

# Report to Community Services Committee

**TO:** COMMUNITY SERVICES COMMITTEE

**PREPARED BY AND KEY CONTACT:** C. MARCHANT, MANAGER OF WATER OPERATIONS

**SUBMITTED BY:** J. THOMPSON, P.ENG., CMM III IP, PMP DIRECTOR OF ENVIRONMENTAL SERVICES

**GENERAL MANAGER APPROVAL:** R. FORWARD, MBA, M.SC., P.ENG.  
GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT

**CHIEF ADMINISTRATIVE OFFICER APPROVAL:** M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

**DATE:** OCTOBER 4, 2017

**SUBJECT:** GOVERNING BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL

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## **RECOMMENDED MOTION**

1. That the draft By-law attached as Appendix "A" to the Community Services Committee Report dated October 4, 2017 regarding Governing Backflow Prevention and Cross Connection Control be adopted.
2. That By-law 2010-102 Governing Backflow Prevention and Cross Connection Control be repealed.

## **PURPOSE & BACKGROUND**

3. On March 6<sup>th</sup>, 2017, City Council adopted Motion 17-G-012 regarding GOVERNING BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL as follows:  
  
"That Staff Report ENV001-17 concerning Governing Backflow Prevention and Cross Connection Control be referred back to staff in the Environmental Services Department for a report back to Community Services Committee with further clarification of the definitions and requirements related to cross connection control."
4. On May 10<sup>th</sup>, 2017, staff in the Environmental Services Department reported back to the Community Services Committee in accordance with the above noted Motion (17-G-012). As a result, the purpose of this Report is to address items outlined in the motion presented at that meeting by the CSC and adopted by General Committee on May 29<sup>th</sup>, 2017. The Motion is as follows:
  - Allow for a further meeting with the representatives of Hassey Management;
  - The comments provided by Chris Langford, P. Eng. of Hubbert EME Engineering Inc. with respect to the extent of inspections required to meet the definition of a cross connection survey and the need for such surveys given the type of building systems in Barrie;
  - A comparison of the scope of work identified in the cost examples for cross connection surveys that were provided by both representatives of Hassey Management and City staff;
  - The opportunity to provide further clarification in the definition of a cross connection control survey to establish the minimum sample sizes for inspection associated with any such survey and/or to distinguish between the form of construction or types of uses in the building;

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- A review by the Legal Services Department of the letter and comments provided by Chris Barnett of DLA Piper (Canada) LLP regarding his legal opinion with respect to the draft by-law;
- The potential to find a balance between the level of risk associated with undertaking limited inspections as part of a cross connection control surveys and the cost associated with undertaking the surveys;
- The consideration of the financial implications to property owners related to requirements for cross connection control surveys and the allocation of responsibility for the costs between the City and the property owner;
- The prevalence of similar backflow prevention and cross connection control by-laws in other Ontario municipalities; and
- The opportunity to minimize exposure for both the City and property owners by further clarifying the definitions and requirements related to cross connection control surveys. (17-G-012) (ENV001-17) (File: W04).

## ANALYSIS

5. On May 26<sup>th</sup>, 2017, Water Operation's Staff (Staff) met with Colin Hassey and his representatives, Chris Langford and Ray Duhamel, to further discuss Hassey Management's (Hassey) concerns with the proposed updates to the By-law. Details of this meeting are referenced in the meeting minutes attached in Appendix "B". The following summarizes the discussions had during the aforementioned meeting as it pertains to the risk based approach for conducting cross connection control surveys (survey) and the By-law definition therein:

- As requested by Hassey, Staff indicated that language changes to the By-law with respect to the risk based approach and the requirements of the surveys may be considered only if the changes benefited the entire program and all individuals involved.
- Staff explained that the expectation of the risk based approach for surveys is that not every unit in a multi-residential property be surveyed but rather assessed by the qualified person.
- With respect to the risk based approach for cross connection surveys, Hassey and their representatives committed to contacting the Ontario Waterworks Association Backflow Prevention Committee to gain a better understanding of the risk based approach for the completion of surveys and provide proposed language for consideration as it relates to the above.

6. The definition of cross connection survey in the By-law does not include provisions on the extent of inspection and their scope. The intent of the survey is to assist the owners in identifying hazards where contaminants or pollutants may enter the drinking water system if backflow were to occur. Reliance is left to the owner and their qualified person to determine the extent of inspection required to bring the risks to their drinking water system to a comfortable level.

Since the program's inception in 2009, 95% of industrial/commercial/institutional (ICI) and multi-residential properties having completed at least one survey. Through common practice and "Guide to the Assessment of Hazards" within the CSA B64.10-17 Standard - Selection and Installation of Backflow Prevention Devices (Standard), qualified people have effectively completed surveys for a reasonable cost without the need to observe all points of use in a multi-residential application.

