

THE CORPORATION OF THE TOWNSHIP OF WEST LINCOLN

BY-LAW NO.2012-46

**A BY-LAW TO PROTECT THE TOWNSHIP OF WEST LINCOLN'S DRINKING WATER DISTRIBUTION SYSTEM FROM CONTAMINATION THROUGH CROSS-CONNECTION AND BACKFLOW**

**WHEREAS** the Township of West Lincoln is responsible to operate, maintain, and test its water distribution system in accordance with the Safe Drinking Water Act, 2002, S.O. 2002, C.32 and O. Reg. 170/03, both as amended, to ensure that all water provided by this system meets the requirements of the prescribed drinking water quality standards;

**AND WHEREAS** the Safe Water Drinking Act, 2002, Section 19, places a certain Standard of Care on those who have oversight of the municipal drinking water distribution system;

**AND WHEREAS** the Township of West Lincoln wishes to protect its residents and other users of the Township's drinking water distribution system from deleterious and harmful contaminants that may enter the water distribution systems through backflow;

**NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWNSHIP OF WEST LINCOLN ENACTS AS FOLLOWS:**

**1. SHORT TITLE**

1.0. This Schedule may be cited as the "Backflow Prevention Regulations".

**2. INTERPRETATION**

2.0. For the purposes of this Schedule, the following terms shall have the corresponding meanings:

"*Authorized Functions List*" means the list of functions and the persons authorized to carry out such functions as set out in Appendix 'A' of this Schedule;

"*auxiliary water supply*" means, when applied to any premises, any water supply on or available to the premises other than the Township's primary potable water supply for the premises;

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

"*backflow device tester*: means a Person, performing or engaging to perform "*Backflow Work*"

"*backflow prevention device*" means a device that prevents *backflow* certified to the CSA Standard;

"*backflow work*" includes performing building surveys to identify *cross-connections*; selection, testing and repair of "*backflow prevention devices* and completion of *test reports* and *test tags* for *backflow prevention devices*;

"*building*" shall have the same meaning as set out in the Building Code Act, S.O. 1992, chap. 23, as amended, or any successor thereof;

"*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;

“*cross-connection control survey form*” means a form acceptable to the Township containing information related to the types of *cross-connections*, the Degree of Hazard (in accordance with Appendix ‘B’ of this By-law), and the method of protecting those *cross-connections* within any *building* or *structure*. The form must also contain *owner* and contact information for the *property*.

“*CSA Standard*” means the document entitled *B64.10-07 / B64.10.1-07 Selection and installation of backflow preventers / Maintenance and field testing of backflow preventers* published in 2007 by the Canadian Standards Association, or any successor thereof;

“*distribution system*” means the Township of West Lincoln Drinking Water Distribution System, and includes appurtenances and property service pipe as defined in the Safe Drinking Water Act, 2002, S.O. 2002, C.32 and O.Reg 170/03;

“*Licensed Plumber*” means a Person who has been issued a Certificate of Qualification in the trade of plumber under the Trades Qualification Act and Apprenticeship Act, R.S.O. 1990, Chapter T.17, or any successor thereof;

“*Ontario Building Code*” means Ontario Regulation 350/06 (the Ontario Building Code) or successor thereof;

“*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* or *structure* located on such property;

“*potable water*” means water that is safe for human consumption;

“*premise isolation*” means isolation of the water located within a *building* or *structure* from the *Township’s* water supply;

“*property*” means any land within the Township of West Lincoln and includes all *buildings* or *structures*;

“*qualified person*” means a person who is accredited by a School of Accreditation as an installer, and or tester of *backflow prevention devices*;

“*School of Accreditation*” means any school or college providing a cross-connection control course in *backflow prevention* testing that has been accredited by an organization or association such as the Ontario Water Works Association, or equivalent, as approved by the Township;

“*Selection Guide*” means the *Backflow Prevention Device Selection Guide* as set out in Appendix ‘B’ of this By-law;

“*source isolation*” means isolation of the water located within or having flowed through a source, or potential source of contamination within a *building* or *structure* including a device, machine, water system or the like, from any *potable water* system;

