

## UTILITIES - SERVICES

### Chapter 1020 DRINKING WATER SYSTEM CROSS-CONNECTION CONTROL PROGRAM

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**Article 1  
INTERPRETATION**

**1020.1.1 Backflow - defined**

“backflow” means the flowing back of or reversal of the normal direction of flow of water.

**1020.1.2 Backflow preventer or prevention device - defined**

“backflow preventer or prevention device” means a device that prevents backflow, as further defined in Article 1.1.3.2 of the Ontario Building Code (O.Reg 403/97) and CAN/CSA references therein.

**1020.1.3 Building - defined**

“building” shall have the same meaning as set out in the Building Code Act, S.O. 1992, c23, as amended, or any successor thereof.

**1020.1.4 Cross-connection - defined**

“cross-connection” means any actual or potential connection between a potable water supply or system and any source of pollution or contamination. This includes any by-pass, jumper connection, removable section of pipe, swivel or changeover device and any other temporary or permanent connection arrangement through which backflow may occur;

**1020.1.5 Cross-connection control program - defined**

“cross-connection control program” is a program initiated by the Municipality to administer and regulate the selection, installation, testing, and maintenance of backflow prevention devices.

**1020.1.6 Hazard - defined**

“hazard” means three levels of hazard: minor (MH), moderate, (MoH) and high or severe (HH) as defined by CAN/CSA B64.10.

**1020.1.7 Municipality - defined**

“Municipality” means The Corporation of the City of Orillia and includes its employees, servants and agents.

**1020.1.8 Person - defined**

“person” means any person, firm or corporation having control over property to which this regulation applies and includes the owner registered on the title of the property and any occupant of any building located on such property.

**1020.1.9 Potable water - defined**

“potable water” means water that is safe for human consumption.

**1020.1.10 Premises - defined**

“premises” shall mean any house, tenement, building, lot, or part of a lot, or both, in, through, or past which water service pipes run.

**1020.1.11 Premises isolation - defined**

“premises isolation” means prevention of backflow into a public water system from a user’s premises by the installation of a suitable backflow preventer at the entrance to the building or property.

**1020.1.12 Program Administrator – defined**

“program administrator” means the City’s Manager, Environmental Services and they will be responsible for all requirements associated with the program, including review, compliance, backflow prevention device requirements and enforcement.

**1020.1.13 Qualified Person – defined**

“qualified person” means a private contractor with approved qualifications as set out in Schedule “A”.

**1020.1.14 Water service connection - defined**

“water service connection” means a piping connection that conveys water from the municipal potable water main or private water source to the inside of a building.

**Article 2  
PROTECTION FROM CONTAMINATION  
AND BACKFLOW PREVENTION**

**1020.2.1 Connections - prohibited**

No person, shall connect, cause to be connected, or allow to remain connected to the water supply and distribution system any piping, fixture, fitting, container or appliance, in a manner which under

any circumstances, may allow, untreated water, waste water, any source of pollution or any other liquid, chemical or substance to enter the water supply and distribution system except as may be expressly permitted by this Chapter.

**1020.2.2 Backflow - standards**

The Municipality requires that the selection, installation, maintenance, and field testing of backflow preventers follow the CAN/CSA B64.10 standard (CSA, July 2007). All approved backflow preventers must conform to the following, and shall be certified by the CSA or a certification body recognized by the Standards Council of Canada:

- (a) CAN/CSA-B64 SERIES-07 Backflow Preventers and Vacuum Breakers which comprises B64.0, B64.1.1, B64.1.2, B64.2, B64.2.1, B64.2.1.1, B64.2.2, B64.3, B64.3.1, B64.4, B64.4.1, B64.5, B64.5.1, B64.6, B64.6.1, B64.7, B64.8, and B64.9 and,
- (b) ASME A112.18.1/CAN/CSA-B125-01 or CSA-B125.3 Plumbing Fittings and,
- (c) The Ontario Building Code

**Article 3  
CROSS-CONNECTION INSPECTION REPORTS**

**1020.3.1 Commercial water billing – inspection reports**

Person(s) responsible for any buildings billed for water (WS) as a “Commercial Water Billing Account (WC)”, being Institutional, Commercial, Industrial or large volume consumers, shall retain a Qualified Person at the owner’s expense to prepare Cross-Connection Inspection Reports as required.

**1020.3.2 Report – qualified - person**

The Cross-Connection Inspection Report shall be completed by a Qualified Person at the owner’s expense, of the property’s piping system starting at the water service connection (property line service box) of all Commercial Water Billing Accounts (WC), as per 1020.3.1.

