

ARTICLE VII. CROSS CONNECTION [BACKFLOW] PROTECTION

Sec. 26-300. Purpose; scope; intent.

(a) Purpose. The purpose of this article is to establish minimum requirements for the installation, repair, replacement, removal, inspection, and testing of potential points of contamination or pollution to the potable water system of the city.

(b) Scope. This article shall apply to all land, properties and/or premises located in the city or any land, property and/or premises that is served by the water system of the city.

(c) Other ordinances or codes. If any other ordinance or code of the city conflicts with this article and the standards and regulations established in this article, the higher or stricter standard or regulation shall apply.

(d) Intent. It is declared to be the intent of this article to protect the health, safety and welfare of the general public by regulating and controlling connections to the potable water system of the city and to prohibit any connection to the potable water system that has a potential for contamination or pollution of the potable water system.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-301. Cross connection standards.

(a) Every source of pollution or contamination or potential source of pollution or contamination from any contaminant which originates from or is located at a residential or commercial establishment, which is connected to any public water supply or which provides water to the public, shall be removed or be equipped with the protection required under the provisions of this article.

(b) It is the responsibility of all property owners and persons in charge of any premises to abide by the conditions of this article. In the event of any changes to the plumbing system, it is the responsibility of the property owners to notify the city.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-302. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning. If a word or term used in this article is not contained in the following list, its definition, or other technical terms used, shall have the meanings or definitions listed in the most recently adopted edition of the city plumbing code and/or the Manual of Cross Connection Control published by the Foundation for Cross Connection Control and Hydraulic Research, University of Southern California, ninth edition:

Air gap means a physical separation between the free-flowing discharge end of a potable water supply piping and/or appurtenance and an open or nonpressure receiving vessel, plumbing fixture or other device.

Atmospheric vacuum breaker backflow prevention device and atmospheric vacuum breaker (AVB) mean a device used to prevent backsiphonage in nonhealth hazard conditions. This device cannot be tested and cannot prevent backpressure backflow.

Auxiliary supply means any water source or system, other than the public water system, that may be available in the building or on the property, including groundwater or surface waters used for industrial, irrigation or any other purpose.

Backflow means the flow in the direction opposite to the normal flow or the introduction of any foreign liquids, gases or substances into the city's water system.

Backflow prevention assembly means an assembly to counteract backpressure or prevent backsiphonage.

Backpressure means any elevation of pressure in the downstream piping system (by any means) above the supply pressure at the point of consideration which would cause, or tend to cause, a reversal of the normal direction of flow and the introduction of fluids, mixtures or substances from any source other than the intended source.

Backsiphonage means the flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water supply system from any source other than its intended source caused by a sudden reduction of pressure in the potable water supply system.

Commercial establishment means property or location which is used primarily for manufacture, production, storage, wholesaling or retailing of services which are or may be placed in the flow of commerce, or any property or location which is used primarily for the provision of any service. It also includes multi-family residential property with four or more units.

Contaminants means any foreign material, solid or liquid, not common to the potable water supply that makes the water unfit or undesirable for human or animal consumption.

Contamination means the admission of contaminants into the potable water supply system.

Cross connection means any connection, physical or otherwise, between a potable water supply system and any plumbing fixture or any tank, receptacle, equipment or device, through which it is possible for any nonpotable, used, unclean, polluted and contaminated water, or other substances, to enter into any part of such potable water system under any condition or set of conditions.

Cross connection control device means any nationally approved or recognized device placed upon any connection, physical or otherwise, between a potable water supply system and any plumbing fixture or any tank, receptacle, equipment or device, which is designed to prevent nonpotable, used, unclean, polluted and contaminated water, or other substances, from entering into any part of such potable water system under any condition or set of conditions.

Customer service inspection means an inspection designed to inspect and detect any actual or potential point of contamination of the potable water system, cross connection hazards and/or exceeding of the lead action level in solder or flux, pipe or pipe fittings.

Degree of hazard means the low or high hazard classification that shall be attached to all actual or potential cross connections as follows:

(1) Health hazard means an actual or potential threat of contamination of a physical or toxic nature to the public potable water system or the consumer's potable water system that would be a danger to health.

