

LOUISA COUNTY WATER AUTHORITY
CROSS-CONNECTION AND BACKFLOW
PREVENTION CONTROL REGULATIONS

Definitions:

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

Air Gap Separation. The unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet supplying pure water to a tank, plumbing fixture, or other device and the rim of the receptacle.

Auxiliary Water System. Any water system on or available to the premises other than the waterworks. These auxiliary waters may include water from another purveyor's waterworks; or water from a source such as wells, lakes, or streams, or process fluids, or used water. They may be polluted or contaminated or objectionable or constitute a water source or system over which the water purveyor does not have control.

Backflow. The flow of contaminants, pollutants, process fluids, used water, untreated waters, chemicals, gases, non-potable waters into any part of a waterworks.

Backflow Prevention Device. Any approved device, method, or type of construction intended to prevent backflow into a waterworks.

Consumer. The owner or person in control of any premises supplied by or in any manner connected to a waterworks.

Consumer's Water System. Any water system located on the consumer's premises, supplied by or in any manner connected to a waterworks.

Contamination. Any introduction into pure water of microorganisms, wastes, wastewater, undesirable chemicals, or gases.

Cross-Connection. Any connection or structural arrangement, direct or indirect, to the waterworks whereby backflow can occur.

Degree of Hazard. This is a term derived from an evaluation of the potential risk to health and the adverse effect upon the waterworks.

Double Gate-Double Check Valve Assembly. An approved assembly composed of two single, independently acting check valves including tightly closing shutoff valves located for testing the watertightness of each check valve.

Health Hazard. Any condition, device, or practice in a waterworks or its operation that creates, or may create, a danger to the health and well-being of the water consumer.

Interchangeable Connection. An arrangement or device that will allow alternate but not simultaneous use of two sources of water.

Pollution. The presence of any foreign substance (chemical, physical, radiological, or biological) in water that tends to degrade its quality so as to constitute an unnecessary risk or impair the usefulness of the water.

Pollution Hazard. A condition through which an aesthetically objectionable or degrading material may enter the waterworks or a consumer's water system.

Process Fluids. Any fluid or solution which may be chemically, biologically, or otherwise contaminated or polluted which would constitute a health, pollutional, or system hazard if introduced into the waterworks. This includes; but not limited to:

- (a) Polluted or contaminated waters,
- (b) Process waters,
- (c) Used waters originating from the waterworks which may have deteriorated in sanitary quality,
- (d) Cooling waters,
- (e) Contaminated natural waters taken from wells, lakes, streams, or irrigation systems,
- (f) Chemicals in solution or suspension, and
- (g) Oils, gases, acids, alkalis, and other liquid and gaseous fluids used in industrial or other processes, or for fire fighting purposes.

Pure Water or Potable Water. Water fit for human consumption and use which is sanitary and normally free of minerals, organic substances, and toxic agents in excess of reasonable amounts for domestic usage in the area served and normally adequate in supply for the minimum health requirements of the persons served.

Reduced Pressure Principle Backflow Prevention Device. A device containing a minimum of two independently acting check valves together with an automatically operated pressure differential relief valve located between the two check valves. During normal flow and at the cessation of normal flow, the pressure between these two 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 check valves at less than the supply pressure. The unit must include tightly closing shut-off valves located at each end of the device, and each device shall be fitted with properly located test cocks. These devices must be of the approved type.

Service Connection. The terminal end of a service line from the waterworks. If a meter is installed at the end of the service, then the service connection means the downstream end of the meter.

System Hazard. A condition posing an actual, or threat of, damage to the physical properties of the waterworks or a consumer's water system.

Used Water. Any water supplied by a water purveyor from waterworks to a consumer's water system after it has passed through the service connection.

Water Purveyor. An individual, group of individuals, partnership, firm, association, institution, corporation, municipal corporation, county, or authority which supplies water to any person within this State from or by means of any waterworks.

Waterworks. All structures and appliances used in connection with the collection, storage, purification and treatment of water for drinking and domestic use and the distribution thereof to the public or residential consumers as set forth in Article 2 of Chapter 6 of Title 32.1 of the Code of Virginia.

Administration:

The Superintendent of the Authority shall be responsible for the administration and enforcement of the provisions of these regulations.

