ARTICLE VIII. CROSS-CONNECTION CONTROL/BACKFLOW PREVENTION[1]

Sec. 39-104. Purpose.

The purpose of this article is:

(a) To protect the potable water utility system from contamination or pollution by isolating within customer systems such contaminants or pollutants that could backflow into the utility system;

(b) To promote the elimination of existing cross-connections, actual or potential; and

(c) To provide for the maintenance of a continuing program of cross-connection control that will systematically and effectively help prevent the contamination or pollution of the potable water utility system and customer systems.

(Ord. No. 2013-10, § 2(24-14), 10-16-2013)

Sec. 39-105. Definitions.

Unless the context specifically indicates otherwise, the meaning of terms used in this article shall be as follows:

(a) *Approved* shall mean accepted by the director as meeting an applicable specification stated or cited in this article or as suitable for the proposed use.

(b) *Backflow* shall mean the undesirable reversal of flow in the distribution system as a result of a cross-connection.

(c) *Backflow prevention assembly* shall mean an approved assembly or means designed to prevent backflow. Backflow prevention assemblies shall fully comply with any applicable standards established by the American Water Works Association (AWWA) and meet completely the laboratory and field performance specifications of the American Society of Sanitary Engineering (ASSE) or the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (FCCCHR). The following are assemblies or means of backflow prevention:

Air gap separation shall mean an unobstructed vertical separation through the free atmosphere between the lowest opening from any pipe or faucet conveying water or waste to a tank, plumbing fixture, receptor, or other assembly and the flood level rim of the receptacle. An air gap separation shall be at least twice the inside diameter of the supply outlet. In no case shall it be less than one (1) inch.

Reduced pressure principle assembly shall mean an assembly containing within its structure a minimum of two (2) independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and

[1]Ord. No. 2013-10 , adopted Oct. 16, 2013, enacted new provisions to be designated as §§ 39-14—39-20. In order to maintain the numberical standards of the Code, said new provisions have been redesignated as art. VIII, §§ 39-104—39-110. Original section designations have been maintained in the history notes following each section.

below the first check valve. These units are located between two (2) shutoff valves as an assembly and equipped with properly located test cocks.

Double check valve assembly shall mean an assembly composed of two (2) internally loaded check valves, either spring-loaded or internally weighted, installed as a unit between two (2) shutoff valves and fittings with properly located test cocks.

Pressure vacuum breaker assembly shall mean an assembly consisting of an independently operating, internally loaded check valve and an independently operating, loaded air-inlet valve located on the discharge side of the check valve. Additionally, properly located test cocks and shutoff valves are included in the assembly.

(d) *Backpressure* shall mean a pressure, higher than the supply pressure of the utility, caused by a pump, elevated tank, boiler, or any other means that may cause backflow.

(e) *Certified backflow prevention technician* shall mean a person holding a current certification by the University of Florida Center for Training, Research and Education for Environmental Occupations (TREEO), ASSE, or other organization acceptable to the director.

(f) *Contamination* shall mean an impairment of the potable water supply by the introduction or admission of any foreign substance that degrades the quality and creates a health hazard.

(g) *Cross-connection* shall mean a connection or potential connection between any part of the potable water utility system and any other environment containing other substances in a manner that, under any circumstances, would allow such substances to enter the potable water utility system. If the definition in Rule 62-555.200, Florida Administrative Code is deemed more stringent the more stringent portions of that definition shall also apply.

(h) *Customer* shall mean any person, business or other entity whose name or names appear on billing for a water service connection from the city.

(i) *Customer systems* shall mean those parts of the water system beyond the service connection point that are utilized in conveying utility-delivered potable water to points of use.

(j) *City* shall mean the City of Margate, Florida.

(k) *Director* shall mean the director of the city's Department of Environmental and Engineering Services (DEES).

(l) *Distribution system* shall mean the network of conduits and associated appurtenances used for the delivery of potable water from the source to customer systems.

(m) *Dual check* shall mean a compact device manufactured with two (2) internally loaded, independently operating check valves. A dual check is not considered a backflow prevention assembly.

(n) *Hazard, degree* shall mean the potential risk to public health and the adverse effects of the hazard upon the water system.

(o) *Hazard, health* shall mean a cross-connection or potential cross-connection involving any substance that could, if introduced into the potable water supply, cause death, illness, spread disease, or have a high probability of causing such effects.

(p) *Hazard, non-health* shall mean a cross-connection or potential cross-connection involving any substance that generally would not be a health hazard but would constitute a nuisance or be aesthetically objectionable, if introduced into the potable water supply.

