

Ordinances Governing
BACKFLOW PREVENTION
in the
CITY OF ARLINGTON
TEXAS

Amended by Ordinance No. 11-018
(March 22, 2011)

(Chapter Designator: BACKFLOW PREVENTION)

ORDINANCE HISTORY

<u>Number</u>	<u>Date of Adoption</u>	<u>Comments</u>
09-058	09/22/09	Adopt new "Backflow Prevention" Chapter of the Code of the City of Arlington, Texas.
11-018	03/22/11	Amend Article I, General Provisions, Section 1.04, Definitions , by the amendment of the definitions of "Air Gap", "Approved Backflow Prevention Assembly or Backflow Assembly or Assembly", and the addition of the definitions of "Backflow Prevention" and "Reclaimed Water"; amend Article II, Backflow Prevention Assembly Requirements, Section 2.01, Backflow Prevention Assembly Requirements , by the addition of Subsection (C)(19); Section 2.02, Installation Requirements, Subsection (A)(2); Section 2.09, Lawn Irrigation System , by the addition of Subsection (C); Section 2.16, Certified Backflow Prevention Assembly Tester Responsibilities , by the addition of Subsection (A)(10) ; relative to clarifying standards.

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ARTICLE I

GENERAL PROVISIONS

Section 1.01 Chapter Designation

This Chapter of the Code of the City of Arlington is hereby designated and shall be known and referred to as the "Backflow Prevention" Chapter of said Code or as the "Backflow Prevention Ordinance," and shall be referred to herein as the "Chapter."

Section 1.02 Purpose

The purpose of this Chapter is to protect the water supply of the City of Arlington from contamination or pollution due to any cross-connections.

Section 1.03 Administration

This Chapter shall apply to residents of the City of Arlington and to persons outside the City who by permit, contract, agreement with the City or otherwise are Users of the POTW or who conduct business in the City. Except as otherwise provided herein, the Authority shall administer, implement and enforce the provisions of this Chapter.

Section 1.04 Definitions

A. Unless a provision explicitly states otherwise, the following terms and phrases, as used in this Chapter, shall have the meaning hereinafter designated.

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 non-pressure receiving vessel, plumbing fixture, or other device. An approved air-gap separation shall be at least twice the diameter of the supply pipe measured vertically above the overflow rim of the vessel, plumbing fixture, or other device, in no case less than one (1) inch, and shall comply with the Plumbing Code. (Amend Ord 11-018, 3/22/11)

Appeal Officer means the City Manager designee that presides over appeals of the Director, Authority or Regulatory Authority actions or decisions.

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Approved Backflow Prevention Assembly or Backflow Assembly or Assembly means an assembly to counteract backpressure or prevent backsiphonage that meets the standards contained in the Plumbing Code. (Amend Ord 11-018, 3/22/11)

Atmospheric Vacuum Breaker Backflow Prevention Device or Atmospheric Vacuum Breaker or AVB means a device used to prevent backsiphonage in non-health hazard conditions. This device cannot be tested and cannot prevent backpressure backflow.

Authority means the City Manager appointed Department Ordinance Administrator or their designees charged with the administration and enforcement of this Chapter.

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

Backflow Protection is a means of protection against backflow that shall be provided in accordance with the Plumbing Code. (Amend Ord 11-018, 3/22/11)

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.

City means the City of Arlington and the City's officers and employees.

Commission means the Texas Commission on Environmental Quality or successor entity.

Contaminants means any foreign material, solid or liquid, not common to the potable water supply which makes or may make 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 may be possible for any non-potable, 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 Assembly means any assembly 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 non-potable, 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.

Degree of Hazard means the low or high hazard classification that shall be attached to all actual or potential cross-connections.

- (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) **Plumbing Hazard** means an internal or plumbing-type cross-connection in a consumer's potable water system that may be either a pollution or a contamination-type hazard.
- (5) **Pollution Hazard** means an actual or potential threat to the physical properties of the water system or the

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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.

- (6) **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 appointed Department Ordinance Administrator or their designees charged with the administration and enforcement of this Chapter.

Double Check Detector Backflow Prevention Assembly or Double Check Detector or DCDA means an assembly composed of a line-size 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 or Double Check Assembly or Double Check or DC means an assembly which consists of two (2) independently acting, approved check valves, including tightly closing resilient seated shutoff valves attached at each end of the assembly and fitted with properly located resilient seated test cocks.

