



CROSS-CONNECTION CONTROL PROGRAM MANUAL

Resolution 2019 - 060

Effective Date: April 9, 2019

Preface

Sarasota County Public Utilities Department's ("Utilities") number one priority is safe drinking water. In order to protect the community drinking water, Utilities is required to ensure state and federal requirements are met. The Florida Administrative Code ("F.A.C.") Chapter 62-555.360, "Cross-Connection Control for Public Water Systems", as may be amended, requires that all water utilities establish and implement a Cross-Connection Control Program (the "Program") to protect the community water system from contamination caused by cross-connections. The Program includes a written plan using accepted practices of the American Water Works Association (AWWA) Manual M14, as incorporated into F.A.C. Chapter 62-555.360.

The purpose of this manual, adopted by resolution of the Board of County Commissioners, is to supplement Ordinance 2016-009, codified as Chapter 22, Article IV of the Sarasota County Code ("the Code") and to establish an effective Cross-Connection Control Program in the Utilities water service area in accordance with directives issued at the Federal and State level. Responsibilities for the control of cross-connections are shared by Utilities, the property owner, cross-connection control professionals, and the Florida Department of Environmental Protection (FDEP). The specifications in this manual serves to enhance the safety of the drinking water system.

- Utilities encourages cross-connection control professionals to review this manual and specifications before installing a backflow preventer.
- This manual will provide the responsible parties with the understanding and importance of cross-connection prevention and the requirement for backflow preventers.
- The standards and specifications as set forth in this manual will be uniformly enforced.
- Utilities will update this manual as necessary due to changes in FDEP policies and regulations and/or AWWA standards.

Table of Contents

Section/Title	Page
SECTION 1 – PURPOSE	3
SECTION 2 – AUTHORITY	3
SECTION 3 – DEFINITIONS	4
SECTION 4 – RESPONSIBILITY	7
SECTION 5 – DEGREE OF HAZARD/PREMISES EVALUATION	9
SECTION 6 – MANDATORY PROTECTION REQUIREMENTS	10
SECTION 7 – RECLAIMED WATER PROGRAM	15
SECTION 8 – TECHNICAL QUALIFICATIONS	16
SECTION 9 – BACKFLOW PREVENTER INSTALLATION REQUIREMENTS	16
SECTION 10 – BACKFLOW PREVENTER TESTING, REPAIR, REPLACEMENT AND RETROFITTING	18
SECTION 11 – DECOMMISSIONING	20
SECTION 12 – TAGGING OF TESTED ASSEMBLIES	20
SECTION 13 – TEST REPORTING	20
SECTION 14 – ENFORCEMENT	21
SECTION 15 – RECORD KEEPING	22
SECTION 16 – ADMINISTRATION	23
SECTION 17 - CONFLICTS WITH STATE AND FEDERAL LAWS	23

SECTION 1 – PURPOSE

The purpose of a cross-connection control program is as follows:

A. Protection of the Public Potable Water Supply

To protect the public potable water supply from the possibility of contamination or pollution by isolating actual and/or potential cross-connections in the water distribution system that could create backflow by back-pressure or backsiphonage into the public potable water supply in accordance with F.A.C. Chapter 62-555.360, as may be amended.

B. Elimination of Cross-Connections

To ensure the elimination and control of cross-connections (actual or potential) between the potable water system(s), and any other system(s) or plumbing fixture(s).

C. Maintenance and Operation

To provide for the maintenance and operation of a continuing program of cross-connection control which will systematically and effectively prevent the contamination or pollution of the water distribution system, as required by the FDEP in accordance with the F.A.C. Chapter 62-555.360, as may be amended.

D. Containment

Containment with an approved backflow preventer protects the water supply at the point where the Utilities water system connects with the customer's water system. The backflow preventer is to be installed at the outlet side of the water meter or fire protection service connection whenever it has been determined that a hazard exists. Containing the hazardous source reduces the possibility of a wide spread contamination.

SECTION 2 – AUTHORITY

A. Florida Regulations

The Safe Drinking Water Act, enacted on December 16, 1974, created new authority through a chain of laws and regulations that resulted in the State requirement (Florida Safe Drinking Water Act, Sections 403.850-403.864, Florida Statutes) for all potable water systems to have a cross-connection control program.

The Florida Administrative Code, 62-555.200 Cross-Connections Control for Public Water Systems requires each community water system (CWS) to establish and implement a cross-connection control program utilizing backflow protection at or for service connections from the CWS in order to protect the CWS from contamination caused by cross-connection on customers' premises.

SECTION 3 – DEFINITIONS

Air-gap Separation (AG) - A physical separation between the free-flowing discharge end of a potable water supply pipeline and an open or non-pressure receiving vessel. An approved air-gap separation shall be a distance of at least two (2) times the diameter of the supply pipe measured vertically above the top rim of the vessel, however in no case less than one (1) inch.

Approved - Accepted by the Utilities Director or designee as meeting an applicable specification or meeting specifications of state and local codes.