**1020.3.3 Report – details – date**

The initial Cross-Connection Inspection Report shall be submitted to the Municipality before the date stated in 1020.8.1. The Cross-Connection Inspection Report shall include a detailed drawing of the piping system, existing backflow prevention devices, a summary, including dates, of backflow prevention device inspection and testing over the previous six (6) years, cross-connections discovered, corrective measures, recommendations and a schedule of work to be completed. The inspection report must also assess a health “hazard level” designation according to CAN/CSA B64.10 Section 4.2, Categories of Hazards. The method of cross-connection control and/or selection and installation of backflow prevention devices shall conform to 1020.2.2.

**1020.3.4 Report – not provided – water – shut-off**

A cross-connection inspection report shall be completed and submitted as required. If the report is not provided within the time frame required, the Municipality may, at their discretion, shut off the supply of water to the premises until such time as the report is provided.

**1020.3.5 Report – submission - date**

A Cross-Connection Inspection Report shall be completed and submitted to the Municipality no more than five (5) years and two (2) months from the date of the previous report.

**1020.3.6 Access – reasonable notice**

Notwithstanding the obligations for persons to undertake a Cross-Connection Inspection Report, the Municipality shall be allowed access, with reasonable notice, to any premises that are connected to the water distribution system for the purpose of performing inspections to locate possible cross-

connections. The Municipality may require a routine cross-connection inspection of the premises to be performed by a Qualified Person, at the owner's expense.

**1020.3.7 Access – not provided – water – shut-off**

Where the access is not provided, a written notice by the Municipality may be issued providing the time frame to allow access. If access is not provided within this time frame, the Municipality may, at their discretion, shut off the supply of water to the premises until such time as the access is provided.

**1020.3.8 Compliance notice**

If a condition is found to exist which is contrary to Article 2, the Municipality may issue a "compliance notice" as stated in Article 4, to the person, to be compliant with these regulations, or if determined, in its sole discretion, that an immediate threat of contamination to the water system exists that may endanger public safety, the Municipality may shutoff the water service immediately without notice.

**Article 4  
CROSS-CONNECTION COMPLIANCE**

**1020.4.1 Report – review – compliance notice**

The Municipality will review the submitted report and if there are deficiencies issue a 'Compliance Notice' that may support the recommendations contained in the Cross-Connection Inspection Report and may contain additional or alternative requirements deemed by the Municipality as required under this Chapter.

**1020.4.2 Compliance notice – qualified person – 30 days**

The person receiving the 'Compliance Notice' shall retain a Qualified Person to undertake the required works within 30 days of receipt of written notification and advise the Municipality in writing of completion of the work, by submitting a Corrective Actions form.

**1020.4.3 Compliance notice – failure to comply**

If the person to whom the Municipality has issued a notice fails to comply with the "Compliance Notice", the Municipality, at their discretion, may:

- (a) Give notice to person to correct the fault at their expense within 5 days and if the notice is not complied with, the Municipality may then shut off the water service or services; or
- (b) Issue an Unsafe Order by the Chief Building Official, in accordance with the Ontario Building Code Act in a condition that could be hazardous to the health or safety of persons in the normal use of the building, persons outside the building or persons who access the building; or
- (c) Without notice to the person, shut off water service, where the Municipality has determined, in its sole discretion, that an immediate threat of contamination to the water system exists that may endanger public safety or health.

**Article 5  
PREMISES ISOLATION**

**1020.5.1 Contamination - risk**

Where, in the opinion of the Municipality, a risk of possible contamination of the water distribution system exists, a person on notice from the Municipality shall install premises isolation within the building in addition to any other source of protection devices on the premise.

**1020.5.2 Specification**

Premises isolation shall be installed:

- (a) as specified by the Program Administrator.

**Article 6  
MAINTENANCE AND FIELD-TESTING  
OF BACKFLOW PREVENTION DEVICES**

**1020.6.1 Commercial water billing – moderate – severe hazard**

This section applies to all Commercial Water Billing Accounts (WC), Article 3 for which a Moderate or Severe Hazard has been identified.

**1020.6.2 Qualified person – inspection - test**

Person(s) responsible for buildings shall retain a Qualified Person, per Schedule A, to inspect and test, at the expense of the person(s), to demonstrate that the backflow prevention device is in good working condition. Such inspection and testing shall be completed prior to or in conjunction with the initial Cross-Connection Inspection Report and within thirteen (13) months of the previous inspection and testing. All equipment used to test backflow preventers shall be verified or calibrated for accuracy, as described in CAN/CSA B64.10.