Fire Line Tester means a tester who is employed by a state-approved fire line contractor and is qualified to test backflow prevention assemblies on fire lines only.

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

Mobile Unit means any operation which may have the potential to introduce contaminants into a potable water system from a mobile source. These 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.

Non-Residential Use means water used by any person other than a residential customer of the water supply and includes all uses not specifically included in residential uses.

Person means any individual, firm, partnership, joint adventure, association, club, fraternal organization, joint stock company, corporation, cooperative, estate, trust, receiver, trustee, syndicate, or any other group or combination acting as a unit.

Plumbing Code means the City of Arlington ordinances governing plumbing in the City of Arlington, Texas, as amended.

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.

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

Publicly Owned Treatment Works (POTW): A "treatment works," as defined by Section 212 of the Act (33 U.S.C. §1292) which is owned by the City of Arlington and/or the Control Authority. This definition includes any devices or systems used in the collection, storage, treatment, recycling, and reclamation of sewage or industrial wastes of a liquid nature and any conveyances which convey wastewater to a treatment plant. For the purposes of this Chapter, "POTW" shall also include any sewers that convey wastewaters to the POTW from persons outside the City who are, by contract or agreement with the City, Users of the City's sewer collection system.

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 or Pressure Vacuum Breaker or PVB means an assembly which provides protection against backsiphonage, but does not provide adequate protection against backpressure backflow. The assembly is a combination of a single check valve with an AVB and can be used with downstream resilient seated shutoff valves. In addition, the assembly has suction and

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discharge gate valves and resilient seated test cocks which allow the full testing of the assembly.

Public Water System or System means 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 use in the process of producing, treating, storing, or conveying water for public consumption.

Reclaimed Water means wastewater, collected and treated at a wastewater treatment plant, which has been treated to a quality that meets or exceeds the requirements of the Texas Commission on Environmental Quality's Chapter 210 authorization to the City. (Amend Ord 11-018, 3/22/11)

Reduced Pressure Principle Backflow Prevention Assembly or Reduced Pressure Principle Assembly or RPZ Assembly or RPZ means an assembly containing two (2) independently acting approved check valves together with a hydraulically operated, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve. The assembly shall include properly 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 or Reduced Pressure Detector or RPZDA means an assembly composed of a line-size 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.

Regulatory Authority means the Director of Water Utilities or designated representative, the Building Official or designated representative, the Chief of the Fire Department or designated representative and/or the City Manager appointed Department Ordinance Administrator or their designees charged with the administration and enforcement of this Chapter.

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 include single-family dwellings, duplexes, multiplexes, housing and apartments where the individual units are each on a separate meter or, in cases where two (2) or more units are served by one (1) meter, the units are full-time dwellings.

Service Connection means the point of delivery [at] which the water purveyor loses control of the water.

TCEQ means the Texas Commission on Environmental Quality.

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

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

B. If a word or term is not defined in this Chapter, unless the context clearly indicates otherwise, it shall have the definition provided for such word or term as set out in the Ninth or current edition of the Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California. A copy shall be kept on file in the Office of the City Secretary.

Section 1.05 Conflicts Between this Chapter and Other Ordinances or Codes

The provisions in this Chapter are cumulative of all City ordinances. If any other ordinances or codes conflict with this Chapter, the more restrictive provision shall apply.

(Adopt Ord 09-058, 9/22/09)

ARTICLE II

BACKFLOW PREVENTION ASSEMBLY REQUIREMENTS

Section 2.01 Backflow Prevention Assembly Requirements

- A. The Regulatory Authority shall determine the type and location of backflow prevention assembly to be installed within the area served by the City.
- B. The use of a backflow prevention assembly at the service connection shall be considered as additional backflow protection and shall not negate the use of backflow protection on internal hazards as outlined and enforced by the Plumbing Code.
- C. At a minimum, a backflow prevention assembly shall be required in the following circumstances:
 - 1. When the nature and extent of any activity at a premises, or the materials used in connection with any activity at a premises, or materials stored at the premises could contaminate or pollute the potable water supply.
 - 2. When a premises has any one (1) or more cross-connections.
 - 3. When internal cross-connections are present that are not correctable.
 - 4. When intricate plumbing arrangements are present that make it impractical to ascertain whether cross-connections exist.
 - 5. When a premises has a repeated history of cross-connections being established or re-established.
 - 6. When entry to a premises is unduly restricted so that inspections for cross-connections cannot be made with sufficient frequency to assure that cross-connections do not exist.
 - 7. When materials are being used such that if a backflow should occur, a health hazard could result.