The Standard provides three hazard classifications (minor, moderate, and severe) to which cross connections and properties can be classified within. To provide a more uniform approach, the Standard includes a table with the hazard classifications assigned to various cross connections and premise uses. With knowledge of plumbing systems, cross connections and the Standard; the qualified person tailors their surveys and inspections based on the uses within the building and the risks to the potable water system that may be associated.

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In order to be deemed a qualified person capable of conducting a cross connection survey under the Backflow Prevention Program, each applicant must provide proof of:

- Certification as a journeyman plumber through the Ontario College of Trades;
- Certification as a Cross Connection Control Specialist through an accredited college;
- Annual calibration for backflow prevention device testing equipment; and
- Liability insurance.

7. In an effort to address concerns raised by Hassey regarding what is required/expected when completing surveys of ICI and multi-residential properties, Staff sent a proposed By-law addition (email dated September 8<sup>th</sup>, 2017 attached in Appendix "C") to Hassey regarding the requirements of a survey (Section 6.0 – Required Cross Connection Surveys) as outlined in the By-law to clarify the extent of a survey concerning properties that contain individual residential dwelling units.

The proposed wording excludes typical individual residential dwelling units from the cross connection survey. Individual dwelling units would be defined as a single room or series of rooms of complementary use, operated under a single tenancy, for residential occupancy, and includes dwelling units, individual guest room in motels, hotels, boarding houses, rooming houses and dormitories.

This addition considers the financial implication to property owners while maintaining the integrity of the program and the provision of safe, reliable drinking water.

8. Staff obtained confirmation from Hassey's representatives that the proposed wording changes satisfied their concerns relating to multi-residential uses (email dated September 15<sup>th</sup>, 2017, attached in Appendix "C"), however, Staff also received the following request at that time from Hassey's representatives with respect to commercial and industrial properties:

*In an effort to move this forward and find a compromise, they request that you consider modifying the by-law to identify the commercial and industrial uses that would automatically be subject to the standard inspection/survey requirements, and all others would be afforded the same exemption as you have identified for multiple residential. More specifically, we ask you to consider the following:*

1. *The Zoning By-law contains a full list of all permitted uses in the commercial and industrial zones. All of the uses highlighted on the attached Zoning By-law Tables 6.2 (Commercial) and 7.2 (Industrial) would be subject to the inspection and survey requirements of your proposed by-law.*
2. *All uses in Tables 6.2 and 7.2 that are not highlighted would be exempt from a cross connection survey unless a severe hazard is known and/or brought to the attention of the qualified person. This exemption would ensure that uses such as professional offices, that pose virtually no risk, would be exempt from the survey.*

The recommendation provided by Hassey's representative (highlighted Zoning By-law – Table 6.2 and 7.2 attached in Appendix "D") does not meet the minimum Standard adopted by the Building Code and the Ministry of the Environment and Climate Change. Adoption would result in a significant risk to the City of Barrie drinking water system.

The current practice aligns with the "Guide to the Assessment of Hazards" within the Standard whereby commercial and industrial premises are identified with a moderate to severe hazard rating, unlike residential premises with a minor hazard rating. Maintaining current practice ensures backflow concerns are addressed in a standardized and consistent manner.

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9. Staff consulted with property managers, property owners, and qualified people to obtain information on costs associated with surveys. The cost comparison attached in Appendix “E” displays actual costs incurred by property owners in the City of Barrie to have a survey completed. The cost comparison outlines survey costs, numbers of units per location and average cost per unit amongst multi-residential, single tenant and multi-tenant commercial properties. Costs provided illustrate average survey costs ranging from \$191.95 to \$331.45 for multi-tenant commercial to high rise residential properties.

Property owners currently finance the cost of these surveys as:

- It is the responsibility of the property owner to maintain a safe environment and minimize hazards within their premise(s); and
- Completion of the surveys demonstrates due diligence in ensuring the owners internal drinking water system on their premise(s) is reasonably protected.

