

FRWA SAMPLE ORDINANCE

ORDINANCE NO. 427

AN ORDINANCE TO BE ENTITLED "AN ORDINANCE TO AMEND ORDINANCE NO. 425; PROVIDING FOR THE AMENDMENT OF ARTICLE V., BY ADDING THERETO ARTICLE V. -A-: CROSS-CONNECTION CONTROL -- GENERAL POLICY; AND PROVIDING FOR THE AMENDMENT OF ARTICLE VI. BY AMENDING SECTION 2. SUB-SECTION (2) (a) AND (b) PROVIDING A SCHEDULE OF CHARGES FOR MONTHLY SEWER SERVICES TO USERS BOTH WITHIN AND WITHOUT THE CITY LIMITS; AND PROVIDING FOR A FURTHER AMENDMENT OF ARTICLE VI. BY ADDING THERETO SUB-SECTION (4) PROVIDING FOR BACKFLOW PREVENTERS AND CROSS-CONNECTIONS; REPEALING ANY AND ALL ORDINANCES IN CONFLICT HEREWITH; PROVIDING FOR PUBLICATION; and PROVIDING FOR EFFECTIVE DATE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF

_____, **FLORIDA:**

ARTICLE V. -A-: CROSS-CONNECTION CONTROL--GENERAL POLICY

SECTION 1. PURPOSE: The purpose of this Article is:

- (a) To protect the public water main against actual or potential cross-connections, backflow by backpressure and backsiphonage by isolating within the premise or private property contamination or pollution that has occurred or may occur because of same un-discovered or unauthorized cross-connection on the premises or private property.
- (b) To protect the water supply system within the premise or private property against actual or potential cross-connections, backflow by backpressure and backsiphonage by requiring such air gaps, vacuum breakers, backflow preventers, special devices as required by this Ordinance, or other applicable regulations.
- (c) To eliminate cross-connections, backflow by backpressure and backsiphonage on any other source of water or process water used for any purpose whatsoever which may jeopardize the safety of the water supply or which may endanger the health and welfare of the general public.
- (d) To establish a cross-connection control and backflow prevention program.

SECTION 2. RESPONSIBILITY: The superintendent or Utilities, or his designee, shall be responsible for the protection of the public potable water distribution system from contamination or pollution due to backflow of contaminants or pollutants through the water service connection. If, in the judgment of said Superintendent, or his designee, an approved backflow prevention assembly is required, at the city's water service connection to any customer's premises, for the safety of the water system, the Superintendent, or his designated agent, shall give notice in writing to said customer to install such an approved backflow prevention assembly at each service connection to his premises. The customer shall immediately install such approved device, or devices, or assemblies at his own expense; and, failure, refusal, or inability on the part of the customer to install said device, or assemblies, immediately shall constitute a ground for discontinuing water service to the premises until such device, or assemblies, have been properly installed

SECTION 3. DEFINITIONS: (No need to define words not used in ordinance)

ADD: definitions for: Approved Assembly, Device, PVB, AVB, SVB

Also... put in alphabetical order

- (a) Superintendent of Utilities: The Superintendent of Utilities, or his designee in charge of the Water Department of the City of Perry, is invested with the authority and responsibility for the implementation of an effective cross-connection control program and for the enforcement of the provisions of this Ordinance.
- (b) Approved: Accepted by the Superintendent of Utilities or his designee, as meeting an applicable specification stated or cited in this Ordinance, or as suitable for the proposed use.
- (c) Auxiliary Water Supply: Any water supply on or available to the premises other than the purveyor's approved public potable water supply. These auxiliary waters may include water from another purveyor's public potable water supply or any natural source(s) such as well, spring, river, stream, harbor, etc., or "used waters" or "industrial fluids". These waters may be polluted or contaminated or they may be objectionable and constitute an unacceptable water source over which the water purveyor does not have sanitary control.
- (d) Backflow: The flow of water or other liquids, mixtures or substances under pressure into the distributing pipes of a potable water supply system from any source or sources other than its intended source.
- (e) Backsiphonage: The flow of water or other liquids, mixtures or substances into the distributing pipes of a potable water supply system from any other source other than its intended source caused by the sudden reduction of pressure in the potable water supply system.
- (f) Backflow Preventer: A device, assembly or means designed to prevent backflow .