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8. When installation of an approved backflow prevention assembly is deemed by the Regulatory Authority to be necessary to protect the water supply of the City from contamination or pollution.
9. When an appropriate cross-connection survey report form has not been filed with the Regulatory Authority.
10. When a fire sprinkler system is connected to the City's water system.
11. In all new nonresidential construction there shall be installed an approved backflow prevention assembly at the service connection. The type of backflow prevention assembly required will be commensurate with the degree of hazard as determined by the Regulatory Authority in order to protect the water supply of the City from contamination or pollution.
12. 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 shall be installed at the service connection to provide protection of the public water supply in the event of the most hazardous use of the building.
13. When a premises is required to have backflow prevention assemblies, but water cannot be turned off during the testing of such assemblies, the premises shall be equipped with dual backflow prevention assemblies of the same type so that testing, repair and maintenance can be performed.
14. Any used water return system.
15. When a point-of-use assembly has not been tested or repaired as required by this Chapter, a premise isolation assembly shall be required.
16. When the Regulatory Authority determines that additions or alterations have been made to the plumbing system without the proper permits as required by the Plumbing Code, premises isolation shall be required.

17. All multistory buildings or any building with a booster pump or elevated storage tank.
 18. Retrofitting shall be required on all high hazard connections and on all other connections where the Regulatory Authority deems it necessary to retrofit in order to protect the water supply of the City from contamination or pollution.
 19. When reclaimed water is supplied to the site, an RPZ shall be installed on the potable water supply just inside the property line and before any branch connections and a double check backflow device shall be installed on the reclaimed water supply just inside the property line and before any branch connections. (Amend Ord 11-018, 3/22/11)
- D. A person commits an offense if the person owns or is in control of any premises and fails to install and maintain backflow prevention assemblies on said premises as required by this section.
- E. A person commits an offense if the person owns, operates or manages any premises and backflow from the premises enters the public water supply system.

Section 2.02 Installation Requirements

- A. Backflow prevention assemblies shall be installed in accordance with the following requirements:
1. Backflow prevention assemblies shall be installed in accordance with the Plumbing Code, Commission rules, this Chapter, and other relevant law. The assembly installer shall obtain the required plumbing permits prior to installation and shall have the assembly inspected by the Regulatory Authority.
 2. When the Regulatory Authority requires a backflow prevention assembly to be installed at the point of delivery of both potable and reclaimed water supplies, such installation of the assembly shall 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. Other areas of installation of a

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backflow prevention assembly may be required when the Regulatory Authority deems it necessary in order to protect the water supply of the City from contamination or pollution. (Amend Ord 11-018, 3/22/11)

3. The assembly shall be protected from freezing and other severe weather conditions.
4. All backflow prevention assemblies shall be of a type and model approved by the Regulatory Authority.
5. Vertical installations of backflow prevention assemblies shall be approved in writing by the Regulatory Authority prior to installation.
6. Backflow prevention assemblies that are larger than four (4) inches and are installed more than five (5) feet or higher above floor level shall be equipped with a rigidly and permanently installed scaffolding acceptable to the Regulatory Authority.
7. Bypass lines are prohibited. Pipe fittings which could be used for connecting a bypass line shall not be installed.
8. Premises that require backflow prevention assemblies, where an uninterrupted, continuous water supply is critical shall be provided with two (2) assemblies installed in parallel for testing, maintenance, or repair. They should be sized in such a manner that either assembly will provide the maximum flow required or desired.
9. Lines shall be thoroughly flushed prior to installation. A strainer with blowout tapping may be required ahead of the backflow prevention assembly.
10. Upon completion of installation, the Regulatory Authority shall be notified and all backflow prevention assemblies shall be inspected and tested. The original test report shall be: signed and dated by the tester; contain test gauge make, model, serial number, and calibration date; name of tester; state certification number of tester; facility name, address and telephone number; and, submitted to the Regulatory Authority.

- B. A person commits an offense if the person installs a backflow prevention assembly in violation of this section.
- C. A person commits an offense if the person fails to notify the Regulatory Authority of installation, to inspect and test, or to report the test report in compliance with this Chapter.