“*structure*” means anything constructed or built permanently or temporarily which is provided with a source of *potable water*;

“*test report*” means a *test report* for premise isolation *backflow* devices acceptable to the *Township* containing information related the *qualified person’s* name, certification number, employer name, contact information, serial number of test kit and last calibration date of test it. The test report must also contain the make, model, serial number, size, type, location, purpose, installation address and test results of the *backflow prevention device*. The form must also contain *owner*, occupant and contact information for the *property*;

“*test tag*” means a tag acceptable to the *Township* containing information related to the make, model, serial number, size, type, location, purpose, installation address and test history of the *backflow prevention device*;  
“*Township*” means the Corporation of the Township of West Lincoln and includes its employees, servants and agents;

“*untreated water*” means any water not subject to the requirements of the Safe Drinking Water Act, S.O. 2002, C.32, and / or water that is not under the direct control of the Water Purveyor;

“ *water meter*” means the *water meter* installed within a property or structure to record the *water* amount of water supplied to such property or structure by the *Township*; and

“ *zone isolation*” means the isolation of the water located within an area of a *building* or *structure* from any *potable water* system located within such *building* or *structure*.

### **3. APPLICATION OF SCHEDULE**

3.0. This By-law applies to existing agricultural, industrial, commercial, institutional, and multi-residential buildings and structures, except buildings or structures of residential occupancies which are of three (3) or fewer stories in building height above ground level, and having a building area – total gross floor area not exceeding 600 square metres (m<sup>2</sup>) all as defined in the *Ontario Building Code*.

3.1. In addition to and notwithstanding section 3.0 of this By-law, this By-law applies where a condition exists in any *building* or *structure* that may be hazardous or detrimental to the *potable water* supply.

3.2. Where any requirements of the *Ontario Building Code* or any other By-law or Regulation conflict with this By-law, then the requirement which provides the highest degree of *premise isolation* shall apply.

### **4. CROSS-CONNECTION PROHIBITED**

4.0. No person or owner shall connect, cause to be connected, or allow to remain connected to the *Township’s drinking water distribution system* 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 *untreated water*, waste water or any other liquid, chemical or substance to enter such supply or system, except in compliance with the provisions of this By-law.

4.1. In addition to section 4.0 and in accordance with all other provisions of this By-law, every *owner of property* to which this By-law applies shall ensure that a *backflow prevention device* is installed in respect of *premise isolation, source isolation and zone isolation* in every *building* or *structure* where a *Township* water supply or other *potable water* supply connects or exists.

4.2. No person or owner shall connect, cause to be connected, or allow to remain connected to the *Township’s drinking water distribution system* any *auxiliary water supply* without written approval from the *Township*.

4.3. No person or owner shall connect, cause to be connected, or allow to remain connected either directly or indirectly to the *Township’s drinking water distribution system*, any *untreated water* or *non-potable water*.

4.4. Fire protection systems connected to potable water from the water distribution system shall be protected against backflow in accordance with CSA Standards.

### **5. PERSONS PERMITTED TO CARRY OUT WORK**

Only the persons listed in the Authorized Functions List shall carry out the corresponding functions set out in such list and shall be a qualified person.

- 5.0.
- a) Every *Backflow Device Tester* shall have a regular place of business and shall identify to the Township the mailing address of the business property or structure;
  - b) Every *Backflow Device Tester* Company shall list all employees with a current certificate from a School of Accreditation as a *backflow device tester*;
  - c) Every *Backflow Device Tester* shall provide the following documentation at the time of the initial installation;
    - i. A current certificate from a *School of Accreditation* as a certified *Backflow Prevention Device Tester* for all their employees Backflow Work;
    - ii. A valid calibration certificate for testing equipment used in the testing requirements of this By-law.

## **6. APPLICATION OF CSA STANDARDS**

- 6.0. Except as otherwise set out in this By-law, the installation, maintenance and field testing of *backflow prevention devices* shall be in accordance with the *CSA Standard*.
- 6.1. Wherever the *CSA Standard* and this Schedule are in conflict, the provisions of this Schedule shall prevail.