10. The Legal Services Department has reviewed the letter dated May 10<sup>th</sup>, 2017 provided to the Community Services Committee by Chris Barnett of DLA Piper (Canada) LLP, legal counsel for Hassey and have provided the following comments:

- Legal Services disagrees with the legal position provided by Hassey that the Draft By-law, if adopted, will be inoperative and without effect.
- A municipal by-law becomes invalid to the extent that it conflicts with the Building Code. However, there are limits on what constitutes a conflict insofar as this rule only applies to certain areas of the Building Code. Specifically, there are four areas of the Building Code which cannot be usurped by a municipal by-law:
  - Construction of buildings;
  - Demolition of buildings;
  - Standards for the use of buildings described in section 10 of the Building Code; and
  - Standards for the maintenance or operation of a sewage system.
- Hassey points out that the Building Code already contains provisions dealing with protection of potable water systems from contamination, which include protection from backflow. In addition, Hassey takes issue with the By-law’s inclusion of provisions dealing with the maintenance of backflow preventers, which are not included in the Building Code. Hassey argues that these provisions would make the by-law invalid. Hassey’s position would be correct if the maintenance of backflow preventers fit within one of the four areas of the Building Code.
- Legal Services believes that the maintenance of backflow preventers cannot reasonably be construed as fitting within the areas of building construction, building demolition, standards for the use of buildings described in section 10 of the Building Code, or standards for the maintenance or operation of a sewage system. It is a distinct subject matter that does not fall within the purview of these four areas.
- Legal Services notes that backflow prevention programs are a relatively new undertaking. As a result, their validity has not yet been tested in the courts, and this conclusion is only based on a legal interpretation of the relevant legislation. In summary, the Draft By-law provisions on maintenance of backflow preventers are unlikely to pose any conflict with the Building Code, and the Draft By-law, if adopted, would be valid.

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- 11. There are currently sixty five (65) municipalities within Ontario which have a Backflow Prevention Program. Similar to the City of Barrie, twenty (20) of the noted sixty five (65) have full Backflow Prevention Programs which not only includes the requirement of backflow prevention devices at premise, but also source, area and zones. The Backflow Prevention Program’s in Thunder Bay, Waterloo and Guelph closely resemble that of Barrie’s Program with respect to size and requirements.
- 12. A summary of proposed changed to the Backflow Prevention and Cross Connection Control By-Law, with explanations describing the rationale for each change, is included as Appendix “F”.

### ENVIRONMENTAL MATTERS

- 13. There are no environmental matters related to the recommendation.

### ALTERNATIVES

- 14. There are three alternatives available for consideration by the Community Services Committee:

**Alternative #1** Community Services Committee could maintain the existing By-law 2010-102 as is currently worded.

This alternative is not recommended as it allows for unclear interpretation and limited application that does not fully protect the City’s drinking water system.

**Alternative #2** Community Services Committee could alter the proposed recommendation by accepting the change in application and not the definitions, and wording clarifications.

This alternative is not recommended as it presents misinterpretation, legal challenges, procedural inconsistencies, and unnecessary increased use of staffing resources.

**Alternative #3** Community Services Committee could alter the proposed recommendation by accepting the change in definitions, and wording clarification and not the application.

This alternative is not recommended as it warrants vulnerability in protection from drinking water contamination and does not represent the intent of the By-Law.

### FINANCIAL

- 15. There are no financial implications for the Corporation resulting from the proposed recommendation.

### LINKAGE TO COUNCIL STRATEGIC PRIORITIES

- 16. The recommendation(s) included in this Staff Report are not specifically related to the goals identified in the 2014-2018 City Council Strategic Plan.

**APPENDIX "A"**  
**BY-LAW NUMBER XXXX**

**A By-law of The Corporation of the City of Barrie to regulate  
Drinking Water Protection: Backflow Prevention and Cross  
Connection Control and to repeal By-law 2010-102.**

**WHEREAS** Section 9 of the Municipal Act, R.S.O. 2001, S.O. 2001, as amended ("*the Municipal Act, 2001*"), provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under the Act;

**AND WHEREAS** Section 10 of *the Municipal Act, 2001*, provides that Sections 8 and 11 shall be interpreted broadly so as to confer broad authority on municipalities to (a) enable municipalities to govern their affairs as they consider appropriate and, (b) enhance their ability to respond to municipal issues;

**AND WHEREAS** Section 11 (4) of *the Municipal Act, 2001*, S.O. 2001, provides that a single-tier municipality may pass By-laws respecting matters within the spheres of jurisdiction set out therein including, inter alia, public utilities;

**AND WHEREAS** Section 80 (1) of *the Municipal Act, 2001*, S.O. 2001, provides that a municipality may enter onto 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;

**AND WHEREAS** Section 11 and Section 19 of the *Safe Drinking Water Act*, requires every owner and operator of a municipal drinking water system to ensure that all water provided by the system meets the requirements of drinking water quality standards and that the drinking water system is operated in accordance with the *Safe Drinking Water Act*;

**AND WHEREAS** by motion 08-G-309 and 10-G-223 it is deemed expedient that the Council of The Corporation of the City of Barrie enact a By-law to establish authority for regulating cross connections for the prevention of drinking water contamination.