Atmospheric Vacuum Breaker (AVB) - A backflow preventer device which is operated by atmospheric pressure in combination with the force of gravity. The unit is designed to work on a vertical plane only.

Auxiliary Water System - A pressurized system of piping and appurtenances that is used to supply water from an auxiliary water supply, or reclaimed water supply to landscaping, industrial agricultural crops, plumbing fixtures, decorative fountains, car washing facilities, air conditioning systems, etc. F.A.C. Table 62-555.360-2, Footnote 4, specifically excludes any water recirculation or treatment system for a swimming pool, hot tub, or spa as an “auxiliary water system”.

Auxiliary Water Supply - Any water supply on or available to the premises other than the approved public potable water supply. These auxiliary waters may include other potable water supply or any natural source, such as a well, lake, spring, river stream, etc., or used water or industrial fluids. These waters may be polluted or contaminated, or they may be objectionable and constitute an unacceptable water source over which Utilities does not have sanitary control.

Backflow - The flow of water or other liquids into Utilities potable water supply system from sources other than Utilities approved water system.

Backflow Preventer - An assembly, device or method that prohibits the reversal of flow of liquids into a potable water supply system, which may occur through a cross-connection.

Backpressure - Any elevation or pressure in the downstream piping system (by pump, elevation of piping, or stream and/or air pressure) above the supply pressure at the point of consideration which would cause or tend to cause, a reversal of the normal direction of flow.

Backsiphonage - A form of backflow due to a reduction in system pressure which causes a negative or sub-atmospheric pressure to exist at a site in the water system. This reduction of pressure in the water supply system can result in the flow of water or other liquids, mixtures or other substances into the distribution pipes of a potable water supply system from a source other than its intended source.

Category of Customer - The classification of each water customer based on property use, auxiliary water supplies, and auxiliary water systems.

Certified Test Gauges - Gauges that are calibrated and certified annually to USC Standards by a testing lab approved by the Utilities Director or his/her designee.

Contractor - As defined in Subsection 489.105(3) Florida Statutes, as may be amended.

Containment Protection - Preventing backflow into a public potable water system from a user's premises by installing a suitable backflow preventer at the service connection.

Contamination - An impairment of the quality of the potable water supply by compounds or other materials to a degree which creates an actual hazard to the public health.

Cross-Connection - Any physical connection or arrangement of piping or fixtures between two otherwise separate systems, one of which contains potable water and the other, unapproved water, fluids, gases or other materials through which backflow may occur.

Customer - Any person, business or any other entity residing in or doing business within the service area of Utilities or who is or was connected to Utilities water system.

Double Check Valve Assembly (DC) - An assembly consisting of two independently operating approved check valves that are internally loaded, either spring loaded or internally weighted, and installed as a unit between two tightly closing resilient-seated shut-off valves. Properly located resilient-seated test costs shall be provided for the testing of each check valve.

Double Detector Check Valve Assembly (DCDA) - A specifically designed assembly composed of an approved double check valve assembly with a specific bypass water meter and an approved double check valve assembly all properly sized. The meter shall register accurately for low flow rates and shall total all flows.

Dual Check Device (DuC) - A backflow preventer device containing two internally loaded, independently operating check valves.

Fire Protection - As defined in Subsection 633.021(10), Florida Statutes, as may be amended.

Hazard - Any liquid or contaminant that is considered a health or pollution hazard other than the potable water supply.

Hazard, Degree of - An evaluation of the potential risk to public health and the adverse effect on health from the public potable water system.

Hazard-High - Any foreign substance that, if introduced into a potable water system, could cause death or illnesses, spread disease, or have a high probability of causing such effects.

Hazard-Low - The presence of any foreign substance (organic, inorganic, or biological) in water, which may degrade its quality.

Industrial Fluid - Any fluid or solution which may physically, chemically, biologically or otherwise contaminate or pollute potable water if introduced into the public potable water system or property owner's plumbing system or potable water system. Industrial fluids may include, but not be limited to polluted or contaminated water; all types of process waters and "used waters" originating from the public potable water system which may deteriorate in sanitary quality; chemicals in fluid form; plating acids and alkalis; circulated cooling water connected to an open cooling tower and/or cooling waters that are chemically or biologically treated or stabilized with toxic substances; contaminated natural water such as from wells, lakes, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc., oil, gases, glycerin, paraffin, caustic and acid solutions; and other liquid and gaseous fluids.

Internal Protection (Isolation) - An approved backflow preventer assembly at the source of potential hazard within the property owner's plumbing system.

Non-Potable Water - Any water which is not safe for human consumption or which is of questionable quality.

Potable Water - Any water which, according to recognized standards, is safe for human consumption.

Pressure Vacuum Breaker (PVB) - An assembly similar to an atmospheric vacuum breaker except that the checking unit "poppet valve" is activated by a spring. This type of vacuum breaker does not require a negative pressure to react and can be used on the pressure side of a valve.

