

State and federal regulations require the City of Rock Island to operate a Cross Connection Control Program to reduce the chances of an accidental contamination of the public water supply caused by the backflow of water from a customer's plumbing system into the public water mains.

Cross connections are found in all plumbing systems. It is important that each cross connection be identified and evaluated as to the type of backflow protection required to protect the drinking water supply. Some plumbing fixtures have built-in backflow protection in the form of a physical air gap. However, most cross connections will need to be controlled through the installation of an approved mechanical backflow prevention device or assembly. Some common cross connections found in plumbing and water systems included:

- Δ Wash basins and service sinks
- Δ Hose bibbs
- Δ Irrigation sprinkler systems
- Δ Auxiliary water supplies
- Δ Laboratory and aspirator equipment
- Δ Photo developing equipment
- Δ Processing tanks
- Δ Boilers
- Δ Water recirculating systems
- Δ Swimming pools
- Δ Solar heat systems
- Δ Fire sprinkler systems

The major components of the Rock Island Cross Connection Control Program are...

- Δ Enforcement of the state plumbing code.
- Δ Periodic contacts with customers who have landscape irrigation systems, boilers, commercial activities or industrial activities to insure that cross connections are eliminated or protected by an approved backflow preventer.
- Δ Periodic contacts with all customers to educate them about backflow prevention.

Drinking water contamination in the United States caused by backflow through an unprotected cross connection is very rare and there are no known cases in the City of Rock Island.

However, the risk is real and the City of Rock Island asks all water customers to be alert for cross connections. Whenever a cross connection is discovered, it should be eliminated or protected by an approved backflow preventer.

If you are unsure about a potential cross connection, please contact the Public Works Department for assistance.



**City of Rock Island
Public Works Department
1309 Mill Street
Rock Island, IL 61201
309-732-2200
rigov.org/ccsurvey**

Cross Connection Control Program

City of Rock Island

Public Works Department



How Contamination Occurs

Water normally flows in one direction, from the public water system through the customer's cold or hot water plumbing to a sink tap or other plumbing fixture. The plumbing fixture is the end of the potable water system and the start of the waste disposal system.

Under certain conditions water can flow in the reverse direction. This is known as backflow. Backflow occurs when a backsiphonage or backpressure condition is created in a water line.

Back siphonage may occur due to a loss of pressure in the water distribution system during a high withdraw of water for fire protection, a water main or plumbing system break, or a shutdown of a water main or plumbing system for repair. A reduction of pressure below atmospheric pressure creates a vacuum in the piping. If a hose bibb was open and the hose was submerged in a wading pool during these conditions, the non-potable water in the pool would be siphoned into the house's plumbing and back into the public water system.

The risk of this type of backflow event can be avoided by the installation of an inexpensive backflow preventor on a hose connection.

Backpressure may be created when a source of pressure, such as a pump, creates a pressure greater than that supplied from the distribution system. If a pump supplied from a non-potable source, such as a landscape pond, were accidentally connected to the plumbing system, the non-potable water could be pumped into the potable water supply.

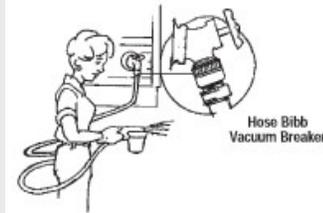
Examples...

Outdoor Faucet

The ordinary garden hose is the most common way to contaminate the water supply. This can happen when one end of the hose is attached to an outdoor faucet (sill cock), and the other end is connected to an aspirator type bottle, insecticides or other chemicals in the aspirator bottle can be siphoned back into the drinking water supply.

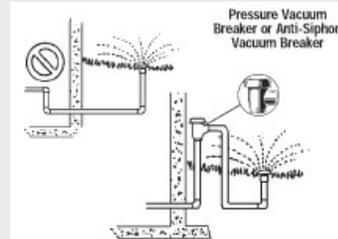
You can easily prevent the possibility of this type of contamination by installing a hose bibb vacuum breaker.

This is a small, inexpensive device that simply attaches to a threaded water faucet (as shown on the cover).



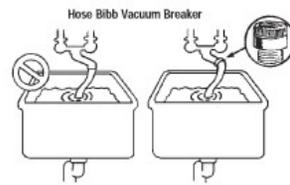
Lawn Irrigation System

Lawn irrigation systems need a vacuum breaker backflow preventor to protect against lawn and pesticide chemicals being drawn in from the lawn and back into the drinking water supply.



Laundry Sink

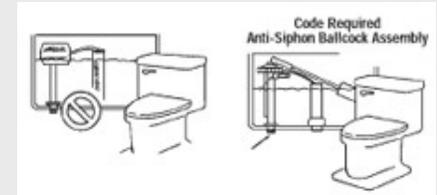
To make the laundry sink safe, a hose bibb vacuum breaker is needed. This device attaches to the threaded end of the faucet as with the outside water faucets (sill cocks). It prevents contaminated water in the sink from being siphoned back into the drinking water supply.



Toilet

When water leaves the drinking water supply system and flows into the toilet tank, the water must be prevented from being drawn back into the water supply. The water in the toilet tank is often treated with cleansing chemicals that are not safe to drink.

An anti-siphon ball cock assembly should be installed in the toilet tank. This will protect against back siphonage.



How to Prevent Contamination to Your Drinking Water

Don't...

- ▷ Submerge hoses in buckets, pools, tubs, sinks, ponds, etc.
- ▷ Use spray attachments without a backflow prevention device.
- ▷ Connect waste pipes from water softeners or other treatment systems to the sewer, submerged drain pipe, etc.
- ▷ Use a hose to unplug blocked toilets, sewers, etc.

Do...

- ▷ Keep the ends of hoses clear of all possible contaminants.
- ▷ If not already equipped with an integral (built-in) vacuum breaker, buy and install hose bibb type vacuum breakers on all threaded faucets around your home. These devices are inexpensive and are available at hardware stores and home improvement centers.
- ▷ Install an approved backflow prevention assembly on all underground lawn irrigation systems. A plumbing permit is required for the connection of an underground lawn irrigation system to your plumbing system.