately inside the building, commensurate with the degree of hazard of the property owner's potable water system.

ISOLATION. Assemblies or devices installed to protect against backflow at individual cross connections.

See diagram below for examples of containment, isolation, and group isolation backflow prevention.



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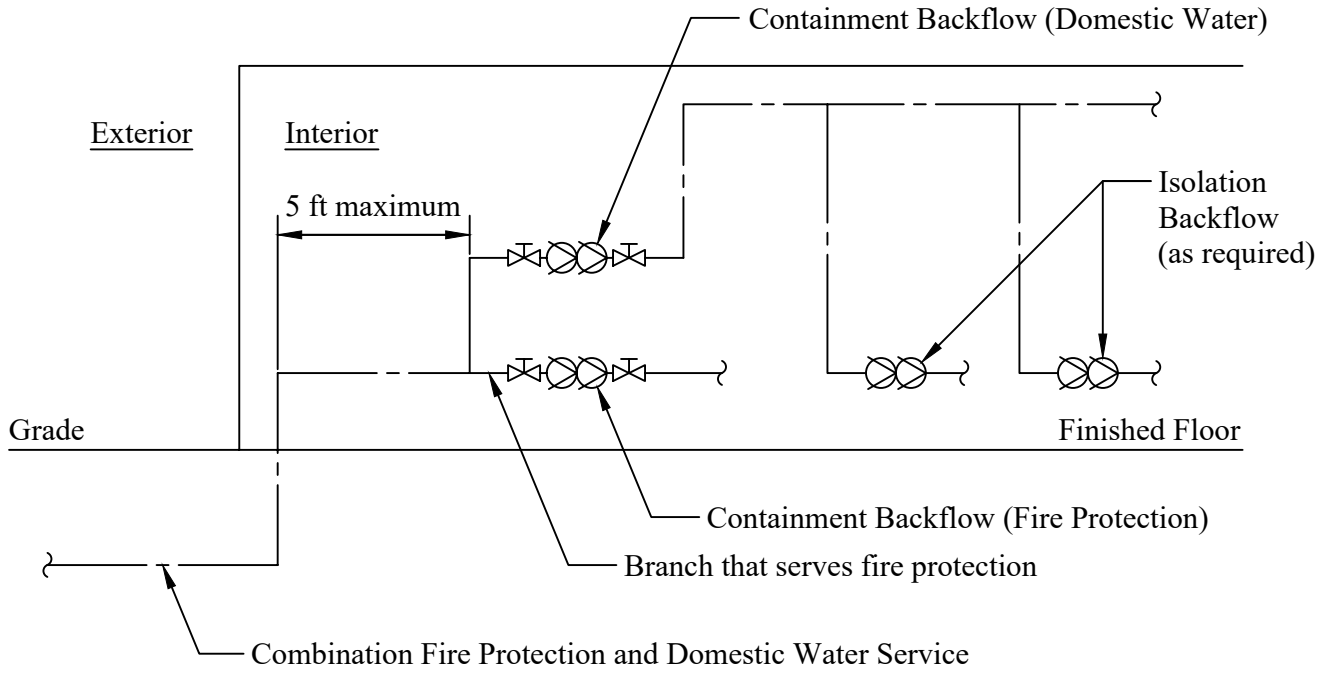
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Containment Backflow for New Facilities		Revision	Date
Code: WSSC			
Section(s): 502.3.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 502.3.1 New Facilities. *New facilities, of all hazard levels, and existing facilities connecting to a new water service connection for the first time, shall require both containment and internal-protection assemblies or devices, as applicable. Containment backflow preventers shall be installed immediately downstream of the branch that serves the fire protection system. For buildings served by an outside meter, the branches to fire and domestic shall be installed within five (5) feet of where the main water service enters the building. New facilities, regardless of hazard levels, shall not have separate service lines for fire and domestic use; building water services shall be sized for a combination of fire and domestic water usage. Fire sprinkler supply may branch off in parallel to the building containment assembly and each branch shall be outfitted with the appropriate level of backflow prevention.*

See below for example of a new facility with combination fire protection and domestic water service and the required containment and isolation protection.



GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Containment Backflow for Existing Facilities		Revision	Date
Code: WSSC			
Section(s): 502.3.2			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 502.3.2 Existing Facilities. *Containment and internal-protection assemblies in all facilities shall remain in service, be tested annually and repaired or replaced as otherwise needed to ensure compliance with this Code. Devices shall be replaced or rebuilt every five years. Where any of the following conditions present as part of a design-retrofit or upgrade, containment and internal protection assemblies or devices for these facilities shall meet the same requirements as cited under 502.3.1.above:*

WSSC 502.3.2.1 *Replacement or Upgraded Water Service Connection*

WSSC 502.3.2.2 *Replacement, Upgraded, or Re-Lined Water Service*

WSSC 502.3.2.3 *Replacement or re-lining of a minimum of 50 percent of the water distribution piping; or the remodeling or adding of 25 percent or more to an existing plumbing system*

WSSC 502.3.2.4 *Where a residential water service connection or water service is repaired or replaced solely in response to a maintenance issue, containment backflow prevention shall not be required*

Existing facilities where water distribution piping or the water service is part of a design-retrofit or upgrade, the facility may be required to meet the same backflow preventer requirements as new facilities (WSSC 302.3.1).

This requirement does not apply to all repairs or to residential properties where the water service is being replaced solely due to failure, leak or obstruction. The addition of containment backflow preventer on domestic water supply may the require of thermal expansion control (see IPC 607.3)

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Containment Backflow for Retrofitting		Revision	Date
Code: WSSC			
Section(s): 502.3.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 502.3.3 Retrofitting. *Facilities built before May 1, 2007 without containment backflow preventers may not need to be retrofitted, unless otherwise deemed warranted by WSSC. WSSC shall require a containment backflow assembly if high-hazard application(s) are present. Where a facility has a containment backflow preventer not commensurate with the degree of hazard, an upgrade will be required. These facilities shall be reclassified as moderate or high hazard facilities and future inspection frequency shall be adjusted accordingly.*

Prior to adoption of the 2007 WSSC Plumbing and Fuel Gas Code, containment backflow preventers were not required for domestic water services with a low degree of hazard. Containment backflow prevention is important for the protection of the potable water supply, especially for facilities with a high degree of hazard. The Code Official has the authority to require the addition or retrofit of backflow preventers. The Code Official shall base decision on the degree of hazard.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Table 5.1 Application of Backflow Preventers		Revision	Date
Code: WSSC			
Section(s): 505.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

Code Reference:

WSSC Table 5.1 Application of Backflow Preventers. *See referenced code section.*

Yard Hydrants, Backflow, and Freeze Protection

Level of Hazard	Condition	Type of Yard or Roof Hydrant							
		Standing (above grade) with drain port		Standing (above grade) without drain port		Flush at grade with drain port		Wall Mounted Hose Bibbs Wall Hydrants	
		Multiple fixtures per BFP	Single fixture per BFP	Multiple fixtures per BFP	Single fixture per BFP	Multiple fixtures per BFP	Single fixture per BFP	Multiple fixtures per BFP	Single fixture per BFP
High Hazard Applications (Footnotes 2 & 4)	Supply Line Backflow for High Hazard Application (Footnote 5)	1013	1013	1013	1013	1013	1013	1013	1013
	Spout/Hose Thread Applied Vacuum Breaker	Yes	No	Yes	No	Yes	No	Yes	No
	Signage: "Non-Potable Water - Do Not Drink"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Low Hazard Applications (Footnotes 3 & 4)	Supply Line Backflow for Low Hazard Application (Footnotes 5 & 6)	1024	1024	Not Required	Not Required	1013	1024	Not Required	Not Required
	Spout/Hose Thread Applied Vacuum Breaker	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Signage: "Non-Potable Water - Do Not Drink"	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Signage: "Potable Water for Drinking, Bathroom & Culinary Only"	Not Allowed	Not Allowed	Yes (Footnote 1)	Yes (Footnote 1)	Not Allowed	Not Allowed	Yes (Footnote 1)	Yes (Footnote 1)