Section 2.03 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.
- B. A backflow prevention assembly required by the Chapter may be installed upon or within any City right-of-way only when the City determines that there is no other feasible location for installing the assembly, installing it in the right-of-way will not interfere with traffic, utilities, and there is application and approval by the City of its Easement Use Agreement. The City retains the right to approve the location, height, depth, enclosure, installation, and other requisites of the assembly prior to its installation and the City shall not be liable for any damage done to or caused by an assembly installed in a right-of-way.
- C. All permits, approvals and inspections required by applicable City Code of Ordinances and other law to perform work in the right-of-way shall be obtained.
- D. Double check valve assemblies installed in the right-of-way shall be installed below or flush with the surrounding grade except when the City determines that it is not practicable to install it in this manner.
- E. Any assembly or portion of an assembly which extends above ground shall be located no closer than eighteen (18) inches to the face of the curb.
- F. A property owner shall, at the request of the City and at the owner's sole expense, relocate a backflow prevention assembly which encroaches upon any City right-of-way when such relocation is necessary for the City's reconstruction, widening, or straightening of streets; placement or installation of traffic signals,

traffic signs and streetlights; or construction of any other City public improvement project.

- G. A person commits a violation if the person fails to relocate a backflow prevention assembly located in or upon any City right-of-way after receiving a written order from the City to do so.
- H. A person commits an offense if the person installs or maintains a backflow prevention assembly in violation of this section.
- I. A backflow prevention assembly installed or maintained in City right-of-way in violation of this section or an order issued pursuant to this section is hereby declared to be a nuisance.

Section 2.04 Multiple Connections

Any premises requiring multiple service connections for adequacy of supply and/or fire protection shall have a backflow prevention assembly on each service connection. The type of backflow prevention assembly required will be commensurate with the degree of potential hazard as determined by the Regulatory Authority in order to protect the water supply of the City from contamination or pollution.

Section 2.05 Residential Service Connections

When the Regulatory Authority determines that residential premises have a cross-connection, said premises shall be required to eliminate the actual or potential cross-connection or shall be equipped with an approved backflow prevention assembly installed in accordance with this Chapter.

Section 2.06 Connection of Mobile Units

- A. The connection of a mobile unit to any potable water system is prohibited unless:
 - 1. Such connection is protected by an air gap or an approved backflow prevention assembly;

2. There is annual device testing of any backflow prevention assembly; and,
 3. The Regulatory Authority has given approval prior to connection to any potable water system.
- B. A person commits an offense if the person operates or causes to be operated a mobile unit in violation of this section.

Section 2.07 Fire Protection Systems

- A. A double check valve assembly (DCVA) approved by the Regulatory Authority shall be the minimum protection required for fire sprinkler systems using piping material that is not approved for potable water use and/or that do not provide for periodic flow-through during each twenty-four-hour period, unless a variance has been issued in writing from the Regulatory Authority. A reduced pressure principle assembly (RPZ) shall be installed when any solution other than potable water can be introduced into the sprinkler system, unless an air gap is used to protect a tank supplying the system.
- B. A single detector check is required to be installed on all fire systems which are connected to the water system. Vaults are required to be used for installation of backflow valves on fire suppression systems. All backflow valves/vaults used on fire suppression systems shall be located as close to the right-of-way as possible, but shall be located no further than one hundred (100) feet from the property line. If the backflow valve can be installed inside the building, and remain within one hundred (100) feet of the property line, the valves may be installed inside the building. Only the Director of Water Utilities shall by written approval grant a variance to the distance requirement.
- C. Upon the approved installation of the DCVA, RPZ or approved backflow prevention assembly, a licensed fire line tester shall complete a cross-connection test report and submit the completed report to the Regulatory Authority as required by this Chapter.
- D. All fire line equipment, including piping and valves shall be installed by a state licensed fire sprinkler

system contractor. Backflow prevention assembly testers may test and repair assemblies on fire lines only if they are permanently employed by an approved fire line contractor. The State Fire Marshall's office requires that any person performing maintenance on fire lines shall be employed by an approved fire line contractor.

Section 2.08 Fire Hydrant Protection

- A. An approved double check valve assembly (DCVA) or reduced pressure principle assembly (RPZ) that has been approved by the Regulatory Authority shall be required 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 RPZ is required 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 Chapter. All fire hydrant meter rentals shall meet the current requirements, as provided by the City.
- C. Only City fire hydrant meters with approved backflow prevention assemblies are allowed to be used within the City limits.

