

ARTICLE IV. BACKFLOW PREVENTION REGULATIONS

Sec. 6-46. Created; title.

This article shall be known as "The City of Coconut Creek Cross Connection Backflow Prevention Regulations."

(Ord. No. 145-95, § 2, 11-9-95)

Sec. 6-47. Applicability.

This article shall apply to all areas of the City of Coconut Creek and City of Parkland for which the City of Coconut Creek Utilities Division provides retail water service.

(Ord. No. 145-95, § 2, 11-9-95)

Sec. 6-48. Purpose.

The purpose of this article is:

- (a) To protect the public potable water supply of the City of Coconut Creek from the possibility of contamination or pollution by containing within the customer system such contaminants or pollutants that could backflow into the utility system; and
- (b) To promote the elimination or control of existing unprotected cross connections, actual or potential, which would create backflow and backsiphonage, between the customer system and plumbing fixtures, and industrial piping systems; and
- (c) To provide for the maintenance of a continuing program of cross connection control that will systematically and effectively prevent the contamination or pollution of the City of Coconut Creek Utility System.

(Ord. No. 145-95, § 2, 11-9-95)

Sec. 6-49. Responsibility.

The Director of the City of Coconut Creek Utilities and Engineering Department shall be responsible for the protection of the utility system from contamination or pollution due to the backflow or backsiphonage of contaminants or pollutants through the water service connection. If a backflow prevention assembly is required at a water service connection to any premises for the safety of the water system, the director or the city engineer shall give notice in accordance with Florida Building Code in writing to said owner to install a backflow prevention assembly at each water service connection to the premises. The owner shall install a backflow prevention assembly at no cost to the City of Coconut Creek; and failure, refusal or inability on the part of the owner to install said device or devices shall constitute grounds for discontinuing water service to the premises until such device or devices have been properly installed. Moreover, the director of the development services department shall be responsible for ensuring that the initial installation and testing of the backflow prevention assembly has been done properly and in accordance with this article; and the City of Coconut Creek Utilities and Engineering Department

will be responsible for ensuring implementation of annual testing and renewal requirements for the backflow prevention assemblies in accordance with this article. This article does not change or supersede any building codes related to fire prevention or any provisions of F.S. Ch. 633, Fire Prevention and Control. The owner will be responsible for complying with all applicable fire protection codes, statutes and ordinances.

(Ord. No. 145-95, § 2, 11-9-95; Ord. No. 2002-002, § 1, 2-28-02)

Sec. 6-50. Definitions.

[The terms defined in this section will maintain their respective meanings throughout this article unless a different meaning clearly appears from the context.]

- (1) *Approved*. Accepted by the Director of the City of Coconut Creek Utilities and Engineering Department as meeting an applicable specification stated or cited in this article, and as suitable for the proposed use.
- (2) *Atmospheric vacuum breaker (A.V.B.)*. An assembly that consists of a float check, a check seat, an open air inlet port, and a shutoff valve.
- (3) *Auxiliary water supply*. Any water supply available to a premises other than the water purveyor's utility system. Auxiliary water supply may include water from another public potable water supply, private potable water supply or any natural source(s) such as a well, spring, river, stream, harbor, etc., or "used waters" or "industrial fluids."
- (4) *Backflow*. The flow of water or other liquids, or substances under pressure into the utility system from any source or sources other than its intended source.
- (5) *Backflow preventer*. An assembly, devise or other means designed to prevent backflow or backsiphonage.
- (6) *Backpressure*. A pressure, higher than the supply pressure, caused by a pump, elevated tank, boiler, or other means that may cause backflow.
- (7) *Backsiphonage*. Backflow caused by negative or reduced pressure in the utility system.
- (8) *Building official*. The principal enforcing officer of the South Florida Building Code within a particular jurisdiction.
- (9) *Backflow prevention assembly*. A means or mechanism designed to prevent flow reversal through pipes or valves.
- (9A) *Backflow prevention assembly standards*. All backflow prevention assemblies required herein shall be an American Water Works Association (AWWA) approved backflow prevention assembly and shall be manufactured in full conformance with the standards established by the AWWA entitled:

AWWA C510-89-Standard for Double Check Valve Backflow Prevention Assembly, and

AWWA C511-89-Standard for Reduced-pressure Principle Backflow Prevention Assembly,

Further, backflow prevention assemblies must comply with the applicable laboratory and field performance specifications of the Foundation for Cross Connection Control and Hydraulic Research of the University of Southern California established by:

"Specification of Backflow Prevention Assemblies" — Sec. 10 of the most current issue to the Manual of Cross Connection Control; and in full conformance with standards established by the American Society of Sanitary Engineers entitled:

ASSE-1001 Atmospheric-Type Vacuum Breakers

ASSE-1020 Pressure-Type Vacuum Breakers

ASSE-1024 Dual Check-Type Backflow Preventer (Residential Use Only)

ASSE-1013 Reduced-pressure Principle, Back-Pressure Backflow Preventers, and

ASSE-1015 Double Check Valve-Type Back-Pressure Backflow Preventers.

Section 7 of the AWWA Manual M-14 describes the requirements for maintenance and testing procedures in detail for these approved backflow prevention assemblies. Said mechanism or means may be an air-gap separation, reduced-pressure backflow prevention assembly, double check valve assembly, dual check valve device, or other device which is accepted by the AWWA as being effective for the type of risk under which the premises are classified.

(9B) *Backflow prevention mechanisms.*

- (i) *Air-gap separation.* The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the flood level rim. An AWWA approved air-gap separation shall be at least double the diameter of the supply pipe, measured vertically, above the top of the flood level rim and, in no case, less than one inch. When an air gap separation is used at the water service connection to prevent the contamination or pollution of the utility system, an emergency by-pass shall be installed which shall include a backflow prevention assembly.
 - (ii) *Reduced-pressure backflow prevention assembly.* Two (2) independently-acting check valves together with a hydraulically-operating, mechanically-independent pressure-differential relief valve located between the check valves and below the first check valve. These units are located between two tightly closing resilient-seated shutoff valves as an assembly and equipped with properly located resilient-seated test cocks.
 - (iii) *Double check valve assembly.* Two (2) internally-loaded check valves, either spring loaded or internally weighted, installed as a unit between two tightly closing resilient-seated shutoff valves and fittings with properly located resilient-seated test cocks. This assembly shall be used only to protect against a non-health hazard and must be accessible for in-line maintenance and testing.
 - (iv) *Dual check valve device.* A compact unit manufactured with two (2) independent spring-activated check valves to prevent backflow. This device shall be used only on residential property to protect against a non-health hazard and cannot be tested or maintained.
- (10) *Certified tester.* A person certified through one of the following agencies as being competent to test, repair, overhaul, certify the operation, and make reports on backflow prevention assemblies:
- (i) American Society of Sanitary Engineers (A.S.S.E.);
 - (ii) National Environmental Technology Training Institute (N.E.T.T.I.);
 - (iii) Foundation for Cross Connection Control and Hydraulic Research (F.C.C.H.R.)-University of Southern California;
 - (iv) Training, Research, and Education for Environmental Occupations (T.R.E.E.O.)-University of South Florida; and
 - (v) Institution for Cross Connection Control (I.C.C.C.).
- (11) *Chief plumbing official.* The Broward County or municipal plumbing official responsible for the enforcement of plumbing regulations and prevention of cross connections.
- (12) *Contamination.* The introduction or admission of any foreign substance into the potable water supply that degrades the quality or creates a health hazard.