(2) High hazard means the classification assigned to an actual or potential cross connection that potentially could allow a substance that may cause illness or death to backflow into the potable water supply.

(3) Low hazard means the classification assigned to an actual or potential cross connection that potentially could allow a substance that may be objectionable but not hazardous to one's health to backflow into the potable water supply.

(4) Pollution hazard means an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system but which would not constitute a health or system hazard, as defined. Maximum degree of intensity of pollution which the potable water system could be degraded under this definition would cause a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances.

(5) System hazard means an actual or potential threat of severe danger to the physical properties of the public or consumer's potable water supply or of a pollution or contamination that would have a detrimental effect on the quality of the potable water in the system.

Director means the city manager, or the city manager's designee, who is vested with the authority and responsibility for the implementation of an effective cross connection control program and for the enforcement of the provisions of this article.

Double check detector backflow prevention assembly and double check detector (DCDA) mean an assembly composed of a line-size U.L. approved double check assembly with a bypass containing a specific water meter and an approved double check valve assembly. The meter shall register accurately for very low rates of flow.

Double check valve backflow prevention assembly and double check assembly and double check (DC) mean an assembly which consists of two independently acting, approved checkvalves, including tightly closing resilient seated shutoff valves attached at each end of the assembly and fitted with properly located resilient seated test cocks.

Fireline tester means a tester who is qualified to test backflow prevention assemblies on firelines only.

General tester means a tester who is qualified to test backflow prevention assemblies on any domestic, commercial, industrial or irrigation service except firelines.

Mobile unit means any operation, which may have the potential to introduce contaminants into a potable water system from a mobile source. These operations include, but are not limited to, carpet-cleaning vehicles, water-hauling vehicles, street-cleaning vehicles, liquid-waste vehicles, power-wash operations and pest-control vehicles.

Nonresidential use means water used by any person other than a residential customer of the water supply and includes fire protection systems, heating and cooling systems in multifamily complexes and all uses not specifically included in residential uses as defined in the city zoning ordinance.

Point-of-use isolation means the appropriate backflow prevention within the consumer's water system at the point at which the actual or potential cross connection exists.

Pollution means an impairment of the quality of the public potable water supply which does not create a hazard to the public health, but which does adversely affect the aesthetic qualities of such potable water for domestic use. Also defined as low hazard.

Potable water supply means any water supply intended or used for human consumption or other domestic use.

Premises means any piece of property to which water is provided, including all improvements, mobile structures, and structures located on it.

Premises isolation means the appropriate backflow prevention at the service connection between the public water system and the water user.

Pressure vacuum breaker backflow prevention assembly and pressure vacuum breaker (PVB) mean an assembly which provides protection against backsiphonage, but does not provide adequate protection against backpressure backflow. The assembly is a combination of a single checkvalve with an AVB and can be used with downstream resilient seated shutoff valves. In addition, the assembly has suction and discharge gate valves and resilient seated test cocks which allows the full testing of the assembly.

Public water system and system mean any public or privately owned water system, which supplies water for public domestic use. The system will include all services, reservoirs, facilities, and any equipment used in the process of producing, treating, storing, or conveying water for public consumption.

Reduced pressure principle backflow prevention assembly and reduced pressure principle assembly or RP assembly (RP) mean an assembly containing two independently acting approved checkvalves together with a hydraulically operated, mechanically independent pressure differential relief valve located between the checkvalves and at the same time below the first checkvalve. The assembly shall include property located resilient seated test cocks and a tightly closing resilient seated shutoff valve at the end of the assembly.

Reduced pressure principle detector backflow prevention assembly and reduced pressure detector (RPDA) mean an assembly composed of a line-size U.L. approved reduced pressure principle assembly with a bypass containing a specific water meter and an approved reduced pressure principle backflow prevention assembly. The meter shall register accurately for very low rates of flow.

Representative of the water system means a person designated by the city to perform cross connection control duties that shall include, but are not limited to, cross connection inspections and water use surveys.

Residential use means water used by any residential customer of the water supply and includes single-family dwellings, duplexes and multi-family properties with less than four units where the individual units are each on a separate water meter. See "nonresidential use" for other connections in residential zoning districts.

Service connection means the point of delivery which the water purveyor loses control of the water.