**NOW THEREFORE** the Council of The Corporation of the City of Barrie enacts as follows:

**SHORT TITLE**

This By-law shall be known as and may be cited as the "Backflow Prevention By-law".

**1.0 DEFINITIONS**

1.1 For the purposes of this By-law, the following terms shall have the corresponding meanings:

- a) "*agricultural*" shall mean the use of land or water, *building* or *structures* for the purpose of the growing of field crops, flower gardening, berry crops, tree crops, nurseries, aviaries, apiaries or farms for the grazing, breeding, raising, boarding or training of livestock or fish, or any other similar uses carried on in the field of general agriculture and including the sale of such produce, crops, fish or livestock on the same lot;
- b) "*Authorized Functions List*" means the list of functions and the *persons* with the required qualifications to carry out such functions as set out as Schedule "A" of this By-law;
- c) "*auxiliary water supply*" means, when applied to *property*, any water supply on or available to the *property* other than the primary *potable water supply* for the *property*;
- d) "*backflow*" means the flowing back or reversal of the normal direction of the flow;
- e) "*backflow preventer*" means a device or method that prevents *backflow* in a water distribution system;

- f) “*building*” shall have the same meaning as set out in the *Building Code Act*, S.O. 1992, cha. 23, as amended;
  - g) “*Building Code*” means the regulations made under Section 34 of the *Building Code Act* being O.Reg 332/12 as amended, or any successor thereof;
  - h) “*Building Code Act*” means the *Building Code Act, 1992*, S.O. 1992, c.23, as amended, or any successor thereof;
  - i) “*City*” means The Corporation of the *City* of Barrie and includes its employees, servants and agents;
  - j) “*commercial*” means lands, *buildings* or *structures* that is deemed by the *City* to be used for the sale or provisions of goods and services to the general public which does not include *Industrial* and not excluding additional *residential* usage;
  - k) “*cross connection*” means any actual or potential connection between a *potable water* system and any source of pollutant or contamination;
  - l) “*cross connection control specialist*” means an individual who is recognized as such, shall have completed and passed an *Ontario Water Works Association* endorsed *Cross Connection Control Specialist* Course or equivalent at an accredited school or college and shall have a current certificate issued by the accrediting association;
- Note; (The terms “*cross-connection control specialist*” and *tester* are often used interchangeably)
- m) “*cross connection survey*” means a report which shall include existing *backflow preventers*, *cross connections* discovered, corrective measures and recommendations on the prescribed *City* of Barrie Cross Connection Survey Form; as amended from time to time;
  - n) “*CSA*” means the Canadian Standards Association;
  - o) “*CSA Standard*” means the document(s) entitled CAN/CSA B64.10/B64.10.1 Manual Selection and installation of *backflow preventers*/Maintenance and field testing of *backflow preventers*; as amended from time to time;
  - p) “*fire service*” means a pipe and its appurtenances that are connected to a source of water and that are located on a *property*:
    - i. between the source of water and the base of the riser of a water-based fire protection system;
    - ii. between the source of water and inlets to foam making systems;
    - iii. between the source of water and the base elbow of *private fire hydrants* or monitor nozzles;
    - iv. as fire pump suction and discharge piping not within a *building*; or
    - v. beginning at the inlet side of the check valve on a gravity or pressure tank.
  - q) “individual residential dwelling unit” means a single room or series of rooms of complementary use, operated under a single tenancy, for residential occupancy, and includes dwelling units, individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories;
  - r) “*industrial*” means lands, *buildings* or *structures* that is deemed by the *City* to be used for assembling, fabricating, manufacturing, production, processing, repairing, supplying,

storing or selling of *Industrial* goods and materials to the general public which does not include *Commercial* and not excluding additional *residential* usage;

