RESOLUTION 24-01

A RESOLUTION OF THE OKEECHOBEE UTILITY AUTHORITY OF OKEECHOBEE COUNTY, FLORIDA AMENDING AND RESTATING THE CROSS-CONNECTION CONTROL PROGRAM ESTABLISHED BY RESOLUTION 95-09 ADOPTED BY THE OUA BOARD AT A REGULAR MEETING HELD ON OCTOBER 10, 1995; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE

BE IT RESOLVED BY THE OKEECHOBEE UTILITY AUTHORITY THAT RESOLUTION 95-09 OF THE OKEECHOBEE UTILITY AUTHORITY ADOPTING A CROSS-CONNECTION CONTROL PROGRAM TO PREVENT WATER-BORNE DISEASES AND CONTAMINANTS FROM ENTERING THE DISTRIBUTION SYSTEM AND THE WATER SUPPLIED TO THE CUSTOMER IS AMENDED AND RESTATED AS FOLLOWS:

SECTION I. INTRODUCTION

1.1 Purpose. The purpose of a cross-connection control program is to prevent water-borne diseases and contaminants from entering the distribution system and the water supplied to the customer. The program is intended to prevent delivered water (water that has passed into the private distribution systems of the consumers) from re-entering the public distribution system and being subsequently delivered to consumers. The program aims to protect the Utility Authority and its customers from those water users which could possibly harm the quality and safety of the community water supply through backflow and/or cross- connection.

1.2 Responsibility of the Utilities Authority. As a result of the Florida Safe Drinking Water Act (Florida Statutes 403.850- 403.864), Florida Administrative Code Chapter 62-555 entitled Pubic Drinking Water Systems in the rules of the Florida Department of Environmental Protection, addresses Cross-connection Control. Responsibilities of public drinking water purveyors are stated as follows:

> Community water systems are required to establish a routine cross-connection control program for the purpose of detecting and preventing cross-connections that create or have the potential to create an imminent and substantial danger to public health by and from contamination due to the cross-connection.

The 2023 Florida Building Code, 8th Edition, specifically Chapter 6 Water Supply and Distribution, Section 608 Protection of Potable Water Supply is hereby incorporated. In general. Protection of the Utility Authority water supply is described as:

The Water Purveyor is primarily responsible for the contamination and pollution of the public water mains. Such responsibility begins at the point of origin of the public water supply and includes adequate treatment facilities and water mains, and ends at the point of entrance to the consumer's water system, provided adequate backflow and back-siphonage protection is maintained on all water supply systems directly connected to the Water Purveyor's public system.

1.3 Causes of Backflow. Where cross-connections exist, some protection against backflow is needed to eliminate the possibility of contamination. The causes of backflow cannot usually be eliminated completely since backflow is often initiated by accidents or unexpected circumstances. Some causes of backflow can be partially controlled by good design and informed maintenance. The major causes of backflow are back siphonage and backpressure.

a. Back siphonage. Back siphonage is caused by reduced or negative pressure being created in the supply piping. A major cause of back siphonage is the interruption of the supply pressure. This will allow negative pressures to be created by water trying to flow to a lower point in the system. Another cause is undersized piping. If water is withdrawn from a pipe at a very high velocity, the pressure in the pipe is reduced and the pressure differential created can cause water to flow into the pipe from a contaminated source. The entire potable water supply can thus become contaminated due to back siphonage of contaminants into the potable water supply creating serious health problems.

The principal causes of back siphonage are:

(1) Line repair or break which is lower than a service point.
(2) Undersized piping.
(3) Lowered pressure in water main due to high water withdrawal rate such as fire-fighting, water main flushing, or water main breaks.
(4) Reduced supply main pressure on suction side of a booster pump.

b. Backpressure. Backpressure may cause backflow where potable water system is connected to a non-potable system of piping, and the pressure in the non-potable system exceeds that in the potable system. High pressures may be created by means of pumps, boilers, etc. There is a high risk of non-- potable water being forced into the potable water system whenever these types of cross-connections are not properly protected.

The principal causes of backpressure are:

(1) Booster pump systems designed with backflow prevent devices.

(2) Potable water connections to boilers and other pressure systems with backflow prevention devices.

(3) Connections with another system which may at times, have a higher pressure.