Spill-resistant pressure vacuum breaker (SVB) means an assembly containing an independently operating, internally loaded checkvalve and independently operating, loaded air inlet valve located on the discharge side of the checkvalve. This assembly is to be equipped with a properly located resilient seated test cock and tightly closing resilient seated shutoff valves attached at each end of the assembly.

Tester means a person that is a TCEQ certified backflow prevention assembly tester approved by and registered with the city.

Thermal expansion means heated water that does not have the space to expand.

Used water means water supplied by a public water system to a water user's system after it has passed through the service connection.

Water use survey means a survey conducted or caused to be conducted by the local authority designed to identify any possible sources of contamination to the potable water supply.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-303. Protection required; installation.

(a) All potential points of contamination shall be removed or protected by an U.L. approved assembly or device that will prevent the contamination of the potable water supply. An approved assembly or device may be used to prevent potential contamination in each of the following circumstances, but is in no way limited to the following circumstances:

(1) The nature and extent of any activity on the premises, or the materials used in connection with any activity on the premises, or materials stored on the premises, could contaminate or pollute the potable water supply.

(2) Premises having one or more cross connections and the cross connections are protected by an atmospheric vacuum breaker device (AVB).

(3) Internal cross connections are present that are not correctable.

(4) Intricate plumbing arrangements that are present which make it impractical to ascertain whether cross connections exist.

(5) There is unduly restricted entry so that inspections for cross connections cannot be made with sufficient frequency to ensure that cross connections do not exist.

(6) Installation of an approved backflow prevention assembly is deemed to be necessary to accomplish the purpose of these regulations in the judgment of the city.

(7) An appropriate cross connection survey report form has not been filed with the city water utilities department upon request of the city.

(8) A fire suppression system is connected to the city's water system.

(9) All new construction if deemed necessary in the customer service inspection. The type of assembly required will be determined by the degree of hazard.

(10) When a building is constructed on commercial premises, and the end use of such building is not determined or could change, a reduced pressure principle backflow prevention assembly may be installed at the service connection that supplies water for public domestic use.

(11) Any used water return system.

(12) If a point-of-use assembly has not had the testing or repair done as required by this article, a premises isolation assembly will be required.

(13) If it is determined that additions or alterations have been made to the plumbing system without obtaining proper permits, premises isolation may be required.

(14) All multistory buildings or any building with a booster pump or elevated storage tank.

(15) Retrofitting will be required on all high hazard connections and wherever else the city deems necessary to retrofit.

(16) Where the potable water system is connected to any auxiliary supply.

(b) The backflow prevention assembly protection that is required under this article shall be any of the duly nationally recognized and authorized backflow prevention assemblies listed in a state-approved plumbing code, or as determined by the city. Each backflow prevention assembly must have been approved by the city prior to installation. Failure to obtain such approval prior to installation of the backflow prevention assembly may result in the backflow prevention assembly failing to meet final approval by the city. The city shall determine the type and location of backflow assembly to be installed within the area served by the city's water system.

(c) All backflow prevention assemblies installed after the effective date of the ordinance from which this article is derived shall be installed in a manner designed to facilitate ease of testing and inspection by the city. Any currently installed backflow prevention assemblies which are located in inaccessible locations, or where the tester is subject to physical danger, shall be relocated to approved locations following current national guideline standards.

(d) Where the city requires that a property be retrofitted with backflow prevention assembly protection under this article, the city shall provide notice to the property owner and to the persons in charge of the property. The notice shall state the reason the backflow protection is required and state a date by which the protection must be installed. If the property owner or person in charge of the property disagrees with the requirement, an appeal may be filed with the city manager by filing a written notice of appeal with the city secretary's office within ten business days of receiving the notice to install the backflow prevention assembly. The notice of appeal must set out in detail the specific reason(s) why the person believes the backflow protection is not needed and why the city's notice to install the protection is incorrect. The city manager, or someone designated by the city manager, shall review the appeal letter and other relevant information before issuing a decision on the appeal. That decision shall be final and not subject to further appeal. Failure to install the backflow protection assembly as required by the notice shall be a violation of this article.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-304. Multiple connections.