- s) "*institutional*" means a building or part of a building used for non-commercial, non-profit purposes by an organized body, religious group or society such as a public hospital, library, convent or similar use;
- t) "*minor hazard (MH)*" means any type of *cross-connection* or potential *cross connection* that involves a substance that constitutes only a nuisance and that results in a reduction in only the aesthetic qualities of the water as defined by the *CSA Standard*; as amended;
- u) "*moderate hazard (MoH)*" means any *minor hazard (MH)* connection that has a low probability of becoming a *severe hazard*. This category includes, but not limited to, connections involving water where the aesthetic qualities of the water have been reduced and, under certain conditions, can create a danger to public health as defined by the *CSA Standard*; as amended;
- v) "*multi-residential*" means lands, *buildings* or *structures* that are used for residential purposes and have four or more self-contained units;
- w) "*municipal drinking water system*" means the *City's* system of works, excluding plumbing, that is established for the purpose of providing users of the system with drinking water, and that includes:
  - i. Anything used for the collection, production, treatment, storage, supply or distribution of water;
  - ii. Anything related to the management of residue from the treatment process or the management of the discharge of a substance into the natural environment from the treatment system; and
  - iii. A well or intake that serves as the source or entry point of raw water supply for the system.
- x) "owner" shall include any person or any firm or corporation that is the registered owner of the property under consideration or any agent thereof, a person entitled to a limited estate in land, a trustee in whom land is vested, a committee of the estate of a mentally incompetent person, an executor, an administrator or a guardian;
- y) "*person*" includes any individual, Corporation, partnership, company, association or party and the heirs, executors, administrators, or other legal representative of such *person*, to whom the context can apply according to law; shall include any group of *persons* comprising a society or other organization and shall include the plural wherein the context requires. Wherever the word "he" or "him" is used, it shall mean and include the feminine or neuter gender wherever the context so requires;
- z) "*plumbing system*" means a system for water and wastewater not on the *City* right of ways and easements, separate from the *municipal drinking water system* as defined in the *Building Code*; as amended;
- aa) "*potable water*" means water that is fit for human consumption;
- bb) "*premise isolation*" means isolation provided at the entrance to a *building, structure, or property* from the *municipal drinking water system*;
- cc) "*private service*" means the portion of the *water service pipe* located on private *property*;
- dd) "*property*" means any land within the *City* of Barrie and includes all *buildings* and *structures*;

- ee) *"qualified person"* means a *person* whom meets the following requirements:
  - i. The *person* is registered with the *City's* Backflow Prevention Program's "Prequalification Program"; and
  - ii. The *person* holds a valid and current Certificate of Achievement in Cross Connection Control endorsed by the Ontario Water Works Association (OWWA) or *equivalent as approved by the City's Water Operation Branch*; and
  - iii. The *person* possesses a current calibration certificate as required under the "Prequalification Program" for the testing equipment to be employed; and
  - iv. The *person* is authorized to perform the specified task as indicated in the "*Authorized Functions List*" as set out in Schedule "A" of this By-law, as amended from time to time;
- ff) *"severe hazard (HH)"* means any type of *cross-connection* or potential *cross connection* that has additives or substances that, under any concentration, can create a danger to health as defined by the *CSA Standard*; as amended;
- gg) *"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;
- hh) *"structure"* means anything constructed or built permanently or temporarily which is provided with a source of *potable water*;
- ii) *"Test Report"* means an inspection and testing report of a *backflow preventer* containing the make, model, serial number, size, type, installation date, location and installation address and the test results. The report must also contain information related to the *qualified person*. This report shall be completed on the prescribed *City* of Barrie "Backflow Prevention Device Test Report Form, F16-16", as amended from time to time;
- jj) *"Test Tag"* means a tag containing the make, model, serial number, size type, location, installation date and address as well as history of a *backflow preventer*. This tag shall be completed and updated annually by a *qualified person* on the prescribed *City* of Barrie "Backflow Test Inspection Tag, F16-17" and/or "Backflow Prevention Single Test Tag, F16-29"; as amended from time to time;
- kk) *"water service pipe"* means a pipe on the property that conveys *potable water* from the *municipal drinking water system* to the inside of the *building* or *structure*; and
- ll) *"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*.

## 2.0 INTERPRETATION

### 2.1 In this By-law:

- a) words importing the singular number or the masculine gender only, include more *persons*, parties or things of the same kind than one and females as well as males and the converse;
- b) a word interpreted in the singular number has a corresponding meaning when used in the plural; and
- c) "subsection" when used without reference to another section, refers to a subsection contained in the same section in which the phrase is used.

2.2 It is declared that if any section, subsection or part or parts thereof be declared by any court of law to be bad, illegal or ultra vires, such section, subsection or part or parts shall be deemed to be severable and all parts hereof are declared to be separate and independent and enacted as such.

### **3.0 APPLICATION OF BY-LAW**

3.1 This By-law applies to all *properties* connected to the *municipal drinking water system*.

### **4.0 GENERAL PROVISIONS**

4.1 In addition to any other provisions of this By-law, the *City* 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 from a *cross connection*.