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- (13) *Cross connection.* Any physical connection or arrangement of piping or fixtures between two (2) otherwise separate piping systems, one of which contains potable water and the other nonpotable water or industrial fluids, through which, or because of which, backflow or backsiphonage may occur into the water system. A water service connection between a utility system and a customer system that is cross connected to a contaminated fixture, industrial fluids system, or with a potentially contaminated supply or auxiliary water system, constitutes one type of cross connection. Other types of cross connections include, but are not limited to, connectors such as swing connections, removable sections, four-way plug valves, spools, dummy sections of pipe, swivel or changeover devices, sliding multiport tube, and solid connections.
- (14) *Cross connection control.* A cross connection with a backflow prevention assembly properly installed and maintained so that it will continuously afford the protection commensurate with the degree of hazard.
- (15) *Customer.* The person, firm, corporation or other legal entity whose name or names appear on billing for a water service connection under the jurisdiction of the City of Coconut Creek's Utilities Division.
- (16) *Customer system.* This system shall include those parts of the facilities beyond the water service connection including the service lines that are utilized in conveying potable water to points of use, and other internal systems.
- (17) *Director of the development services department.* The person in charge of the Building and Permitting Division of the City of Coconut Creek or designee who is vested with the authority and responsibility for the implementation of building Codes and for enforcement of the provisions of this article by delegation through the building official to the chief plumbing official.
- (18) *Director of the utilities and engineering department.* The person in charge of the City of Coconut Creek's Utilities Operations Division or 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.
- (19) *Fire marshal.* For the City of Coconut Creek and the City of Parkland, the person charged with authority and responsibility to enforce the fire codes for the respective cities.
- (20) *Hazard-health.* A cross connection or potential cross connection involving any substance that could, if introduced in the water system, cause death, illness, disease, or have a high probability of causing such effects.
- (21) *Hazard non-health.* A cross connection or potential cross connection involving any substance that generally would not be a health hazard but would constitute a nuisance or be aesthetically objectionable, if introduced into the water system.
- (22) *Hazard-plumbing.* A plumbing type cross connection in a customer system that has not been properly protected by an atmospheric vacuum breaker or backflow prevention assembly. Unprotected plumbing-type cross connection are considered to be a health hazard.
- (23) *Hazard-system.* A threat of severe damage to the physical properties of the water system or of pollution or contamination that would have a protracted effect on the quality of the potable water in the water system.
- (24) *Industrial fluids system.* Any system containing a fluid or solution that may be chemically, biologically, or otherwise contaminated or polluted in a form or concentration, such as would constitute a health, non-health, plumbing, or system hazard, if introduced into the water system. This may include, but not be limited to: polluted or contaminated waters; all types of process waters and used waters originating from the water system that may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalis; circulating cooling waters connected to an open cooling tower and/or cooling towers

that are chemically or biologically treated or stabilized with toxic substances; contaminated natural waters, such as wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, and so forth; oils, gases, glycerine, paraffins, caustic and acid solutions, and other liquid and gaseous fluids used for firefighting, industrial, or other purposes.

- (25) *Owner*. The person, firm, corporation or other legal entity that holds title to a property or premises.
- (26) *Pollution*. The presence of any foreign substance in water that degrades its quality so as to constitute a health hazard or impair the usefulness of the water.
- (27) *Potable water*. Any water which, according to recognized federal and state standards, is safe for human consumption.
- (28) *Pressure-type vacuum breaker (P.V.B.)*. An assembly used to isolate entire irrigation lines from the water system.
- (29) *Source*. All components of the facilities utilized in the production, treatment, storage and delivery of water.
- (30) *Used water*. Any water supplied by the water purveyor from a utility system to a customer system after it has passed through the water service connection and is no longer under the sanitary control of the water purveyor.
- (31) *Utility system*. This system shall consist of the source, treatment facilities, the distribution system which includes the network of conduits, storage facilities, pumping apparatus, and any additional points of authorized utility chemical treatment (e.g., injection facilities) used for the delivery of water; and shall include all those facilities of the water system under the complete control of the water purveyor, up to the point where the customer system begins (i.e. water service connection).
- (32) *Water purveyor*. The City of Coconut Creek.
- (33) *Water service connection*. The terminal end of a service connection from the utility system, that is, where the water purveyor's jurisdiction and sanitary control over the water at its point of delivery to the customer system ends. If a meter is installed at the water service connection, then the water service connection shall mean the downstream end of the meter. There shall be no unprotected takeoffs from the service line ahead of any meter or backflow prevention assembly located at the point of delivery to the customer system. Water service connection shall also include connections from a fire hydrant and all other temporary or emergency connection from the utility systems.
- (34) *Water system*. The water system shall be the total system of water supply and distribution of potable water including the utility system and the customer system.