Section 2.09 Lawn Irrigation System

- A. All lawn irrigation systems shall obtain a permit issued by the building inspection department for installation and shall be installed in compliance with the Plumbing Code, the Irrigation Chapter and this Chapter.
- B. Interconnections of the potable water supply with an alternate water source are prohibited.
- C. When an irrigation system is connected to a reclaimed water supply, a double check backflow prevention assembly shall be installed immediately past the city meter just outside city right of way (ROW) before any branch connections and the potable water supply to this site is required to have an RPZ backflow device

installed immediately past the city meter just outside the ROW before any branch connections. (Amend Ord 11-018, 3/22/11)

Section 2.10 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.

Section 2.11 Pressure Loss

Any reduction in water pressure caused by the installation of a backflow assembly shall not be the responsibility of the City.

Section 2.12 Testing of Assemblies

- A. The Regulatory Authority shall inspect and/or test, or cause to be inspected and tested, all backflow prevention assemblies in each of the following circumstances:
1. Immediately after installations;
 2. Whenever the assembly is moved;
 3. A minimum of once a year for all assemblies providing protection against health hazards;
 4. Premises that have been vacated and unoccupied for one (1) year, prior to re-occupancy; and,
 5. Immediately after repairs or replacement.
- B. Backflow prevention assemblies may be required to be tested more frequently if the Regulatory Authority deems it necessary to protect the water supply of the City from contamination or pollution.
- C. All backflow prevention assembly testing shall be performed by a certified backflow prevention assembly tester who is registered with the City's Regulatory Authority.

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- D. It is the responsibility of the property owner and the person in control of the premises to have all backflow prevention assemblies tested in accordance with this Chapter.
- E. All results from backflow prevention assembly testing by a certified backflow prevention assembly tester shall be placed on a form that shall be obtained by the tester from the City.
- F. It is the responsibility of any person who owns or who controls any premises to have all backflow prevention assemblies tested in accordance with this Chapter.
- G. A person commits an offense if the person owns or is in control of any premises and fails or refuses to have the backflow prevention assemblies installed on said premises, inspected or tested as required by this section.
- H. The City shall not be liable for damage to a backflow prevention assembly that occurs during testing.

Section 2.13 Maintenance of Assemblies

- A. A person who owns, operates or manages premises in which required backflow prevention assemblies are installed shall maintain such assemblies in proper working order at all times, including repair as required, annual registration on a form provided by the Regulatory Authority, and payment of an annual nonrefundable administrative fee in an amount established by City Council resolution. All maintenance and repair of assemblies shall be done in accordance with all applicable regulations of the Commission and this Chapter.
- B. Backflow prevention assemblies shall be maintained in a manner that allows them to be tested by a method that has been approved by the Regulatory Authority.
- C. All records related to backflow prevention assembly installation, testing, and repair shall be maintained on the premises for a minimum of three (3) years.
- D. A person commits an offense if the person allows an unregistered tester to perform testing work at their establishment.

- E. A person commits an offense if a person fails to maintain backflow prevention assemblies in compliance with this section.
- F. A person commits an offense if the person fails to comply with a repair order issued by the Regulatory Authority.

Section 2.14 Installation Standards and Specifications

- A. **Reduced pressure principle backflow prevention assemblies (RPZs)**. RPZs may be utilized at premises where a substance is handled that would be hazardous to health if introduced into the potable water system. The RPZ is normally used in locations where an air gap is impractical. The RPZ is effective against both backsiphonage and backpressure.
 - 1. RPZs shall be sized to provide an adequate supply of water and pressure for the premises being served. Flow characteristics are not standard. Consult manufacturer's specifications for specific performance data.
 - 2. The assembly shall be readily accessible for testing and maintenance and shall 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 RPZ assembly. An approved air gap shall be located at the relief valve orifice of RPZ assemblies. This air gap shall be at least twice the inside diameter of the incoming supply line as measured vertically above the top rim of the drain, and in no case less than one (1) inch. An approved air-gap funnel assembly may be used to direct minor discharges away from the assembly; this assembly will not control flow in a continuous relief situation. Drain lines to accommodate full relief valve discharge flow should be considered.
 - 3. No part of a reduced pressure principle backflow prevention assembly shall be submerged in water or installed in a location subject to flooding. RPZs are typically installed above grade in well-drained areas. The drain shall be of adequate

capacity to carry the full rated flow of the assembly and shall be screened on both ends.