4.2 Where a time frame is prescribed in this By-law, the *City* may extend the time for compliance at its discretion.

4.3 All *cross connection surveys* and *test reports* are to be submitted to the *City*.

4.4 Schedule "A" shall form part of this By-law.

### **5.0 BACKFLOW PREVENTION AND PROTECTION FROM CONTAMINATION**

5.1 No *owner*, shall connect, cause to be connected, or allow to remain connected to a plumbing system which is connected to the *municipal drinking water 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 circumstances, allow any liquid including but not limited to water, untreated or otherwise, waste water, or any source of pollution or any other liquid, chemical, gas or other substance to enter the *municipal drinking water system* or any other *potable water system*.

5.2 In accordance with the provisions of this By-law, every *owner* of property to which this By-law applies shall ensure that a *Backflow Preventer* is installed in respect of *source isolation* and/or *zone isolation* in every *building* or *structure* where a *municipal drinking water system* or other *potable water* exists.

5.3 No *owner* shall connect, cause to be connected, or allow to remain connected; any *auxiliary water supply* to the *municipal drinking water system* except as otherwise defined in the *Building Code*.

5.4 In accordance with the provisions of this By-law, every owner of *industrial, commercial, institutional, agricultural, multi-residential property* shall ensure a testable *Backflow Preventer* is installed in respect of *premise isolation*.

### **6.0 REQUIRED CROSS CONNECTION SURVEYS**

6.1 Every *owner* of *industrial, commercial, institutional, agricultural, multi-residential property* shall cause to be carried out a *cross connection survey* of the *plumbing system* associated with his or her *property* and shall ensure that such survey is undertaken by *qualified person* pursuant to the *Authorized Functions List* (see Schedule "A") at the *owners* expense.

6.2 The *cross connection survey* shall be in the prescribed *City of Barrie cross connection survey form* (F16-15); as amended from time to time, and shall be completed as a report, which shall include existing *Backflow Preventers*, *cross connections* discovered, corrective measures, recommendations and a schedule of work to be completed.

- 6.3 A *cross connection survey* shall be completed at a frequency of:
- a) every 5 years; and
  - b) upon change of ownership or change of use or as otherwise required by the *City*.
- 6.4 Upon identification of *Severe Hazard*, the *qualified person* as prescribed in the *Authorized Function List* and/or *owner*, within 24 hours shall notify the *City* in writing.
- 6.5 An *individual residential dwelling unit* within an *industrial, commercial, institutional, agricultural, multi-residential property* is exempt from a *cross connection survey* unless a *severe hazard* is known and/or brought to the attention of the *qualified person*.

## **7.0 APPLICATION OF STANDARDS AND SELECTION OF METHODS**

- 7.1 Except as otherwise set out in this By-law, the installation, maintenance, and field testing of *Backflow Preventers* shall be in accordance with the *CSA Standard*.
- 7.2 The *Backflow Preventer* whether it be for *premise isolation, source isolation* or *zone isolation* shall be determined by a professional engineer or journeyman plumber using the *CSA Standard*, as amended or any successor thereof.
- 7.3 Despite Section 5.2 of this By-law, where a *source isolation backflow preventer* has been previously installed by the manufacturer of equipment, the *cross connection* is required to be reviewed by *qualified person* as prescribed in the *Authorized Functions List* to determine if the *Backflow Preventer* meets the selection specifications. These *cross connections* are to be clearly indicated on the *cross connection survey*.

## **8.0 INSTALLATION OF BACKFLOW PREVENTERS**

- 8.1 Every *person* installing a *Backflow Preventer* shall ensure that:
- a) such device is installed in accordance with acceptable engineering practices and the requirements of the *Building Code*, this By-law, and the *CSA Standard*;
  - b) such device is located in such a manner so that in the event of *backflow* the device prevents contamination of the *municipal drinking water system* and any other *potable water system*;
  - c) where such device is installed in respect of *premise isolation*, such device is located within a maximum of 3.0 meters downstream of the *water meter*, except where circumstances require the device to be installed in an alternative location and such location is to the satisfaction of the *City*;
  - d) where such device is installed in respect of *premise isolation*, all piping between the *water meter* and such device shall have no connections and is clearly and permanently labelled "no connections permitted" unless otherwise directed by the *City*; and
  - e) where such device is installed in respect of *source* or *zone isolation*, all piping between the point of potential contamination and the point at which the device is located is clearly and permanently labelled "non-potable water" and no new connection shall be permitted unless authorized by the *City*.
- 8.2 Every *owner of property* upon which a *Backflow Preventer* is installed shall ensure that such device is maintained in proper working order at all times.

8.3 Where in the opinion of the *City*, a risk of possible contamination of the *municipal drinking water system* exists, an *owner* on notice from the *City*, shall install *premise isolation* in addition to any other source of protection devices on the *premise*.