## **7. SELECTION OF BACKFLOW PREVENTION DEVICES**

- 7.0. Every owner of a *building* or *structure* of a type set out in section 3 of this By-law shall, every five years or as otherwise required by the *Township*, cause to be carried out a survey of each of his or her *buildings* and *structures* with respect to all existing *cross-connections* and all existing and required *backflow prevention devices* and:
- a) Shall ensure that such survey is carried out on a *cross-connection control survey form* by a person permitted to do so pursuant to the *Authorized Functions List*, and
  - b) Shall ensure that the completed *cross-connection control survey form* is provided to the *Township* within 14 days of the survey being conducted; and,
  - c) Shall be carried out after the passing of the By-law by the Owners of all required *properties* and shall be submitted to the Township under Section 7.0 ( a ), of this By-law, not later than January 1, 2013 and,
  - d) Shall also be carried out by the Owner within 14 days of any new *building*, *building* expansion, or alteration to any *buildings*" plumbing or operational changes that might affect the Township's *drinking water* distribution system.
- 7.1. 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 7.2 of this By-law.
- 7.2. *Backflow prevention devices* for *premise*, *source* or *zone isolation* shall be determined:
  - a) Using the *Selection Guide*; or,
  - b) When the type of *cross-connection* is not identified in the *Selection Guide*, by the Township,
- 7.3. Despite section 7.2 of this By-law, the *Township* may require or permit a particular *backflow prevention device* to be used in respect of any *cross-connection*.

- 7.4. Despite section 7.2 of this By-law, the *Township* may permit an existing *backflow prevention device* if previously approved and as long as the safety of the water supply is maintained to the satisfaction of the *Township* in its sole discretion.
- 7.5. Despite Section 7.2 of this By-law, where a *source isolation backflow prevention device* has been installed by the manufacturer of the equipment, the *cross-connection* is required to be reviewed to determine if the *backflow prevention device* meets the requirements of the *Selection Guide*. These *cross-connections* are to be indicated on the *cross-connection control survey form*.

## 8. INSTALLATION OF BACKFLOW PREVENTION DEVICES

- 8.0. Every person installing a *backflow prevention device* shall ensure that:
- a) Such device is installed in accordance with manufacturers specifications and the requirements of the *CSA Standard*; and,
  - b) Such device is located in such a manner so that in the event of backflow the device prevents contamination of the *Township's* water supply and any other potable water system; and,
  - c) 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 the *Township*; and,
  - d) Where such device is installed in respect of *premise isolation*, all piping between the *water meter* and such device is clearly labelled "no connection permitted"; and,
  - e) Where such device is installed in respect of *source or zone isolation*, all piping between the point of contamination and the point at which the device is located is labelled "*non-potable water*".
- 8.1. Every *owner of property* upon which a *backflow prevention device* is installed shall ensure that such device is in proper working order at all times
- 8.2. The Initial Compliance Implementation Date for the Owners of all required *buildings* and *structures* existing at the date of passing of this By-law to meet the *backflow device* installation requirements of this By-law shall be no later than:
- a) January 1, 2013 for all properties as identified as "Severe Hazard", as defined in Appendix 'B' of this By-law, and identified under Section 7.0 – *cross-connection control survey* form requirements of this By-law.
  - b) July 1, 2013 for all properties as identified as "Moderate Hazard" as defined in Appendix 'B' of this By-law, and identified under Section 7.0 – *cross-connection control survey* form requirements of this By-law.
  - c) January 1, 2014 for all properties as identified as "Moderate Hazard" as defined in Appendix 'B' of this By-law, and identified under Section 7.0 – *cross-connection control survey* form requirements of this By-law.