Reclaimed Water (Reuse) - Treated and disinfected effluent from a wastewater treatment plant used for irrigation, fire protection, and all other purposes permitted by F.A.C., as may be amended.

Reduced Pressure Detector Assembly (RPDA) - A specifically designed assembly composed of an approved reduced pressure zone backflow preventer with a specific bypass water meter and an approved reduced pressure zone backflow preventer, all properly sized. The meter shall register accurately for low flow rates and shall total all flows.

Reduced Pressure Assembly (RP) - An assembly containing within its structure a minimum of two independently acting, approved check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure a predetermined amount, so that during normal flow and at cessation of normal flow, the pressure between the checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure. The assembly shall include tightly-closing resilient seated shut-off valves located at each end of the assembly and each assembly shall be fitted with properly located resilient seated test cocks.

Residential Service - Any service connection, including any dedicated irrigation or fire service connection, that is two inches or less in diameter and that supplies water to a building, or premises, containing only dwelling units.

Sarasota County Public Utilities (SCPU) - The Sarasota County Government entity with the responsibility of administering, operating, and maintaining the Sarasota County potable water, wastewater, and reclaimed water utility systems. SCPU shall be synonymous with the term purveyor and Utilities.

Water Service Connection - The terminal end of a service connection from the public potable water system (i.e., where Utilities loses jurisdiction and sanitary control over water at its point of delivery to the property owner's plumbing system). If a meter is installed at the end of the service connection, then the service connection shall mean the downstream end of the meter. Service connection shall also include water service connection from a fire hydrant and all other temporary or emergency water service connections from the public potable water system.

Water Supply–Approved - Any public potable water supply that has been investigated and approved by the FDEP. The system must be operating under a valid permit.

SECTION 4 – RESPONSIBILITY

A. Utilities Responsibility

Under the Safe Drinking Water Act of 1974 and Rules of the FDEP provided in F.A.C. Chapter 62-555.360, relating to cross-connection, Utilities has the primary responsibility of maintaining a cross-connection control program to prevent water from unapproved sources, or any other substances, from entering Utilities' public potable water system. Utilities' responsibilities shall include, but not be limited to, the following:

1. Upon detection of a prohibited or inappropriately protected cross-connection, Utilities shall either eliminate the cross-connection by requiring the installation of an approved backflow preventer assembly or discontinue service until the contaminate source is eliminated. Utilities shall ensure that an appropriate backflow preventer assembly is provided at or for the water service connection to the customer regardless of whether the cross-connection is eliminated or whether an internal backflow protection assembly is installed at the cross-connection to the customer's plumbing system.
2. For new construction, Utilities will provide on-site evaluation and/or inspection of plans in order to determine the type of backflow preventer, if any, that will be required.
3. For premises existing prior to the effective date of this manual, Utilities will perform evaluations and inspections of plans and/or premises (a) whenever an auxiliary water system is discovered on the premises, (b) whenever a prohibited or inappropriately protected cross-connection is discovered on a premises, (c) whenever the customer's premises is altered under a building permit in a manner that could change the backflow protection required at or for a service connection. Utilities shall inform the property owner

- by letter of any corrective action deemed necessary and the time allowed for the correction to be made.
4. Utilities will not allow any cross-connection to remain unless it is protected by an approved backflow preventer assembly for which a permit has been issued and which will be tested in accordance to this manual to insure satisfactory operation.
 5. Utilities shall notify the property owner of any failure to comply in accordance with Section 22-95, of the Code.
 6. If Utilities determines at any time that a serious threat to the public health exists, the water service will be terminated immediately.
 7. Utilities will utilize available technology to analyze certified test information and may perform and record field checks to assure the quality of information being received.

B. Property Owner's Responsibility

The property owner's responsibility starts at the point of delivery from the public potable water system and includes all of the property's water systems. The owner is required to install, operate, maintain, test and/or periodically replace approved backflow preventers as directed by Utilities in accordance with local codes and ordinances, this manual, and other applicable regulations. The owner is responsible to maintain records of all testing and repairs.

In the event of accidental pollution or contamination of the public or owner's potable water system due to backflow on or from the premises, the owner shall promptly take steps to confine further spread of pollution or contamination within the premises and is required to notify Utilities at the time of discovery of the hazardous condition.

Nothing herein shall relieve the owner of the responsibility for conducting periodic surveys of water use practices on their premises to determine where there are actual or potential cross-connections in the public potable water system or owner's potable water system.

1. The owner shall be responsible for the elimination or protection of all cross-connections on his/her premises.
2. The owner, after having been informed by a letter from Utilities, shall install, maintain, test and/or periodically replace the backflow preventer on the premises.
3. The owner shall correct any malfunction of the backflow preventer assembly which is revealed by periodic testing.
4. The owner shall inform Utilities of any proposed or modified cross-connections and also any existing cross-connections of which they are aware but has not been found by Utilities.
5. The owner shall not install a bypass around any backflow preventer unless there is a backflow preventer of the same type on the bypass. For properties that cannot shut down operation for testing of the backflow preventer assembly, the owner must supply additional assemblies necessary to allow testing to take place.

