



## **Backflow Prevention Frequently Asked Questions?**

### **What is Cross Connection?**

A cross connection can be described as any arrangement whereby backflow can occur, or as any arrangement of pipes, fittings, fixtures, or devices that connects a non-potable water system to a potable water system.

### **What is Backflow?**

A reversal of the normal direction of flow within a piping system, or as the flow of water or other liquids, mixtures or substance into the distribution pipes of a potable water supply from any source other than the intended source of the potable water supply.

### **What is back pressure?**

A reversal of the normal direction of flow in a piping system to a downstream pressure that is greater than the supply pressure

### **What is backsiphonage?**

A reversal of the normal direction of flow in a piping system due to a drop in the supply pressure to the point where vacuum, partial vacuum or negative pressure occurs in the piping.

### **How can backflow be prevented?**

By installing an approved backflow preventer. A backflow preventer is a means or mechanism to prevent backflow. The basic means of preventing backflow is an air gap which either eliminates a cross-connection or provides a barrier to backflow. The basic mechanism for preventing backflow is a mechanical backflow preventer, which provides a physical barrier to backflow. The principal types of mechanical backflow preventer are the reduced-pressure principle assembly, the pressure vacuum breaker assembly, and the double check valve assembly.

### **How do I know if I need a backflow prevention assembly?**

A member of the cross-connection control staff will send a questionnaire and/or visit your property to perform a premise survey for backflow requirements. You will receive a letter providing you with the guidelines and what action you need to take to ensure compliance with the City of Bexley requirements.

### **Why do backflow preventers have to be tested at least once annually?**

Mechanical backflow preventers have internal seals, springs, and moving parts that are subject to fouling, wear, or fatigue. Also, mechanical backflow preventers and air gaps can be bypassed. Therefore, all backflow preventers have to be tested periodically to ensure that they are functioning properly. A visual check of air gaps is sufficient, but mechanical backflow preventers have to be tested by a State Certified Tester, with properly calibrated gauge equipment.

## Why do water suppliers need to control cross-connections and protect their public water systems against backflow?

Backflow into a public water system can pollute or contaminate the potable water in that system (i.e., backflow into a public water system can make the water in that system unusable or unsafe to drink), and each water supplier 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, each water supplier must take reasonable precautions to protect its public water system against backflow.

### Approved Devices

#### Approved Air gap

An approved air gap separation is the distance through the free atmosphere equal to two times the normal diameter of the supply pipe discharge opening, but never less than one inch

#### Double Check Backflow Assembly (DC)

A backflow prevention device consisting of two spring-loaded, independently acting check valves set in series, a tightly closing inlet and outlet valve, and four appropriately located test cocks



#### Reduced Pressure Principle Assembly (RP)

A mechanical backflow prevention assembly consisting of two independently acting, spring-loaded check valves; four appropriately located test cocks; a tightly closing inlet and outlet valve; and a pressure relief valve mechanism located between the two check valves that is designed to maintain the pressure between the check valves at least 2 pounds lower than the supply pressure to the device.



#### Pressure Vacuum Breaker (PVB)

A backflow prevention device consisting of one or two independently acting, springloaded check valves, and an independently acting, spring loaded air inlet valve designed to prevent back-siphonage.



#### What is potable water?

Means water intended for human consumption.