## 9. TESTING OF DEVICES

- 9.0. Every *owner* who has a *backflow prevention device* located on his or her *property* shall ensure that:
- a) Such device is tested by a *qualified person* when it is first installed and annually thereafter, or when requested by the *Township* and also when it is cleaned, repaired, overhauled or relocated; and,

- b) A *test report* is provided to the *Township* within 14 days of the test being conducted; and,
  - c) In the event that such device is malfunctioning, or otherwise not in proper working order, the device is immediately repaired, or replaced; and,
  - d) In the event that the water supply to the device cannot be shut down in order to facilitate annual testing, a by-pass shall be installed around the device with a suitable *backflow prevention device* installed in the by-pass to allow for annual testing of both devices.
- 9.1. Every person who tests a *backflow prevention device* shall carry out such testing in accordance with this By-law, the *CSA Standard*, and all applicable legislation.
- 9.2. Every person who tests a *backflow prevention device* shall:
- a) Provide a legible *test report* to the *Owner* in respect of such test; and,
  - b) Upon completing such test, complete and affix a *test tag* to the device, or immediately adjacent to the device on the piping connected thereto; and,
  - c) Upon finding that such device is malfunctioning, or otherwise not in proper working order, immediately notify the *Owner* of the premise and the *Township* of such condition in writing.

**10. INSPECTIONS**

- 10.0. The *Township* may, at any reasonable time, enter onto any *property, building, or structure* to inspect for compliance with this By-law.
- 10.1. When carrying out an inspection pursuant to section 10.0, the *Township* may:
- a) Require the production for inspection of documents, or things relevant to the inspection; and,
  - b) Inspect and remove documents, or things relevant to the inspection for the purpose of making copies or extracts; and,
  - c) Require information from any person concerning a matter related to the inspection; and,
  - d) Make examinations, take tests, samples, or photographs necessary for the purposes of the inspection.
- 10.2. Where an *owner* does not comply with any provision of this By-law, the *Township* may:
- a) Order the *Owner* to comply with the By-law requirements, and in so doing, shall provide reasonable particulars of the *Owner's* non-compliance and prescribe the time period for compliance with such Order; and,
  - b) Shut off the water supply to the *property*, or any portion thereof, until such time as all provisions of this By-law are met.

**11. GENERAL PROVISIONS**

- 11.0. In addition to any other provision of this By-law, the *Township* may at any time order an *Owner* to conduct tests, provide reports, and undertake any other measures required for the prevention of *backflow*, or protection of a *cross-connection*.

11.1. Appendices 'A' (Authorized Function List) and 'B' (Backflow Prevention Device Selection Guide) shall form part of this By-law.

11.2. Where the Township finds that a condition exists on any property that may allow contamination, or creates a potential risk of contamination of the Township's water supply, or the contamination of any other potable water system on such property, including any residential building or structure, the Township may:

- a) Order the Owner to eliminate the condition, and in so doing may prescribe the time period for compliance with such Order;
- b) Shut off the water supply to the property , or any portion thereof, until the condition is eliminated;
- c) Have such work done at the Owner's expense and may recover the cost by adding the cost to the tax bill and collect them in the same manner as taxes in default of compliance with such order.

**READ A FIRST, SECOND AND THIRD  
TIME AND FINALLY PASSED THIS 25<sup>th</sup>  
DAY OF JUNE 2012.**

  
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MAYOR DOUGLAS JOYNER

  
\_\_\_\_\_  
CAROLYN LANGLEY, CLERK

APPENDIX 'A'

To By-law Number 2012-XX of the Corporation of the Township of West Lincoln

**AUTHORIZED FUNCTION LIST**

ITEM	FUNCTION	Licensed Plumber with Contractor and Tester's License	Journeyman Plumber with Tester's License	Apprentice Plumber with Tester's License	Fire System Sprinkler Fitter with a Tester's License	Lawn Irrigation System Installer with Tester's License
1	Carry out Cross-Connection Control Survey	✓	✓			
2	Install, Relocate, or Replace Backflow Prevention Device	✓	✓	✓		
3	Repairs of Backflow Prevention Device	✓	✓	✓	✓	
4	Test Backflow Prevention Device	✓	✓	✓	✓	
5	Items 1, 2, 3, & 4 above in Respect of Fire Protection Systems	✓	✓	✓	✓	
6	Items 2 (up to 1"), 3, & 4 above in Respect of Lawn Sprinkler Systems	✓	✓	✓		✓

\* 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.



