How Can You Help?

Our job, as your water provider, is to constantly search out potential backflow situations and determine what actions need to be taken to ensure the water system's integrity. As part of this, we are available to help you conduct a backflow survey within your facility to deter-mine what type of backflow prevention is best for your particular situation and protect your personnel. You will receive a survey report complete with recommendations. To arrange for this free service, please call (209) 892-3215.

Your job, as the water consumer, is also very important. Here's how you can help:

Be aware of potential cross-connections in your water supply and eliminate them.

Don't connect your garden hose to the test cock on any backflow device.

Install backflow prevention devices where appropriate and where required.

ALL backflow preventers shall be tested annually by the City of Patterson. (Municipal Code 13.28 – Control of Backflow and Cross-Connections to Water System).

Department of Public Works

CITY OF PATTERSON

1 Plaza Circle
P.O. Box 667
Patterson, CA 95363

Phone: 209-895-8060
Fax: 209-895-8069
E-mail: publicworks@ci.patterson.ca.us

City of Patterson

Water Division

Cross-Connection Control Program

The City of Patterson is pleased to be your water supplier. We are committed to providing you with a water supply that is plentiful and of the highest quality. One of the ways we protect your water supply from unhealthful contamination is through an aggressive cross-connection control program.

(209) 895-8060

What is a Cross- Connection Control Program?

A cross-connection is a connection between the potable water supply and a contaminant or pollutant, either from the distribution system or inside your home or business. Cross-connections may be permanent or temporary, but either way, must be eliminated to ensure your water supply is safe for you to drink.

A **contaminant** is an actual hazard to the public health through poisoning or through the spread of disease.

Examples of contaminants are herbicides, pes -ticides, chemicals, or sewage.

A **pollutant** is not an actual hazard to the public health, but does adversely affect the aesthetic qualities of the City water.

Examples of a pollutant are steam, soap water, or swimming pool water.

A cross-connection control program is designed to protect the potable water system by regularly surveying service connec-tions within the jurisdiction to prevent back-flow of contaminants or pollutants into the system.

Backflow occurs when the flow of water from the potable water gets reversed and water from an unprotected source flows back into the potable water system. There are two kinds of backflow: backsiphonage and backpressure.

Backsiphonage occurs when the water pressure in the City's potable water system drops below the pressure found in other connected water sources. When this happens, the potable system pulls or siphons water to it from the other source bringing with it whatever substances are in it. On the next page are a couple of examples of how backsiphonage can occur.

At home, a garden hose is being used to fill the backyard pond. Two blocks away, a car slams into a fire hydrant causing the hydrant to break off and send water 50 feet into the air. As a result, water pressure is reduced in the City's system (the hydrant); the flow into the pond is suddenly reversed drawing water from the pond into the City's water system.

At a local business, a landscaper is fertilizing with a chemical sprayer connected to a hose. Although the business has a backflow preventer, it has not been tested in many years and does not work properly. Nearby, a construction crew, doing work in the neighborhood, hits and breaks the water main down the street. The sudden loss of pressure in the City's water system (the water line) stops the water coming out of the chemical sprayer hose and all the fertilizer in the sprayer is sucked back through the hose and into the City's water system.

Backpressure is the other way a backflow situation can occur. When a non-potable pressurized substance exceeds the pressure in the City's water system, it causes the pressurized substance to be pumped back into the City's water system. Here are two examples:

At the local restaurant, a customer orders a meal and carbonated soda. Within minutes of eating, he becomes violently ill. — Due to the pressure of the CO2 tank, and the failure of the system check valve at the tank, a backpressure is created, forcing CO2 to flow back into the potable water supply via copper tubing. The acidic carbonated water reacts to minutes of ingesting. Nausea, vomiting, dizziness, chills, burning mouth, and diarrhea usually occur. Blue water ice with a mineral taste can also be detected.

A busy shopping center has several points of connection to the irrigation system equipped with a booster pump and fertilizer injection to the irrigation system. Backflow preventers are in place, but have never been tested after the initial installation. The irrigation system is set to come on for 2 hours a night with the booster pump running at 80 psi while the potable water system pressure is in normal range 65psi. This difference of 15psi causes backflow into the potable system for two hours every night.

WHY DOES IT MATTER

According to an issue paper published by the EPA*, between 1981 and 1998, there were 57 documented waterborne disease outbreaks related to cross-connections with a potable water source. These cross connections resulted in 9,734 illnesses including 20 outbreaks (6,333 cases of illness) caused by microbiological contamination, 15 outbreaks (679 cases of illness) caused by unidentified chemical contamination and 22 outbreaks (2,722 cases of illness) where the contaminant was not reported.

In order for backflow to occur, two things must happen. First, there must be a link (cross-connection) between the two systems (potable and non-potable). Second, the re-sulting force must go towards the potable water supply (backflow).

Cross-connections occur every day, sometimes we may not know they are there until something bad happens.

* "Potential Contamination Due to Cross-connections and Backflow and the Associated Health Risks." Published August 2003.