4. Enclosures shall be designed for ready access and sized to allow for the minimum clearances established below. Removable protective enclosures are typically installed on the smaller assemblies. Daylight drain ports shall be provided to accommodate full pressure discharge from the assembly.
5. Assemblies two (2) inches and smaller shall have at least six (6) inches clearance on both sides and on top of the assembly, and twelve (12) inches below and behind the assembly. All assemblies larger than two (2) inches shall have a minimum of twelve (12) inches on the back side, twenty-four (24) inches on the test cock side, and the relief valve opening shall be at least twelve (12) inches plus nominal size of assembly above the floor or highest possible water level. Headroom of six (6) feet zero (0) inches is required in vaults without a fully removable top. A minimum access opening of thirty-six (36) inches is required on all vault lids.
6. Vertical installation is prohibited.
7. All RPZ assemblies shall be tested in accordance with this Chapter. Tests are the responsibility of the assembly owner. The owner shall notify the Regulatory Authority upon installation of any backflow prevention assembly.
8. Variances from these specifications will be evaluated on a case-by-case basis. Any deviation shall be prohibited without prior written approval of the Regulatory Authority.

B. **Double check valve backflow prevention assemblies (DCs)**. 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 shall be sized to provide an adequate supply of water and pressure for the premises being served. Consult manufacturer's specifications for specific performance data.

2. Premises where an uninterrupted water supply is critical should be provided with two (2) assemblies installed in parallel. Assemblies shall be sized in such a manner that either assembly will provide the minimum water requirements while the two (2) together will provide the maximum flow required.
3. The assembly shall be readily accessible with adequate room for testing and maintenance. DCVAs may be installed below grade, providing all test cocks are fitted with brass pipe plugs. All vaults shall be well-drained, constructed of suitable materials, and sized to allow for the minimum clearances established below.
4. Assemblies two (2) inches and smaller shall have at least six (6) inches of clearance below and on both sides of the assembly and, if located in a vault, the bottom of the assembly shall be not more than twenty-four (24) inches below grade. All assemblies larger than two (2) inches shall have a minimum clearance of twelve (12) inches on the back side, twenty-four (24) inches on the test cock side, and twelve (12) inches below the assembly. Headroom of six (6) feet zero (0) inches is required in vaults without a fully removable top. A minimum access opening of thirty-six (36) inches is required on all vault lids. "Y" pattern 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 vaults, enclosures, and meter boxes.
5. Vertical installations of DCVAs are only allowed on sizes up to and including four (4) inches that meet the following requirements:
 - a. Internally spring-loaded check valves;
 - b. Flow is upward through assembly;
 - c. Manufacturer and University of Southern California's Foundation for Cross-Connection Control and Hydraulic Research states the assembly can be used in a vertical position;
 - d. Approved by the Regulatory Authority.

6. All DCVAs shall be tested in accordance with this Chapter. Tests are the responsibility of the assembly owner. The owner shall notify the Regulatory Authority upon installation of any backflow prevention assembly.
 7. Variances from these specifications will be evaluated on a case-by-case basis. Any deviation shall be prohibited without prior written approval of the Regulatory Authority.
- C. **Pressure vacuum breaker backflow prevention assemblies (PVBs)**. 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. The assembly shall be installed a minimum of twelve (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 twelve (12) inches all around the assembly.
 4. All PVBs shall be tested in compliance with this Chapter. Tests are the responsibility of the assembly owner. The owner shall notify the Regulatory Authority of installation of any backflow prevention assembly.
 5. Variances from these specifications will be evaluated on a case-by-case basis. Any deviation shall be prohibited without prior written approval of the Regulatory Authority.
- D. **Spill-resistant pressure vacuum breaker backflow prevention assemblies (SVBs)**. 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.

- E. **Air Gap Separation.** Air-gap separations provide maximum protection from backflow hazards and may be utilized at premises where a substance is handled that would be hazardous to health if introduced into 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 (1) inch. If splashing is a problem, tubular screens may be attached or the supply line may be cut at a forty-five-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 shall be available for inspection at all reasonable times.