Any premises requiring multiple service connections for adequacy for supply and/or fire protection will be required to install a backflow assembly on each of the additional service lines to the premises. The type of assembly will be determined by the degree of hazard that could occur in the event of an interconnection between any of the buildings on the premises.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-305. Right-of-way encroachment.

(a) No person shall install or maintain a backflow prevention assembly upon or within any city right-of-way except as provided in this section.

(1) A backflow prevention assembly required by the city may be installed upon or within any city right-of-way only if the owner proves to the city that there is no other feasible location for installing the assembly, installing it in the right-of-way will not interfere with traffic or utilities, and obtains a permit from the city. The city retains the right to approve the location, height, depth, enclosure, and other requisites of the assembly prior to its installation.

(2) All permits and inspections required by the City Code to perform work in the right-of-way shall be obtained.

(3) The city shall not be liable for any damage done to or caused by an assembly installed in a right-of-way.

(4) A property owner shall, at the request of the city and at the owner's expense, relocate a backflow prevention assembly that encroaches upon any city right-of-way when such relocation is necessary for street or utility construction or repairs for purposes of public safety.

(b) A person commits an offense if he fails to relocate a backflow prevention assembly located in or upon any city right-of-way after receiving a written order from the regulatory authority.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-306. Testing of assemblies.

(a) The city shall require all backflow prevention assemblies to be inspected and tested in each of the following circumstances:

(1) Immediately after installations (residential, nonresidential).

(2) Whenever the assembly is moved (residential, nonresidential).

(3) A minimum of once a year (nonresidential).

(4) Premises that have been vacated and unoccupied for one year, prior to reoccupancy (nonresidential).

(5) Immediately after repairs (residential, nonresidential).

(b) All assembly testing shall be performed by a state-certified backflow prevention assembly tester, registered and approved by the regulatory authority.

(c) Duly authorized employees of the city bearing proper identification are entitled to enter any public or private property at any reasonable time for the purpose of enforcing this article. Persons and occupants of premises which are provided water service by the city, either directly or indirectly, shall allow the city or its representatives ready access at all reasonable times to all parts of the premises for the purposes of inspection, testing, records examination, or in the performance of any of their duties. Where persons or occupants of premises have security measures in force which would require proper identification and clearance before entry into their premises, the persons and occupants of the premises shall make necessary arrangements with their security guards so that, upon presentation of suitable identification, personnel from the city will be permitted to enter, without delay, for the purposes of performing their specific responsibilities.

(d) The city is not liable for damage to a backflow prevention assembly, which may occur during testing.

(e) A water use survey may be conducted at any establishment located in the city which is served by a public water supply or which provided water to the public. Upon determination that the establishment falls under the provisions of this article and requires a backflow prevention assembly, a notice to abate the condition or to install the proper backflow prevention assembly shall be issued.

(f) It is the responsibility of the person who owns or controls property to have all assemblies tested in accordance with this article. Assemblies may be required to be tested more frequently if the regulatory authority deems necessary.

(g) All results from assembly testing by a certified backflow prevention assembly tester shall be placed on a form that is furnished by the city.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-307. Thermal expansion.

It is the responsibility of any person who owns or controls property to eliminate the possibility of thermal expansion, if a closed system has been created by the installation of a backflow assembly.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-308. Pressure loss.

Any reduction in water pressure caused by the installation of a backflow assembly is not the responsibility of the city.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-309. Residential service connections.

Any person who owns or controls any residential property which has been determined to have an actual or potential cross connection will be required to eliminate the actual or potential cross connection or have an approved backflow assembly installed in accordance with this article.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-310. Rental properties.

Any person who owns or controls property is responsible for the installation, testing and repair of all backflow assemblies on their property.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-311. Customer service inspection.

(a) Pursuant to TCEQ water system regulations, a customer service inspection for cross connection control shall be completed by the city prior to providing continuous water service in each of the following circumstances:

(1) Water service to a newly constructed facility.

(2) After any material improvement to buildings or premises.

- (3) Any correction or addition to the plumbing of any facility or premises.
 - (4) When deemed necessary by the city.
 - (b) Permanent water service shall not be supplied to a new construction facility until after the customer service inspection is completed.
 - (c) Temporary water service that poses a potential cross connection threat to the potable water supply shall be protected by an approved backflow prevention assembly.
- (Ord. No. 2003-0527, § 1, 9-2-03)
- Secs. 26-312. Reserved.

