

ORDINANCE 2011-15

AN ORDINANCE OF THE CITY OF LAKE WALES, POLK COUNTY, FLORIDA AMENDING CHAPTER 21, UTILITIES, ARTICLE III. WATER SYSTEM, TO ESTABLISH A CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION PROGRAM; REVISING CURRENT RULES PERTAINING TO CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION; AMENDING ARTICLE VI. CHARGES FOR SERVICES, TO ESTABLISH FEE FOR ANNUAL BACKFLOW PREVENTION DEVICE INSPECTION; PROVIDING FOR AN EFFECTIVE DATE.

BE IT ENACTED by the City Commission of the City of Lake Wales, Polk County, Florida:

SECTION 1. Chapter 21, UTILITIES, Lake Wales Code of Ordinance is hereby amended as follows:

ARTICLE III. WATER SYSTEM

DIVISION 1. GENERALLY

~~Sec. 21-72. Cross-connection/backflow prevention.~~

~~Definitions. For the purpose of this section, the following terms shall have the meanings herein given:~~

~~Cross-connection shall mean any physical arrangement whereby a public water supply is connected, directly or indirectly, with any other water supply, system, sewer, drain, conduit, pool, storage reservoir, plumbing fixture, or other device which contains or may contain contaminated water, sewage, or other waste or liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water supply as the result of backflow. By-pass arrangements, jumper connections, removable sections, swivel or changeable devices, and other temporary or permanent devices through which or because of which backflow could occur are considered to be cross-connections. (Rule 62-550.220(16), F.A.C.)~~

~~Backflow shall mean the flow of water or other liquids, mixtures or substances under pressure into the distribution pipes of a potable water supply system from any source or sources other than its intended source due to back siphonage or back pressure.~~

~~(b) Cross-connection prohibited. Cross-connection as defined in Rule 62-550.220(16), F.A.C., is prohibited. It is the responsibility of the city's utilities department to protect the public water supply from contamination by its customers' private water systems, contaminants or pollutants which could, under adverse conditions, backflow through uncontrolled cross-connections into the public water system.~~

~~(c) Backflow devices required. All connections to the city's water system shall be required to have an approved backflow device installed, operated, maintained and tested in accordance with the following:~~

- ~~(1) The type of device installed may vary according to the degree of hazard to the public water supply as determined by the utilities director.~~
- ~~(2) Installation, testing and inspection of backflow devices must be performed by, or under the supervision of, a State of Florida certified backflow technician.~~
- ~~(3) Testing shall be done at least once in a twelve (12) month period. More frequent testing may be required at the discretion of the utilities director depending on the condition of the device or potential elements of hazard.~~

- (4) ~~Failure to install or maintain the appropriate backflow device by the time specified in a written notification from the utilities director shall result in termination of water service. Service so terminated shall not be restored until all conditions specified by the utilities director have been satisfied.~~

Sec. 21-73 21-72. Irrigation meters.

Separate meters shall be permitted for irrigation purposes subject to the following conditions:

- (1) It shall be the customer's responsibility to make the physical connection between the irrigation meter and irrigation system, whether it is an existing system or newly constructed system.
- (2) The irrigation meter shall be considered in service upon the date of its installation.

Secs. 21-74—21-85. 21-73 – 21-75. Reserved

DIVISION 2. CROSS CONNECTION CONTROL AND BACKFLOW PREVENTION PROGRAM

Sec. 21-76. Introduction.

A cross connection is defined by the American Water Works Association (AWWA) as "any connection or structural arrangement between the public's or a consumer's potable water system and any non-potable source or system through which backflow may occur". Backflow, literally a reversal in the normal direction of flow within a water system, is what turns a cross connection into a health hazard. Consequently, either cross connection or the chance of backflow must be eliminated to prevent these "unseen hazards" from degrading the high quality of water that the City of Lake Wales Utilities Department strives to maintain.

Sec. 21-77. Purpose.