## **9.0 MAINTENANCE AND FIELD-TESTING OF CROSS CONNECTION CONTROL METHODS**

9.1 Every *person* who tests a *Backflow Preventer* shall carry out such testing in strict accordance with this By-law and the *CSA Standard*.

9.2 Every *person* who tests a *Backflow Preventer* shall:

- a) be a *qualified person*, in addition to meeting the requirements listed on the *Authorized Functions List* in Schedule "A" of this By-law;
- b) within 14 days of carrying out such a test, provide a legible and complete *Test Report* to the *City*;
- c) upon completing such test, complete and affix a standard *City of Barrie* cross connection control *Test Tag* to the *Backflow Preventer* or immediately adjacent to the device on the piping connected thereto; and
- d) upon finding that such device is malfunctioning or otherwise not maintained in proper working order, immediately notify the *owner* of the *property* and the *City* in writing of such condition.

9.3 Every *owner* who has a *Backflow Preventer* located on his or her property shall ensure that:

- a) such device is tested by a *Cross Connection Control Specialist* when it is first installed and annually thereafter and/or upon request by the *City* and also when it is cleaned, repaired, overhauled, or relocated;
- b) when such device is tested that a *Test Report* is provided to the *City* within 14 days; and
- c) in the event that such device is malfunctioning or otherwise not in proper working order, the device is immediately repaired or replaced with an equivalent type of *Backflow Preventer*, and the *City* is notified.

## **10.0 BACKFLOW TEST EQUIPMENT MAINTENANCE**

10.1 Where required by *CSA Standard B64.10.1* as amended; all equipment used to test *Backflow Preventers* shall be verified and/or calibrated for accuracy annually.

10.2 Proof of such verification and/or calibration shall be presented to the *City* upon request.

## **11.0 REMOVAL OF BACKFLOW PREVENTION DEVICES PROHIBITED**

11.1 No *person* shall remove a *Backflow Preventer* required under this Bylaw, or any part thereof, after it has been installed, and no *owner* of a *property* where such a *Backflow Preventer* is installed shall cause or permit the removal of such a device, unless such removal is:

- a) to facilitate the repair of the device, with the device replaced immediately after the repair is carried out;
- b) to replace the device with another one that meets or exceeds the provisions of this By-law;
- c) a result of the *cross connection* to which the *Backflow Preventer* was isolating has been permanently removed; or

- d) to facilitate the disconnection of the *private service* from the *municipal drinking water system* in accordance with the written approval from the *City*, or any combination of the foregoing.

11.2 Whenever a *Backflow Preventer* required under this By-law has been permanently removed or the type of device has been changed, the *owner* of the property must notify the *City* in writing immediately of such change.

## 12.0 INSPECTION FOR CROSS CONNECTIONS –ACCESS

12.1 The *City* shall be permitted access, within 24 hours of providing notice, to any *property* that are connected to the *municipal drinking water system* for the purpose of performing inspections to verify compliance with this By-law.

12.2 Where in the opinion of the *City*, a risk of possible contamination of the *municipal drinking water system* exists; the *City* shall be permitted immediate access to any *property* that are connected to the *municipal drinking water system*. In such instances, the *City* may require a routine *cross connection* inspection of the *property* to be performed by a *qualified person* as described in the *Authorized Functions List* (see Schedule "A"). Should an unsafe and/or undocumented *cross connection* be found during said inspection, the cost of the inspection shall become the responsibility of the *owner*.

## 13.0 ORDER TO CORRECT CROSS CONNECTION

13.1 Should a condition be found to exist which is contrary to the provisions of any section of this By-law, or if the owner to whom the *City* has issued a notice fails to comply, the *City*, at its sole discretion may:

- a) Give notice to the *owner* to correct the fault at their expense within a specified time period and if the notice is not complied with, the *City* may then discontinue the supply of municipal water to the *plumbing system*; and/or
- b) Issue an unsafe order under 'unsafe requirements' in accordance with the *Building Code Act* if a condition exists that could be hazardous to the health or safety of *persons* in the normal use of the *building*, *persons* outside the *building* or *persons* whose access to the *building* has not been reasonably prevented; and/or
- c) Without notice to the *owner*, discontinue the supply of municipal water to the *plumbing system*, where the *City*, at its discretion, has determined that an immediate *severe hazard* exists that could result in contamination of the *municipal drinking water system* that may endanger public health or safety.

## 14.0 PERMITTED QUALIFIED PERSONS AND AUTHORIZED FUNCTIONS

14.1 Only those *Qualified Persons* with the required qualifications described on the *Authorized Functions List* (see Schedule "A") shall carry out the corresponding functions set out in such list.

14.2 The *City* administers a registration program for *Qualified Persons* listed in the *Authorized Functions List* (see Schedule "A").