## APPENDIX 'B'

### To BY-LAW NO. 2012-46 of Township of West Lincoln BACKFLOW PREVENTION DEVICE SELECTION GUIDE

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#### INTERPRETATION

In addition to those terms defined in section 2.0 of By-law No. 2012-XX the following terms shall have the corresponding meanings for the purposes of this Appendix:

“air gap (AG)” means the unobstructed vertical distance through air between the lowest point of the water supply outlet and the flood level rim of the fixture or device into which the outlet discharges;

“back siphonage” means backflow caused by pressure below atmospheric in the supply system;

“double check valve assembly (DCVA)” means a backflow prevention device consisting of two force-loaded, independently acting check valves, including tightly closing resilient-seated shutoff valves located at each end of the assembly and fitted with properly located resilient-seated test cocks. This device is designed for use under continuous pressure;

“dual check valve (DuC)” means a backflow prevention device consisting of two independently acting, force-loaded, soft-seated check valves in series. This device does not have a relief port or test cocks. This device is designed for use under continuous pressure;

“dual check valve with atmospheric port (DCAP), (DCAPC)” means a backflow prevention device that consists of two independently acting check valves separated by an intermediate chamber with an atmospheric port. A chamber pressure higher than the supply pressure is required to open the port when there is a positive pressure on the supply side. This device is designed for use under continuous pressure; (DCAPC) is specifically designed for use in carbonated beverage dispensing machines.

“dual check valve with intermediate vent (DuCV)” means a backflow prevention device that consists of two independently acting check valves biased to a normally closed position. Between the check valves there is a relief port that is biased to a normally open position. This device is designed for use under continuous pressure;

“reduced pressure principle assembly (RP)” means a backflow prevention device that consists of a mechanically independently acting, hydraulically dependent relief valve located in a chamber between two independently operating, force-loaded check valves, the intermediate chamber pressure always being lower than the supply pressure when there is a positive pressure on the supply side. The unit includes properly located resilient-seated test cocks and tightly closing resilient-seated shutoff valves at each end of the assembly. This device is designed for use under continuous pressure;

“minor hazard” means any cross-connection or potential cross-connection that constitutes only a nuisance, with no possibility of any health hazard;

“moderate hazard” means any minor hazard that has a low probability of becoming a severe hazard;

“severe hazard” means any cross-connection or potential cross-connection involving any substance that could be a danger to health;

“single check valve” (SCVAF) means a backflow preventer that consists of one force-loaded, independently acting check valve, including resilient-seated shut-off valves located at each end of the SCVAF backflow preventer and fitted with resilient-seated test cocks. SCVAF backflow preventers are designed for use under continuous pressure on fire sprinkler and standpipe systems.

“vacuum breaker” means a device that will prevent backflow when pressure in the system upstream of the device falls below atmospheric pressure. Air is only admitted downstream of the device;

“vacuum breaker, atmospheric type (AVB)” means a vacuum breaker designed to be under pressure only when water is being drawn from the system and for short, intermittent periods of time;

“vacuum breaker, hose connection type (HCVB), (HCDVB)” means a vacuum breaker consisting of a single or double force-loaded check valve biased to a normally closed position. Downstream of the check valve is a means of automatically venting to atmosphere that is force-loaded or biased to a normally open position. If there is no flow through the device, the check valve is closed and the vent is open. The device is designed to be under pressure only when water is being drawn from the system and for short, intermittent periods of time;

“vacuum breaker, laboratory faucet type (LFVB)” means a vacuum breaker consisting of two independently acting check valves force-loaded or biased to a normally closed position. Between the check valves there is a relief port that is force-loaded or biased to a normally open position. When the laboratory faucet is off, the check valves are closed and the port is open; when the faucet is on, the check valves are open and the port is closed; and

“vacuum breaker, pressure type (PVB)” or “spill resistant pressure type (SRPVB)” means an assembly containing an independently acting check valve force-loaded or biased, to a normally closed position, and an independently operating air inlet valve force-loaded or biased to a normally open position and located on the discharge side of the check valve. The assembly is equipped with properly located resilient-seated test cocks and tightly closing resilient-seated shutoff valves located at each end of the assembly. The device is designed for use under continuous pressure;