The purpose of this division is to protect the potable water supply of the City from the possibility of contamination or pollution by isolating within its customer's internal system or systems those contaminants or pollutants which could backflow or back-siphon into the public water supply system; to promote the elimination or control of existing cross connections, actual or potential, between the customer's potable water system or systems and non-potable water systems, plumbing fixtures, and industrial piping systems; and provide for the maintenance of a continuing program of cross connection control which will systematically and effectively prevent the contamination or pollution of all potable water systems.

Sec. 21-78. Utilities department to administer program; applicability of provisions.

(a) The utilities department shall be responsible for administration of a cross-connection control and backflow prevention program that complies with rules established by the Florida Department of Environmental Protection for protection of the public water supply system.

(b) The utilities department shall install and maintain a backflow preventer device in every meter box where potable water is provided to an individually metered residential unit. Said backflow preventer device shall be changed out periodically in accordance with rules of the Florida Department of Environmental Protection.

(c) The provisions of this division shall apply to all commercial meters and irrigation meters connected to the City of Lake Wales water system.

Sec. 21-79. Definitions.

For the purpose of this division, the following definitions shall apply unless the context clearly

indicates or requires a different meaning:

Approved. Accepted by the City as meeting an applicable specification stated or cited in this division, or as suited for the proposed use.

Auxiliary water supply. Any water supply on, or available to, the premises other than the city's approved public potable water supply. These waters may be polluted or contaminated or they may be objectionable and constitute an unacceptable water source over which the city does not have sanitary control.

Backflow. The flow of water or other liquid, mixture, or substance under pressure into the distributing pipes of a potable water supply system from any source or sources other than its intended source.

Backflow preventer. A device or means designed to prevent backflow or back-siphonage. Only the following are considered to be backflow prevention devices:

- (1) Air gap separation - 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 at least double the diameter of the supply pipe measured vertically above the top of the rim of the vessel. In no case shall it be less than 1 inch.
- (2) Reduced pressure backflow preventer - A device 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 unit shall include tightly closing shutoff valves located at each end of the device, and each device shall be fitted with properly located test cocks.
- (3) Atmospheric vacuum breaker - A backflow prevention 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. The one moving part consists of a poppet valve which must be carefully sized to slide in a guided chamber and effectively shut off the reverse flow water when a negative pressure exists.
- (4) Pressure vacuum breaker - A pressure vacuum breaker is 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 a pressure side of a valve.
- (5) Double check valve assembly - An assembly composed of two single, independently acting, check valves, including tightly closing shutoff valves located at each end of the assembly and suitable connections for testing the water tightness of each check valve. A check valve is a valve that is drip-tight in the normal direction of flow when the inlet pressure is one psi and the outlet pressure is zero. The check valve shall permit no leakage in a direction reverse to the normal flow. The closure element (e.g. clapper) shall be internally weighted or otherwise internally loaded to promote rapid and positive closure.
- (6) Residential Dual Check - A compact unit manufactured with two independent spring actuated check valves. The residential dual check is acceptable only as added backflow prevention in areas served by reuse systems defined in Chapter 62-610, Part III, F.A.C.,

when the cross connection control program identifies activities specific to (5)(a) and (5)(b) of this section.

Back-siphonage. The flow of water or other liquid, mixture, or substance into the distributing pipes of a potable water supply system from any source other than its intended source caused by the sudden reduction of pressure in the potable water supply system.

Contamination. An impairment of the quality of potable water by sewage, industrial fluids, waste liquids, compounds, or other materials to a degree which creates a potential actual hazard to the public health through poisoning or through the spread of disease.

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 non-potable water or industrial fluids of questionable safety, through which, or because of which, backflow or back-siphonage 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-connected 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 connection include connectors such as swing connections, removable sections, four-way plug valves, spools, dummy sections of pipe, swivel or changeover devices, sliding multiport tube, solid connections, and the like.

- (1) *Cross connection control by containment.* The installation of an approved backflow prevention device at the water service connection to any customer's premises where it is not physically and economically feasible to find and permanently eliminate or control all actual or potential cross connections within the customer's water system; or the installation of an approved backflow prevention device 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.
- (2) *Cross connection—controlled.* A connection between a potable water system and a non-potable water system with an approved backflow prevention device properly installed that will continuously afford the protection commensurate with the degree of hazard.

