

THE CORPORATION OF THE CITY OF WATERLOO

BY-LAW NUMBER 2010- 040

BEING a by-law to regulate the supply of water and to prohibit the impairment of public health by ensuring that the public water supply is not compromised due to backflow resulting from cross connections

WHEREAS section 11(2)(6) of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, authorizes a municipality to pass by-laws respecting the health, safety and well-being of persons;

AND WHEREAS section 11(3)(4) of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, authorizes a municipality to pass by-laws respecting public utilities;

AND WHEREAS section 80(1) of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, authorizes a municipality, at reasonable times, to enter on land to which it supplies a public utility to inspect, repair, alter or disconnect the service pipe or wire, machinery, equipment and other works used to supply the public utility or to inspect, repair, replace or alter a public utility meter;

AND WHEREAS section 80(2) of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, authorizes a municipality to, for the purposes of s. 80(1), shut off or reduce the supply of the public utility to the land;

AND WHEREAS section 80(3) of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, authorizes the municipality to enter on the land to shut off the supply of the public utility, to remove any property of the municipality or to determine whether the public utility has been or is being unlawfully used, if a customer discontinues the use of a public utility on land or a municipality lawfully decides to cease supplying the public utility to land;

AND WHEREAS section 82(1) of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, states that a municipality is not liable for damages caused by the interruption or reduction of the amount of a public utility supplied to a municipality or to the land of any person as a result of an emergency or a breakdown, repair or extension of its public utility if, in the circumstances, reasonable notice of its intention to interrupt or reduce the supply is given;

AND WHEREAS section 391 of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, authorizes the municipality to impose fees or charges on persons for services or activities provided or done by or on behalf of it, for costs payable by it for services or activities provided or done by or on behalf of any other municipality or any local board and for use of its property including property under its control;

AND WHEREAS section 445 of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, states that if a municipality is satisfied that a contravention of a by-law of the municipality passed under this or any other Act has occurred, the municipality may make an order requiring the person who contravened the by-law or who caused or permitted the contravention or the owner or occupier of the land on which the contravention occurred to do work to correct the contravention.

AND WHEREAS section 446 of the *Municipal Act, 2001*, S.O. 2001, c.25, as amended, states that if a municipality has the authority under this Act or under a by-law under this or any other Act to direct or require a person to do a matter or thing, the municipality may also provide that, in default of it being done by the person directed or required to do it, the matter or thing shall be done at the person's expense.

NOW THEREFORE BE IT ENACTED by the Council of The Corporation of the City of Waterloo as follows:

1.0 CITATION

1.1 This by-law shall be known as the "**Backflow Prevention By-Law**" of The Corporation of the City of Waterloo.

2.0 DEFINITIONS

For the purposes of this by-law:

2.1 "ASSE" means the American Society of Sanitary Engineering;

2.2 "area isolation" means protection provided for a section of a piping system with potable and non-potable connections (that may or may not be considered cross-connections) downstream of a backflow preventer;

2.3 "AWWA" means the American Water Works Association;

2.4 "Authorized Functions List" means the list of functions and the persons authorized to carry out such functions as set out in the CSA Standard;

2.5 "authorized person" means a person who is authorized to carry out a function as set out in the Authorized Functions List of the CSA Standard;

2.6 "auxiliary water supply" means any water source or system other than the City's direct water supply that may be available in a building or on any property, including any recycled water or cistern;

2.7 "backflow" means the flowing back of or reversal of the normal direction of flow of water;

2.8 "backflow prevention device" means a device that prevents backflow and includes a reduced pressure principle assembly, dual check valve, double check valve and the like;

2.9 "building" shall have the same meaning as set out in the *Building Code Act*, and shall include a sprinkler system;