- (g) Air-Gap: 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 of said vessel. An approved air-gap shall be at least double the diameter of the supply pipe, measured vertically, above the top of the rim of the vessel; and, in no case less than one inch. When an air-gap is used at the service connection to prevent the contamination or pollution of the public potable water system, an emergency by-pass shall be installed around the air-gap system and an approved reduced pressure principle device assembly shall be installed in the by-pass system.
- (h) Reduced Pressure Principle Assembly: An assembly of two independently operating approved check valves with an automatically operating differential relief valve between the two check valves, tightly closing shut-off valves on either side of the check valves, plus properly located test cocks for the testing of the check and relief valves. The entire assembly shall meet the design and performance specifications and approval of a recognized and City-approved testing agency for backflow prevention assemblies. The assembly shall operate to maintain the pressure in the zone between the two check valves at a level less than the pressure on the public water supply side of the device. At cessation or reduction of normal flow, the pressure between the two check valves shall be less than the pressure on the public water supply side of the device. In case of leakage of either of the check valves the differential relief valve shall operate to maintain the reduced pressure in the zone between the check valves by discharging to the atmosphere. When the inlet pressure is two pounds per square inch, or less, the relief valve shall open to the atmosphere. To be approved, these assemblies must be readily accessible for in-line maintenance and testing and be installed in a location where no part of the assembly will be submerged.
- (i) Double Check Valve Assembly: An assembly of two independently operating approved check valves with tightly closing shut-off valves on each side of the check valves, plus properly located test cocks for the testing of each check valve. The entire assembly shall meet the design and performance specifications and approval of a recognized and City-approved testing agency for backflow prevention assemblies. To be approved, these assemblies must be readily accessible for in-line maintenance and testing.
- (j) Contamination: Means an impairment of the quality of the potable water by sewage, industrial fluids or waste liquids, compounds or other materials to a degree which creates an actual hazard to the public health through poisoning or through the spread of disease.
- (k) Cross-Connection: Any physical connection or arrangement of piping or fixtures between two otherwise separate piping systems one of which contains potable water and the other non-potable water or industrial fluids of questionable safety, through which, or because of which, backflow by backpressure or backsiphonage may occur into the potable water system. A water service connection between a public potable water distribution system and a customer's water distribution system which is cross-connection to a contaminated fixture, industrial fluid system or with a potentially contaminated supply or auxiliary water system, constitutes one type of cross-connection. Other types of cross-connections include connectors such as swing

connections, removable sections, four-way valves, spools, dummy sections of pipe, swivel or change-over devices, sliding multi-port tube, solid connections, etc.

- (l) Cross-Connections – Controlled: A connection between a potable water system and a non-potable water system with an approved backflow prevention assembly properly installed that will continuously afford the protection commensurate with the degree of hazard.
- (m) Cross-Connection Control by Containment: The installation of an approved backflow prevention assembly at the water service connection to any customer's premises where it is physically and economically infeasible to find and permanently eliminate or control all actual or potential cross-connections within the customer's water system; or, it shall mean the installation of an approved backflow prevention assembly on the service line leading to and supplying a portion of a customer's water system where there are actual or potential cross-connections which cannot be effectively eliminated or controlled at the point of cross-connection.
- (n) Hazard, Degree of: The term is derived from an evaluation of the potential risk to public health and the adverse effect of the hazard upon the potable water system.
 - (i) Hazard-Health: Any condition, device or practice in the water supply system and its operation which could create, or in the judgement of the Superintendent, or his designee may create a danger to the health and well-being of the water consumer. An example of a health hazard is a structural defect, including cross-connection, in a water supply system.
 - (ii) Hazard-Plumbing: A plumbing type cross-connection in a consumer's potable water system or to the potability of the public or the consumer's potable water system but which would constitute a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.
 - (iii) Hazard-Pollutional: An actual or potential threat to the physical properties of the water system or to the potability of the public or the consumer's potable water system but which would constitute a nuisance or be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.
 - (iv) Hazard-System: An actual or potential threat of severe damage to the physical properties of the public potable water system or the consumer's potable water system or of a pollution or contamination which would have a protracted effect on the quality of the potable water in the system.
- (o) Industrial Fluids System: Any system containing a fluid or solution which may be chemically, biologically or otherwise contaminated or polluted in a form or concentration such as would constitute a health, system, pollutional or plumbing

hazard is introduced into an approved water supply. This may include, but not be limited to: polluted or contaminated waters; all types of process waters and “used waters” originating from the public potable water system which may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalies, circulated cooling water connected to an open cooling tower and/or cooling towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural water such as from wells, springs, streams, rivers, bays, harbors, seas, irrigation canals or systems, etc.; oils, gases, glycerin, paraffin’s, caustic and acid solutions and other liquids and gaseous fluids used in industrial or other purposes or for fire-fighting purposes.