Director. The director in charge of the City of Lake Wales Utilities Department 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 chapter.

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, and shall include:

- (1) *Hazard—Health.* Any condition, device, or practice in the water supply system and its operation that could create, or in the judgment of the director, 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 a cross connection, in the water supply system.
- (2) *Hazard—Plumbing.* A plumbing-type cross connection in a consumer's potable water system that has not been properly protected by a vacuum breaker, air-gap separation, or backflow prevention device. Unprotected plumbing-type cross connections are considered to be a health hazard.
- (3) *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.
- (4) *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 pollutant or contaminant which would have a protracted effect on the quality of the potable water in the system.

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 if introduced into an approved water supply. This may include, but shall 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 alkalis; circulated 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 from wells, springs, streams, rivers, bays, harbors, irrigation canals or systems, and the like; and oils, gases, glycerin, paraffins, caustic and acid solutions, and other liquid and gaseous fluids used in industrial or other purposes or for firefighting purposes.

Pollution. 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.

Utilities department. The City of Lake Wales Utilities Department.

Water.

- (1) Water—Non-potable. Water which is not safe for human consumption or which is of questionable potability.
- (2) Water—Potable. Any water which, according to recognized standards, is safe for human consumption.
- (3) Water—Service connections. The terminal end of a service connection from the public potable water system; that is, where the City 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, the service connection shall mean the downstream end of the meter. There should be no unprotected takeoffs from the service line ahead of any meter or backflow prevention device 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 potable water system.
- (4) Water—Used. Any water supplied from the 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 City.

Water system. The water system shall be considered as made up of two (2) parts: the customer system and the utility system.

- (1) The "customer 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.
- (2) 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 (meter). The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the 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.

Sec. 21-80. Backflow prevention devices; when required; specifications.

(a) No water service connection to any premises shall be installed or maintained unless the water supply is protected as required by State law and regulation (Florida Administrative Code Rule 17-555) and this division. Service of water to any premises shall be discontinued if a backflow prevention device required by this division is not installed, tested, and maintained, or if it is found that a backflow prevention device has been removed, bypassed, 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 utilities department to determine whether cross connections or other structural or sanitary hazards, including violations of these regulations, exist. When such a condition becomes known, the City shall deny or immediately discontinue service to the premises by providing for a physical break in the service line until the customer has corrected the condition in conformance with state and city laws relating to plumbing and water supplies and the regulations adopted pursuant thereto.

(c) An approved backflow prevention device shall be installed on each service line to a customer's water system at or near the property line or immediately inside the building being served and, 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 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 director. The public water system shall be protected against backflow from the premises by installing a backflow prevention device in the service line appropriate to the degree of hazard.

(2) In the case of premises upon 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 device 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.

(3) In the case of premises having internal cross connections that cannot be permanently corrected and controlled, 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 in the service line. The type of protective device required shall depend upon the degree of hazard which exists, as follows:

(a) In the case of any premises where there is an auxiliary water supply as stated in this section, the public water system shall be protected by an approved air-gap separation or an approved reduced pressure principle backflow prevention device.

(b) In the case of any premises where there is water or some 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.

(4) 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 device. Examples of premises where these conditions may exist include wastewater treatment plants, wastewater pumping stations, chemical manufacturing plants, hospitals, mortuaries, and metal plating plants.

(5) In the case of any premises where there are "uncontrolled" 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 device at the service connection.

(6) 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 public water system shall be protected against backflow or back-siphonage from the premises by the installation of a backflow prevention 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 device shall be installed in each service to the premises.