6. The owner shall install only approved backflow preventers and in a manner that is approved by Utilities.
7. The owner shall be responsible for the payment of all fees for permits, routine assembly testing, re-testing in the case that the assembly fails to operate correctly, and second re-inspections for non-compliance with Utilities requirements.
8. The owner shall make backflow preventers accessible to county employees.

SECTION 5 – DEGREE OF HAZARD/PREMISES EVALUATION

Potential contamination hazards pose a risk to the potable water supply. Contaminants are considered a high health hazard and presents a risk to our health, and pollutants are considered low, non-health hazards affecting the quality of the water. The type of backflow preventer required at the service meter is based on the degree of hazard that exists on the premises. See examples in Table 5-1.

Table 5-1: Degree of Hazard

Description of Premises	Assessment of Hazard	Recommended Backflow Preventer
Hospitals, mortuaries, clinic, laboratories	Health	Reduced Pressure
Plants using radioactive material	Health	Reduced Pressure
Petroleum processing or storage facilities	Health	Reduced Pressure
Premises where inspection is restricted	Health	Reduced Pressure
Sewage treatment plant	Health	Reduced Pressure
Sewage lift stations	Health	Reduced Pressure
Commercial laundry	Health	Reduced Pressure
Plating or chemical plants	Health	Reduced Pressure
Docks or dockside facilities	Health	Reduced Pressure
Food and beverage processing plants	Health	Reduced Pressure
Surface Water	Health	Reduced Pressure
Boat marina	Health	Reduced Pressure
Tall buildings	Non-health	Reduced Pressure
Steam plants	Non-health	Reduced Pressure
Hydrant meter connection	Health	Reduced Pressure
Irrigations systems – Connected to Potable Water	Health	Reduced Pressure
Residential Irrigation Systems – Not Connected to Potable Water – Surface Water Supplied	Health	Reduced Pressure or Pressure Vacuum Breaker
Residential Irrigation Systems – Not Connected to Potable Water – Well Supplied	Non-health	Dual Check

Utilities adopts the following procedures for evaluating customers’ premises to establish the category of customer and the backflow protection being required at or for the service connection.

A. New Connections

Utilities shall evaluate the customer's premises at a newly constructed service connection before Utilities begins supplying water to the service connection.

1. **Commercial** - Utilities shall review construction plans for commercial projects to ensure the level of protection provided is equal with the degree of hazard on the premises. Utilities will visually inspect each premises to verify the initial installation of required assemblies prior to issuing a certificate of occupancy.
2. **Residential** - Utilities shall provide educational material for distribution to new water customers. The residential water customer shall be required to disclose at the time of application for service any existing or proposed hazards or auxiliary water systems on the premises.
3. **Utility Construction Projects** - Utilities shall review construction plans for utility projects to ensure the level of protection provided is equal with the degree of hazard on the premises. Utilities will visually inspect each premises to verify the initial installation of required backflow preventer assemblies prior to issuing a certificate of occupancy.

B. Existing Service Connections

Utilities may obtain from the Department of Health the status of any wells on the property. Utilities may examine the permitting records to determine the presence of auxiliary water systems and the potential for cross-connections to exist. Utilities may use information systems such as satellite imaging to make determinations which may be further confirmed by a site inspection. The findings of inspections shall be recorded and may include photographs, diagrams, written statements and other forms of correspondence.

Utilities shall evaluate the customer's premises with an existing service connection whenever:

1. A premises connects to a reclaimed water distribution system;
2. An auxiliary water system is discovered;
3. A prohibited or inappropriately protected cross-connection is discovered; and/or the customer's premises is altered under a building permit in a manner that could change the level of protection required for the service connection.

SECTION 6 – MANDATORY PROTECTION REQUIREMENTS

The Category of Customer defines the conditions under which a backflow preventer will be required and the minimum level of protection for each category. Utilities shall ensure minimum backflow protection provided at or for the service connection from the utility to the customer is appropriate for the degree of hazard. For definitions refer to Section 3 of this manual.

Table 6-1: Mandatory Protection Requirements – FAC 62-555.360-2

Table 62-555.360-2: Categories of Customers for Which Each Community Water System (CWS) Shall Ensure Minimum Backflow Protection Is Provided at or for the Service Connection from the CWS to the Customer (Effective 5-5-14)	
Category of Customer	Minimum Backflow Protection¹ To Be Provided at or for the Service Connection from the Community Water System to the Customer
Beverage processing plant, including any brewery	Double Check if the plant presents a low hazard ² ; or Reduced Pressure if the plant presents a high hazard ²
Cannery, packing house, rendering plant, or any facility where fruit, vegetable, or animal matter is processed, excluding any premises where there is only restaurant or food service facility	Reduced Pressure
Car wash	Reduced Pressure
Chemical plant or facility using water in the manufacturing, processing, compounding, or treatment of chemicals, including any facility where a chemical that does not meet the requirements in paragraph 62-555.320(3)(a), F.A.C., is used as an additive to the water	Reduced Pressure
Dairy, creamery, ice cream plant, cold-storage plant, or ice manufacturing plant	Reduced Pressure ³
Dye plant	Reduced Pressure
Film laboratory or processing facility or film manufacturing plant, excluding any small, noncommercial darkroom facility	Reduced Pressure
Hospital; medical research center; sanitarium; autopsy facility; medical, dental, or veterinary clinic where surgery is performed; or plasma center	Reduced Pressure
Laboratory, excluding any laboratory at an elementary, middle, or high school	Reduced Pressure
Laundry (commercial), excluding any self-service laundry or Laundromat	Reduced Pressure

