

Definitions

Cross-Connection: An actual or potential connection between a public water supply and a source of possible pollution or contamination.

Backflow: The reversal of flow of unwanted used or non-potable water into the pure, potable water distribution system. Two conditions are responsible for reversal of flow, **backpressure** and **backsiphonage**.

Backpressure: Condition when pressure in the building's pipes is greater than the pressure coming into the building, reversing the flow, allowing water to be pushed back into the main distribution system. A common cause is a change in the pressure gradient due to use of pumps.

Backsiphonage: Condition in which negative pressure in a water main siphons water from the building's pipes into the main distribution system. Common causes include water main breaks and extensive use of fire hydrants.

Backflow Preventer: The means, such as an air gap, or mechanism, including RPZ and Dual Check Valve, which prevents backflow of contaminated water into the water distribution system.

Degree of Hazard: The extent of pollutant or contaminant posing a threat to the water distribution system. **Pollutants** affect color and odor of water and pose no immediate health hazard, whereas **contaminants** are considered a health hazard if ingested while sewage and radioactive materials are considered lethal hazards. Different based on residential or commercial setting.



Additional Information

For more information please visit the DuPage County Water Division Webpage at www.dupageco.org. Here you will find a variety of resources, links, and information as well as the CCCP Survey. You may also contact the CCCP Manager, Jonathan Adams, directly at (630) 407-6808 or email at RPZData@ec.dupageco.org.

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Published: May 2017



Protecting Your Drinking Water Supply

DuPage County Cross-Connection Control & Backflow Prevention Program



Cross-Connection Control Program

This pamphlet is being provided to you to provide information and awareness of the department's Cross-Connection Control Program (CCCP) and how to prevent backflow from occurring in the public drinking water supply. Per Article 16, Sec. 36-511 of the DuPage County Water Supply, Distribution, and Wastewater Treatment Ordinance, an approved backflow prevention device is necessary for the safety of the public water supply. The water customer is responsible for the purchase, installation and the annual inspections and tests of the approved devices. The Water Division of the Public Works Department is responsible for the management of the program, including plan review, surveys, and implementation, relying upon the water customer's cooperation to ensure the safety of the water distribution system. The department may be sending out a CCCP Survey to collect information and/or review installation and testing documentation. For those not currently participating in the program, we ask that you do your part in eliminating potential hazards to the water distribution system by visiting the department webpage and filling out and submitting back to us a completed survey. Please contact a local certified plumber if verification of potential hazards is needed.

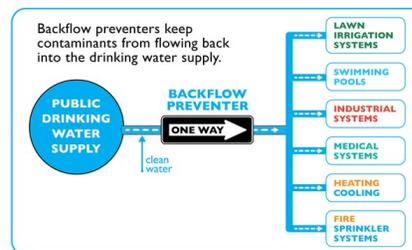


Backflow Prevention in Residential, Commercial, and Industrial Settings

The DuPage County Public Works Department requires all cross connections on the county water distribution system, whether direct or indirect, to have backflow preventers installed. The backflow preventers keep polluted and/or contaminated water out of the potable drinking water supply. Not all Backflow preventers are equally acceptable as protection against hazards and is dependent on the type of connection and the degree of hazard.

The most common form of cross-connection found in a residential setting is the garden hose. Other common residential cross connection types include separate systems such as a well, irrigation systems, swimming pools or hot tubs, boiler systems for heating and many more.

Common forms of cross connections in a commercial or industrial setting is fire suppression or bypass, photo, chemical, or biological lab equipment, and medical or dental equipment.



Backflow Prevention Devices

The following devices are common backflow prevention devices, each designed for different types of hazards and settings:

Air Gap: The space between the outlet of the water and the highest water level in the fixture. Although an air gap provides maximum protection and is the only one to protect against lethal hazards, it is not always practical or the best method to use.



Reduced Pressure Principle Assembly (RPZ): Mechanical backflow preventer consisting of two check valves and a relief valve intended to reduce the internal pressure to isolate both pollutants and contaminants, and prevent both backsiphonage and backpressure.



Double Check Valve Assembly (DC) Consists of two check valves within one body. It is essentially an RPZ minus the relief valve. The absence of the relief valve reduces the devices effectiveness. Can be used to prevent both backflow and backsiphonage, however shall only be used for to protect against pollutants only.



Atmospheric Vacuum Breaker (AVB) Provides protection against backsiphonage, but not backpressure. Therefore, AVB's cannot be used on irrigation/sprinkler systems, per IL plumbing code and any existing AVB devices on irrigation and sprinkler systems must be replaced by an RPZ.

