

## What is a cross-connection?

Any actual or potential connection between the waterworks and any source of pollution, contamination or other material or substance that could change the quality of water in a drinking water supply during a back-flow event. i.e. When you attach your garden hose to a herbicide sprayer or leave it submerged in water while filling a pool/tub you are connecting those new items to your and your neighbours fresh water supply.



103 Main Street, Morrin AB

## Contact Us

403-772-3793

[info@starlandcounty.com](mailto:info@starlandcounty.com)

[www.starlandcounty.com](http://www.starlandcounty.com)

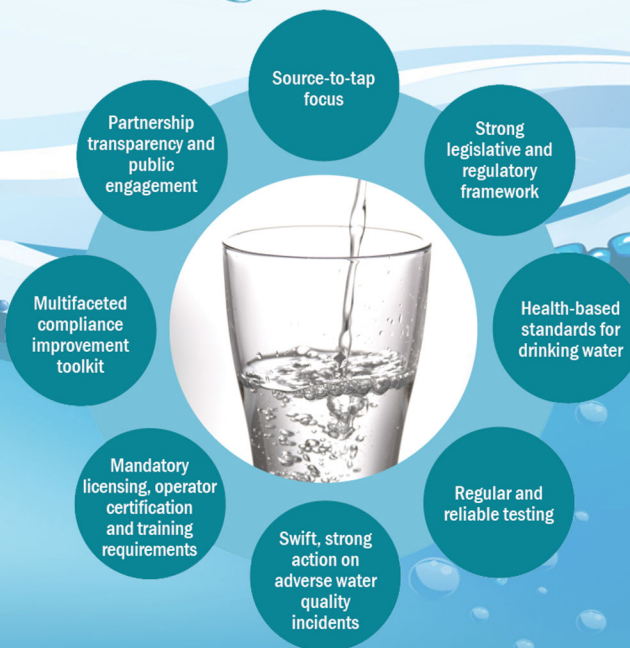


## What are the dangers of a cross-connection?

A cross-connection can contaminate your drinking water supply which can lead to very serious health effects. The more contaminants able to be drawn into a cross-connection the more serious the health effects.

## How can cross-connections be prevented?

Cross-connections can be prevented in a variety of ways. First and foremost, ensure you never directly link your drinking water supply with any harmful substances such as chemicals, cleaners, and stagnated water by maintaining an air gap at all times. You can also install hose bib vacuum breaker on your exterior taps.



## Cross-Connections, Backflow Prevention, & Your Safe Drinking Water

**Are you putting your family's health at risk?**



## Cross-connections

Why they happen.

How they are very dangerous to your health.

How they can be prevented.

# What is Back-flow?

The reversal of normal flow of water (potable or non-potable) or other substances into a drinking water system (DWS) that may be caused by back siphonage or back pressure in the presence of a cross connection

There are six basic types of devices that can be used to prevent backflow:

## Mechanical

- Atmospheric and pressure vacuum breakers
- Double check valves with intermediate atmospheric vents
- Double check valves
- Reduced pressure devices