(Ord. No. 145-95, § 2, 11-9-95; Ord. No. 2002-002, § 1, 2-28-02)

Cross reference(s)—Definitions and rules of construction generally, § 1-2.

Sec. 6-51. Policy

- (a) No water service connection to any premises shall be installed or maintained by the water purveyor including the service connections to premises constructed prior to the effective date of this article unless the water system is protected as required by state laws, regulations, and this article. Service of water to any premises shall be discontinued by the water purveyor if a backflow prevention assembly required by this article is not installed, tested, certified and maintained, or if it is found that a backflow prevention assembly has been removed, bypassed, or if an unprotected cross connection exists on the premises. The director of utilities and engineering department shall notify the city's fire rescue department of such cases in a timely manner. Service shall not be restored until such conditions or defects are corrected.

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- (b) The customer side of the system shall be open for inspection at all reasonable times to authorized representatives of the City of Coconut Creek Utilities and Engineering Department, the City of Coconut Creek Utilities Division, and the City of Coconut Creek Chief Plumbing Official or other building or plumbing officials with jurisdiction to determine whether cross connections or other structural or sanitary hazards, including violations of the provisions of this article, exist. Water service may be discontinued after notice to the owner if a violation of this article exists on the premises, and such other precautionary measures may be taken as are deemed necessary to eliminate any danger to the potable water. Water service shall not be restored until the danger has been eliminated in compliance with the provisions of this article.
- (c) A backflow prevention assembly shall also be installed on each service line to a customer system at or near the property line or immediately outside the building being served; but, in all cases, before the first branch line leading off the service line wherever the following conditions exist:
- (1) In the case of premises having any auxiliary water supply, the utility system shall be protected against backflow from the premises by installing a backflow prevention assembly in the service line appropriate to the degree of hazard as described in section 6-51(d) and (f).
 - (2) In the case of premises on which any auxiliary water supply or industrial fluids system is utilized, the utility system shall be protected against backflow from the premises by installing a backflow prevention assembly in the service line appropriate to the degree of hazard as described in section 6-51(e).
 - (3) In the case of premises having internal cross connections or intricate plumbing and piping arrangements, the utility system shall be protected against backflow from the premises by installing a backflow prevention assembly in the service line appropriate to the degree of hazard as described in section 6-51(e).
 - (4) In the case of fire protection systems see section 6-51(f).
- (d) The type of protective device required under Section 6-51(c)(1), (2), and (3) shall depend upon the degree of hazard which exists as follows:
- (1) In the case of any premises where there is an auxiliary water supply as stated in section 6-51(c)(1) and it is not subject to sections 6-51(d)(2), (3), (4), (5), (6), the utility system shall be protected by an air-gap separation or a reduced-pressure backflow prevention assembly.
 - (2) In the case of any premises where a non-health hazard exists these systems shall be protected by a double check valve assembly.
 - (3) In the case of any premises where there is any material dangerous to health which is handled in such a fashion as to create an actual or potential hazard to the utility system, the utility system shall be protected by an air-gap separation or a reduced-pressure backflow prevention assembly.
 - (4) In the case of any premises where there are either actual or potential cross connections, the utility system shall be protected, by a backflow preventer on exterior water faucets, and an air-gap separation or a reduced-pressure backflow prevention assembly at the water service connection. The type of backflow prevention assembly shall be determined by the level and degree of hazard as outlined in sections 6-51(b), (e) and (g) of this article.
 - (5) In the case of any premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete in-plant cross connection survey, the utility system shall be protected against backflow or backsiphonage from the premises by a reduced pressure backflow prevention assembly at each domestic water service connection, a pressure vacuum breaker at each meter for irrigation systems, and a double detector check valve assembly for fire protection systems.

- (6) In the case of any premises where a health threat is posed because of the presence of extremely toxic substances, an air-gap separation shall be required before any takeoff from the service line, after the water meter, but within the premises, at the first point of water discharge.
- (e) A backflow prevention assembly of the type designated shall be installed on each domestic water service connection to the following types of facilities. This list is presented as a guideline with respect to the facilities listed and is not to be construed as being complete.