Section 2.15 Registration of Certified Backflow Prevention Assembly Testers

- A. No certified backflow assembly tester shall operate within the City without first registering with the Regulatory Authority. The Regulatory Authority shall determine whether an applicant is eligible for registration.
- B. Each applicant for registration shall:
1. Annually register with the Regulatory Authority;
 2. Provide evidence of Commission certification; and,
 3. Provide evidence that testing equipment is able to maintain a calibration of plus or minus 0.2 psid accuracy.
 4. Pay an annual non-refundable registration fee in an amount as established by City Council.
- C. A registration shall remain in effect one year from the date of registration provided:
1. The tester maintains eligibility for registration and certification; and,

2. Registration is not revoked by the Regulatory Authority.
- D. After notice and hearing, the Regulatory Authority may revoke a registration if the Regulatory Authority determines that the tester:
1. Has falsely, incompletely, or inaccurately reported assembly reports;
 2. Has used inaccurate gauges;
 3. Has used improper testing procedures;
 4. Has expired insurance;
 5. Is not in compliance with safety regulations;
 6. Has failed to register the serial numbers of his/her test kits or failed to calibrate gauges annually as required by this Chapter;
 7. Has on three or more times in a calendar year failed to return completed test forms to the Regulatory Authority within the time period required by this Chapter; or,
 8. Has violated any other provision of this section.
- E. The Regulatory Authority will maintain a current list of registered certified testers.
- F. A person commits an offense if the person tests a backflow prevention assembly within the City without being certified by the Commission.
- G. A person commits an offense if the person operates as a backflow prevention assembly tester within the City without registering with the Regulatory Authority.

Section 2.16 Certified Backflow Prevention Assembly Tester Responsibilities

- A. A certified backflow prevention assembly tester shall:
1. Register annually with the City;

2. File the serial number of each of his/her test kits with the Regulatory Authority;
3. Annually have each recorded test kit tested for accuracy and calibrated to maintain a two (2) percent accuracy factor;
4. Maintain testing equipment in proper working condition/calibration;
5. Perform competent and accurate certifications on each backflow prevention assembly tested and shall submit complete original, signed and dated reports on the City approved forms;
6. Report test results to the Regulatory Authority within ten (10) days of testing;
7. Provide a copy of the completed test report to the property owners and/or persons in charge of any premises;
8. Maintain testing and/or repair records for a minimum of three (3) years; and,
9. Shall not change the design or operation characteristics of a backflow prevention assembly.
10. Shall not commingle backflow test gauges used on the reclaimed water system with the potable water system. (Amend Ord 11-018, 3/22/11)

Section 2.17 Nuisance

Backflow entering or threatening to enter the public water supply from any premises is hereby declared to be a nuisance. The City may abate the nuisance in accordance with Article IV of the "Nuisances" Chapter of the Code of the City of Arlington, or in any other manner authorized by law.

Section 2.18 Customer Service Inspection

- A. The Regulatory Authority shall complete a customer service inspection for cross-connection control prior to providing continuous water service in each of the following circumstances:

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1. Water service to a newly constructed facility or previously non-existing premises;
 2. After any material improvement to buildings or premises;
 3. Any correction or addition to the plumbing of any facility or premises served by the City; or,
 4. The Regulatory Authority deems it necessary to protect the water supply of the City from contamination or pollution.
- B. Permanent water service shall not be supplied to a new construction facility until after the customer service inspection is completed.

Section 2.19 Access to Premises

- A. Every person provided water service by the City directly or indirectly shall permit the Regulatory Authority to enter their premises and buildings for the purpose of inspecting pipes and fixtures and the manner in which water is used to determine compliance with this Chapter. The Regulatory Authority's right of entry is a condition of the person's water service or connection to the City's public water system.
- B. The person shall promptly remove, at the person's sole expense, a security barrier or other obstacle to access by the Regulatory Authority to the person's premises.
- C. In connection with action by the Regulatory Authority under this Chapter, a person with water service provided by the City commits an offense if the person:
1. Fails to remove a barrier or obstacle to access by the Regulatory Authority; or,
 2. Unreasonably delays access by the Regulatory Authority.
- D. The Regulatory Authority may apply to the municipal court or other court of competent jurisdiction for a search warrant if:
1. A person denies the Regulatory Authority access to a building, structure, property, or a public or

private potable system connected to the City's public water system; or

2. The Regulatory Authority has probable cause to believe there is:
 - a. A violation of this Chapter or other enforcement order;
 - b. A need to conduct a cross-connection inspection or cross-connection survey; or
 - c. A threat to public health or safety.

