

Backflow Prevention Program at a glance

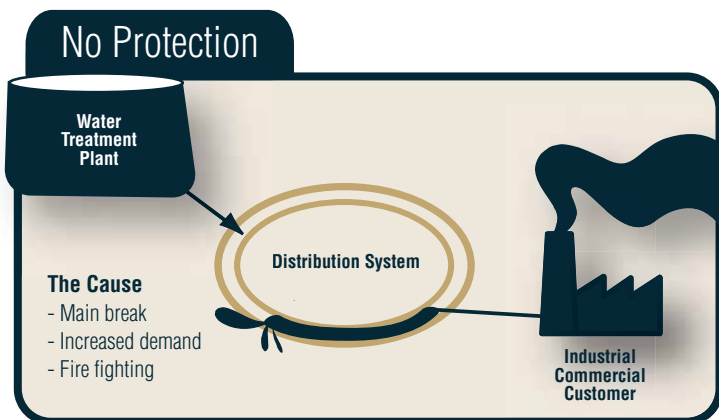
What is backflow and what is the City doing to address it?

Backflow is the undesired reversal of water flow against normal direction that occurs as a result of back pressure or back siphonage.

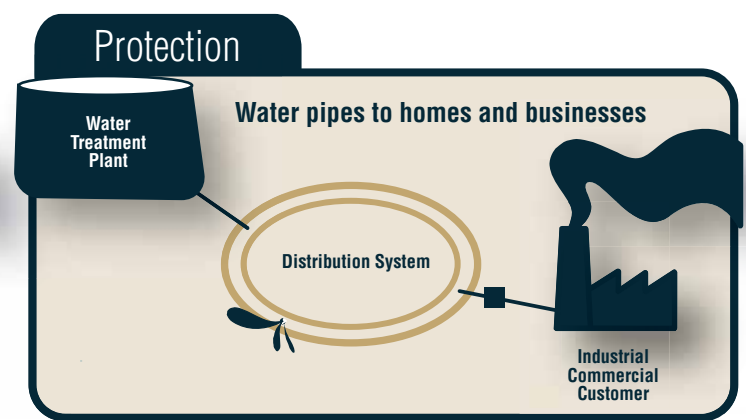
Back pressure can occur when the pressure in a private water system is greater than the pressure in the City's water supply system. Back siphonage can occur when there is a dip in the water supply system, perhaps by a watermain break.



The City of Toronto allows two types of premise isolation backflow prevention devices to be installed. For a severe hazard risk, a Reduced Pressure Principle Assembly (RP) must be installed. For a moderate risk, a Double Check Valve Assembly (DCVA) can be used.



Backflow could take place as the water pressure drops, drawing contaminants into water supply pipes.



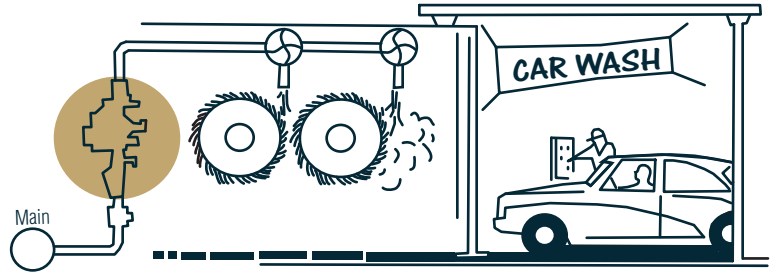
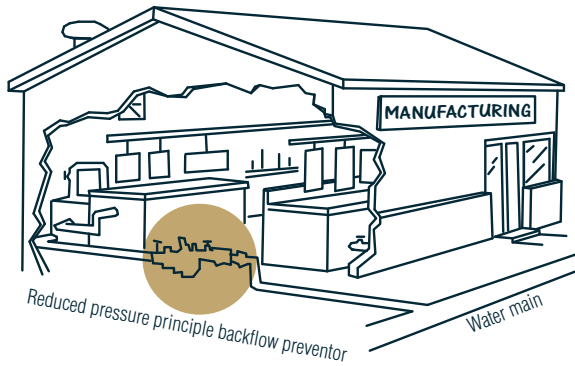
Backflow into the City's water supply stopped by having a backflow device installed after the water meter.

The Water Supply Bylaw, Municipal Code Chapter 851, (MCC 851) came into effect on January 1, 2008, which requires backflow prevention device(s) to be installed immediately after the water meter in order to isolate the premise. Premise isolation is accomplished by installing a backflow device immediately after the water meter at Industrial, Commercial, Institutional (ICI) and Multi-residential Properties (five or more units) so that potential contaminants can not flow back into the City's water supply system.

The following are the compliance dates for Industrial, Commercial, Institutional (ICI) properties, based on their risk level (As found in Schedule #5 of MCC 851):

- manufacturing industries rated as a severe risk: December 31, 2008
- commercial properties rated as a severe risk: March 31, 2009
- properties rated as a moderate risk: June 30, 2009/December 31, 2009

Examples of commercial and industrial facilities with backflow preventers installed to protect the drinking water supply



Who can install, prepare a survey, test, relocate, and repair backflow prevention devices?

The qualification requirements for various functions are given below. (Source: schedule #6 of MCC 851)

Function	Professional Engineer with CCCS Certification	Certified Engineering Technologist with CCCS Certification *	Licensed Master Plumber with contractor's licence and with CCCS Certification	Journeyman Plumber with CCCS Certification †	Apprentice plumber with CCCS Certification ‡	Fire system sprinkler fitter with CCCS Certification	Industrial Millwright with CCCS Certification	Irrigation System Installer with CCCS Certification
Carry out cross-connection /backflow prevention device survey	✓	✓	✓	✓				
Install, relocate, or replace backflow prevention device			✓	✓	✓			
Repair backflow prevention device	✓	✓	✓	✓	✓			
Test backflow prevention device	✓	✓	✓	✓	✓	✓	✓	✓
Complete items 1, 2, 3, and 4 in relation to fire protection systems	✓	✓	✓	✓	✓	✓		
Complete items 3 and 4 in relation to lawn sprinkler systems	✓	✓	✓	✓	✓			

- ✓ Authorized to perform function.
 - * Required to be under the direction of a Professional Engineer
 - † Required to be employed by a licensed plumbing contractor
 - ‡ Required to be employed by a licensed plumbing contractor and under the direct supervision of a journeyman plumber or master plumber
 - CCCS Cross Connection Control Specialist. Note: Please refer to § 851-8.F for the criteria for acceptable CCCS Certification
- Note: All test equipment requires a current calibration certificate traceable to National Institute Standards and Technology (NIST)**

If a severe risk unit has a zone isolation backflow prevention device on it, do I still need to put a backflow prevention device on the water supply line coming into my building?

Yes. You are still legally required to put on backflow prevention devices on all connections coming off the City's water supply line in order to protect the City's water system from contamination.

Additional backflow prevention device(s) may be required in areas within your facility where severe hazards exist according to the Ontario Building code. By installing a backflow prevention device at the source of the contamination protection will be provided to that area of the building's internal water supply. For example, a commercial plaza may have a dry cleaning facility and retail stores operating out of it. Should there be a problem with the internal plumbing at the dry cleaning facility and a backflow device was installed on the machine the rest of the units within the plaza would be protected from that contaminant. Therefore, by preventing contaminants from entering into the plumbing system at the source the drinking water fountains and sinks in the rest of the plaza should be protected.