- 2.10 "Building Code Act" means *Building Code Act, 1992*, S.O. 1992, c. 23, as amended;
- 2.11 "Building Code" means Ontario Regulation 350/06, as amended;
- 2.12 "Chief Building Official" means a chief building official of the City, or his or her designate, appointed or constituted under sections 3 or 4 of the *Building Code Act*;
- 2.13 "City" means The Corporation of the City of Waterloo and includes its employees, servants and agents;
- 2.14 "cross connection" means any actual or potential connection between a potable water supply or system and any source of pollution or contamination and includes any by-pass, jumper connection, removable section of pipe, swivel or changeover device and any other temporary or permanent connecting arrangement through which backflow may occur;
- 2.15 "Cross Connection Survey Form" means a report, in a form prescribed by the City from time to time, that includes existing backflow prevention devices, cross connections discovered, corrective measures, recommendations and a date for which each device will be installed;
- 2.16 "CSA Standard" means the document entitled *National Standard of Canada-CAN/CSA-B64.10 and Amendments-Manual for the Selection, Installation, Maintenance and Field Testing of Backflow Prevention Devices-Plumbing Products or Materials-A National Standard of Canada* published in 1997 by the Canadian Standards Association or any successor thereof;
- 2.17 "Director of Water Services" means the Director of Water Services of the City, or his or her designate;
- 2.18 "Fee Guide" means a by-law or resolution outlining the applicable fees, rates or other charges for the Services, which may be approved or amended by Council from time to time;
- 2.19 "good repair" means:
- (a) free from health hazard;
 - (b) free from fire hazard;
 - (c) in good working order;
 - (d) not in poor condition by reason of deterioration, neglect, damage or defacement;
 - (e) able to perform its intended function; and,
 - (f) protected from freezing.
- 2.20 "individual protection" means protection provided at the connection to a fixture or appliance;
- 2.21 "individual residential dwelling unit" means a single room or series of rooms of complementary use, operated under a single tenancy, and includes dwelling units, individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories;

- 2.22 "Officer" means the Backflow Prevention Officer appointed for the purposes of administering and enforcing this by-law or his/her designate;
- 2.23 "owner" means any person, firm or corporation having control over property to which this by-law applies and includes the owner registered on the title of the property and any occupant of any building located on such property;
- 2.24 "potable water" means water that is safe for human consumption;
- 2.25 "premise isolation" means isolation of the water supply that is provided at the entrance to a building or facility from the City's water supply;
- 2.26 "survey" means a complete review of the potable water system or systems located within a building to determine the presence of any existing backflow prevention systems and/or any cross connections, corrective measures, recommendations and a date for which each device will be installed;
- 2.27 "testable" means the ability to conduct tests to determine if a device is functioning properly;
- 2.28 "tester" means a person who is a certified backflow prevention device tester who has successfully completed a cross connection course in backflow prevention device testing at an accredited school or college as defined in the CAN/CSA B64.10, as amended, and has a current tester's certificate;
- 2.29 "Test Report" means a report in the form as prescribed by the City from time to time in the form as prescribed from time to time;
- 2.30 "test tag" means a tag indicating that the backflow prevention device is in working order as indicated through the Test Report in the form as prescribed by the City from time to time;
- 2.31 "water meter" means the water meter installed within a premises to record the amount of water supplied to such premises by the City;
- 2.32 "water purveyor" means any City owned and operated water supply and distribution system; and,
- 2.33 "zone isolation" means the protection provided for sections of a piping system within a building or facility with no potable connections downstream of a backflow preventer.

3.0 APPLICATION

- 3.1 This by-law applies to existing industrial, commercial, institutional and multi-residential buildings and structures, except buildings of residential occupancies within the scope of Part 9 of the *Building Code* or any individual residential dwelling unit.
- 3.2 Notwithstanding Section 3.1 this by-law applies where a condition exists in any building or structure that may be hazardous or detrimental to the potable water supply as determined by an Officer, Chief Building Official or the Director of Water Services.

4.0 GENERAL PROVISIONS

- 4.1 A permit is required prior to installation of a backflow prevention device(s) pursuant to this by-law and any other relevant City by-law, as well as the *Building Code Act*.
- 4.2 Every owner of property upon which a backflow prevention device is installed shall ensure that such device is in good repair at all times.