(q) *Industrial fluid* shall mean any fluid or solution that may be chemically, biologically, or otherwise contaminated or polluted in a form or concentration such as would constitute a health hazard if introduced into the potable 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 utility system that may have deteriorated in sanitary quality; chemicals in fluid form; plating acids and alkalies; circulating cooling waters connected to an open cooling tower; cooling towers that are chemically or biologically treated or stabilized with toxic substances; contaminated natural or manmade waters; oils, gases, glycerine, paraffins, caustic and acid solutions, and other liquid and gaseous fluids used in industrial or other purposes for firefighting purposes.

(r) *Pollution* shall mean the presence of any foreign substance in potable water that tends to degrade its quality so as to constitute a non-health hazard or impair the usefulness of the potable water.

(s) *Service connection* shall mean a piping connection between the water purveyor's main and a customer system. Service connection shall also include water service connection from a fire hydrant and all other temporary or emergency water service connections from the utility system.

(t) *Service connection point* shall mean the location on a service connection where the water purveyor loses jurisdiction and sanitary control over the water at its point of delivery to customer systems. The dual check, if present, or water meter if no dual check is present, shall be the final point of water purveyor jurisdiction and sanitary control.

(u) *Source* shall mean all components of the facilities utilized in the production, treatment, storage, and delivery of potable water to the distribution system.

(v) *Utility* or *utility system* shall mean the source facilities and distribution system of the city, and shall include all those facilities of the water system under the complete control of the utility, up to a point where the customer systems begin.

(w) *Water, potable* shall mean any water which, according to recognized federal and state standards, is safe for human consumption.

(x) *Water, used* shall mean any water supplied by a water purveyor from a public potable water system to a customer's system after it has passed through the point of delivery and is no longer under the sanitary control of the water purveyor.

(y) *Water purveyor* shall mean the city.

(z) *Water system* shall mean the utility system and customer systems.

(Ord. No. 2013-10, § 2(24-15), 10-16-2013 ; Ord. No. 2016-16, § 1, 12-7-2016)

Sec. 39-106. Requirements.

(a) Cross-connection is prohibited by Rule 62-550.360, Florida Administrative Code and shall be eliminated by a backflow prevention assembly, dual check, or discontinuance of water service as allowed for in this article. Exception to elimination of the cross-connection is allowed only under subsection (e) of this section.

(b) A backflow prevention assembly shall be installed above-ground on each service connection to a customer's system at or near the property line, but in all cases before the first branch line leading off the service connection, wherever any of the following conditions exist:

(1) For all premises where the service connection pipe diameter at any locations is greater than one (1) inch.

(2) For all nonresidential premises.

(3) For premises on which any industrial fluids or any other objectionable substances are handled in such a fashion as to create an actual or potential hazard to the utility system.

(4) For premises having internal cross-connections that cannot be permanently corrected and controlled 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.

(c) The type of backflow prevention assembly required under subsection (b) above shall be determined by the degree of hazard that exists as follows:

(1) For premises where there is any material dangerous to health that is handled in such a fashion as to create an actual or potential hazard to the utility system, the utility system shall be protected by an air gap separation or a reduced pressure principle assembly. Examples of premises where these conditions will exist include, but are not limited to, sewage treatment plants, sewage pumping stations, chemical manufacturing plants, hospitals, and mortuaries.

(2) For premises where there are cross-connection that are not controlled, either actual or potential, the utility system shall be protected by an air gap separation or a reduced pressure principle assembly.

(3) For premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete in-plant cross-connection survey, the utility system shall be protected against backflow from the premises by either an air gap separation or a reduced pressure principle assembly.

(4) For premises where, in the opinion of the director an undue health threat is posed because of the presence of extremely toxic substances, the director may require an air gap to protect the utility system.

(5) For premises with a fire service connection, defined as a service connection serving a suppression system and/or private fire hydrant(s), the utility system shall be protected by a double check valve assembly unless the director determines an alternative backflow prevention assembly is required based on the degree of hazard.

(6) For premises where an irrigation system alone is connected directly to the utility system through an irrigation meter, the utility system shall be protected as follows:

a. For an irrigation system with chemical additives or agents a reduced pressure principle assembly shall be required.

b. For an irrigation system not subject to paragraph (6)a. above a pressure vacuum breaker assembly shall be required. The bottom of the pressure vacuum breaker must be a minimum of twelve (12) inches above the top of the highest sprinkler head or hose bibb the pressure vacuum breaker is providing protection for.

(7) For all other nonresidential premises not described previously in subsection (c) the utility system shall be protected by a reduced pressure principle assembly.

The type and size of any backflow prevention assembly required herein shall be subject to the approval of the director;

(d) For new residential premises not subject to more restrictive requirements and where the service connection pipe diameter at all locations is one (1) inch or smaller, the utility system shall be protected by a dual check.