Footnotes:
1.) Even when connected to a dedicated potable end use
2.) Commercial/Industrial applications including but not limited to: Construction, Maintenance Yard, Service Garage, Gas Station, Farm, Nursery, Garden Center, Moderate/Large Park, Manufacturing, Food Processing, Loading Docks, etc.
3.) Residential applications, small park settings, or outside or rooftop of commercial buildings (with no known high hazard nearby). Ok for the following uses including but not limited to: Residential Construction, Yard/Garden/Planting Beds, and similar providing - hose use only, no hard piping, no high hazards.
4.) Where outside underground distribution lines serve different uses, each distribution shall branch off upstream of the other supply line "containment" assembly or device. (i.e. a drinking fountain supply in a downtown park shall tee off ahead of the ASSE 1024 serving a yard hydrant in the same park.)
5.) Seasonal applications shall be fitted with a means to winterize by high pressure air displacement. Below grade valves and pipe openings are prohibited. When an ASSE 1024 Backflow device is set-up for winter removal, inlet and outlet piping shall be arranged to be capped or plugged while the device is out of position.
6.) Regardless of seasonal or year round application, below grade installations of ASSE 1024 backflow devices shall be accessible for replacement. Follow the intent of an outside meter setting detail W/5.7. (14"-20" below the cover and a means to cap or plug when removed.)

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Table 5.1 Application of Backflow Preventers		Revision	Date
Code: WSSC			
Section(s): 505.3			
Initial Issue Date: 04/01/2021	Sheet: 2 of 2		

Code Reference:

WSSC Table 5.1 Application of Backflow Preventers. *See referenced code section.*

A dual check valve (ASSE 1024) may be used for every application where an ASSE 1022 is required except for a carbonated beverage dispenser.

A dual check valve with atmospheric vent (ASSE 1012) is required for residential water treatment systems, including Reverse Osmosis (RO). However, whole-house filters or point-of-use filters may utilize an dual check valve (ASSE 1024). See WSSC 106.9 within this guide for permitting allowances regarding non-testable backflow preventers.

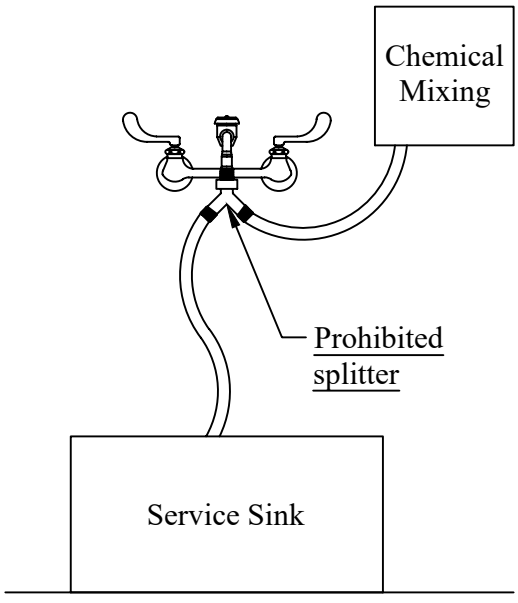
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Fixture Outlet Alteration		Revision	Date
Code: WSSC			
Section(s): 506.1			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

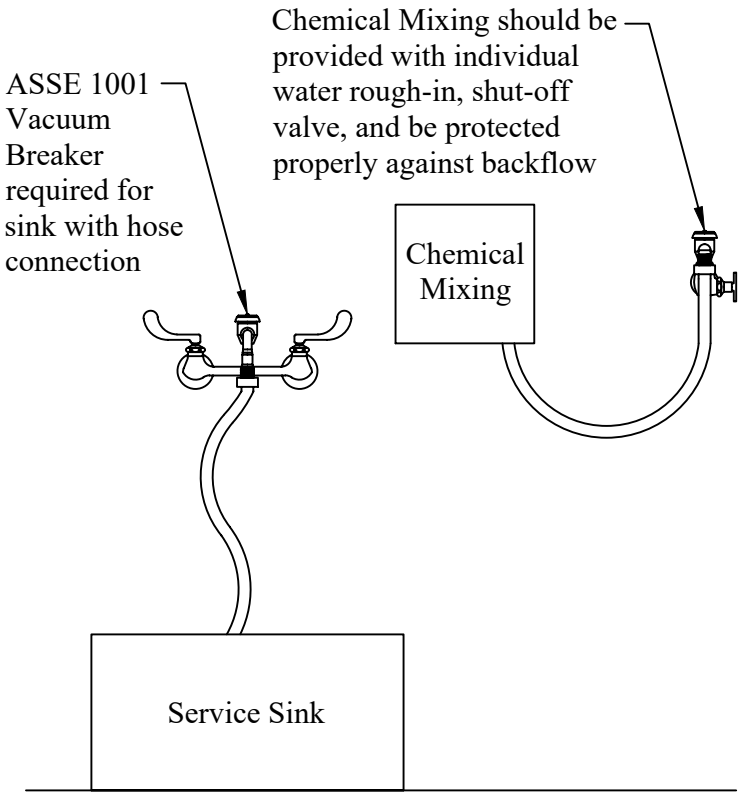
WSSC 506.1.1 Fixture Outlet Alteration. *Other than a lab sink faucet spout, a water outlet such as a fixture faucet, shall not be altered beyond its original intent. The use of a wyebranch fitting or other manifold type assembly shall not be used to serve multiple systems, devices, equipment, appurtenances, etc. Each usage shall be provided with an individual water "rough-in", provided with a shut-off valve per IPC 606.2, and protected against backflow commensurate with the degree of hazard for that use.*