5.0 CROSS CONNECTION PROHIBITED

- 5.1 No person or owner shall connect, cause to be connected, or allow to remain connected to the water purveyor or any other potable water system any piping, fixture, fitting, container, appliance, vehicle, machine or the like in a manner which may under any circumstance allow water, waste water, any source of pollution or any other liquid, chemical or substance to enter such supply or system except in compliance with this by-law and the CSA Standard.
- 5.2 No person or owner shall make any connection to the water purveyor or any other potable water system in a building type set out in section 3.1 without first installing a proper backflow prevention device in accordance with this by-law.
- 5.3 In all cases, premise isolation shall be required where an auxiliary water supply exists.
- 5.4 No connection shall be made between a potable water system supplied with water from a drinking water system and any other potable water system without the consent of the water purveyor.

6.0 PERSONS PERMITTED TO CARRY OUT WORK

- 6.1 No person shall carry out any backflow prevention functions except in accordance with the functions listed in the Authorized Functions List of the CSA Standard.
- 6.2 Any person permitted to carry out work, as outlined in Authorized Functions List, shall produce, upon request of an Officer, a current tester's certificate, and a copy of the backflow prevention assembly test equipment certification of calibration.
- 6.3 Notwithstanding section 6.1, an Officer certified as a tester may perform Item 1 listed in the Authorized Functions List of the CSA Standard.

7.0 APPLICATION OF CSA STANDARD

- 7.1 Except as otherwise set out in this by-law, the selection, maintenance and field testing of backflow prevention devices shall be in accordance with the CSA Standard and the *Building Code*.
- 7.2 Wherever the CSA Standard and this by-law are in conflict, the provisions of this by-law shall prevail where the CSA Standard is not incorporated as a part of the *Building Code*.

8.0 SELECTION OF BACKFLOW PREVENTION DEVICES

- 8.1 Every owner of a building type set in section 3.1 of this by-law shall ensure that backflow prevention device(s) are installed for premise isolation, individual isolation, zone and area isolation in every building where a City water supply or other potable water exists pursuant to the provisions of this by-law.
- 8.2 Backflow prevention devices for premise, individual, zone or area isolation shall be determined:
- 8.2.1 by using the CSA Standard and/or the *Building Code*; or,
 - 8.2.2 when the type of cross connection is not identified in the CSA Standard or in the *Building Code*, by a professional engineer using the CSA Standard.
- 8.3 Notwithstanding Section 8.2, an Officer may require or permit particular backflow prevention device(s) or form of protection be used in respect of any cross connection, including premise, zone, area and individual protection.
- 8.4 Notwithstanding Section 8.2 of this by-law, where the manufacturer of equipment has installed a backflow prevention device, the cross connection is required to be reviewed to determine if the backflow prevention device meets the requirements of the CSA Standard. These cross connections are to be indicated on the Cross Connection Survey Form when a Survey is required.
- 8.5 Every owner shall ensure that every backflow prevention device required for premise isolation on their property is a testable device and is the proper device to be used pursuant to section 8.2 of this by-law.

9.0 REQUIRED SURVEYS

- 9.1 Upon inspection and/or notification of an Officer, or when otherwise ordered, every owner of a building of a type set out in section 3.1 shall cause to be carried out a survey, at the owner's expense, of each of his or her buildings and structures to determine the presence of any existing backflow prevention systems and/or any cross connections, corrective measures, recommendations and a date for which each device will be installed and;
- 9.1.1 shall ensure such survey is carried out by a person permitted to do so pursuant to the Authorized Functions List;
 - 9.1.2 shall ensure that the Cross Connection Survey Form is complete and includes the current testers certificate number; and,
 - 9.1.3 shall ensure that the completed Cross Connection Survey Form, is provided to an Officer within the specified time period.
- 9.2 A Cross Connection Survey Form shall be completed:
- 9.2.1 upon inspection and/or notification or when otherwise ordered;

9.2.2 upon change of use, changing of machinery, fixtures, or alteration of the piping and/or;

9.2.3 construction of a new building type set out in section 3.1.