Abbreviations are as follows:

A.G. — Air Gap Separation

R.P. — Reduced-Pressure Backflow Prevention Assembly

D.C.V.A. — Double Check Valve Assembly

P.V.B. — Pressure Vacuum Breaker

A.V.B. — Atmospheric Vacuum Breaker

TYPE OF FACILITY	MINIMUM TYPE OF PROTECTION
Breweries, Distilleries, Bottling Plants	R.P.
Car Wash with recycling system and/or wax educator	R.P.
Chemical Plants	R.P.
Dairies	R.P.
Dentist Office	R.P.
Dwellings served by a master meter	D.C.V.A.
Fertilizer Plants	R.P.
Film Laboratory or Processing Plant	R.P.
Food or Beverage Plant	R.P.
Hospitals, Clinics, Medical Buildings	R.P. (Parallel)
Irrigation Systems	R.P. or P.V.B.
Laboratories	R.P.
Laundries & Dry Cleaning Plants	R.P.
Machine Tool Plants (Health or System Hazard)	R.P.
Machine Tool Plants (Pollutional Hazard)	R.P.
Metal Processing Plant (Health or System Hazard)	R.P.
Metal Processing Plant (Pollutional Hazard)	R.P.
Metal Plating Plant	R.P.
Morgues or Mortuaries	R.P.
Multi-Story Buildings served by a master meter	D.C.V.A.
Nursing Homes	R.P.
Packing Houses or Rendering Plants	R.P.
Paper Products Plants	R.P.
Pesticides (Exterminating Companies)	A.G.
Petroleum Processing Plant	R.P.
Petroleum Storage Yard (Health or System Hazard)	R.P.
Petroleum Storage Yard (Pollutional Hazard)	R.P.
Pharmaceutical or Cosmetic Plant	R.P.
Piers, Docks or Water Front Facilities	R.P.
Power Plants	R.P.

Radioactive Material Plants	R.P.
Restaurants	R.P.
Sand and Gravel Plants	R.P.
Schools	R.P.
Sewage Pumping Stations	R.P.
Shops (Retail and Wholesale)	R.P.
Swimming Pools with Piped Fill Line	A.G. at pool
Veterinary Establishments	R.P.

- (f) Due to the variety of installation designs of fire systems which may preclude the use of a meter, the point of service shall be defined as the last valve prior to the outside stem and yoke (OS & Y) valve. A backflow prevention assembly of the type designated below shall be installed on the water service connection for each fire protection service to any premises. Fire protection systems are divided into six (6) general classes. The following are typical:

MINIMUM TYPE OF PROTECTION	
CLASS 1 D.C.V.A.	A closed automatic fire protection system without pumper connection, having 20 heads or less;
CLASS 2 D.C.V.A.	A closed automatic fire protection system with pumper connection;
CLASS 3 R.P.	A closed automatic fire protection system with pumper connection and an auxiliary water supply on or available to the premises; or an auxiliary water supply which may be located within 1,700 feet of the pumper connection;
CLASS 4 R.P.	A closed automatic fire protection system with a closed pressure tank supply (this class may have a jockey pump interconnected with the domestic water supply and/or an air compressor connection);
CLASS 5 R.P.	A closed automatic sprinkler system interconnected with an auxiliary water supply;
CLASS 6	Fire protection system used for the combined purposes of supplying the automatic sprinklers, hose lines, fire hydrants and standpipes and being used for industrial purposes.
R.P.	(a) Self-draining fire hydrants on premises presenting a health or system hazard (i.e., chemical plants, petroleum storage plants, bulk storage yards, stock yards, sewer plants, or similar facilities) where ground seepage of toxic materials may occur.
D.C.V.A.	(b) Self-draining fire hydrants on premises presenting a non-health hazard (i.e., parks, playfields, or similar facilities) where ground seepage of non-health hazard materials may occur.

- (g) A backflow prevention assembly shall be required in all premises not described in the previous sections, with exception of existing single-family dwellings. A backflow prevention assembly shall be required at each meter servicing irrigation and fire protection systems.