Cross-Connections Prohibited:

(a) No person shall install or maintain a water service connection to any consumer where cross-connections to the Authority's water system or a consumer's water supply may exist unless such cross connections are abated or controlled to the satisfaction of the Authority.

(b) No person shall install or maintain any connection whereby water from an auxiliary water system may enter the Authority's or consumer's water system unless the auxiliary water system and the method of connection and use of such system shall have been approved by the Authority.

Inspections for Cross-Connections:

(a) The Superintendent or the duly appointed agent/inspector shall cause inspections to be made of properties served by the waterworks where cross-connection with the waterworks is deemed possible. The frequency of inspections and reinspections, based on potential health hazards involved, shall be established in the Cross-Connection and Backflow Prevention Control Program and as approved by the Virginia Department of Health.

(b) The designated inspector for the Authority shall have the right to enter at any reasonable time properties served by a connection to the waterworks for the purpose of inspecting the piping system or systems for cross-connections. Upon request, the owner or occupants of property served shall furnish pertinent information if available pertaining to the piping system or systems on such property. The refusal of such information or refusal of access when requested shall be deemed prima facie evidence of the presence of cross-connections.

Where Protection Is Required:

(1) An approved backflow prevention device shall be installed on each service line to a consumer's water system where, in the judgment of the Authority, a health, pollutional, or system hazard to the water system exists.

(2) An approved backflow prevention device shall be installed on each service line to a consumer's water system serving premises where the following conditions exist, except as noted in sub-paragraph (g) below:

(a) Premises having an auxiliary water system, unless such auxiliary system is accepted as an additional source by the Authority.

(b) Premises on which any substance is handled in such a manner as to create an actual or potential hazard to the water system including premises having sources or systems containing process fluids or water originating from waterworks which are not under the control of the Authority.

(c) Premises having internal cross-connections that, in the judgment of the Authority, may not be easily correctable or intricate plumbing arrangements which make it impractical to determine whether or not cross-connections exist.

(d) Premises where, because of security requirements or other prohibitions or restrictions, it is impossible or impractical to make a complete cross-connection survey.

(e) Premises having a repeated history of cross-connections being established or re-established.

(f) Premises having fire protection systems utilizing combinations of sprinklers, fire loops, storage tanks, pumps, antifreeze protection, or auxiliary water, except that fire loops and sprinkler systems with openings not subject to flooding, containing no antifreeze or other chemicals and with no storage or auxiliary sources will not normally require backflow prevention.

(g) Premises having booster pumps connected to the waterworks shall be equipped with a low pressure cutoff device to shut off the booster pump when the pressure in the waterworks drops to a minimum of 10 psi gauge.

(h) Other premises specified by the Authority when cause can be shown that a potential cross-connection hazard exists.

(3) An approved backflow prevention device shall be installed on each service line to a consumer's water system serving the following types of facilities:

(a) Hospitals, mortuaries, clinics, nursing homes,

(b) Laboratories,

(c) Piers, docks, waterfront facilities,

(d) Sewage treatment plants, sewage pumping stations, or storm water pumping stations,

(e) Food and beverage processing plants,

(f) Chemical plants, dyeing plants,

(g) Metal plating industries,

- (h) Petroleum processing or storage plants,
- (i) Radioactive materials processing plants or nuclear reactors,
- (j) Car washes,
- (k) Lawn sprinkler systems, irrigation systems,
- (l) Fire service systems,
- (m) Slaughter houses and poultry processing plants,
- (n) Farms where the water is used for other than household purposes,
- (o) Premises under construction and to be constructed as provided in the Uniform Statewide Building Code,
- (p) Others specified by the Authority where potential backflow or cross-connection hazard can be shown.

Denial of Discontinuance of Water Service:

The Authority may deny or discontinue the water service to a consumer if the required backflow prevention device is not installed in a reasonable period of time not to exceed thirty days from the date of any notice through certified mail. If it is found that the protective device (s) has been removed or bypassed or if a cross-connection exists on the premises, or if the pressure in the waterworks is lowered below 10 psi gauge, the Authority shall take positive action to insure that the waterworks is adequately protected at all times. Water service to such premises shall not be restored until the deficiencies have been corrected or eliminated in accordance with Commonwealth of Virginia Waterworks Regulations and to the satisfaction of the Authority.