(e) All presently installed backflow prevention assemblies which do not meet the requirements of this article but were approved devices for the purposes described herein at the time of installation and which have been properly maintained shall be excluded from the requirements of subsections 39-106(b) and 39-106(c) so long as the director is assured that they will satisfactorily protect the utility system. Whenever an existing assembly is moved from the present location, an existing assembly requires more than minimum maintenance, modifications to the existing customer system (including fire suppression system) occurs, change of type or expansion of occupancy or use occurs, the director determines the degree of hazard has

changed, or when the director finds that the maintenance constitutes a health hazard, the assembly shall be replaced with the required backflow prevention assembly in accordance with this article. All existing residential service connections not subject to more restrictive requirements, where the service connection pipe diameter at all locations is one (1) inch or smaller, and installed prior to this article taking effect shall not be required to install a dual check. Whenever such a residential service connection is replaced or the water meter on the service connection is replaced or relocated a dual check shall be installed.

(Ord. No. 2013-10, § 2(24-16), 10-16-2013)

Sec. 39-107. Authority of director and building official.

(a) The director shall be responsible for the protection of the utility system from contamination or pollution due to the backflow of contaminants or pollutants through water service connection points. When backflow prevention is required at the customer's water service connection or within such customer's system, as provided in this article, the director or director's designee shall give notice in writing to such customer to install such backflow prevention assembly or means.

(b) The city building official shall be responsible for administration of the permitting process for certified inspections and testing.

(Ord. No. 2013-10, § 2(24-17), 10-16-2013)

Sec. 39-108. Responsibilities.

(a) The customer shall continually maintain the backflow prevention assembly required by this article.

(b) The customer's system shall be open for inspection at all reasonable times to authorized representatives of the city to determine whether cross-connections or other threats to the utility system exist and for annual testing and renewal requirements.

(c) The Department of Environmental and Engineering Services will be responsible for ensuring implementation of annual testing and renewal requirements for the backflow prevention assemblies in accordance with this Article. In those instances where the director deems the hazard to be great enough, certified inspections may be required at more frequent intervals. Certified inspections shall also be required upon installation, after repair, after relocation, and after replacement.

(d) All installations, inspections, tests, repairs, overhauls, or replacements of backflow prevention assemblies shall be at the sole expense of the customer and shall be performed by a licensed plumber under permit who is also a certified backflow prevention technician. If any backflow prevention assembly requires repair, overhaul, or replacement, such work shall be done within fifteen (15) calendar days of the notice to the customer of the need for such work. A copy of the record of all such tests or other work specified herein shall be reported to the city immediately upon receipt by the customer of the record.

(e) Nothing herein shall relieve the owner of the responsibility for conducting, or causing to be conducted, periodic surveys of water use practices on the premises to determine where there are actual or potential cross connections in the customer system through which contaminants or pollutants could backflow into the water system.

(Ord. No. 2013-10, § 2(24-18), 10-16-2013 ; Ord. No. 2016-16, § 1, 12-7-2016 ; Ord. No. 2021-7, § 1, 7-14-2021)

Sec. 39-109. Violations; penalties.

(a) It shall be a violation of this article for a customer:

(1) To fail to properly install, inspect, test, or maintain a backflow prevention assembly, as required by this article.

(2) To remove or bypass a required backflow prevention assembly.

(3) To fail to make the premises accessible for inspection, as required by this article.

(4) To have an unprotected cross-connection exist on their premises.

(b) The director or director's designee shall give written notice to a customer of any violation of this article, which notice shall allow such customer a maximum of fifteen (15) calendar days to bring the premises into compliance. Failure to correct the violation within the time set forth in the notice shall authorize the director or director's designee to discontinue water service to the premises immediately. Service will not be restored until such violation is corrected. On any premises where the violation does not create an imminent and substantial danger to public health, the director may allow up to an additional one hundred eighty (180) calendar days for the customer to bring the premises into compliance. In addition, the penalties provided in section 1-8 of this Code shall apply.

(Ord. No. 2013-10, § 2(24-19), 10-16-2013)

Sec. 39-110. Non-required backflow prevention assemblies.

A backflow prevention assembly installed on the service connection but not required by this article may be removed by a licensed plumber under permit.

(Ord. No. 2013-10, § 2(24-20), 10-16-2013)

Sec. 39-111. Fees.

Fees for annual testing and renewal requirements of the backflow prevention assembly, including, but not limited to, double check valve assemblies for fire prevention systems and pressure vacuum breaker assemblies for irrigation systems, as well as certified inspections ordered by the Director of the Environmental and Engineering Services Department to address hazardous conditions of the backflow prevention assembly, shall be approved by resolution of the city commission.

(Ord. No. 2021-7, § 2, 7-14-2021)