



Protecting Your Drinking Water

Aqua Ohio is pleased to be your drinking water supplier. Our mission is to deliver water that meets all state and federal regulations.

Aqua Ohio operates a Cross-Connection Control Program (CCCP). The objective of the program is to protect the quality of the water throughout our water distribution system by identifying and preventing potential contamination through cross-connections to the public water system.

The effectiveness of our program depends, in part, on our customers. Water consumers may connect devices to their water pipes, which could, under certain conditions, send contaminants into the public water distribution system.

We are sending you this informational flyer to explain common cross-connection problems and to ask for your help in protecting the quality of your community's water supply.

What is a cross-connection?

A cross-connection is any temporary or permanent connection between a public water system or consumer's potable (i.e., drinking) water system and any source or system containing nonpotable water or other substances. An example is the piping between a public water system or consumer's potable water system and an auxiliary water system (i.e. private well), cooling system, or irrigation system. The end of your garden hose submerged in a bucket of dirty water is an example of a cross-connection that is commonly found in homes.

What is backflow?

Backflow is the undesirable reversal of flow of nonpotable water or other substances through a cross-connection and into the piping of a public water system or consumer's potable water system. There are two types of backflow - backpressure backflow and backsiphonage.

What are common cross-connections that may occur in residential homes?

Common cross-connections found are:

- 1) Filling a swimming pool with the end of a garden hose submerged in the pool
- 2) Water lines connecting permanent in-ground irrigation systems
- 3) Water supply lines to hot water heating systems
- 4) Water supply lines improperly connected to decorative ponds
- 5) Use of an aspirating applicator to apply fertilizer or other substances
- 6) Using a hose to unclog a clogged sewer pipe
- 7) Connecting the public water system to piping connected to a private well
- 8) Using potable water to operate a sump pump

What is backpressure backflow?

Backpressure backflow is backflow caused by a downstream pressure that is greater than the upstream or supply pressure in a public water system or consumer's potable water system. Backpressure (i.e., downstream pressure that is greater than the potable water supply pressure) can result from an increase in downstream pressure, a reduction in the potable water supply pressure, or a combination of both. Increases in downstream pressure can be created by pumps, temperature increases in boilers, etc. Reduction in potable water supply pressure occur whenever the amount of water being used exceeds the amount of water being supplied, such as during water line flushing, firefighting, or breaks in water mains.

What is backsiphonage?

Backsiphonage is backflow caused by a negative pressure (i.e., a vacuum ~ or partial vacuum) in a public water system or consumer's potable water system. The effect is similar to drinking water through a straw. Backsiphonage can occur when there is a stoppage of water supply due to nearby firefighting, a break in a water main, etc.

Why does Aqua Ohio need to control cross-connections and protect its public water systems against backflow?

Backflow into a public water system can pollute or contaminate the water in that system (i.e., backflow can make the water in a system unusable or unsafe to drink), and Aqua has a responsibility to provide water that is usable and safe to drink under all foreseeable circumstances. Furthermore, consumers generally have absolute faith that water delivered to them through a public water system is always safe to drink. For these reasons, Aqua must take reasonable precautions to protect its public water system against backflow.

What is Aqua doing to control cross-connections and protect their public water systems against backflow?

Aqua does not have the capability to repeatedly inspect every consumer's premises for cross-connections and backflow protection. Aqua ensures that a proper backflow preventer is installed and maintained at the water service connection to each system or premises that pose a significant hazard to the public water system. Generally, this would include the water service connection to each dedicated fire protection system or irrigation piping system and the water service connection to each of the following types of premises: (1) premises with an auxiliary or reclaimed water system; (2) industrial, medical, laboratory, marine or other facilities with dangerous or toxic substances that are handled in a way that could cause pollution or contamination of the public water system; (3) premises exempt from the State Plumbing Code that are not properly installed or maintained; (4) classified or restricted facilities; and (5) water loading stations.

What is a backflow preventer?

A backflow preventer is a means or device to prevent backflow. The best and basic method of preventing backflow is an air gap, which either eliminates a cross-connection or provides a barrier to backflow. The next protection level down for preventing backflow is a mechanical backflow preventer, which provides a physical barrier to backflow. The principal types of mechanical backflow preventers are the reduced-pressure principle (RP) assembly, the pressure vacuum breaker (PVB) assembly and the double check valve (DC) assembly.

If you have a question of concern about a potential cross-connection, Aqua wants you to call so we can evaluate and correct any problem before it might contaminant the public water supply.

For more information, please call Aqua Ohio's Cross-Connection group at 800.292.5183 or Email CCC@AquaAmerica.com.

Thank you for helping us protect a precious resource – WATER.