

Water Distribution System

Backflow Prevention And By-Law 44-2000



THE CORPORATION OF THE CITY OF

ST. THOMAS

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Backflow Prevention

Did you know?

Backflow is defined as the reversal of the normal direction of flow in drinking water lines. This can be caused by water main breaks, fire fighting situations or other changes in water pressure.

Backflow can draw dangerous substances through the drinking water system, and this can result in the migration of contaminants to the taps of local residents.



As a result of the Walkerton inquiry, new stringent Ontario Ministry of the Environment drinking water regulations continue to be implemented. In order to progressively address backflow prevention recommendations, the City of St. Thomas implemented a Backflow Prevention Program under **By-Law No. 44-2000**. This program provides protection of the drinking water distribution system, helping to ensure the supply of safe, clean drinking water.

Backflow Events Really Happen!

In 1997 residents of Guelph were instructed not to drink, cook or bath in water that came out of their taps, even if boiled. This precaution was due to a lubricant spill, which entered the municipal drinking water system from a local manufacturer.

In 2005 a Stratford self-serve car wash inadvertently allowed wash water to enter the city's distribution system. Upon investigation the owners were charged \$75,000 by the Ministry of the Environment for causing or permitting a substance to enter a drinking water system that interfered with the normal operation of the system.



What Can I Do?

Installation of a valve called a Backflow Prevention Device will stop the reversal of flow from a facility or device. This effectively prevents dangerous chemicals or contaminants from being forced into the drinking water system through hoses, tanks, pumps and other devices.

Each of the incidents mentioned above, and many other backflow events could have been avoided with the installation of the proper Backflow Prevention Device.

Contacts and Additional Information



For more information call:

- City of St. Thomas
Environmental Services
(519) 631-1680 x 4169

Informative Websites

**Canadian Standards
Association (CSA)**
www.csa.ca

Purchase CSA Manuals
[www.csa-intl.org/onlinestore/
GetCatalogDrillDown.asp?](http://www.csa-intl.org/onlinestore/GetCatalogDrillDown.asp?Parent=507)
Parent=507

**Ontario Plumbing Inspectors
Association Inc.**
www.opia.info/resources.html

Canadian Standards Association (CSA)

The CSA created Manual CAN/CSA-B64.10-01 in order to provide standards for the selection and installation of backflow prevention devices.

This manual divides facilities into three risk classifications: severe, moderate and minor risk.



Severe risk facilities include those which contain substances that could endanger health in the event of a backflow occurrence.

Examples of Severe Risk Facilities

Agricultural Facilities	Carwashes
Industrial Premises	Gas Stations
Automotive Repair	Hospitals
Food Processing Plants	Funeral Homes
Dental Offices	Photo Labs
Veterinarian Clinics	Laundromats
Printing Plants	Dry Cleaners

***Please refer to CSA manual for a complete list (Appendix B, Table B1)**

Moderate risk facilities involve substances of minor hazard with low probability of becoming a severe risk.

Minor risk constitutes only a nuisance with no possibility of any health hazard.

Ontario Building Code and By-Law No. 44-2000

Ontario Building Code

Under the Ontario Building Code all new construction or plumbing alterations are subject to evaluation under the CSA Manual CAN/CSA-B64.10-01 for risk classification selection and installation of Backflow Prevention Devices.

Water By-Law No. 44-2000

In severe risk facilities, where a risk of contamination of the drinking water system exists, the city will require the installation and annual testing of Backflow Prevention Devices.

In both the new and existing facilities, the Backflow Prevention Devices must be tested at time of installation and annually thereafter. Only Plumbing Contractors that are accredited for Back Flow Prevention Device testing may work on these devices.

Installation Specifics

Severe risk facilities must install a **Reduced Pressure (RP) Backflow Preventers** after each water meter.

Moderate risk facilities may have to install a **Double Check Valve Assembly Backflow Preventers** after each water meter.

Components of By-Law 44-2000

Installation and Testing

Backflow Prevention Devices must be installed immediately after each water meter and before the first piping connection. If a by-pass is required, it must be supplied with a Backflow Prevention Device of equal protection.

These devices must be installed and tested in accordance with 'Canadian Standards Association Manual for the Selection, Installation, and Field Testing of Backflow Prevention Devices'.



Only the use of plumbers accredited for Backflow Prevention Device testing can fulfill the requirements of **By-Law 44-2000**.

All Backflow Prevention Devices must be tested with the use of calibrated testing equipment at time of installation and annually thereafter to ensure functionality.

Backflow Prevention Devices which do not pass annual testing will be considered incomplete until notification of passing conditions have been received by the City of St. Thomas. Ignoring a malfunctioning Backflow Prevention Device or tampering with these devices in any way will result in termination of water service until such time as a passing device has been installed and tested.

Communication of Required Data

In order for installation and testing to comply with **By-Law 44-2000**, the City of St. Thomas must receive:

- Proof of successful insulation and/or testing of a Backflow Prevention Device
- Proof of the plumbing contractors backflow prevention testing accreditation
- Proof of testing equipment calibration

Possible Drawbacks

The installation of a Reduced Pressure (RP) Backflow Prevention Device may result in reduced water pressure. Possible solutions include the installation of a booster pump.

Penalties



Failure to act in accordance with **By-Law 44-2000** will result in termination of water service until such time as the installation and testing of an appropriate Backflow Prevention Device is complete. The City also holds the right to enforce a fine under the Provincial Offences Act.

If an incident does occur, provincial charges of causing or permitting a substance to enter a drinking water system that interfere with the normal operation of the system are substantial.