Vacuum Breaker

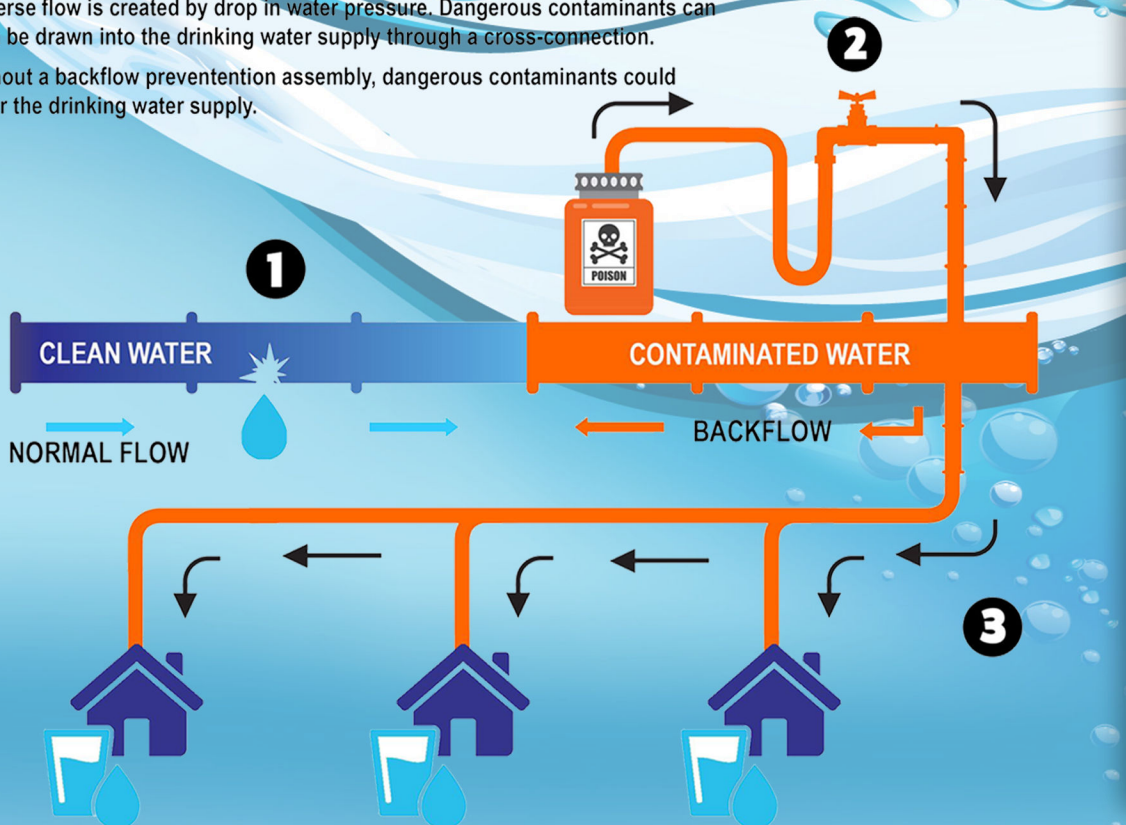
## Non-mechanical

- Air Gaps
- Barometric Loops



# What causes back-flow?

- 1 A break in the water main reduces water pressure.
- 2 Reverse flow is created by drop in water pressure. Dangerous contaminants can then be drawn into the drinking water supply through a cross-connection.
- 3 Without a backflow prevention assembly, dangerous contaminants could enter the drinking water supply.



## LOST IN THE VAULT

### WHEN THERE'S KNOWN RISK IS IT REALLY "BEST PRACTICE"?

**Cross Talk**

**THE BOTTOM LINE**

"When a backflow preventer is installed below grade, the vault or pit in which an assembly is installed may fill up with water...The water in the pit could create a cross-connection between the water in the pit and the backflow preventer through the test cocks. **This may occur whether the test cocks are open or closed.**" - USC FCCCHR, Cross Talk, Spring 2014

**TAKING A RISK**

Cross connections lead to backflow. Backflow leads to contaminated drinking water. Contaminated drinking water leads to sickness and death.

**WHAT'S THE REALITY?**

When the test cocks are under water a potential cross connection is created. Respected voice in the industry - USC FCCCHR has written guidance urging against placing backflow preventers in vaults **THREE TIMES.**

**THIS IS NOT SAFE**

Flood water includes things such as fertilizers, animal waste and transmits many diseases including cholera and giardia. **3.4 MILLION deaths** annually from water related diseases globally. In the United States about 800 deaths are related to norovirus and 7,900 are related to Clostridium difficile each year. **These are only two of many types of water borne disease.**

**CHANGE IS OK**

Do you still use floppy disks, VHS or cassette tapes? How many people do you know that still have a corded home phone? When was the last time you drafted plans by hand instead of using AUTOCAD? It's ok that these once important skills and objects are no longer necessary. Things change, people learn, and we improve. **Let's improve on the vault.**

**THE SOLUTION**

Install the backflow preventer above ground in an ASSE 1060 approved enclosure. **Don't render the backflow device useless by creating a cross connection at it.** Keep it above ground and safe from everyday flooding. Hide them with colors and landscaping to address any aesthetic concerns. Visit [www.safe-t-cover.com](http://www.safe-t-cover.com) for ASSE 1060 enclosure information.

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