Steam boiler plant	Reduced Pressure
Tall building – i.e., a building with five or more floors at or above ground level	Double Check if the customer has no potable water distribution lines connected to the suction side of a booster pump; or Reduced Pressure if the customer has one or more potable water distribution lines connected to the suction side of a booster pump
Wastewater treatment plant or wastewater pumping station	Reduced Pressure
Customer supplied with potable water via a temporary or permanent service connection from a CWS fire hydrant	Varies ¹⁴

¹ Means of backflow protection, listed in an increasing level of protection, include the following: a dual check device (DuC); a double check valve assembly (DC) or double check detector assembly (DCDA); a pressure vacuum breaker assembly (PVB); a reduced-pressure principle assembly (RP) or reduced-pressure principle detector assembly (RPDA); and an air gap. A PVB may not be used if backpressure could develop in the downstream piping.

² The CWS shall determine the degree of hazard. “Low hazard” or “non-health hazard” and “high hazard” or “health hazard” are defined in *AWWA Manual M14* as incorporated in paragraph 62-555.360(1)(a), and subsection 62-555.360(2), F.A.C.

³ A DC may be provided if it was installed before 5-5-14; and if such a DC is replaced on or after 5-5-14, it may be replaced with another DC.

⁴ For the purpose of this table, “auxiliary water system” means a pressurized system of piping and appurtenances using auxiliary water, which is water other than the potable water being supplied by the CWS and which includes water from any natural source such as a well, pond, lake, spring, stream, river, etc., includes reclaimed water, and includes other used water or industrial fluids described in *AWWA Manual M14* as incorporated in paragraph 62-555.360(1)(a), and subsection 62-555.360(2), F.A.C.; however, “auxiliary water system” specifically excludes any water recirculation or treatment system for a swimming pool, hot tub, or spa. (Note that reclaimed water is a specific type of auxiliary water and a reclaimed water system is a specific type of auxiliary water system.)

⁵ The Department shall allow an exception to the requirement for backflow protection at or for a residential or non-residential service connection from a CWS to premises where there is an auxiliary or reclaimed water system if all of the following conditions are met:

- The CWS is distributing water only to land owned by the owner of the CWS.
- The owner of the CWS is also the owner of the entire auxiliary or reclaimed water system up to the points of auxiliary or reclaimed water use.
- The CWS conducts at least biennial inspections of the CWS and the entire auxiliary or reclaimed water system to detect and eliminate any cross-connections between the two systems.

⁶ For the purpose of this table, “residential service connection” means any service connection, including any dedicated irrigation or fire service connection, that is two inches or less in diameter and that supplies water to a building, or premises, containing only dwelling units; and “non-residential service connection” means any other service connection.

⁷ A DuC may be provided only if there is no known cross-connection between the plumbing system and the auxiliary or reclaimed water system on the customer's premises. Upon discovery of any cross-connection between the plumbing system and any reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated. Upon discovery of any cross-connection between the plumbing system and any auxiliary water system other than a reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated or shall ensure that the backflow protection provided at or for the service connection is equal to that required at or for a non-residential service connection.

⁸ Reclaimed water regulated under Part III of Chapter 62-610, F.A.C., is a low hazard unless it is stored with surface water in a pond that is part of a stormwater management system, in which case it is a high hazard; well water is a low hazard unless determined otherwise by the CWS; industrial fluids and used water other than reclaimed water are high hazards unless determined otherwise by the CWS; reclaimed water not regulated under Part III of Chapter 62-610, F.A.C., and surface water are high hazards.

⁹ Upon discovery of any cross-connection between the plumbing system and any reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated.

¹⁰ A DC may be provided if both of the following conditions are met:

- The dedicated irrigation service connection initially was constructed before 5-5-14.
- No chemicals are fed into the irrigation system.

¹¹ The CWS may rely on the internal backflow protection required under the *Florida Building Code* or the predecessor State plumbing code. The CWS may, but is not required to, ensure that such internal backflow protection is inspected/tested and maintained the same as backflow protection provided at or for service connections from the CWS.