- p) Pollution: Means the presence of any foreign substance (organic, inorganic or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health but which does adversely and unreasonably affect such waters for domestic use.
- q) Water-Potable: Any water, which, according to recognized standards is safe for human consumption.
- r) Water-Non Potable: Water which is not safe for human consumption or which is of questionable potability.
- s) Water Purveyor: The term water purveyor shall mean the owner or operator of the public potable water system supplying an approved water supply to the public. As used herein, the terms water purveyor and City of _____ may be used synonymously.
- t) Water Service Connections: The terminal end of a service connection from the public potable water system i.e., where the Water Purveyor loses jurisdiction and sanitary control over the water at its point of delivery to the customer’s water system. If a meter is installed at the end of the service connection, then the service connection shall mean the downstream and of the meter. There should 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’s water system. Service connection shall also include water service connection from a fire hydrant and all other temporary or emergency water service connections from the public water system.
- u) Water-Used: Any water supplied by a water purveyor from a public potable water system to a consumer’s water system after it has passed through the point of delivery and is no longer under the sanitary control of the Water Purveyor.

SECTION 3. REQUIREMENTS:

- a) **WATER SYSTEM:** The water system shall be considered as made up of two parts: The Utility System and the Customer System.
- b) **UTILITY SYSTEM:** The Utility System shall consist of the source facilities and the distribution system; and shall include all those facilities of the Water System under the complete control of the Utility, up to the point where the Customer's System begins.
- c) **SOURCE:** The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of the water to the distribution system.
- d) **DISTRIBUTION SYSTEM:** The distribution system shall include the network of conduits used for the delivery of water from the source to the customer's system.
- e) **CUSTOMER'S SYSTEM:** Shall include those parts of the facilities beyond the termination of the utility distribution system which are utilized in conveying utility-delivered domestic water to points of use.

SECTION 4. POLICY:

- a) No water service connection to any premises shall be installed or maintained by the Water Purveyor unless the water supply is protected as required by State laws and regulations and this Ordinance. Service of water to any premises shall be discontinued by the Water Purveyor if a backflow prevention assembly required by this Ordinance is not installed, tested and maintained, or if it is found that a backflow prevention assembly has been removed, by-passed, or if an unprotected cross-connection exists on the premises. Service will not be restored until such conditions or defects are corrected.
- b) The customer's system should be open for inspection at all reasonable times to authorized representatives of the City of _____ to determine whether cross-connections or other structural or sanitary hazards, including violations of these regulations exist. Water service may be discontinued after reasonable notice to the Consumer if a violation of this Ordinance 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 had been eliminated in compliance with the provisions of this Ordinance.
- c) customer's water system at or near the property line or immediately inside the building being served; but, in all cases, before the first branch line leading off the service line where ever the following conditions exist:

- (i) In the case of premises having an auxiliary water supply which is not or may not be of safe bacteriological or chemical quality and which is not acceptable as an additional source by the Superintendent, or his designee, the public water 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.
 - (ii) In the case of premises on which any industrial fluids or any other objectionable substance is handled in such a fashion as to create an actual or potential hazard to the public water system, the public 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. This shall include the handling of process waters and waters originating from the utility system which have been subject to deterioration in quality.
 - (iii) In the case of premises having (1) internal cross-connections that cannot be permanently corrected and controlled, or (2) intricate plumbing and piping arrangements or where entry to all portions of the premises is not readily accessible for inspection purposes, making it impracticable or impossible to ascertain whether or not dangerous cross-connections exist, the public water system shall be protected against backflow from the premises by installing a backflow prevention device assembly in the service line.
- d) The type of protection assembly required under Section 4. (c)-(i), (ii), and (iii) shall depend upon the degree of hazard which exists as follows:
- (i) In the case of any premises where there is an auxiliary water supply as stated in sub-section (c)-(i) of this Section and it is not subject to any of the following rules, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly.
 - (ii) In the case of any premises where there is water or substance that would be objectionable but not hazardous to health, if introduced into the public water system, the public water system shall be protected by an approved double check valve assembly.
 - (iii) 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 public water system, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly. Example of premises where these conditions will exist include sewage treatment plants, sewage pumping station, chemical manufacturing plants, hospitals, mortuaries and plating plants.