10.0 INSTALLATION OF BACKFLOW PREVENTION DEVICES

10.1 Every person installing a backflow prevention device shall ensure that:

10.1.1 such device is installed in accordance with acceptable engineering practices, the requirements of the *Building Code*, manufacturer's specifications, this by-law and the CSA Standard, as amended;

10.1.2 such device is installed in a building;

10.1.3 such device is located in such a manner so that, in the event of backflow, the device prevents contamination of the water purveyor and any other potable water system;

10.1.4 where such device is installed in respect of premise isolation, such device is located within a maximum of 3.0 metres downstream of the water meter, except where circumstances require the device to be installed upstream of the water meter and such location is to the satisfaction of an Officer.

10.1.5 where such device is installed in respect of premise isolation, all piping between the water meter and such device is clearly labeled "no connection permitted"; and,

10.1.6 where such device is installed in respect of individual, area, or zone isolation, all piping between the point of contamination or potential contamination and the point at which the device is located is labeled "non-potable water".

10.2 Connections to potable water systems shall be designed and installed so that non-potable water or substances that may render the water non-potable cannot enter the system.

10.3 Once an Officer has conducted an inspection and determined that a backflow prevention device(s) is required, the installation of a backflow prevention device(s) shall occur within the timeframes outlined below, depending upon the degree of hazard:

Degree of Hazard	Compliance Date
"Severe", as defined by the CSA Standard	Within sixty (60) calendar days from the date of the Officer's inspection
"Moderate" to "Minor", as defined by the CSA Standard	Within ninety (90) calendar days from the date of the Officer's inspection

11.0 TESTING OF DEVICES

11.1 Every owner who has a testable backflow prevention device located on his or her property shall ensure that:

11.1.1 a tester tests the device when it is first installed and annually thereafter or as required by the CSA Standard or earlier if requested by an Officer and also when it is cleaned, repaired, overhauled or relocated;

11.1.2 when the device is first installed and tested, that a Test Report, of such test be submitted to an Officer within fourteen (14) days of the test being conducted;

11.1.3 when the device is tested annually thereafter, that a Test Report, of such test be available on site for review as required by an Officer;

11.1.4 when the device is tested as a requirement for maintenance or as required by the CSA Standard, that a Test Report, of such test be available on site for review as required by an Officer;

11.1.5 when the device is tested as requested by an Officer, that a Test Report, of such test be submitted to the Officer within fourteen (14) days of the test being conducted;

11.1.6 when a device is tested and a Test Report has been completed, said report is retained on site for a period of not less than seven (7) years; and,

11.1.7 whenever a device is tested, the tester shall ensure that a test tag is affixed to the device.

11.2 Every person who tests a backflow prevention device shall carry out such testing in accordance with this by-law and the CSA Standard.

11.3 In addition to the testing methods set out in Section 6 of the CSA Standard, test procedures established by the ASSE or AWWA for testing backflow prevention devices may be employed.

11.4 Every person who tests a backflow prevention device shall upon finding that such device is malfunctioning or otherwise not in good repair, shall immediately make repairs or replace the device and notify an Officer.

11.5 Authorized persons undertaking a survey shall ensure that they report to an Officer immediately any cross-connections.

11.6 Where required by the *Building Code* and the CSA Standard, all equipment used to test backflow preventer shall be verified or calibrated for accuracy.

12.0 FIRE PROTECTION SYSTEMS

12.1 Potable water connections to fire protection systems (standpipe and sprinkler systems) shall be protected against backflow in accordance with the CSA Standard and the *Building Code*.

13.0 INSPECTIONS

- 13.1 An Officer may at any reasonable time enter onto the property of any owner to inspect for compliance with this by-law or an order made pursuant to section 14 of this by-law.
- 13.2 No person shall hinder or obstruct, or attempt to hinder or obstruct, an Officer in the exercise of a power or performance of a duty under this by-law.
- 13.3 For the purposes of conducting an inspection an Officer may:
- 13.3.1 require the production for inspection of documents or things relevant to the inspection;
 - 13.3.2 inspect and remove documents or things relevant to the inspection for the purpose of making copies or extracts;
 - 13.3.3 require information from any person concerning a matter related to the inspection; and,
 - 13.3.4 alone, or in conjunction with a person possessing special or expert knowledge, make examinations or take tests, samples or photographs necessary for the purposes of the inspection.