¹² The Department shall allow an exception to the requirement for backflow protection at or for a residential or non-residential dedicated fire service connection from a CWS to a wet-pipe sprinkler, or wet standpipe, fire protection system if both of the following conditions are met:

- The fire protection system was installed and last altered before 5-5-14.
- The fire protection system contains no chemical additives and is not connected to an auxiliary water system as defined in Footnote 4.

¹³ Upon discovery of any cross-connection between the fire protection system and any reclaimed water system on the customer's premises, the CWS shall ensure that the cross-connection is eliminated.

¹⁴ The CWS shall ensure that backflow protection commensurate with the degree of hazard is provided at or for the service connection from its fire hydrant.

Rulemaking Authority 403.086(8), 403.853(3), 403.861(9) FS. Law Implemented 403.086(8), 403.852(12), 403.853(1), 403.855(3), 403.861(17) FS. History—New 11-19-87, Formerly 17-22.660, Amended 1-18-89, 1-3-91, 1-1-93, Formerly 17-555.360, Amended 8-28-03, 5-5-14.

SECTION 7 – RECLAIMED WATER PROGRAM

Specific requirements affecting the design and construction of Utilities reclaimed water systems are regulated by the FDEP as provided for in F.A.C. Chapter 62-610 (3) states that no cross-connections to potable water systems shall be allowed. For systems permitted under F.A.C. subsection 62-610.418(2), the permittee shall develop and obtain Department acceptance for a cross-connection

control and inspection program as discussed in F.A.C. Chapter 62-610.469 and 62-555.360, as may be amended.

SECTION 8 – TECHNICAL QUALIFICATIONS

Documentation supporting the technical qualifications and laboratory reports for field test equipment will be provided to Utilities prior to performing backflow prevention services. Contractors shall provide Utilities with a legible copy of the State issued license certificate.

A. Test Kits

All test kits shall be laboratory tested and calibrated annually. The calibration report shall be provided to Utilities prior to first use. Utilities reserves the right to inspect test kits or order an additional laboratory report if reported readings are suspected of being unreliable.

B. Qualified Backflow Prevention Technician

A qualified backflow prevention technician shall mean a person who has successfully completed an examination process from a technical institution recognized by the AWWA or equivalent minimum thirty-two (32) hour certification program or training acceptable to Utilities and the FDEP. The examination shall include testing about theory of backflow prevention, and a hands-on, practical field-test procedure of all types of backflow preventer assemblies. A current certification must be provided to Utilities. The certified person must:

1. Hold a valid and current license as a plumbing contractor or work under the supervision of a plumbing contractor for potable water lines; or
2. Hold a valid and current license as an underground utility contractor or be an employee of a licensed underground utility contractor, while working within the confines of an active utility permit.
3. A certified backflow prevention technician performing backflow testing and services for dedicated fire protection service connections shall be adequately licensed in accordance with F.S. Chapter 633. Improperly licensed contractors may be subject to significant liabilities and civil penalties.

SECTION 9 – BACKFLOW PREVENTER INSTALLATION REQUIREMENTS

Utilities has primary responsibility and authority to control the service connection as provided for in F.A.C. Chapter 62-555.360. A backflow preventer shall be installed at the direction of Utilities either at the property owner's meter or at a location designated by Utilities.

A. Approved Backflow Preventer Assemblies

All backflow preventer assemblies shall be lead-free and manufactured in full conformance with the standards established by the AWWA as well as the standards set forth by the Foundation for Cross-Connection and Hydraulic Research of the University of Southern California (USC).

B. Installation Criteria

Installations shall be consistent with the AWWA Manual M14 and in conformance with applicable requirements of State Building Code as adopted by Sarasota County. An approved backflow preventer shall be installed on the immediate downstream side of each service connection before the first branch leading off the service line.

C. Installation Requirements – DC, DCDA, RP, RPDA Only

1. Assemblies shall be installed a minimum of one (1) foot above the ground or the maximum flood level, whichever is highest.
2. Assemblies must not be installed in a pit or below grade where the assembly could become submerged in water.
3. Assemblies shall be installed in the horizontal position unless otherwise recommended by the manufacturer and approved by the Utilities Director or his/her designee.
4. No galvanized pipe, PVC pipe, or push to connect type fittings are allowed.
5. Assemblies shall be testable and reasonably accessible.
6. Information shall be readable (size, type, model #, serial #).
7. Shut-off valves shall be in a workable position.
8. Installation inside of a locked building is prohibited.

D. Installation Requirements – Dual Check

1. Devices shall be installed in a standard utility box with cover at grade.
2. Device and utility box shall be installed immediately downstream of the water meter.
3. Utility meter box and dual check valve shall remain reasonably accessible.

E. Installation Variance

Utilities may approve separating the location of a backflow preventer assembly from the service meter to protect the assemblies from being damaged by moving equipment or whenever the assemblies may create a physical hazard. When the inlet upright of an assembly is five feet (5') or less from the meter box, the certified backflow technician must provide a description of the hazardous condition on the initial test certification. If the distance requested exceeds five feet (5'), an installation variance form must be submitted to Utilities. The assemblies may not be installed or relocated until the variance form has been reviewed and accepted. The assemblies must still meet the installation criteria and applicable local code.