- (iv) In the case of any problems where there are “un-controlled” cross-connections, either actual or potential, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly at the service connection.
 - (v) In case of any premises where, because of security requirements or other prohibitions or restrictions it is impossible or impractical to make a complete inplant cross-connection survey, the public water system shall be protected against backflow by backpressure or backsiphonage from the premises device in the service line. In this case, maximum protection will be required; that is, an approved air-gap separation or an approved reduced pressure principle backflow prevention assembly shall be installed in each service to the premises.
- e) Any backflow prevention assembly required herein shall be of a model and size approved by the Superintendent of Utilities, or his designee. The term “Approved Backflow Prevention Assembly” shall mean a device that has been manufactured in full conformance with the standards established by the American Water Works Association entitled:

AWWA C510-97 - Double Check Valve Backflow Prevention Assembly

AWWA C511-97 - Reduced Pressure Principle and Double Check Valve Backflow Prevention Assembly

as well as the standards set forth by the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California

- f) It shall be the duty of the customer-user at any premises where backflow prevention assemblies are installed to have certified inspections and operational tests made at least once per year. In those instances where the Superintendent of Utilities, or his designee, deems the hazard to be great enough, he may require certified inspections at more frequent intervals. These inspections and tests shall be performed by the assembly manufacturer’s representative, or by a certified tester approved by the Superintendent of Utilities, or his designee. It shall be the duty of the Superintendent, or his designee, to see that these timely tests are made. The customer-user shall notify the Superintendent, or his designee, in advance when the tests are to be undertaken so that he or his representative may witness the tests if it is so desired. These assemblies shall be repaired, overhauled, or replaced at the expense of the customer-user whenever said assemblies are found to be defective. Records of such test, repairs, and overhaul shall be kept and copies sent to the Water Distribution Office of the City Clerk.
- g) All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved assemblies for the purposes described

herein at the time of installation and which have been properly maintained, shall, except for the inspection and maintenance requirements under sub-section (f), be excluded from the requirements of these rules so long as the Superintendent of Utilities is assured that they will satisfactorily protect the utility system. Whenever the existing assembly is moved from the present location or requires more than minimum maintenance or when the Superintendent, or his designee, finds that the maintenance constitutes a hazard to health, the unit shall be replaced by a backflow prevention assembly meeting the requirements of this section.

- h) Nothing herein shall relieve the consumer of the responsibility for conducting, or causing to be conducted, periodic surveys of water use practices on his remises to determine where there are actual or potential cross-connections in the consumer's water system through which contaminants or pollutants could flow back into a public water system or potable consumer's water system.

ARTICLE VI. SECTION 2, sub section (2) (a) and (b) are hereby amended to read as follows:

- (2) Sewer rates and charges shall be on a monthly basis as follows:

- (a) RESIDENTIAL:

SINGLE-FAMILY DWELLING, OR EACH UNIT OF A

MULTI-FAMILY DWELLING, TWO BATHROOM UNIT.

EACH ADDITIONAL BATHROOM UNIT, COST PER UNIT

- (b) NON-RESIDENTIAL:

One Hundred Percent (100%) of monthly water bill or ~~\$00.00~~, whichever amount is greater. (Where non-residential users have sprinkling load which is separately metered, no charge shall be applied against his separately metered water bill.)

ARTICLE VI. SECTION 2 of Ordinance No. 425 is hereby amended by adding sub-section (a) as follows:

- (a) Backflow preventers as specified by the City shall be required on the following types of facilities:

Beverage bottling plants,
Car washes,
High-rise buildings,
Canneries, packing houses and reduction plants,
Dairies,
Films and other laboratories,
Commercial laundries and dyeworks (excluding coin laundries),
Wastewater facilities,
Metal manufacturing, cleaning, processing, and fabricating plants,
Oil and gas production, storage and transmission facilities,
Plating plants and facilities,
Radioactive materials, research, production and utilization plants,
Restricted, classified and other facilities closed to inspection,
Steam generating facilities,
Schools and colleges with laboratories,
Sand and gravel plants,
Hospitals, medical buildings, doctors' offices, veterinarians' offices, sanitariums,
morgues, mortuaries, autopsy facilities, nursing and convalescent homes and clinics,
Meat packing plants or related facilities,
Fire fighting systems, including reservoirs, which are subject to contamination with
anti-freeze solutions, "Foamite", or other chemicals or compounds used in fighting
fires,
Auxiliary water systems,
Irrigation systems.

