

# CROSS- CONNECTION AND BACKFLOW PREVENTION PROGRAM



*Helping Keep Our  
Water Safe*

Water systems depend on pressure to keep water flowing in the proper direction. Water distribution systems are designed so that the pressure is greater in the lines delivering the water than the pressure on the property side of the water meter.

However, there are instances when there is a drop in pressure in the water distribution system, or an increase in pressure of water on the property side of the water meter. When either of these happen, it's possible for unsanitary water from the customer's plumbing system to get sucked back into the public water system. If the water in the customer's system has come into contact with harmful substances and it backflows into the municipal drinking water system, it could cause illness or, in extreme cases, death.

The City of Temple is working to ensure its drinking water system remains safe. We require backflow prevention devices where mandated by law, and we work with customers to eliminate any potential cross-connections in our customers' plumbing that, unprotected by a backflow prevention device, could lead to dangerous situations.



Here are some answers to commonly asked questions about The City of Temple's Cross-Connection Control and Backflow Prevention Program.

## **What is backflow?**

Backflow is the reversal of water flow from its normal or intended direction of flow. Whenever a water utility connects a customer to its water distribution system, the intention is for the water to flow from the distribution system to the customer. However, it is possible and common for the flow to be reversed and flow from the customer's plumbing system back into the public water distribution system. If harmful substances exist within the user's plumbing system when backflow occurs, then it is possible to contaminate the public water system.

## **What causes backflow?**

Backflow is usually caused by back-pressure or back-siphonage. Back-pressure is a condition caused when the water pressure within a customer's plumbing system exceeds that of the water distribution system supplying it. Back-pressure can result from an increase in pressure on the customer's side—due to pumps, steam boilers, or other means—or from a decrease in pressure in the city's distribution system due to water line flushing, fire fighting, or water main breaks.

Back-siphonage is a condition caused when there is a loss of water pressure causing a negative pressure (i.e. vacuum) within the distribution system. The effect is similar to drinking water through a straw. This can occur due to nearby firefighting, water main breaks, water line flushing, or other situations that cause a significant loss in water system pressure.

## **Do backflow incidents really happen?**

Yes! Here are just a couple of examples of incidents that happened in other cities:

- A resident called to complain that the tap water was pink, after an estimated 2,000 gallons of water mixed with car washing chemicals got into the city's drinking water supply. City staff traced the problem to a car wash. The facility had been using a pressure washer to clean out pipes as part of maintenance work on plumbing.
- Creosote was found in the water system as a result of back-siphonage at a wood preservative company. The company had installed an unprotected cross-connection between a hose being used as a priming line for a fire service connection and the suction side of a creosote pump.

## **Who is required to have a backflow prevention assembly?**

Most multi-family, as well as all commercial and industrial properties and irrigation meters are required to have a backflow prevention assembly. Single-family residences with irrigation are also required to have backflow assemblies.

### What is a backflow assembly?

Backflow assemblies are devices placed on potential cross-connections to prevent water from flowing back into the public water system. The most common type of backflow assemblies are a Reduced Pressure Zone device (RPZ), Pressure Vacuum Breaker (PVB) and a Double Check Valve Assembly device (DCVA). All three of these types of backflow prevention assemblies are testable to ensure they are in proper working order.

Placed just downstream of a water meter to an establishment, they can protect the public water system from any contamination that may occur within the entire establishment's plumbing system.

### Why do I have to install a backflow prevention assembly?

To protect the customers of public water providers, the Environmental Protection Agency Safe Drinking Water Act, Texas Commission on Environmental Quality, The City of Temple and the International Plumbing Code each requires customers to equip all potential cross-connections with a backflow prevention assembly. As a water supplier, the City of Temple has a responsibility to provide safe drinking water under all foreseeable circumstances to its customers. In addition, customers generally have absolute faith that water delivered to them through a public water system meets all federal and state requirements and is safe to drink.

### Does my backflow assembly need to be tested?

Yes. The City of Temple requires that a certified tester check backflow assemblies at the time of installation, annually after installation, after repairs and after relocating for all devices other than residential irrigation. Residential irrigation should be tested at least every three years. Backflow assembly testers are private contractors certified by the State of Texas and possess a valid and current certification. Testers must be approved by the City of Temple. A list of approved testers can be found on the City of Temple website at [www.Templetx.gov](http://www.Templetx.gov).

### Will I receive notification when to perform my test?

The City of Temple tracks the backflow assembly information in our database that will generate a reminder letter to customers of when their annual test is due. These letters are typically sent 30 days before the test is due. Please note that absence of a reminder letter does not void the requirement of the annual test required by the City of Temple.

THE CITY OF TEMPLE is not aware of when repairs or relocation occurs, therefore, there will be no notice for these situations.

### What happens if I do not test a backflow assembly when required?

If for some reason you do not test your backflow assembly, you may be cited and fined for non-compliance. Also, your water service may be terminated to protect the public water system.

### Where are the most common cross-connections?

- Wash basins and service sinks
- Laboratory equipment
- Irrigation or lawn sprinkler systems
- Swimming pools and spas
- Fire sprinkler systems
- Auxiliary water supplies (wells, storage tanks)
- Photo developing equipment
- Chemical feed equipment
- Food and beverage processing equipment
- Boilers



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### How can backflow be prevented?

Backflow into a potable-water system can be prevented using an assembly approved by the water supplier or a physical separation between the water supply and a potential source of pollution. The water supplier determines the type of backflow-prevention assembly required, based on the existing or potential degree of hazard.

**For more information about backflow and cross-connection control, [click here](#).**