A water outlet, such as a fixture faucet spout, ***shall not*** be altered beyond its original intent for use:

1.) The use of wye-branch fittings, splitters, manifolds or similar ***shall not*** be used to serve multiple systems, devices, equipment, appurtenances, etc.
2.) Each usage shall be provided with a individual water rough-in and unique shut-off valve per 606.2.
3.) Each shall be protected against backflow commensurate (based on) the degree of hazard for each use.



Example of Prohibited Installation



Example of Approved Installation

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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Limited System		Revision	Date
Code: WSSC			
Section(s): 506.10			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 506.10 Automatic Commercial Fire Sprinkler Systems. *Where potable water is used to serve or supplement a fire sprinkler system, backflow prevention shall be as follows:*

WSSC 506.10.1 ASSE 1015 DCVA - no chemical additives.

WSSC 506.10.2 ASSE 1013 RPZA - with chemical additives.

WSSC 506.10.3 ASSE 1024 DCV - Limited System up to 7 heads; no chemicals or pump.

An ASSE 1024 certified Dual Check Valve is allowed for a fire sprinkler system if the system is limited to 7 heads, and does not include any chemical additives or pumps.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Residential Fire Spirnkler System, Non-Testable Backflow ASSE 1024		Revision	Date
Code: WSSC			
Section(s): 506.9			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 506.9 Automatic Residential Fire Sprinkler Systems. *On residential buildings equipped with an NFPA 13D or 13R residential fire sprinkler system, the tee feeding the residential fire sprinkler system shall be located on the outlet side of the meter. Potable water systems shall be protected against backflow from automatic fire sprinkler systems by a minimum of a dual check valve, ASSE 1024, CSA B64.6. Chemical additives shall be prohibited in residential fire sprinkler systems. No valve shall be installed on the tee branch supplying the fire sprinkler system.*

WSSC Code now allows a non-testable backflow (ASSE 1024) for residential fire sprinkler systems. From 2007 to 2009, WSSC Code required a testable backflow preventer for those applications. Homeowners are required to have their testable backflow assemblies tested annually or they can elect to replace it with an ASSE 1024 certified device. A Short Form permit is required to replace testable backflow preventer with non-testable backflow preventer by a plumbing contractor. If the replaced testable backflow preventer is replaced by the homeowner, they must contact the Cross Connection office to have the testable assembly removed from the cross connection records and in order to eliminate past due letters.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Prohibited Locations		Revision	Date
Code: WSSC			
Section(s): 507.6.5			
Initial Issue Date: 04/01/2021	Sheet: 1 of 1		

Code Reference:

WSSC 507.6.5 Prohibited Locations. *Backflow preventers designed to vent to atmosphere and potable system drainage valves (such as stop and waste or boiler drain type), shall not be installed in pits, vaults or similar submerged areas and shall not be installed in chemical or fume hoods. BFP's shall also be protected from freezing.*

Backflow prevention assemblies are not prohibited in swimming pool equipment rooms or similar areas with questionable atmospheres due to chemical storage or usage. However, these arrangements should be avoided when practical or care ***shall be*** given to preserve invaluable information from the manufacturer's identification plate; these soft metal plates are the first to erode. Preservation of this information should be per WSSC Code Section 504.3.1 Preservation of Backflow Assembly Identification. The information from identification plate shall either be engraved on an inert material such as plastic or a label shall be created with legible print or type, inserted in a durable, transparent and sealable plastic bag/sleeve.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Building Service Valves		Revision	Date
Code: WSSC			
Section(s): 604.3			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

Code Reference:

WSSC 604.3 Building Service Valves

WSSC 604.3.1 First Valve (Service/Meter Isolation Valve). *A full-flow building water service valve shall be installed within 3-feet of where the building water service enters the building, as close as practical to the meter, and shall be in the same room as the water meter.*