Backflow preventers may be required by the Superintendent of Utilities, or his designee, for other facilities not listed if deemed necessary to protect the water system from possible contamination.

Penalty for Non-Compliance Water service will be discontinued after reasonable notice to the Consumer if a violation of this Ordinance 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 will be discontinued if the proper backflow prevention assembly is not installed or not tested at least annually or not repaired when the assembly fails to meet minimum design standards. Water service shall not be restored until the danger had been eliminated in compliance with the provisions of this Ordinance.

All ordinances or parts of ordinances in conflict or inconsistent with the provisions of this Ordinance be, and the same hereby repealed.

This Ordinance shall take effect from and after its passage, approval, recording, and publication as provided by law.

PASSED AND ADOPTED in open session this _____ day of _____, 19__.

Definitions:

Approved Backflow Prevention Assembly An approved backflow prevention device with isolation valves and test cocks to facilitate in-line testing and repair. The assembly must appear on a current approval list from the American Society of Sanitary Engineering (A.S.S.E.) or on an approval list from the Foundation of Cross-Connection Control and Hydraulic Research at the University of Southern California (FCCC & HR @ USC)

Atmospheric Vacuum Breaker (AVB) an anti-siphon backflow prevention device that incorporates an air inlet to prevent backflow by backsiphonage. Designed to protect against high and low hazards during a backsiphonage condition only. Sometimes includes a shut-off valve on the upstream side only.

Backflow Prevention Device a means of backflow protection, usually mechanical that does not require shut-off valves and test cocks.

Pressure Vacuum Breaker (PVB) an assembly containing one independently operated internally loaded check valve and an independently operated internally loaded air inlet valve located on the discharge side of the check. Assembly includes tightly closing shut-off valves on the inlet and outlet sides of the assembly and properly located test cocks. Designed to protect against high hazards under a backsiphonage condition only.

Spill Resistant Pressure Vacuum Breaker (SVB) an assembly designed to prevent backsiphonage that can be used under continuous pressure; the assembly includes an independently operating spring loaded check valve and an independently loaded air inlet valve located on the discharge side of the check with shut-off valves located on the inlet and outlet side of the assembly, a resilient seated test cock located downstream of the number one shut-off valve and upstream of the check valve with a properly located air vent above the check valve and below the air inlet valve.

Definitions from the American Backflow Prevention Association (ABPA) Draft Dictionary.

The following definitions from the UF/TREEO Center textbook *Backflow Prevention Theory and Practice*, 2nd Edition by Robin L. Ritland, 2004

atmospheric vacuum breaker (AVB)—A mechanical backflow prevention device consisting of a float check valve and an air inlet port; designed to prevent backsiphonage by allowing air to enter the downstream water line. This unit does not provide protection against backpressure or continuous pressure. A shut-off valve is not allowed downstream from the device. A shut-off valve downstream would allow the device to be subjected to continuous pressure.

backflow prevention assembly—A mechanical backflow preventer (i.e., SVB, PVB, DCVA, RP), used to prevent the backward flow of contaminants or pollutants into a potable water distribution system. An assembly has a resilient seated, full-flow shut-off valve before and after the backflow preventer making it testable in-line. The assembly is shipped with the shut-off valves attached to the backflow preventer. An assembly is labeled with the manufacture's symbol, size, serial number, model number, the working pressure, and the direction of flow. The Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California tests and approves backflow prevention assemblies.

backflow prevention device—A mechanical backflow preventer without the shut-off valves. An atmospheric vacuum breaker is a device. It does not have shut-off valves on the downstream side of the backflow prevention mechanism. Also, any backflow prevention assembly without the shut-off valves is called a device. The American Society of Sanitary Engineers (ASSE) approves backflow prevention devices.

pressure vacuum breaker assembly (PVB)—An assembly consisting of one independently operating spring loaded check valve, an independently operating, loaded air-inlet valve, 2 test cocks, and 2 shut-off valves. This assembly is designed to prevent backsiphonage. It cannot be used where it may be subjected to backpressure. It can be operated under continuous pressure.

spill-resistant vacuum breaker (SVB)—An assembly designed to prevent backsiphonage that can be used under continuous pressure; the assembly includes an independently operating spring loaded check valve and an independently loaded air inlet valve located on the discharge side of the check with shut-off valves located on the inlet and outlet side of the assembly, a resilient seated test cock located upstream of the number one shut-off valve and downstream of the check with a properly located vent valve above the check valve and below the air inlet valve.