Sec. 26-313. Air gap separation.

Air gaps provide maximum protection from backflow hazards and should be utilized at all locations where high hazard substances are at risk of entering the potable water system.

- (1) An air gap separation shall be at least twice the diameter of the supply pipeline measured vertically above the top rim of the receiving vessel and in no case less than one inch. If splashing is a problem, tubular screens may be attached or the supply line may be cut at a 45-degree angle. The air gap distance is measured from the bottom of the angle. Hoses are not allowed.
- (2) Air gap separations shall not be altered in any way without prior approval from the regulatory authority and must be available for inspection at all reasonable times.
- (3) Side walls, ribs or similar obstructions do not affect air gaps when spaced from the inside edge of the spout opening a distance greater than three times the diameter of the effective opening for a single, or a distance greater than four times the effective opening for two intersecting walls.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-314. Installation guidelines and requirements for backflow prevention assemblies.

(a) Generally. To ensure proper operation and accessibility of all backflow prevention assemblies, the following national guideline requirements shall apply to the installation of these assemblies. A permit is required for the installation, replacement or relocation of any backflow prevention device.

- (1) Backflow prevention assemblies shall be installed in accordance with the current TCEQ rule and these regulations. The assembly installer must obtain the required plumbing permits and have the installation inspected by the city.
- (2) All backflow prevention assemblies shall be installed inside of the building unless otherwise addressed in this article or prior written approval has been obtained from the city.
- (3) At facilities which require a backflow prevention assembly to be installed at the point of delivery of the water supply, such installation of the assembly must be before any branch in the line and on private property located just inside the boundary between the city right-of-way and the landowner's property. The city may specify other areas for installation of the assembly. Assemblies that must be installed or are located on city rights-of-way are the responsibilities of the business or entity that the water line is serving.

- (4) The assembly must be protected from freezing and other severe weather conditions.
 - (5) All backflow prevention assemblies shall be of a type and model approved by the city.
 - (6) All vertical installations of backflow assemblies must have prior approval by the city.
 - (7) Assemblies that are larger than four inches and installed more than five feet above floor level must have a suitable platform for use by testing or maintenance personnel.
 - (8) Backflow prevention assemblies shall not be installed above a ceiling or in a concealed space without prior approval from the city.
 - (9) All assemblies installed eight feet or higher must have a suitable platform and a permanent ladder for use by testing or maintenance personnel.
 - (10) Bypass lines are prohibited. Pipe fittings which could be used for connecting a bypass line must not be installed.
 - (11) Lines should be thoroughly flushed prior to installation. A strainer with blow-out tapping may be required ahead of the assembly.
 - (12) All facilities that require continuous, uninterrupted water service and are required to have a backflow assembly must make provisions for the parallel installation of assemblies of the same type so that testing, repair and maintenance can be performed.
 - (13) The property owner assumes all responsibility for any damages resulting from installation, operation and/or maintenance of a backflow assembly.
 - (14) Upon completion of installation, the city shall be notified and all assemblies must be inspected and tested. All assemblies must be registered with the city and shall provide the date of installation, manufacturer, model, type, size, serial number of the backflow assembly, and initial test report.
- (b) Reduced pressure principle backflow prevention assemblies (RPs). Reduced pressure principle backflow prevention assemblies (RPs) may be utilized at premises where a substance is handled that would be hazardous to health if introduced into the potable water system. The RP is normally used in locations where an air gap is impractical. The RP shall be effective against both backsiphonage and backpressure.
- (1) RPs must be sized to provide an adequate supply of water and pressure for the premises being served.
 - (2) The assembly must be readily accessible for testing and maintenance and must be located in an area where water damage to building or furnishing would not occur from relief valve discharge. The property owner assumes all responsibility for any damage caused by water discharge from an RP assembly. An approved air gap shall be located at the relief valve orifice of RP assemblies.
 - (3) No part of a reduced pressure principle backflow prevention assembly shall be installed in a location that is subject to flooding or where the device could be submerged in a contaminated liquid.
 - (4) Enclosures shall be designed for ready access and sized to allow for the minimum clearances as established in this article. Removable protective enclosures are typically installed on the smaller assemblies.