WSSC 604.3.2 Second Valve (Domestic Isolation). *When a NPFA 13D or 13R fire sprinkler system is specified, a second full-flow valve shall be installed to provide domestic isolation and to provide an uninterrupted fire sprinkler supply. Irrigation supplies, hose bibbs, and pressure reducing valves, shall be installed after the fire sprinkler supply tee, and may be installed ahead of the domestic isolation valve.*

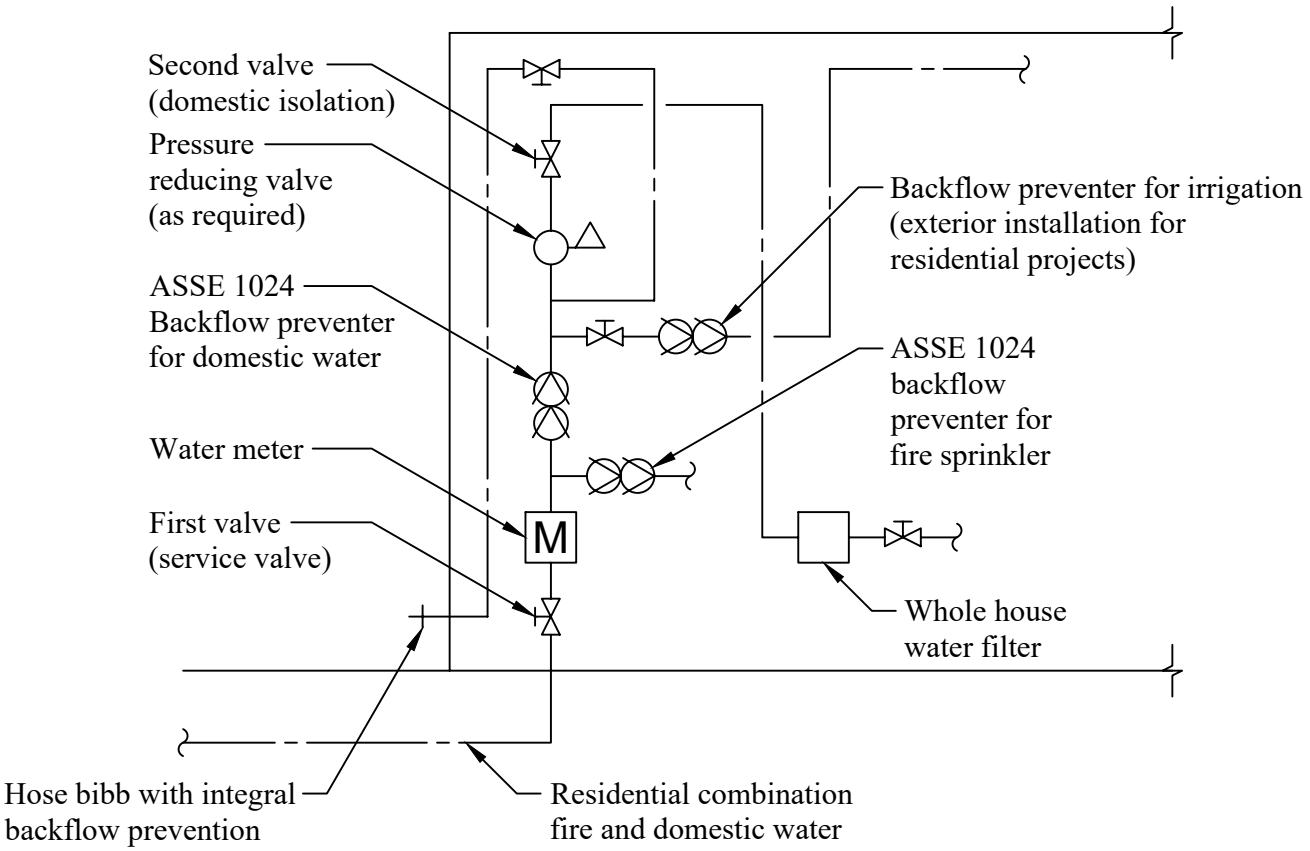
WSSC 604.3.3 Parallel Systems. *When a NPFA 13 fire sprinkler system is specified, the domestic water shall be protected against backflow commensurate with the requirements set forth in Chapter 5 of this Code. The supply for the fire sprinkler system shall tee off before the domestic meter assembly. Downstream of the domestic meter assembly, process water/non-potable systems may be established in parallel to the domestic water branch; each branch shall contain an ASSE 1013 RP backflow preventer.*