**1020.6.3 5 days – repair – replace - report**

When the results of a test show that a backflow prevention device is not in good working condition, the person shall make repairs or replace the device within 5 days. A Corrective Actions form shall be submitted by the Qualified Person detailing necessary repairs and a completion date immediately after inspection.

**1020.6.4 5 days – water shut-off**

If a person does not make the appropriate repairs or replace the defective device within the 5 days, the Municipality may shut the water service or services off.

**1020.6.5 Backflow prevention device tested**

If a person fails to have a backflow prevention device tested, the Municipality may notify the person that the backflow prevention device must be tested within a specified time.

**1020.6.6 Backflow prevention device – water shut-off**

If a person fails to have a backflow prevention device tested within the specified time of the notice, the Municipality may shut off the water service or water services until the backflow prevention device has been tested and approved.

**1020.6.7 Documentation - maintained**

Current documentation of inspection and testing shall be maintained on the premises for inspection by the Municipality.

**Article 7  
REMOVAL OF BACKFLOW  
PREVENTION DEVICES PROHIBITED**

**1020.7.1 Backflow prevention device - removed**

No person shall remove a backflow prevention device or part thereof after it has been installed, and no owner of a building or structure in which a backflow prevention device is installed shall cause or permit the removal of such device, unless such removal is:

- (a) To facilitate the repair of the device and such device is replaced immediately after such repair is carried out, or
- (b) To replace the device with another device that meets or exceeds the provisions of this By-law, and written notification must be received by the Municipality prior to removal of the device.

**Article 8  
INSPECTION REPORT, IMPLEMENTATION  
AND RETESTING SCHEDULE**

**1020.8.1 Requirements**

The requirements under this Chapter shall be undertaken as follows;

- (a) **Commercial Water Billing Accounts  
(Institutional, Commercial, Industrial and Large Volume Consumers)**  
Submission of Initial Cross-Connection Inspection Report within two months of awareness that a report is required. Implementation deadline for completion of Report Recommendations to be determined by the Program Administrator; shall be at least 3 months but will not exceed one year from original report submission. For new buildings and renovations that include plumbing, a Cross-Connection Inspection Report shall be submitted prior to issuance of the Occupancy Permit.
- (b) **Residential Water Billing Accounts**  
All new dwelling units must have a backflow prevention device installed prior to connection to the Municipality's water system (adopted Jan. 2006). This device will be part of the water meter package that must be purchased through the Municipality. Inspection and approval will be granted at the same time the water meter is tested and sealed. Inspection Reports and scheduled testing of backflow prevention devices shall not be required for low volume residential units. The Municipality shall install backflow prevention devices in existing residential units where practical and in conjunction with water meter replacements. The backflow prevention devices installed shall become the responsibility of the owner of the dwelling unit.

**1020.8.2 Reports - submission**

All cross-connection inspection reports are to be submitted to the Program Administrator at:

The Corporation of the City of Orillia  
50 Andrew St. S.  
Orillia, ON L3V 7T5  
Public Works Department  
Attn: Manager, Environmental Services

**Article 9  
HYDRANTS**

**1020.9.1 Hydrant - connection**

No person shall connect, cause to be connected, or allow to remain connected, any piping, fixture, fitting, container or appliance to a Municipally-owned or private fire hydrant in a manner which, under any circumstances, may allow water, wastewater or any liquid or substance of any kind to enter the Municipality's water supply system.

**1020.9.2 Hydrant use permit**

Effective January 1, 2007, except for water used for fire fighting and Municipality approved maintenance or operations, any other use of a Municipally-owned or private fire hydrant for water supply is prohibited without first acquiring a Hydrant Use Permit from the Municipality.

**1020.9.3 Use of hydrant - payment**

Any person or persons authorized under 1020.9.2 shall:

- a) have a Backflow Metering Assembly (BMA) unit in their possession and connected to the hydrant when the hydrant is in use (excluding private hydrant annual inspections);
- b) pay to The Municipality, prior to using a Municipally-owned hydrant, a hydrant damage deposit and hydrant inspection fee, as set out in the Hydrant Use Permit;
- c) pay to The Municipality, prior to using a hydrant, a backflow meter assembly unit deposit and a backflow meter assembly unit rental fee as set out in the Hydrant Use Permit (excluding private hydrant annual inspections);
- d) pay to The Municipality the cost of the water as recorded by the meter and at the rates as set out in Chapter 459 Schedule A - the Water and Wastewater User Fees;
- e) pay to The Municipality all other costs incurred by The Municipality, resulting from their use of the hydrant, as determined by the Superintendent, Water & Sewer.