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- (h) Approval of a backflow prevention assembly shall be evidenced by a "Certificate of Approval" issued by an AWWA-approved testing laboratory certifying full compliance with AWWA and A.S.S.E. standards and F.C.C.H.R. specifications. Backflow prevention assemblies that have been fully tested and have been granted a certificate of approval may be installed without further testing or qualification.
 - (i) It shall be the duty of the owner at any premises where backflow prevention assemblies are installed to have certified inspections and operational tests made at least once per year. Failed inspections, or those instances where the director of the utilities and engineering department deems the hazard to be great enough, shall require tests at six-month intervals. These inspections and tests shall be at no cost to the City of Coconut Creek. There is no charge for premise permit for county-owned installations or certifications of backflow prevention assemblies owned and operated by the City of Coconut Creek.

It shall be the duty of the director of the utilities and engineering department to see that timely tests are made in accordance with Section 4620.8(b) of the South Florida Building Code, as amended from time to time. These backflow prevention assemblies shall be repaired, overhauled or replaced at no cost to the City of Coconut Creek whenever such devices are found to be defective. The certified tester shall send two (2) certified records of such tests, repairs, overhaul or replacement, one (1) to the utilities division and one (1) to the City of Coconut Creek Building and Permitting Division or the municipal department with jurisdiction.

- (j) Nothing herein shall relieve the owner of the responsibility for conducting, or causing to be conducted, periodic surveys of water use practices on the premises to determine where there are actual or potential cross connections in the customer system through which contaminants or pollutants could backflow into the water system.
- (k) All presently installed backflow prevention assemblies than do not meet the requirements of this article shall be modified or replaced to satisfactorily protect the utility system. Whenever an existing backflow prevention assembly is moved from the present location, or the lack of maintenance constitutes a health hazard, the device must be recertified as correct for the new application in accordance with the sections 6-51(d), (e), (f) and must be subsequently reinspected.

(Ord. No. 145-95, § 2, 11-9-95; Ord. No. 2002-002, § 1, 2-28-02; Ord. No. 2021-014 , § 4, 6-24-21)

Sec. 6-52. Fees.

The schedule of fees may be amended from time to time. Yearly recertification of backflow preventers each shall be sixty dollars (\$60.00).

All inspections, repairs, change-outs or installations of backflow preventers shall be performed by a licensed plumbing contractor. A certified backflow technician may perform the tests on a domestic backflow system, provided the said technician works under direct supervision of a licensed plumbing contractor.

(Ord. No. 145-95, § 2, 11-9-95; Ord. No. 2012-015, § 1, 7-26-12; Ord. No. 2019-008, § 2, 5-9-19)

Sec. 6-53. Time frames.

The time frame for installation of backflow prevention assemblies under this article is specified in the South Florida Building Code in Section 4620, Effective Date of Enforcement, and as subsequently amended.

(Ord. No. 145-95, § 2, 11-9-95; Ord. No. 2002-002, § 1, 2-28-02)

Sec. 6-54. Non-compliance.

For the existing premises, a backflow prevention assembly required by this article shall be installed within six (6) months after a notice has been issued by the city to said premises except single-family residence which will be brought into compliance as meters are serviced or changed out. If a backflow prevention assembly required by this article is not installed, tested and maintained as specified herein, or if it is found that a backflow prevention assembly has been removed or bypassed, the water purveyor may discontinue water service after a notice has been issued. Notice may be waived in any case where: (a) the public health, safety and welfare is directly and immediately threatened as determined by the director of the utilities and engineering department or by the director of the development services department or other department having jurisdiction; and (b) the water purveyor has attempted to give notice, verbal or otherwise, to the customer. In any case where notice has been waived and water service discontinued; the water purveyor shall issue a notice to the customer within twenty-four (24) hours of the discontinuance. After notice has been given or in any case in which notice has been waived, the customer may request a hearing which will be held within one (1) working day of said request before the director of utilities and engineering department or the director of the development services department or other department having jurisdiction. In addition to the procedures set forth in this section, the provisions of this division may be enforced by any means provided by law for the enforcement of city ordinances.

(Ord. No. 145-95, § 2, 11-9-95; Ord. No. 2002-002, § 1, 2-28-02)