(4) Water stored in tanks or plumbing systems, which by virtue of their elevation, would create head sufficient to cause backflow if pressure were lowered in the public system.

1.4 Objectives. The objectives of the Okeechobee Utility Authority Cross-Connection Control Program are:

a. To protect the Utilities Authority water supply from the possibility of contamination by isolating within the customer's private water system contaminants or pollutants which could, under adverse conditions, backflow through uncontrolled cross-connections into the public water system

b. To eliminate or control existing cross-connections, actual or potential.

SECTION II. DEFINITIONS

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

2.1 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), i.e., a well. spring, river stream, harbor, or "used waters" or "industrial fluids."

2.2 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.

2.3 Back-siphonage. The flow of water or other liquids, mixtures or substances 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.

2.4 Backflow Preventer. A device or means designed to prevent backflow or back-

siphonage.

2.5 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.

2.6 Cross-Connect on. 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 or back-siphonage may occur into the potable water system. A water service connection between a public 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 typed of cross-connections include connectors such as swing connections, removable sections, four-way plug valves, spools, dummy sections of pipe, swivel or change-over devices, sliding multiport tube, solid connections, etc.

2.7 Cross-Connections – 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.

2.8 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 physically and economically unfeasible to find and permanently eliminate or control all actual or potential cross-connections within the customers water system; or, it shall mean 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.

2.9 Executive Director. The Executive Director of the Okeechobee Utility Authority or his authorized representative.

2.10 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.

a. Hazard – Health. Any condition, device, or practice in the water supply system and its operation which could create, or in the judgment of the Executive 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 cross-connections, in a water supply system.

b. Hazard – Pollution. 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 be aesthetically objectionable or could cause damage to the system or its appurtenances, but would not be dangerous to health.

c. 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.

d. Hazard - 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 or solutional hazard if 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 acid and alkalis, circulated cooling waters connected to an open cooling tower and/or cooling towers that are chemically or biologically treated or stabilized wit toxic substances; contaminated natural waters such as from wells, spring, streams, rivers, bays, harbors, seas, irrigation canals or systems; oils, gases, glycerin, paraffin, caustic and acid solutions and other liquid and gaseous fluids used in industrial or other purposes or for fire-fighting purposes.

2.11 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.

2.12 Utility Authority, Authority. The Okeechobee Utility Authority.

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

2.14 Water – Nonpotable. Water which is not safe for human consumption or which is of questionable potability.

2.15 Water – Service Connection. The terminal end of a service connection from the public potable water system (where the Authority 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 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 may include water service connection from a fire hydrant and all other temporary or emergency water service connections from the public potable water system.

2.16 Water – Used. Any water supplied by the Authority 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 Authority.

SECTION III. AFFECTED WATER USERS

3.1 All new water connections after the effective date of this resolution shall have an approved backflow prevention device installed at the time of water meter installation. Water service will not be provided until such time as a complete meter/backflow preventer assembly is installed.

3.2 At any time of change in the service installation, or at the request of the customer, a backflow prevention device shall be installed.

3.3 All existing water connections at the time of adoption of this resolution shall have backflow prevention devices installed based on a priority system to be developed the Executive Director.

SECTION IV. APPROVED BACKFLOW PREVENTERS

4.1 Only the following are considered to be approved backflow prevention devices for use by the Okeechobee Utility Authority:

a. Dual Check Devices. These devices shall conform to the latest edition

of the American Society of Sanitary Engineering (ASSE) Standard 1024. This device is installed in-line and accessible for inspection and replacement of internal parts. It has a lead free brass body.

b. Reduced Pressure Principle Device. An assembly of two independently operating 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 approved testing agency for backflow prevention assemblies. The device 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 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.

4.2 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 entitled:

AWWA C511-17(R21)	Reduced-Pressure Principle Backflow Prevention Assembly

SECTION V. REQUIREMENTS

5.1 Water System.

a. The water system shall be considered as made up of two parts: The Utility System and the Customer System.

b. 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 Authority up to the point where the customer's system begins.

c. The source shall include all components of the facilities utilized in the production, treatment, storage, and delivery of water to the distribution system.

d. The distribution system shall include the network of conduits used for the delivery of water from the source to the customers system.

e. The 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.