(5) Assemblies two inches and smaller shall have at least a six-inch clearance on both drain sides and on top of the assembly, and 12 inches below and behind the assembly. All assemblies larger than two inches shall have a minimum of 12 inches on the back side, 24 inches on the test cock side, and the relief valve opening shall be at least 12 inches plus nominal size of assembly above the floor or highest possible water level removable top.

(6) All RP assemblies must be tested in accordance with this article. Tests are the responsibility of the assembly owner. A permit must be obtained upon installation or replacement of any backflow prevention assembly.

(7) Alternate methods of compliance with these specifications will be evaluated on a case-by-case basis. Any deviations must have prior written approval of the city.

(c) Reduced pressure principle detector backflow prevention assemblies (RPDAs). Reduced pressure principle detector backflow prevention assemblies (RPDAs) may be utilized in all installations requiring a reduced pressure principle backflow prevention assembly and detector metering.

(1) RPDAs shall comply with the installation requirements applicable for reduced pressure principle backflow assemblies (RP).

(2) The line-size RP assembly and the bypass RP assembly must each be tested. A separate test report for each assembly must be completed by the certified tester.

(d) Double check valve prevention assemblies (DCs). Double check valve backflow prevention assemblies (DCs) may be utilized at premises where a substance is handled that would be objectionable but not hazardous to health if introduced into the potable water system.

(1) DCs must be sized to provide an adequate supply of water and pressure for premises being served.

(2) Premises where an uninterrupted water supply is critical should be provided with two assemblies installed in parallel. Assemblies should be sized in such a manner that either assembly will provide the maximum water requirements while the two together will provide the maximum flow required.

(3) The assembly shall be readily accessible with adequate room for testing and maintenance.

(4) Assemblies two inches and smaller shall have at least a six-inch clearance below and on both sides of the assembly. All assemblies larger than two inches shall have a minimum clearance of 12 inches on the back side, 24 inches on the test cock side, and 12 inches below the assembly. Pattern and double check valve assemblies shall be installed so that the checks are horizontal and the test cocks face upward. These clearance standards apply to all assemblies installed in enclosures, and meter boxes.

(5) Vertical installations of DCs are allowed only on sizes up to and including four inches that meet the following requirements:

a. Internally spring-loaded checkvalves.

b. Flow is upward through assembly.

c. Manufacturer states their assembly can be used in a vertical position.

d. Approved by the city.

(6) All DCs must be tested in accordance with this article. Tests are the responsibility of the assembly owner. A permit is required upon installation, replacement or relocation of any backflow prevention assembly.

(7) Alternate methods of compliance with these specifications will be evaluated on a case-by-case basis. Any deviations must have prior written approval of the city.

(e) Double check detector backflow prevention assemblies (DCDAs). Double check detector backflow prevention assemblies (DCDAs) may be utilized in all installations requiring a double check valve assembly and detector metering.

(1) CDAs shall comply with the installation requirements applicable for double check valve assemblies (DCs).

(2) The line-size DC assembly and the bypass DC assembly must each be tested. A separate test report for each assembly must be completed by the certified tester.

(f) Pressure vacuum breaker backflow prevention assemblies (PVBs). Pressure vacuum breaker backflow prevention assemblies (PVBs) may be utilized at point-of-use protection only and where a substance is handled that would be objectionable but not hazardous to health if introduced into the potable water system. PVBs protect against backsiphonage only and shall not be installed where there is potential for backpressure.

(1) Assembly shall be installed a minimum of 12 inches above the highest downstream piping.

(2) PVBs shall not be installed in an area subject to flooding or where damage would occur from water discharge.

(3) The assembly shall be readily accessible for testing and maintenance, with a minimum clearance of 12 inches all around the assembly.

(4) All PVBs must be tested in compliance with this article. Tests are the responsibility of the assembly owner. A permit is required for the installation, replacement or relocation of any backflow prevention assembly.

(5) Alternate methods of compliance with these specifications will be evaluated on a case-by-case basis. Any deviations must have prior written approval of the regulatory authority.