(Adopt Ord 09-058, 9/22/09)

ARTICLE III

ENFORCEMENT

Section 3.01 Enforcement

- A. The Regulatory Authority shall have the authority and responsibility to enforce the provisions of this Chapter and the state statutes regarding cross-connections, when applicable.
- B. The Regulatory Authority shall inspect or cause to be inspected all backflow prevention assemblies installed pursuant to the requirements of this Chapter.
- C. For new facilities, permanent water service shall not be provided until all backflow prevention assemblies have been tested and are operational.
- D. 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.
- E. The Regulatory Authority may, without prior notice, suspend water service to any premises when the Regulatory Authority finds such suspension is necessary to prevent or stop an actual or threatened backflow, which presents, or may present imminent and substantial danger to the environment, the public water supply, or the health and welfare of any person. As soon as practicable after the suspension of service, the Regulatory Authority shall notify the owner or person in charge of the premises of the suspension in person or by certified mail, return receipt requested. When time permits, the Regulatory Authority may notify the owner or person in charge prior to suspending water service. Notice shall provide the date that service will be or was discontinued without further notice, the reason for discontinuance, and the ability to request an administrative review regarding the reasons for discontinuance within fifteen days from the date of notice. Services are not reinstated upon request for an administrative review. The Regulatory Authority may not reinstate suspended services until:

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1. The person presents proof, satisfactory to the Regulatory Authority, that the actual or threatened backflow has been eliminated and its cause determined and corrected;
 2. The person pays the City for all costs the City incurred in responding to the actual or threatened backflow; and
 3. The person pays the City for all cost the City will incur in reinstating service.
- F. A person commits an offense if the person reinstates water service to any premises for which the Regulatory Authority has suspended water service in order to prevent or stop an actual or threatened backflow which presents, or may present imminent and substantial danger to the environment, the public water supply, or the health and welfare of any person, except as directed by the Regulatory Authority.

(Adopt Ord 09-058, 9/22/09)

ARTICLE IV**BACKFLOW FEES AND CHARGES**

- A. A person who owns, operates or manages premises where a backflow prevention assembly or assemblies are required shall annually register and pay an annual nonrefundable administrative fee for the registration of each health or high hazard backflow prevention assembly. The annual administrative fee charged for a backflow prevention assembly shall be per each separate device and shall be established by City Council Resolution. This annual administrative fee is to cover the administrative cost associated with the Regulatory Authority annually registering a backflow prevention assembly and obtaining, reviewing and maintaining the documentation required by this Chapter. Such fee may appear on the person's water utility statement. The Director of Water Utilities is authorized to collect such charges in a manner consistent with the "Water and Sewer" Chapter, the "Backflow Prevention" Chapter, the City Charter, and State law.
- B. There shall be an annual nonrefundable registration fee for each applicant registering with the City as a Certified Backflow Prevention Assembly Tester. Such fee shall be in an amount established by City Council Resolution. This annual nonrefundable registration fee is to cover administrative cost associated with Regulatory Authority annually registering an applicant with the City as a Certified Backflow Prevention Assembly Tester.

(Adopt Ord 09-058, 9/22/09)

ARTICLE V

PENALTY FOR VIOLATIONS AND OTHER REMEDIES

Section 5.01 Penalty for Violations and Other Remedies

- A. A person who violates any provision of this Chapter by performing an act prohibited or by failing to perform an act required is guilty of a misdemeanor; each day the violation continues shall be a separate offense.
1. If the definition of an offense under this Chapter does not prescribe a culpable mental state, then a culpable mental state is not required and the offense is one of strict liability. A strict liability offense shall be punishable by a fine not to exceed Five Hundred Dollars and No Cents (\$500.00). Although not required, if a culpable mental state is in fact alleged in the charge of the offense, such offense shall be punishable by a fine not to exceed Two Thousand Dollars and No Cents (\$2,000.00).
 2. If the definition of an offense under this Chapter prescribes a culpable mental state, then a culpable mental state is required and the offense shall be punishable by a fine not to exceed Two Thousand Dollars and No Cents (\$2,000.00).
- B. The remedies provided by this Chapter shall be in addition to all other criminal and civil remedies to which is entitled under authority of statutes, ordinances or in equity that the City may pursue.

(Adopt Ord 09-058, 9/22/09)

ARTICLE VI

APPEAL

Section 6.01 Appeal

A person may appeal the decision of the Director or Regulatory Authority by making a written request for appeal to the Appeals Officer within seven business days of the adverse decision or action. Appeal Officer means the City Manager designee that presides over appeals of the Director or Regulatory Authority actions or decisions. The appeal hearing shall be conducted no later than seven business days following receipt of the notice of appeal unless the parties agree to a later date. The appeal shall be conducted by the Appeal Officer. The decision of the Appeal Officer shall be final.

(Adopt Ord 09-058, 9/22/09)