WSSC 605.5.2.5 NFPA 13D or 13R Residential Fire Sprinkler Connection. *On residential buildings equipped with a NFPA 13D or 13R residential fire sprinkler system, the tee feeding the residential fire sprinkler system shall be located on the outlet side of the meter. No valve shall be installed on the tee branch supplying the fire sprinkler system.*

Building service valves shall be located to allow maintenance of water supply with limited disruption of any fire sprinkler system. The first valve shall be a full-flow valve installed within the first 3-feet of piping where building service enters the building and prior to any tees or inside meter settings. The first valve shall be a ball valve per WSSC Standard detail W7.1. A ball valve is an indicator type valve that visibly shows whether the valve is opened or closed, this is important since the valve will also shutoff any fire sprinkler supply. For NFPA 13D or 13R residential fire sprinkler systems, the first valve shall be the only means of shutoff for fire sprinkler supply located inside of the building. The second valve shall also be a full-flow ball valve installed downstream of tee for fire sprinkler supply.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Building Service Valves		Revision	Date
Code: WSSC			
Section(s): 604.3			
Initial Issue Date: 04/01/2021	Sheet: 2 of 2		

Below is a diagram for a typical residential project with a 1" or smaller indoor meter setting, fire sprinkler system, irrigation system, hose bibb, pressure reducing valves, whole house filtration, and backflow prevention.



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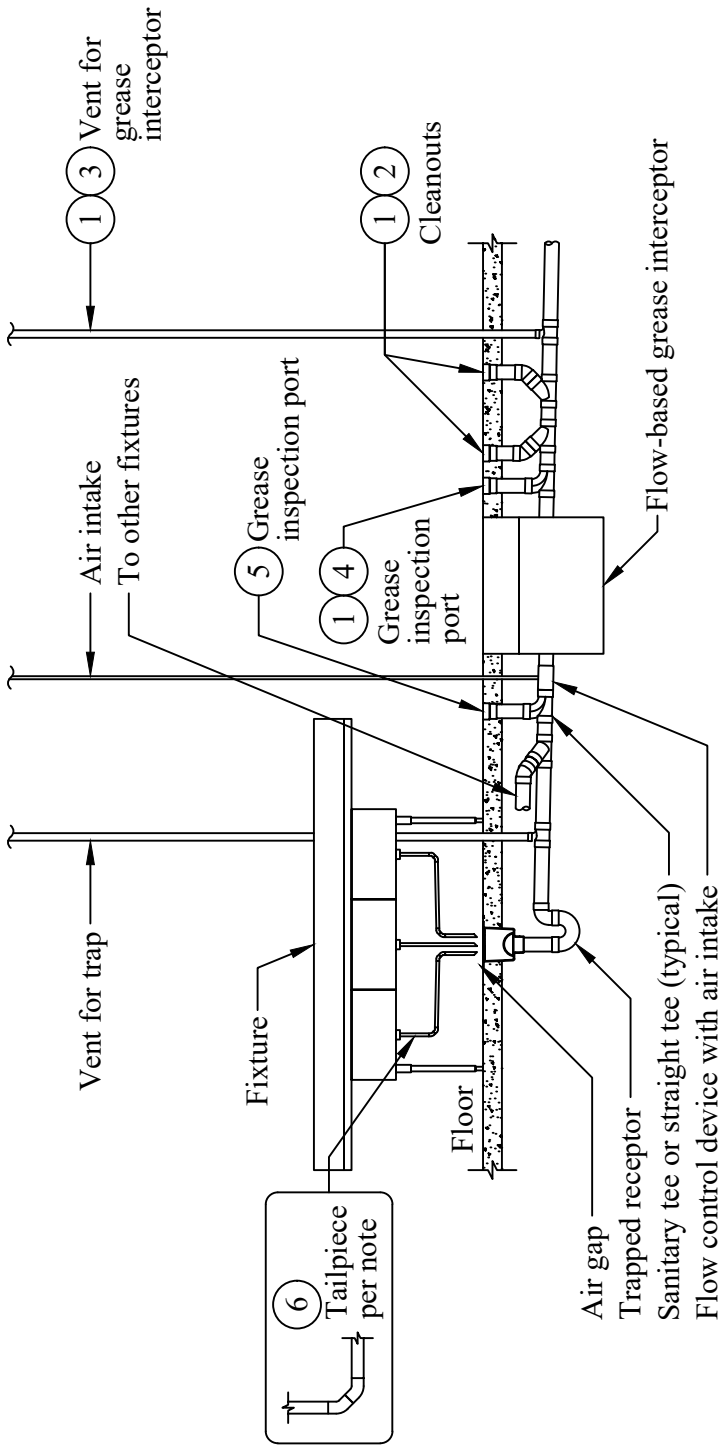
GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Installation of Below Floor Flow-Based Grease Interceptor		Revision	Date
Code: WSSC			
Section(s): 1003			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