(g) Spill-resistant pressure vacuum breaker backflow prevention assemblies (SVBs). Spill-resistant pressure vacuum breaker backflow prevention assemblies (SVBs) may be utilized in all installations requiring a pressure vacuum breaker. SVBs shall comply with the installation requirements applicable for pressure vacuum breaker backflow prevention assemblies.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-314.1. Fire suppression systems.

(a) All new installations of fire suppression systems that utilize the city's potable water supply shall have installed an U.L. approved backflow prevention device according to the degree of hazard.

(b) All fire-line detector double check valve backflow prevention assemblies must be installed inside the building.

(c) An approved double check detector backflow prevention assembly (DCDA) or reduced pressure detector assemblies (RPDA) shall be the minimum protection for fire sprinkler systems

using piping material that is not approved for potable water use and/or that does not provide for periodic flow-through during each 24-hour period, unless an alternate method has been approved in writing by the city. An RPDA must be installed if any solution other than the potable water can be introduced into the sprinkler system.

(d) All costs associated with this article and the purchase, installation, testing and repair of DCDA or RPDA devices is the responsibility of the property owner and/or persons in charge of any premises.

(e) Upon the approved installation of the DCDA or RPDA device, a cross connection test report completed by a licensed fireline tester must be sent to the attention of the city and must include the information required by this article.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-315. Fire hydrant protection.

(a) An approved double check valve backflow prevention assembly (DCD) or reduced pressure detector assemblies (RPDA) shall be the minimum protection for fire hydrant water meters which are being used for a temporary water supply during any construction or other uses which would pose a potential hazard to the public water supply. An RPDA must be installed if any solution other than the potable water can be introduced into the system.

(b) It is the responsibility of all persons engaging in the use and rental of a fire hydrant water meter to abide by the conditions of this article. All fire hydrant meter rentals shall meet the current requirements as provided for by the city.

(c) Only city fire hydrant water meters with approved backflow prevention assemblies are allowed to be used within the city limits.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-316. Responsibilities.

(a) Water account holder. It is the responsibility of all water account holders to abide by the conditions of this article and to comply with the following:

(1) Pay all costs associated with this article and the purchase, installation, testing and repair of backflow prevention assemblies.

(2) Install and maintain all backflow prevention assemblies in accordance with this article and acceptable industry practice.

(3) Annual test of all backflow prevention assemblies in nonresidential establishments, with such testing to be conducted by a certified backflow prevention assembly tester (BPAT) who is registered with the city and who provides a copy of the test results to the city. The annual test date shall be the anniversary date of the installation or one year from the date of the last testing of the device. The city shall send a notice of annual test on or about sixty days prior to the annual test date to each water account holder. In the event that this test is not performed within ten working days of the annual test date, the water account holder shall inform the city when the test shall be performed. It shall be an offense if any water account holder fails to conduct the test of their backflow device in accordance with this section. Further, any water account holder found to be in violation of this section shall have water service terminated immediately.

- (4) Maintain all backflow prevention assemblies in proper working order at all times, including repair as required.
 - (5) Maintain all backflow prevention assemblies in a manner that allows them to be tested by a method that has been approved by the regulatory authority.
 - (6) Keep all records related to backflow prevention assembly installation, testing and repair on the premises for a minimum of three years.
- (b) Certified backflow prevention assembly tester. The certified backflow prevention assembly tester shall comply with the following requirements:
- (1) Annually register with the city and pay any registration fee.
 - (2) Maintain testing equipment in proper working condition. Recalibration of test equipment must be performed every 12 months.
 - (3) Maintain the design or operation characteristics of a backflow prevention assembly.
 - (4) Ensure that devices are tested according to accepted industry practice and TCEQ regulations.
 - (5) Enter required testing data, including test gauge serial numbers, on cross connection test forms obtained from the city.
 - (6) Report test results to the city within 20 days of testing.
 - (7) Provide a copy of the completed test report to the property owners and/or persons in charge of any premises and the city.
 - (8) Maintain testing and/or repair records for a minimum of three years.
- (Ord. No. 2003-0527, § 1, 9-2-03; Ord. No. 2007-286, § 1, 5-1-07)

Sec. 26-317. Backflow prevention assembly tester certification; registration required.