**1020.9.4 Hydrants maintained**

Any hydrant situated within the road allowance is the property of the Municipality and shall be maintained by the Municipality; the Municipality shall maintain Municipally-owned hydrants located on private property. All private hydrants are the responsibility of the property owner and must be installed and maintained according to:

- a) The Ontario Fire Code and,
- b) The Ontario Building Code and,
- c) NFPA 24 – Installation of Private Fire Service Mains and Their Appurtenances

and require a Hydrant Use Permit from the Municipality as per 1020.9.2.

**1020.9.5 Private fire hydrant - report**

Effective January 1, 2007, an owner of property on which a private fire hydrant is installed shall submit annual inspection reports for each hydrant. The reports shall be completed on an approved form available from the municipality and submitted to the Chief Fire Official (CFO). The report will confirm proper function of the fire hydrant and detail all maintenance, repairs and upgrades during the reporting period.

**1020.9.6 Private fire hydrant – report - date**

The initial inspection report for each hydrant installed prior to January 1, 2007 shall be submitted by August 31, 2007. For new hydrants installed after January 1, 2007 an inspection report shall be submitted within thirty (30) days after the hydrant is placed in service.

**1020.9.7 Private fire hydrant – compliance notice**

The CFO or his designate will review the submitted report and if there are deficiencies issue a 'Compliance Notice' that may support the recommendations contained in the Inspection Report and may contain additional or alternative requirements deemed by the CFO as required under these regulations. These deficiencies must be corrected within 30 days of receipt of notification.

**1020.9.8 Private fire hydrant – record – retention**

It is the responsibility of the owner of property on which a private hydrant is installed, to ensure all written records of tests and corrective measures are kept for two years after they are completed, and the records shall be available upon request to the Chief Fire Official.

**1029.9.9 Reports submission**

All annual inspection reports for private fire hydrants are to be submitted to:

The Corporation of the City of Orillia  
50 Andrew St. S.  
Orillia, ON L3V 7T5  
Fire Department  
Attn: Chief Fire Official

**1020.9.10 Fire hydrants – plugged no drain hydrants**

All municipally-owned fire hydrants within the City of Orillia shall be plugged no-drain hydrants.

**Article 10  
LAWN SPRINKLER SYSTEMS**

**1020.10.1 Sprinkler system – backflow prevention**

After January 1, 2007 all new sprinkler systems must be connected downstream of the building's water meter. The building's water supply must include backflow prevention. The system must be in compliance with the Plumbing Code (Building Permit, sprinkler system backflow).

**1020.10.2 Compliance - date**

By June 30, 2008 all systems installed prior to January 1, 2007 must be compliant with the requirements of 1020.10.1.

**Article 11  
ENFORCEMENT**

**1020.11.1 Obstruction**

No person shall hinder or obstruct any person lawfully carrying out the enforcement of this Chapter.

**1020.11.2 Obstruction - enforcement**

Any person who hinders or obstructs a person lawfully carrying out the enforcement of this Chapter is guilty of an offence and upon conviction is liable to a fine or penalty as provided for in the Provincial Offences Act.

**1020.11.3 Fine - conviction**

Every person who contravenes any of the provisions of this Chapter is guilty of an offence and upon conviction is liable to a fine or penalty as provided for in the Provincial Offences Act.

**Adopting By-law:** By-law 2006-161, 2 October 2006.

**Schedule "A"**  
**Qualified Persons**

Only those persons listed in the following Qualified Persons List shall carry out the corresponding functions set out in such list.

Item	Function	Professional Engineer with *Specialist's Licence	**Certified Engineering Technologist with *Specialist's Licence	Licensed Master Plumber with Contractor and *Specialist's Licence	***Journeyman Plumber with *Specialist's Licence	****Apprentice Plumber with *Specialist's Licence	Fire System Sprinkler Fitter with a *Specialist's Licence	Lawn Irrigation Installer with *Specialist's Licence
1	Carry out Cross Connection Report	√	√	√	√			
2	Install, Relocate or Replace Backflow Prevention Device			√	√	√		
3	Repair of Backflow Prevention Device	√	√	√	√	√		
4	Test Backflow Prevention Device	√	√	√	√	√		√
5	Items 1,2,3 & 4 above in respect of Fire Protection Systems	√	√	√	√	√	√	
6	Item 3 & 4 above in respect of Lawn Sprinkler Systems	√	√	√	√	√		

\* "Specialist" means; approved OWWA cross-connection Control Specialist "Certificate of Achievement".

\*\* 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.