



Defining Backflow and Cross Connections

Normal Flow	Reverse Flow
<p>Typically, water flows from the distribution system to the customer's business or residence.</p>	<p>Backflow events can occur because of: Back Pressure - Pressure in downstream piping is greater than the distribution system pressure. Back Siphonage - Reverse flow caused by negative pressure (vacuum or partial vacuum) in the distribution system.</p>

“**Backflow**” is defined as reverse flow of water or other substances into the drinking water distribution system.

Examples of Cross Connections	
Residential	Non-Residential

“**Cross Connection**” is defined as an actual or potential connection between a potable (drinkable) water supply and any non-potable source or a substance that could contaminate drinking water.

“**Cross Connection Control Program**” is defined as a program to reduce the hazard of contamination of the public water system by identifying actual and potential cross-connections and taking action to protect the system from these hazards.



Cross Connection Control Program

Virginia Department of Health (VDH) requires Water Purveyors to establish and implement a Cross Connection Control Program (CCCP) with the extent of the distribution system and the consumers served by the waterworks. The CCCP shall:

1. Not be in conflict with the USBC and applicable building code regulations;
2. Ensure complete assessments of every consumer's water system and shall determine both the degree of hazard and the appropriateness of existing safeguards to prevent contamination from cross-connections and backflow;
3. Ensure testing, maintenance, and repairs of all backflow prevention assemblies, backflow elimination methods, and backflow prevention devices required and installed;
4. May include a public education program to:
 - a) Prompt consumer self-assessments, increase the awareness of cross-connections, and inform the consumer of the public health hazards of backflow.
 - b) The public education program, if provided as part of the CCCP, shall include, at a minimum, the following:
 - Causes of backflow;
 - Hazards and health effects of cross-connections and backflow;
 - Resources available to identify actual or potential cross-connections;
 - Safeguards to use to eliminate or control the hazards at the point of use; and
 - Sources for additional information.
5. Establish procedures for completing and monitoring operational tests, or other evaluation procedures as appropriate, at least annually, and after installation, relocation, or repairs, for testable backflow prevention assemblies, devices, and methods that provide containment;
6. Provide a method to discontinue or refuse water service to the consumer to ensure that the waterworks is adequately protected from cross-connections and backflow if any of the following conditions occur:
 - a) The consumer does not install, test and maintain a required backflow prevention assembly or backflow elimination method in accordance with the applicable sections of this chapter;
 - b) The consumer allows a required backflow prevention assembly or backflow elimination method to become inoperable or the consumer removes or bypasses it; or
 - c) The owner knows an unprotected or inadequately protected cross-connection exists on the premises and determines that there is inadequate backflow prevention at the service connection.
7. In the event of backflow of contaminants into the waterworks, the owner shall promptly take or cause corrective action to confine and eliminate the contamination and report the event to VDH within one business day in the most expeditious manner;
8. Maintain an inventory and records of testing, repairs, and maintenance of all backflow prevention assemblies, backflow elimination methods, and backflow prevention devices required and installed;
9. Maintain records related to the CCCP implementation, and any other records VDH requires.