14.0 CONTRAVENTIONS AND ORDERS

- 14.1 Where the City is satisfied that a contravention of this by-law has occurred, an Officer may make an order, requiring that the person who contravened this by-law, or who caused or permitted the contravention, or the owner or occupier of the land on which the contravention occurred to do work to correct the contravention.
- 14.2 An order under section 14.1 shall set out:
- 14.2.1 reasonable particulars of the contravention adequate to identify the contravention and the location of the land on which the contravention occurred; and,
 - 14.2.2 the work to be done and the date by which the work must be done.
- 14.3 An order under section 14.1 may require work to be done even though the facts which constitute the contravention of the by-law were present before the by-law making them a contravention came into force.
- 14.4 Where an owner fails to comply with an order within the prescribed period of time, an Officer may cause the required work to be done at the person's expense.
- 14.5 For the purposes of section 14.4 the municipality may enter upon land at any reasonable time.

14.6 The municipality may recover the costs of doing a matter or thing under section 14.4 from the person directed or required to do it by action or by adding the costs to the tax roll and collecting them in the same manner as property taxes.

14.7 Where an owner of a building contravenes, or allows the contravention of, a provision of this by-law which could or would endanger the health or safety of any person, as determined by the Director of Water Services, the City may shut off the water supply to the building or property of that owner, or any portion thereof, until the real or potential danger to health or safety ceases to exist.

15.0 REMOVAL OF BACKFLOW PREVENTION DEVICES PROHIBITED

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

15.1.1 to facilitate the repair of the device and such device is replaced immediately after such repair is carried out; and,

15.1.2 to replace the device with another device that meets or exceeds the provisions of the by-law.

16.0 OFFENCES

16.1 Every person who contravenes any of the provisions of this by-law or fails to comply with an order, direction or other requirement of this by-law is guilty of an offence and, upon conviction, is liable to a fine pursuant to the *Provincial Offences Act*, R.S.O. 1990, c. P.33, as amended.

16.2 If this by-law is contravened and a conviction entered, in addition to any other remedy and to any penalty imposed by the by-law, the Court in which the conviction has been entered and any court of competent jurisdiction thereafter may make an order prohibiting the continuation or repetition of the offence by the person convicted.

17.0 FEES AND CHARGES

17.1 Certain fees and charges related to backflow prevention have been outlined in Schedule "A", which has been attached to and forms part of this by-law.

17.2 All fees and charges pursuant to this by-law may be set by Council from time to time and shall be outlined in the Fee Guide.


18.0 SEVERABILITY

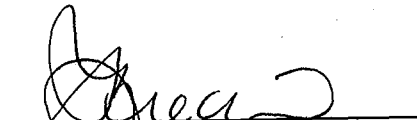
18.1 If a Court of competent jurisdiction should declare any section or part of a section of this by-law to be invalid, such section or part of a section shall not be construed as having persuaded or influenced Council to pass the remainder of this By-law and it is hereby declared that the remainder of this by-law shall be valid and shall remain in full force and effect.

19.0 COMING INTO FORCE

19.1 This by-law shall come into force on the date of its passage by Council.

Read a FIRST, SECOND and THIRD time this ^{29th} ... day of March, 2010.


MAYOR – Brenda Halloran


CLERK – Susan Greatrix

Approval	Date	Print Name	Initials
OWS	Mar 24 /10	T. Anderson	TA
Legal	Mar 23/10	E. Davis	ED
Financial	Mar 24 /10	OWS Clerk	OWS

SCHEDULE "A"

TO BY-LAW NO. 040

THE CORPORATION OF THE CITY OF WATERLOO

BACKFLOW PREVENTION FEES

Backflow Prevention Device Permit Fee Fee includes a review of the survey and inspecting up to three (3) backflow prevention devices	\$237.00
Test Report Fee Fee to review the Test Report	\$23.00 per backflow prevention device
Additional Backflow Prevention Device Permit Fee Fee in addition to Backflow Prevention Device Permit Fee if there are more than three (3) backflow prevention devices	\$45.00 per backflow prevention device
Installation of Backflow Device Prior to Issuance of a Permit	\$100.00
Test Tags	\$1.00 each