F. Parallel Backflow Assemblies

If continuous flow is required during backflow assembly servicing or testing, then two backflow assemblies connected in parallel will be required.

G. Support Assemblies

Assemblies three inches (3”) and larger shall be adequately supported to prevent the assemblies from sagging.

H. Painting and Color Coding

All backflow preventer assemblies and associated piping, valves, and fittings may be painted using the color codes stated below to protect the assemblies and for identification purposes. The property owner will be responsible for the initial painting and the continual maintenance of all such painted surfaces. Meters shall not be painted.

Potable Water Systems	Blue OSHA
Fire Protection Systems	Lime
Reclaimed Water Systems	Purple Pantone
Wastewater Systems	Green

SECTION 10 – BACKFLOW PREVENTER TESTING, REPAIR, REPLACEMENT & RETROFITTING

A. Testing

1. Procedures

Utilities approves of the backflow testing procedures of technical institutions providing education and certifications. A certified tester may vary the sequence of the steps and methods of troubleshooting to diagnose problems. Utilities may choose to establish a mandatory standardized testing procedure.

2. Testing Frequency

In accordance with F.A.C. Chapter 62-555.360-Table 1, III.D, the following testing frequencies are hereby required as of the effective date of this manual:

- a. Non-residential Service Connections - Assemblies being required at or for non-residential service connections shall be tested after installation, replacement, or repair and at least annually thereafter and shall be repaired if they fail to meet performance standards. Utilities shall establish the fixed annual test due date.

- b. Residential Service Connections - Assemblies being required at or for residential service connections shall be tested after installation, replacement, or repair and at least biennially (every 2 years) thereafter and shall be repaired if they fail to meet performance standards. Utilities shall establish the fixed biennial test due date.

3. Out of Cycle Test

A test that is required due to an event such as a relocation or a repair shall be referred to as an out of cycle test and does not alter the assembly's fixed test due date. An out of cycle test being performed within sixty (60) days of the assembly's fixed test due date shall satisfy the annual or biennial testing requirement.

B. Repair

Annual/Biennial tests that result in failure should be repaired immediately upon discovery. Backflow prevention contractors should have manufacturer replacement parts readily available. In situations that repairs cannot be performed at the time of discovery, a test report describing the failing conditions must be received by Utilities no later than two (2) days after the initial test date. All services performed as a result of a failing test must be documented as prescribed in the reporting requirements set forth in Section 13 of this manual.

C. Replacement

A replacement backflow preventer assembly must be lead-free and on the approved assembly list. The replacement assembly must meet the mandatory protection requirements and the installation criteria as adopted in this manual.

Non-testable Dual Check Devices must be refurbished or replaced no later than every 10 years.

D. Retrofitting

All installed backflow preventer assemblies at the adoption of this manual which do not meet the mandatory protection requirements in Section 6 of this manual but meet the installation requirements, shall be deemed conditionally acceptable. The conditionally accepted assemblies being required as specified in Section 6 of this manual shall:

1. Be tested in accordance to this adopted manual.
2. Be retrofitted whenever the existing assembly is moved from the present location or requires internal replacement parts that exceed minimum maintenance. The unit shall be retrofitted with a preventer of a type that meets the Mandatory Protection Requirements and is deemed appropriate for the Category of Customer as defined in Section 6 of this manual.

All installed backflow preventer assemblies which do not meet the requirements of this manual shall be retrofitted at the direction of Utilities.

SECTION 11 – DECOMMISSIONING

A residential premise having no auxiliary water systems may be eligible to decommission the containment backflow preventer assembly that is not required by current state and local codes or this manual. The premises may be surveyed by qualified Utilities staff or agent of Utilities to determine the presence of potential hazards. The property owner will be required to provide Utilities with a written statement attesting there are no auxiliary water systems and will not alter the plumbing system without a permit. A licensed plumber shall inspect the customer's plumbing system, to confirm no auxiliary systems or cross-connections are present, and submit a completed decommission report on the date the assembly is physically removed.

SECTION 12 – TAGGING OF TESTED ASSEMBLIES

Only backflow preventer assemblies receiving a “passing” status shall be tagged at the time of testing. The tag shall contain the name of the certifying company, the plumbing contractor license number, and business contact information. The tag shall clearly indicate the month and year when the certification was performed. The tag should be constructed of a durable plastic no less than .030 mil thickness. Utilities reserves the right to revise tagging requirements as needed. Any other tag specifications must be approved in advance by Utilities.