WSSC Regulatory Services Division recommends that flow-based grease interceptors (FBGI) be installed recessed with top flush with the floor, fully recessed below the floor, or on the floor below the fixtures being served. The WSSC Plumbing and Fuel Gas Code requires food-handling equipment, in other than dwelling units, to discharge through an indirect waste pipe (2018 IPC 802.1). The combination of the physical size of FBGIs, inlet height of FBGIs, distance between fixtures, and required minimum pipe slope can make it difficult to achieve required air gap distance for FBGIs that are placed on the floor.



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GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Installation of Below Floor Flow-Based Grease Interceptor		Revision	Date
Code: WSSC			
Section(s): 1003			
Initial Issue Date: 04/01/2021	Sheet: 2 of 2		

General Notes

A. Installation may vary from diagram for a variety of reasons including but not limited to the type, number, size and location of fixtures/drains, direct or indirect connections, type of grease interceptor and flow control fitting.
B. Installation shall meet the requirements of the wssc plumbing and fuel gas code.
C. Solid screens or strainers with a maximum of 1/8" perforation shall be provided to capture the solids discharge (WSSC P&FG Code 302.10.1, 1003.5.1.5).
D. Drain tailpieces shall be sized per table 1003.a or table 1003.b (WSSC P&FG Code 302.10.1).
E. Flow control device shall be installed, sized to match the interceptors flow rate, and shall be readily accessible for inspection, cleaning and maintenance (WSSC 1003.5.1.4).
F. Flow-control device with air intake may connect with other vents at a minimum of 6 inches (152 mm) above the highest flood rim (WSSC P&FG code 302.10.1, 1003.5.1.4).
G. Flow control device and grease interceptor shall be by same manufacturer.
H. Horizontal drain pipes shall have cleanouts (IPC 708.1.1).
I. When connecting to an existing floor sink or receptor, the trap, floor sink, and receptor shall be removed in favor of a direct connection.
J. Fixtures upstream of above floor flow based grease interceptor can vented by the following methods; fixture vent, circuit vent, or combination waste and vent.
K. Sinks, in other dwelling units, used for the washing, rinsing or sanitizing of utensils, dishes, pots, pans or service ware used in the preparation, serving or eating of food shall discharge indirectly through an air gap to the drainage system (WSSC P&FG Code 302.8.2, 802.1.8).
L. Grease inspection ports shall consist of sanitary tee or straight tee with extension up to cleanout. Extension and cleanout shall be same size as the pipe they are connected to and extension shall have no offsets.
M. Unless specifically designed and/or approved otherwise, specialty sinks, such as food service compartment sinks, shall be installed with the front rim elevation of the sink not greater than 36 inches above finished floor (WSSC P&FG Code 405.3.6).

Specific Notes

(1) Cleanout(s), grease inspection port, and vent are required downstream of grease interceptor, the arrangement of does not need to match detail.

(2) Cleanout(s) installed downstream of grease interceptor shall allow cleaning in both directions.

(3) Vent shall be located per IPC Table 909.1

(4) Provide a grease inspection port where visible obstructions exist for the outlet of the flow-based grease interceptor (WSSC P&FG Code 302.10.1, 1003.5.2.3). Grease inspection port shall be installed in same room as grease interceptor and shall be upstream of any other connected fixtures or branches.

(5) A grease inspection port can be installed adjacent to flow control fitting to allow for inspection and cleaning, this arrangement shall meet the requirement of readily accessible for inspection, cleaning and maintenance (WSSC 1003.5.1.4). Tee, extension pipe, and cleanout size shall match size of flow control fitting. Tee is not required if flow control fitting is installed in accessible location and can be removed for inspection, cleaning and maintenance.