APPENDIX 'B' (con't.)

to BY-LAW NO. 2012-46 of Township of West Lincoln

**Selection Guide for Backflow Preventers**

Type of Device	CSA Standard Designation	Degree of Hazard				Device Under Continuous Pressure
		Minor	Moderate	Severe		
Air Gap	-----	✓	✓	✓	No	
AVB	B64.1. 1	✓	✓	✓*	No	
DCAP	B64.3	✓	✓†	-----	Yes	
DCAP C	B64.3. 1	✓	✓	-----	Yes	
DCVA	B64.5	✓	✓	-----	Yes	
DuC	B64.6	✓	-----	-----	Yes	
DuCV	B64.8	✓	✓†	-----	Yes	
HCDV B	B64.3. 1.1	✓	✓†	✓*	No	
HCVB	B64.2	✓	✓†	✓*	No	
LFVB	B64.7	✓	✓†	✓*	No	
PVB	B64.1. 2	✓	✓	✓	Yes	
RP	B64.4	✓	✓	✓	Yes	
SRPV B	B64.1. 3	✓	✓	✓	Yes	

\* When the recommended *backflow preventer* is used for this degree of hazard, zone protection with an RP *backflow preventer*, or an *air gap* shall also be required.

† When the recommended device is used for this degree of hazard, zone or area protection with a DCVA *backflow preventer*, RP *backflow preventer*, or an *air gap* shall also be required.

**APPENDIX 'B' (con't.)**  
**to BY-LAW NO. 2012-46 of Township of West Lincoln**

**BACKFLOW PREVENTION GUIDE TO DEGREE OF HAZARD – PREMISE ISOLATION**

Type of Building	Degree of Hazard	Type of Building	Degree of Hazard
Abattoir (slaughter house)	Severe	Paint manufacturing plant	Severe
Airport	Moderate	Penitentiary	Moderate
Animal stock yard	Moderate to Severe	Petroleum processing or storage facility	Severe
Apartment building (within the scope of Part 3 of the Ontario Building Code)	Moderate	Photo processing facility	Severe
Aquaculture farm	Moderate to Severe	Plant using radioactive material	Severe
Aquarium (public)	Severe	Plating shop	Severe
Arena	Moderate	Poultry farm	Severe
Asphalt plant	Severe	Power generating facility	Severe
Auto body shop	Severe	Premise where access prohibited	Severe
Auto dealership	Moderate	Printing plant	Severe
Automotive plant	Severe	Pulp and / or paper plant	Severe
Automotive repair shop	Severe	Radiator shop	Severe
Beverage processing plant	Severe	Recycling facility	Severe
Blood clinic	Severe	Refinery, petroleum processing	Severe
Camp site	Moderate	Rendering facility	Severe
Camp site with RV hookups or dump station	Severe	Research building	Severe
Car wash	Severe	Residential premises – multi-tenant	Moderate
Church	Moderate	Restaurant	Moderate
Collège	Moderate	School	Moderate
Commercial premises	Moderate to Severe	Sewage dump station	Severe
Concrete plant	Severe	Sewage treatment plant	Severe
Dental office	Moderate	Steam boiler plant	Severe
Dental surgery facility	Severe	Swimming pool facility	Moderate
Dockside marine facility	Severe	Technical institute	Moderate
Dry cleaning plant	severe	Townhouse (shared service)	Minor
Dry cleaning facility (no dry cleaning process on premise)	Moderate	Track-side facilities for trains	Severe
Duplex housing with shared service	Minor	University	Moderate to Severe
Dye plant	Severe	Veterinary clinic	Moderate to Severe
Exhibition ground	Severe	Veterinary clinic (special equipment)	Severe
Farm	Moderate to Severe	Waste disposal	Severe
Film processing facility	Severe	Waste water facility	Severe
Fire Service main connected to more than one of the following different sources of supply: (i) City water supply (ii) a private water supply system or (iii) a source of non-potable water	Moderate to Severe	Waste water pump station	Severe
Fire Station	Moderate to Severe	Waste water treatment plant	Severe
Fish farm or hatchery	Severe	Water filling station	Severe
Food processing plant	Severe	Water park	Moderate
Fuel dispensing facility	Moderate to Severe	Water treatment plant	Severe
Funeral home	Severe	Zoo	Severe
Garage transfer facility	Severe		
Golf course	Moderate to Severe		
Grocer	Moderate		
Hair salon	Moderate		
Hospital	Severe		
Hotel	Moderate		
Industrial and institutional	Moderate to Severe		
Kennel	Moderate		
Laboratory	Severe		
Laundry (commercial)	Severe		
Laundry (commercial, coin-operated)	moderate		
Mall – multi-tenant	Moderate		
Manufacturing plant (not specified)	Moderate		
Marina (pleasure boat)	Moderate to Severe		
Meat packing plant	Severe		
Medical clinic (non-surgical)	Moderate		
Medical clinic (surgical)	Severe		
Milk processing plant	Severe		
Mining facility	Severe		
Mobile home park	Moderate		
Mortuary or morgue	Severe		
Motel	moderate		
Motor cycle repair facility	Severe		
Nursing home	Moderate		
Office Building	Moderate		
Oil refinery	severe		

