



# Cross Connection Prevention Program

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## Public Works

### Statistics

- 3 billion gallons of water treated at the Lester J. Berglund Water Treatment Plant
- 1,850 water meters protected with a backflow prevention device.
- 302 estimated outstanding water meters that should have a backflow prevention device installed.
- There are approximately 13,000 water meters in Poway.

### Staffing

- 1 Cross-Connection Specialist



### Function

*To protect the quality of the City of Poway's water supply.*

## Backflow Prevention Device Installation Program

Poway's system of nearly 300 miles of water pipe relies almost entirely on pressure to keep 3 billion gallons of water flowing in the right direction each year once it leaves the Lester J. Berglund Water Treatment Plant to travel to more than 13,000 homes and businesses.

Water distribution systems are designed so pressure is greater in the lines delivering the water than the pressure on the property side of the water meter. However, when there is a drop in pressure in the City's water main pipe, a reverse flow can occur. This is called *backflow*. A drop in pressure could occur if there is a water main break.

When backflow occurs, it is possible for unsanitary water from a customer's plumbing system to be drawn 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.

In accordance with State health regulations, to ensure the drinking water supply remains safe, the City of Poway requires backflow prevention devices where they are mandated by law.

Examples of customer-types required to have a backflow prevention device include:

- Landscape irrigation & agriculture
- Commercial properties
- Automotive
- Dental offices
- Churches
- Properties with fire sprinkler systems and complex interconnected plumbing systems.

Generally, single-family residential properties are not required to have a backflow prevention device.

## Common Cross Connections

- Irrigation systems
- Fire sprinkler systems
- Laboratory equipment
- Auxiliary water supplies, such as wells and storage tanks.
- Chemical feed equipment
- Attachments to hoses to apply weed killer or fertilizer or to flush antifreeze
- Food and beverage processing equipment
- Ornamental fountains
- Boilers
- Hose bibs
- Swimming pools and spas
- Wash basins and service sinks

## Program Objectives

- Ensure more than 1,850 backflow prevention devices are tested annually.
- Continue pursuing installation of backflow prevention devices at an estimated 300 properties.
- Conduct annual tests on more than 200 backflow prevention devices installed on City-owned properties.

# Backflow Prevention Device Installation Program

## Why does Poway require some customers to have backflow prevention devices?

As a water agency in California, the City of Poway is required to abide by numerous laws and health regulations. The following regulatory agencies require the installation of backflow prevention devices to prevent potential cross-connections: the Environmental Protection Agency (Safe Drinking Water Act), State Department of Health Services (Title XVII), and the Uniform Plumbing Code. Therefore, the City of Poway adopted Poway Municipal Code Chapter 13.14 in 2004 to regulate cross-connections.

## 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 is a Reduced Pressure Assembly Valve. To ensure they are working correctly, all backflow assemblies must be tested annually, with the exception of atmospheric vacuum breakers.

## Impact to the Customer

Installation of a backflow prevention device and annual testing is the financial responsibility of the water customer. The initial cost to install a backflow prevention device is approximately \$1,200 for a residential property and \$2,500 for a commercial property.

The annual cost to have the backflow prevention device tested annually to ensure it is working properly ranges from approximately \$50 to \$100, depending on the size.

## Program Status

### Installed Backflow Prevention Devices

Chapter 13.14.070.E lists the types of facilities required to have a backflow prevention device. The chart below lists each category and the quantity of each type currently installed in Poway.

Type of Water Use	Quantity of Installed Backflow Devices
Irrigation-Only Meters	511
Restaurants	30
Auto Repair	34
Animal Care	9
Dental	21
General Commercial*	1,245
<b>TOTAL</b>	<b>1,850</b>

\* Commercial includes shopping centers and many other categories, including some uses identified above.

### Water Meters Needing a Backflow Prevention Device

Since 2004, the City of Poway has been working to achieve installation of backflow prevention devices at all applicable property. Prioritization for pursuit of installation has been primarily based on degree of the potential hazard. Since property uses change frequently, the process of identifying potential hazards is continuous.

Type of Water Use	Estimated Quantity Remaining
Irrigation-Only Meters	5
Restaurants	3
Multi-Family	77
Well/Pump	1
General Commercial	49
Unknown/Other	137
<b>TOTAL</b>	<b>272</b>