

RICEVILLE UTILITY DISTRICT

CROSS CONNECTION CONTROL

1. DEFINITIONS

- a. **Air Gap:** A physical separation between the free flowing discharge end of a potable water supply line and an open or non-pressurized receiving vessel.
- b. **Approved Air Gap:** An air gap separation with a minimum distance of at least twice the diameter of the supply line when measured vertically above the overflow rim of the vessel, but in no case less than one (1) inch.
- c. **Approved:** Any condition, method, device, procedure accepted by the Tennessee Department of Environment and Conservation, Division of Water Supply and Water Provider.
- d. **Auxiliary Intake:** any pipe connection or other device whereby water may be secured from any sources other than from the public water system.
- e. **Auxiliary Water Supply:** Any water supply on or available to the premises other than water supplied by the public water system.
- f. **Backflow:** The reversal of the intended direction of flow of water or mixtures of water and other liquids, gases, or other substances into the distribution pipes of a potable water system from any source.
- g. **Backpressure:** A pressure in the downstream piping that is higher than the supply pressure.
- h. **Backsiphonage:** Negative or Sub-atmospheric pressure in the supply piping.
- i. **Backflow Prevention Assembly:** An approved assembly designed to prevent backflow.
- j. **Bypass:** Any system of piping or other arrangement whereby water may be diverted around a backflow prevention assembly, meter, or any other public water system controlled device.
- k. **Contamination:** the introduction or admission of any foreign substance that causes illness or death.
- l. **Contaminant:** any substance introduced into the public water system that will cause illness or death
- m. **Cross-Connection:** any physical arrangement whereby 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,

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or may contain, contaminated water, sewage, or other waste or liquid of unknown unsafe quality which may be capable of contaminating the public water supply as result of backflow caused by the manipulation of valves, because of ineffective check valves or backpressure valve or because of any other arrangement.

- n. **Customer:** Any natural or artificial person, business, industry, or governmental entity that obtains water, by purchase or without charge, from the water provider.
 - o. **Double Check Valve Assembly:** An assembly of two internally loaded check valves, either spring loaded or internally weighted, installed as a unit between tightly closing resilient seated shutoff valves and fitted with properly located resilient seated test cocks. This type of device shall only be used to protect against non-health hazard pollutants.
 - p. **Reduced Pressure Principle Assembly:** As assembly consisting of two independently acting approved check valves together with hydraulically operating, mechanically independent, pressure differential relief valve located between the check valves and below the first check valve. These units shall be located between two tightly closing resilient seated shutoff valves as an assembly and equipped with properly located resilient seated test cocks.
2. COMPLIANCE WITH TCA
- Riceville Utility District meets all TCA 68-221-711(6) Division of Water Supply Regulations 1200-5-1.17(6)
- Pursuant to Section 68-221-711(6) the installation, allowing the installation, or maintenance of any cross-connection, auxiliary intake, or bypass is prohibited unless the source and quality of water from auxiliary supply, the method of connection, and the use and operation of such cross-connection, auxiliary intake, or bypass has been approved by the Department. The arrangement of sewer, soil, or other drain lines or conduits carrying sewage or other wastes in such a manner that the sewage or waste may find its way into any part of the public water system is prohibited.
3. REGULATED
- The existing policies pertaining to cross connections should be reviewed every five years (minimum) and updated as required.
4. STATEMENT REQUIRED
- Any Customer whose premises are supplied with water from Riceville Utility District and who also has on the same premises a separate source of water supply or stores water in an uncovered or unsanitary storage reservoir from which the water stored therein is circulated through a piping or hose system, shall be checked by the Operator of Riceville Utility District and shall be issued a statement of either:

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- Non-existence of unapproved or unauthorized cross-connections, auxiliary intakes, by-passes or inter-connections. Such statement shall also contain an agreement that no cross-connection, auxiliary intake, bypass, or interconnection will be permitted.
- Existence of unapproved or unauthorized cross-connections, auxiliary intakes, by-passes or inter-connections. Such statement shall also contain instructions for Customer to install one of the following prevention methods: Double Check Valve Assembly, Reduced Pressure Principle Assembly, Vacuum Breaker, or make an Air Gap to eliminate possible Contaminant.

5. APPLICABILITY

Residential:

- Lawn irrigation systems\
- Residential fire protection systems (closed loop systems will require a double check valve minimum)
- Pools, Saunas, Hot Tubs, Fountains
- Auxiliary Intakes and Supplies-wells, cistern, ponds, streams, etc....
- Home water treatment systems
- Hobbies that require extensive amounts of toxic chemicals (taxidermy, metal plating, biodiesel, ethanol production, etc..)
- Any other situations or conditions listed in the State Cross Connection Manuel or conditions deemed a threat by the water system.