5.2 No water service connection to any premises shall be installed or maintained by the Okeechobee Utility Authority unless the water supply is protected as required by State of Florida laws and regulations and by this resolution. Service of water to any premises affected by this resolution shall be discontinued if a backflow prevention device required has been removed or by-passed. Service will not be restored until such conditions or defects are corrected.

5.3 An approved backflow prevention device shall be installed by the Okeechobee Utility Authority on each service line to a customer's water system at or near the property line before the first branch line leading off the service line.

5.4 The type of protective device required shall depend upon the degree of hazard which exists as follows:

a. Premises where a potential cross-connection that may contain substances objectionable but not hazardous to health shall be protected by an approved double check valve assembly.

b. 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 water supply source by the Executive Director, shall be protected against backflow from the premises by installing a reduced pressure principle device in the service line.

c. 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 reduced pressure principle backflow prevention device. This shall include the handling of process waters and waters originating from the utility system which have been subject to deterioration in quality.

d. 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 reduced pressure principle backflow prevention device at the service connection.

5.5 Maintenance of all Authority installed backflow prevention devices will be conducted by the Okeechobee Utility Authority or Its authorized representative.

5.6 All installations with be provided with reasonable accessibility at all times. Installations may be placed on the consumer's property in some instances, but it will be the responsibility of the consumer to ensure access is maintained for the meter/backflow assembly.

SECTION VI. PARTIAL LIST OF FACILITIES USUALLY REQUIRING A BACKFLOW PREVENTION DEVICE AT THE SERVICE CONNECTION

The following types of plants or facilities have been found to contain cross-connections which would, under adverse conditions, constitute a serious potential health hazard to the public water system.

NOTE: INSTALLATIONS REQUIRING CONTINUOUS SERVICE: PARALLEL INSTALLATION IS NECESSARY. Testing requires a water shutdown of about one (1) hour. For facilities that require any uninterrupted supply of water, and when it is not possible to provide water service from two separate meters, provisions shall be made for a parallel installation of backflow prevention devices. The Utilities Authority will not accept an unprotected bypass around a backflow preventer when the device is in need of testing, repair or replacement.

6.1 Aircraft plants.

6.2 Automotive plants.

6.3 Auxiliary water systems:

a. Private water supply.
b. "Used water" and "industrial fluids"

6.4 Beverage bottling plants.

6.5 Breweries.

6.6 Buildings - hotels, apartment houses, public and private buildings or any other structures having unprotected cross-connection.

6.7 Canneries, packing houses, and reduction plants.

6.8 Chemical plants - manufacturing. processing, and compounding or treatment.

6.9 Chemically-contaminated water systems.

6.10 Civil works.

6.11 Dairies and cold storage plants.

6.12 Film laboratories.

6.13 Fire Stations.

6.14 Hospital, medical buildings, sanitariums, morgues, mortuaries, autopsy facilities, nursing and convalescent homes, and clinics.

6.15 Irrigation systems.

6.16 Metal manufacturing, cleaning, processing, and fabricating plants.

6.17 Oil and gas productions, storage and transmission properties.

6.18 Paper and paper product plants.

6.19 Plating plants.

6.20 Power plants.

6.21 Radioactive materials or substances - plants or facilities handling.

6.22 Restricted, classified or other closed facilities.

6.23 Sand and gravel plants.

6.24 Schools and colleges.

6.25 Sewage and storm drain facilities.

6.26 Waterfront facilities and industries.

SECTION VII. TESTING OF BACKFLOW PREVENTERS

The Okeechobee Utility Authority will inspect and conduct operational tests at all backflow preventer installations except for those backflows installed on dedicated fire lines. Those backflows will be tested by the owner of the fire line or their representative with test results provided to the fire line owner and to the OUA.

SECTION VIII. NON-COMPLIANCE

The Okeechobee Utility Authority may cause discontinuance of water service if any provisions of the resolution are found be to violated.

SECTION IX. SEVERABILITY

If any section, subsection, sentence, clause, phrase or portion of the Resolution is for any reason held invalid or unconstitutional by any court of competent jurisdiction. Such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions thereof.

SECTION X. EFFECTIVE DATE

This Resolution shall take effect immediately upon its adoption pursuant to law.

DONE AND ADOPTED in regular session by the Okeechobee Utility Authority this 20th day of February, 2024.

John F. Hayford, Secretary

Tommy Clay, Chairman

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