(6) The maximum deflection, per fitting, in a 3/4" tailpiece, shall be 45 degrees (WSSC P&FG Code 302.10.1, table 1003.a). Using two 45 degree bends to create a single 90 degree bend is acceptable. Single 90 degree fittings are permitted for larger tailpiece sizes.

GUIDE TO CODE CONSISTENCY FOR 2018 WSSC PLUMBING AND FUEL GAS CODE			
Subject: Installation of Above Floor Flow-Based Grease Interceptor		Revision	Date
Code: WSSC			
Section(s): 1003			
Initial Issue Date: 04/01/2021	Sheet: 1 of 2		

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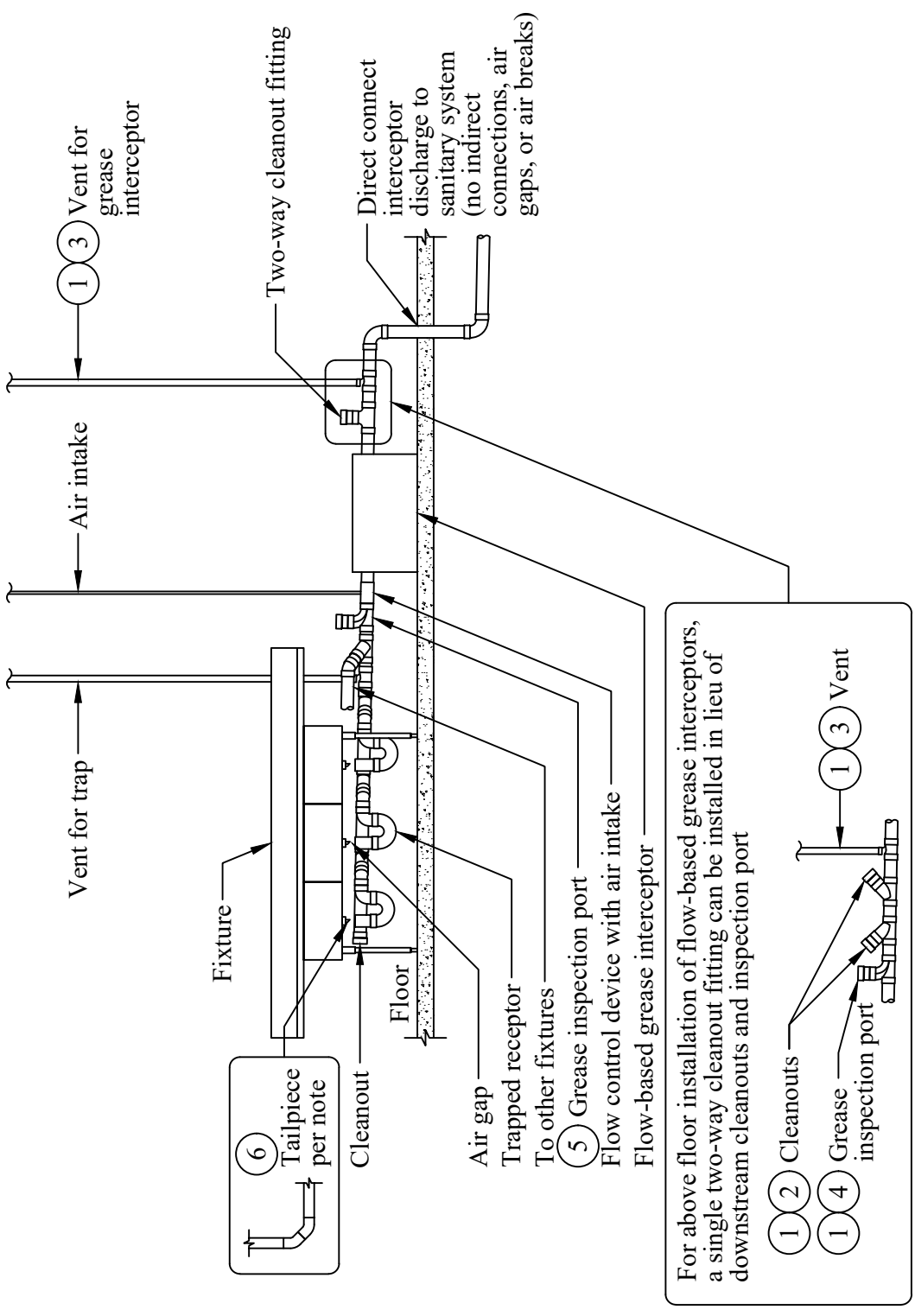

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