Only approved TCEQ licensed backflow prevention assembly testers can test backflow prevention assemblies in the city. Testers must register annually with the city, provide proof of TCEQ certification, provide proof that testing equipment is able to maintain a calibration of plus or minus 0.2 paid accuracy, and pay any required annual, nonrefundable, tester registration fee adopted as provided in this article.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-318. Compliance for lawn irrigation.

For all lawn irrigation system installations a permit issued by the building inspection department shall be required. Installation requirements must comply with the current city plumbing code and/or guidelines for the appropriate device found in this article. Interconnections of the potable water supply with an alternate water source are prohibited, unless appropriate backflow protection is installed. High hazard backflow protection devices must be installed if any mechanical injection stations are used with the irrigation system.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-319. Mobile units.

The connection of a mobile unit to any potable water system is prohibited, unless such connection is protected by an air gap or an approved backflow prevention assembly. Prior approval and annual device testing of any backflow prevention assembly must be received from the city before connecting to any potable water system.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-320. Enforcement.

(a) City manager to enforce provisions. This article shall be enforced by the city manager or the manager's designated representatives.

(b) City to inspect assemblies; water service and certificate of occupancy not provided until assemblies tested and operational; city not liable for damage. The city shall inspect and cause to be tested all backflow prevention assemblies installed pursuant to the requirements of this article. For new facilities, permanent water service shall not be provided until all backflow prevention assemblies have been tested and are operational. Except in cases where the testing of backflow prevention assemblies must be delayed until the installation of internal production or auxiliary equipment, the regulatory authority shall not approve a certificate of occupancy until all backflow prevention assemblies have been tested and are operational. The city shall not be liable for damage caused by any backflow prevention assembly as a result of the inspection or testing.

(c) Violations. It shall be unlawful for any person to erect, install, alter, repair, remove, convert, move, improve or use any equipment regulated by this article in violation of this article. A person commits an offense:

- (1) If there is failure to maintain backflow prevention assemblies in compliance with this article.
- (2) If there is failure to comply with a repair order issued by the city.
- (3) If backflow from premises owned, operated or managed by the person enters the public water supply system.
- (4) If there is a failure to pay any fees required by this article.
- (5) By violating any section of this article.
- (6) If discontinued or disconnected water service to premises under this article is reinstated except as directed by the city.
- (7) If he is in charge of any facility and allows an unregistered tester to perform testing work at his establishment.
- (8) By testing any backflow prevention assembly within the city without being registered with the city.
- (9) By testing any backflow prevention assembly within the city without being certified by the TCEQ.

(d) Penalties. Any person found in violation of any of the provisions of this article or any amendment thereto shall be deemed guilty of a misdemeanor and, upon conviction in municipal court, shall be subject to a fine not to exceed the sum of \$2,000.00 for each offense; and each day such violation continues shall constitute a separate offense.

(e) Disconnection of utilities. If, at any time, a degree of hazard, other than a low hazard, is found to exist at a building, structure or premises and the degree of hazard is such that there

exists an immediate threat to the health of the general public, the city may require the immediate disconnection of the water service to the premises. If the degree of hazard is such that there is not an immediate threat to the health of the general public, after notification of the violation has been made to the owner and/or occupant of the building and the violation is not corrected, the city may require that the water service be disconnected to the premises.

(f) Revocation of registration. A certified tester's registration may be reviewed and revoked by the city if it is determined that the tester has:

- (1) Falsely, incompletely, or inaccurately reported assembly reports;
- (2) Used inaccurate gauges;
- (3) Used improper testing procedures; or
- (4) Created a threat to public health or the environment.

(Ord. No. 2003-0527, § 1, 9-2-03)

Sec. 26-321. Fees.

The city council shall establish by resolution, or as part of the city's annual budget, a schedule of fees and charges, which shall be on file in the office of the city secretary, for the following:

- (1) A fees to be collected upon approval of an application for the installation, relocation or replacement of cross connection control devices.
- (2) A cross connection control and backflow prevention device registration fee to be collected for each device connected to the potable water system.
- (3) An annual fee to be collected for the registration of certified backflow prevention assembly testers performing work within the city.

(Ord. No. 2003-0527, § 1, 9-2-03)

Secs. 26-322--26-324. Reserved.