SECTION 13 – TEST REPORTING

A. Test Reports

All test certifications must be submitted in a format that is approved by Utilities. The certified testing contractor shall retain a record of any backflow related services including but not limited to test reports, repairs, invoices, and variance requests for a period of no less than three (3) years and be available to Utilities upon request. The submitted test report shall contain:

1. The date of inspection, test, repair, replacement, or installation of assembly.
2. The name of the manufacturer, model number, size, type, and serial number of the assembly.
3. The assembly location including the premises address and the location on the premises.
4. The water meter number or other identification numbers.
5. The test results before and after repair or maintenance.
6. The maintenance performed or the repairs that were made to the assembly, including the replacement parts and the date the repairs were made.
7. The name of the certified backflow technician, certification number with expiration date of the backflow technician.
8. The name of the backflow contractor with business.

9. The test equipment manufacturer, model number, serial number and calibration expiration date.
10. Building or plumbing permit number for all new assembly installations.

B. Timeliness of Reporting

To ensure the continual protection of the distribution system Utilities must be aware of the operational status of required assemblies. Backflow prevention contractors must submit the test data as follows:

1. **Passing** - Annual/Biennial inspections with passing performance results shall be submitted no later than ten (10) days from the date the initial test was performed.
2. **Failing** - Annual/Biennial inspections that “fail” to meet the performance requirements and cannot be repaired at the time the initial test is performed must be reported to Utilities within two (2) days of the initial test date. Utilities will evaluate the hazardous factors to determine if water service will be discontinued until the assembly is repaired or replaced.

C. Web-based Reporting

Utilities require contractors to submit test reports via a web application. The reporting requirements for web-based entry will be supplied to each backflow prevention contractor along with user ID and login password. New assembly installations shall be submitted on a paper test report supplied by Utilities.

SECTION 14 – ENFORCEMENT

No water service connection to any premises shall be installed or maintained by Utilities unless the water supply is protected as required by Federal, State, and Local Laws and Ordinances and this adopted manual.

A. Violations

Service of water to any premises shall be discontinued by Utilities if a backflow preventer required by this manual is not installed, tested, and maintained, or if it is found that a backflow preventer has been removed, by-passed, or an unprotected cross-connection exists on the premises. Notification shall be provided in accordance with Section 22-95, of the Code. In the event of a hazardous situation where contaminants are actually in the process or suspected of entering the public potable water distribution system, Utilities is authorized to take immediate steps deemed necessary to correct a hazardous condition. This shall include the right to discontinue potable water service to a premises where a hazardous condition may be occurring. Such emergency steps, including discontinuance of potable water service, may be taken without advance notice to the property owner. In any case of discontinuance, service shall not be restored until such conditions or defects that led to the discontinuation of service are corrected at the

owner's expense. The Utilities Director or designee shall notify the Department of Health within 24 hours whenever such action has been taken.

Submission by any person of any false statement or misrepresentation in any application, record, report, plan or other document filed or required by this manual shall constitute a violation. Any person who has not complied with Federal, State and Local Laws or Ordinances regarding cross-connection control shall be considered in violation of the conditions for water service. Any person or entity not complying with this adopted manual shall be in violation.

Subject to approval by the Utilities Director or designee, due to extenuating circumstances, upon written request from the property owner, compliance with this manual may be extended from the due date for compliance with this manual in accordance with Section 22-95 of the Code.

B. Penalty

Violations of this manual may be enforced by the remedies set forth in Section 22-97, of the Code. Violations of this manual shall be enforced according to severity and potential danger presented to the potable water system.

SECTION 15 - RECORD KEEPING

Cross-connection control program records will be consistent with F.A.C. Chapter 62-550, "Drinking Water Standards, Monitoring and Reporting" and Public Records retention laws of the State of Florida, as these may be amended.

Utilities shall maintain the records in the type and format as shown below, unless otherwise approved by the Utilities Director or designee:

A. Utilities Records

Utilities shall maintain the following records:

1. List of all completed service connection assessment questionnaires or reports or keep computer summaries of this information.
2. List of all customers with service protection backflow preventers.
3. List of pertinent information about each backflow preventer, i.e., size, make, model, location, etc.
4. All backflow preventer assembly test reports, i.e., completed service connection assessment, retest date, and test reports or keep paper or computer summaries of this information.
5. Copies of informational materials used to convey to property owners the importance of cross-connection control and their responsibilities. The dates such information is disseminated shall be recorded.
6. Credentials and training of Utilities cross-connection control program personnel, including any sub-contracted personnel.

7. Copies of all other cross-connection program documentation, including service contracts, notifications to customers, enforcement actions, backflow incident reports and other related activity.

B. Utilities Annual Report

Utilities shall submit the Cross-Connection Control Program Annual Report using form 62-555.900 (13) as required by F.A.C. Chapter 62-555.360, as may be amended. These reports shall be submitted to Sarasota County Department of Health on or before the last business day of the third month after the end of the calendar year covered by the report, unless otherwise approved by the Department of Health.

SECTION 16 – ADMINISTRATION

The Utilities Director or designee is authorized to administer the Cross-Connection Control Program in conformance with the specifications set forth in this manual, as these may be amended from time to time.

SECTION 17 - CONFLICTS WITH STATE AND FEDERAL LAWS

In the event this manual is found to conflict with state or federal law, now or in the future, the state or federal law will take precedence.