**APPENDIX 'B' (con't.)**

**to BY-LAW NO. 2012-46 of Township of West Lincoln**

**BACKFLOW PREVENTION GUIDE TO DEGREE OF HAZARD**

Type of Cross-Connection	Degree of Hazard	Type of Cross-Connection	Degree of Hazard
Sizing vat	Severe	Wash rack	Severe
Solar energy unit	Severe		
Solution tank	Severe		
Spa or hot tub	Moderate		
Specimen tank	Severe		
Steam table	Minor to Moderate		
Steam generator	Moderate		
Steam cleaner	Moderate		
Sterilizer (condensate cooling only)	Moderate		
Sterilizer (connection into chamber)	Severe		
Still	Minor		
Swimming pool (residential)	Minor		
Swimming pool (other than residential)	Moderate		
Swimming pool (direct connection)	moderate		
Swimming pool makeup tank	Moderate		
Teeth cleaning equipment	Moderate		
Trap primer	Swimming pool makeup tank		
Vending machine with no carbonators	Minor		

**Emergency eyewash / shower – this equipment must be installed upstream of all zone and source isolation**

**Fire Protection Systems – General Conditions**

- Antifreeze solutions must be water solutions of pure glycerin (C.P. or U.S.P., 96.5% grade) OR propylene glycol conforming to Section 3-5.2.1 of NFPA-13, 1994 Edition. These are best described as food-grade chemicals.
- Antifreeze solutions must be tested to verify compliance with above conditions. Any other antifreeze is NOT permitted and must be replaced.
- Expansion chambers shall be of an appropriate size to compensate for thermal expansion of antifreeze solution.
- An adequate amount of piping before or after the location of an *backflow preventions* shall be increased in size to compensate for the pressure loss created by the device being installed. The flows are to be in accordance with NFPA-13 for the appropriate hazard classification in the area downstream of the *backflow prevention device*.

**Table 7.6.2.4**

**Backflow Prevention Devices on Fire Sprinkler and Standpipe Systems Forming Part of Sentences 7.6.2.4. (2)**

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
CSA Standard Number	Type of Device (1)	System made with Potable Water System Materials	Minor Hazard (2) Class 1 System	Moderate Hazard (2) Class 1, 2, 3, and 6 Systems	Severe Hazard (2) – Any Class of System in which Antifreeze or Other Additives are used
B64.6.1	DuC	P	NP	NP	NP
B64.9	SCVA	P	P	NP	NP
B64.5.1	DCVA	P	P	P	NP
B64.6.1	RP	P	P	P	P

Notes to Table 7.6.2.4:

P – Permitted

NP – Not Permitted

(1) – The product is only permitted for use on fire sprinkler and standpipe systems.

(2) - Minor Hazard, Moderate Hazard, and Severe Hazard have the same meaning as indicated in Can/CSA-B64.10 "Manual for the Selection and Installation of *Backflow Prevention Devices*".