(d) Any backflow prevention device required herein shall be of a model and size approved by the director or his/her designee. The term "approved backflow prevention device" shall mean a device that has been manufactured in full conformance with the standards established by the American Water Works Association and entitled "AWWA C506-69 Standards for Reduced Pressure Principle and Double Check Valve Backflow Prevention Devices" and which has met completely the laboratory and field performance specifications of the Foundation for Cross Connection Control and Hydraulic Research of the University of Southern California established by "Specifications of Backflow Prevention Devices-#69-2 dated March 1969" or the most current issue.

(1) Said AWWA and FCCC and HR standards and specifications are hereby adopted by the City of Lake Wales. Final approval shall be evidenced by a certificate of approval issued by an approved testing laboratory certifying full compliance with said AWWA standards and FCCC and HR specifications.

(2) It shall be the duty of the utilities department to perform certified inspections and operational tests at least once per year where backflow prevention devices are installed on commercial meters and irrigation meters. In those instances where the director deems the hazard to be great enough, certified inspections may be required at more frequent intervals. The cost of these inspections and tests shall be paid by the customer in accordance with code section 21-172; said inspections and tests shall be performed by authorized utility personnel.

(3) All backflow prevention devices shall be repaired, overhauled, or replaced at the expense of the customer-user whenever said devices are found to be defective. The customer-user shall engage a licensed plumber to perform the work. Records of such repairs, overhauls, and replacements shall be kept and made available to the utilities department.

(4) All presently installed backflow prevention devices which do not meet the requirements of this division but were approved devices for the purposes described herein at the time of installation and which have been properly maintained shall, except for the inspection and maintenance requirements, be excluded from the requirements of these rules so long as the director is assured that they will satisfactorily protect the public potable water supply system. Whenever the existing device is moved from the present location or requires more than minimum maintenance, or when the director finds that the maintenance constitutes a hazard to health, the unit shall be replaced by a backflow prevention device meeting the requirements of this division.

Sec. 21-81. Permit required for installation of backflow prevention devices.

Florida Administrative Code Rule 62-555.360(4) requires that backflow prevention devices shall be installed in agreement with and under the supervision of the supplier of the water or its designated representative. Accordingly, a permit issued by the City of Lake Wales and inspection by the city's building official or his/her designee following installation shall be required for every backflow prevention device installed on any commercial or irrigation connection to the City of Lake Wales Utility System.

Sec. 21-82. Notice of violation; failure to remedy.

If, in the judgment of the utilities department, an approved backflow prevention device is required at the city's water service connection to any customer's premises for the safety of the water system, the director or his designated agent shall give notice in writing to the customer to install such an approved backflow prevention device at each service connection to his premises. The customer shall immediately install such approved device or devices at his own expense; the failure, refusal, or inability on the part of the customer to install said device or devices immediately shall constitute a ground for discontinuing water service to the premises until such device or devices have been properly installed.

Secs. 21-83 – 21-85 - Reserved

DIVISION 23. WATER CONSERVATION.

ARTICLE VI. CHARGES AND FEES FOR UTILITY SERVICES.

DIVISION 3. WATER CHARGES AND FEES.

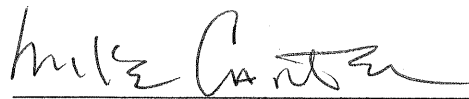
Sec. 21-172. Miscellaneous charges for water system services.

(f) Backflow preventer device inspection. All commercial meters and irrigation meters shall pay \$2.50 per month for annual inspection and other costs associated with administration of the city's cross connection control and backflow prevention program as required by the Florida Department of Environmental Protection.

SECTION 2. If any clause, section or provision of this ordinance shall be declared unconstitutional or invalid for any reason or cause, the remaining portion of said ordinance shall be in full force and effect and be valid as if such invalid portion thereof had not been incorporated herein.

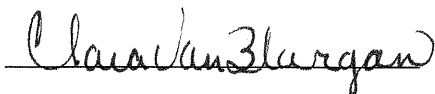
SECTION 3. This ordinance shall become effective immediately upon passage by the City Commission.

CERTIFIED AS TO PASSAGE this 17th day of September, 2011.



Mayor/Commissioner
City of Lake Wales, Polk County, Florida

ATTEST:



City Clerk