High Risk High Hazards:

- Mortuaries, morgues, autopsy facilities
- Hospitals, medical buildings, animal hospitals and control centers, doctor and dental offices
- Sewage treatment facilities, water treatment, sewage and water treatment pump stations
- Premises with auxiliary water supplies or industrial piping systems
- Chemical plants
- Laboratories
- Packing and rendering houses
- Manufacturing plants
- Food and beverage processing plants
- Automated car wash facilities
- Extermination companies
- Airports, railroads, bus terminals, piers, boat docks
- Bulk distributors and user of pesticides, herbicides, liquid fertilizer, etc.
- Metal plating, pickling and anodizing operations
- Greenhouses and nurseries

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- Commercial laundries and dry cleaners
- Film laboratories
- Petroleum processes and storage plants
- Restricted establishments
- Taxidermy facilities
- Establishments who handle, process, or have extremely toxic or large amounts of toxic chemicals or use water of unknown or unsafe equality extensively.

6. INSPECTIONS/SURVEYS

It is the duty of Riceville Utility District Water System to cause inspections to be made of all properties served by the public water system where cross-connections with the public water system are deemed possible. The frequency of inspections and re-inspections based on potential health hazards involved shall be established by the Operator of the Riceville Utility District Public Water System, and as approved by the Tennessee Department of Health and Environment.

The Operator or authorized representative shall have the right to enter, at any reasonable time, any property serviced by a connection in the Riceville Utility District Public Water System for the purpose of inspecting the piping system or systems thereof for cross-connections, auxiliary intakes, by-passes, or inter-connections. On request, the customer so serviced shall furnish to the inspection agency any pertinent information regarding the piping system or systems on such property the refusal of such information or refusal of access, which required, shall be deemed primofacia evidence of the presence of cross-connection.

Any Customer found to have a Cross-connection, auxiliary intakes, by-passes, or inter-connections in violation of this policy shall be given 30 days to correct the Hazard or a reasonable time based of potential health hazards. Failure to correct conditions threatening the safety of the public water systems shall be grounds for denial of water service. If proper protection has not been provided after a reasonable time, the utility shall give the customer legal notification that water service is to be discontinued, and physically separate the public water system from the customer on-site piping system in such a manner that the two systems cannot be connected by an unauthorized person.

7. BACKFLOW PREVENTION DETERMINATION (LISTED AS REQUIRED ASSEMBLIES AND METHODS)

The Operator shall determine due to potential health hazards what type of Backflow prevention is required.

All hazards plumbed directly into the Public Water System and that are impractical to provide an effective air-gap separation, shall install a Double Check Valve Assembly or in High Hazard locations a Reduced Pressure Principle Assembly.

All Chemical hazards hooked directly into the Public Water System shall install a Reduced Pressure Principle Assembly.

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An air-gap may be placed on the customers piping upon approval by Operator.

Hose Bibb Vacuum Breakers are used in hose Bibb outlets and laboratory fittings where a hose can be attached. They are designed to prevent against backsiphonage situations only where the hose may be immersed in nonpotable solutions.

8. APPROVED BACKFLOW PREVENTION ASSEMBLY INSTALLATION REQUIREMENTS

The installation shall be made at the expense of the Customer.

Minimum installation requirements for installation of Reduced Pressure Principle (RP) and Double Check Valve Backflow Prevention Assemblies (DC)

- RP assemblies should never be subject to flooding; therefore should be:
 - a. Never be located in a pit or subject to flooding
 - b. Avoid piping drains for enclosures housing the units
 - c. The lowest part of the relief valve discharge port should be a minimum of 12 inches above either: the ground, top of the openings in enclosure wall, maximum flood level.
- The assemblies should be installed where the unites can be easily tested and repaired
- Provisions should be made to protect the assemblies from freezing.
- Assemblies shall be installed and repaired by a Certified Backflow Installer

Where the use of water is critical to the continuance of normal operations or protection of life, property or equipment, duplicate unites shall be provided to avoid the necessity of discontinuing water service to test or repair the protective device or devices' where it is found that only one unit has been installed and continuance of service may be critical, the water system shall notify Customer in writing of plans to discontinue water service and arrange for a mutually acceptable time to test the device.

9. EXISTING BACKFLOW PREVENTION ASSEMBLIES

Riceville Utility District shall have the right to inspect and test the device or devices on an annual basis or whenever deemed necessary by the Chief Operator. Water service shall not be disrupted to test the device without the knowledge of the Customer.

10. CORRECTIONS OF VIOLATIONS

Water service shall be discontinued (following legal notification) for failure to maintain backflow prevention devices in proper working order. Likewise the removal, by-passing, or altering the protective device or the installation thereof, so as to render the device ineffective shall constitute grounds for discontinuance of water service. Water service to such premises shall not be restored until the

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customer has corrected or eliminated such conditions or defects to the satisfaction of the Operator.

11. ASSEMBLY TESTING

Test gauges are certified on an annual basis by a lab approved (or Certified) by the manufacturer of the test kit.

Test gauges are re-tested for accuracy more often if it has been mishandled, such as dropped, frozen or overheated.

Certification and/or calibration records for each test gauge are documented and on file with the water purveyor.

12. EFFECTIVE DATE __1/11/18____