14.3 No *Qualified Person* listed on the *Authorized Functions List* (see Schedule "A") shall carry out any of the corresponding authorized functions unless the *Qualified Person* has registered with the *City*, provided all requested documentation to the *City*, paid the applicable fee and received a *City* registration number, all in accordance with the Table set out in Schedule B.

14.4 No *Qualified Person* shall submit any documentation to the *City* as part of the registration process that contains inaccurate or false information.

- 14.5 The registration with the *City* referred to in subsection 14.3 is an annual requirement.
- 14.6 The *City* may suspend or revoke a *Qualified Person's* designation within the *City's* Backflow Prevention Program, as described in the "Backflow Qualified Person Policy"; as amended from time to time.

**15.0 MAINTENANCE OF FIRE SERVICE MAINS & TEMPORARY CONNECTIONS**

- 15.1 No *person* shall connect, cause to be connected, or allow to remain connected, any piping, fixture, fitting, container or appliance to a *City* 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 *municipal drinking water system*.
- 15.2 No connection for water supply, other than a fire protection system, shall be made to a fire protection piping system.
- 15.3 All private fire hydrants are the responsibility of the *property owner* and must be installed and maintained according to:
- a) *City* of Barrie Water Transmission and Distribution Policies and Design Guidelines; as amended from time to time;
  - b) The Ontario Fire Code as amended;
  - c) The *Building Code* as amended; and
  - d) NFPA 24 - Installation of Private Fire Service Mains and Their Appurtenances as amended.

**16.0 IMPLEMENTATION AND COMPLIANCE**

- 16.1 Installation of *Backflow Preventers* shall occur within the timeframes below, for the degree of hazard:

<u>Degree of Hazard</u>	<u>Compliance Date</u>
<i>Severe</i>	No later than 30 calendar days from the date of identification of the hazard as <i>severe</i>
<i>Moderate and Minor</i>	No later than 90 days from the date of notification of the hazard as <i>moderate</i> or <i>minor</i>

- 16.2 *Cross Connection Surveys* as required in Section 6 of this By-law shall be submitted to the *City* within 60 calendar days of request of survey.

**17.0 ENFORCEMENT**

- 17.1 The By-law shall be enforced by a building inspector employed by the *City* of Barrie; or any *person* appointed by the Chief Building Official; any Water Operations Staff or any *person* appointed by the Manager of Water Operations; or any Municipal By-law Enforcement Officer of the *City* of Barrie.

**18.0 FEES**

- 18.1 All user fees that may apply to this By-law are non-refundable and are indicated in the *City* of Barrie's Fees By-law #2016-011; as amended.

**19.0 PENALTY**

- 19.1 Every *person* who contravenes any of the provisions of any section of this By-law and every Director or Officer of a Corporation who knowingly concurs in the contravention of a By-law by the Corporation is guilty of an offence under the provisions of *the Municipal Act 2001, s 425 (1)*.
- 19.2 For the purpose of continuous offences, every *person* who contravenes any provision of this By-law and every Director or Officer of a Corporation who knowingly concurs in the contravention of a By-law by the Corporation is guilty of an offence and liable on conviction to a penalty not exceeding \$10,000, exclusive of costs under the provisions of *the Municipal Act 2001, s. 429 (1) (3)* as amended. Despite paragraph 1, the total of all daily fines for the offence is not limited to \$100,000.
- 19.3 For the purpose of multiple offences, every *person* who contravenes any provision of the by-law and every Director or Officer of a Corporation who knowingly concurs in the contravention of a By-law by the Corporation is guilty of an offence and liable on conviction to a penalty not exceeding \$ 10,000, exclusive of costs under the provisions of *the Municipal Act 2001, s, 429 (1) (3)* as amended. Despite paragraph 1, the total of all daily fines for the offence is not limited to \$ 100,000.

**20.0 ENACTMENT**

- 20.1 That By-Law 2010-102 governing Backflow Prevention and Cross Connection Control be repealed.
- 20.2 **THAT** this By-law shall come into force and effect on the date of passage.

**READ** a first and second time this XXXX.

**READ** a third time and finally passed this XXXX.

**THE CORPORATION OF THE CITY OF BARRIE**

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**MAYOR – J. LEHMAN**

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**CITY CLERK – DAWN A. MCALPINE**

**SCHEDULE "A"**  
**By-law XXXX**

**AUTHORIZED FUNCTIONS LIST**

ITEM	FUNCTION	Professional Engineer with CCCS Certificate	<sup>1</sup> Certified Engineering Technologist with CCCS Certificate	<sup>2</sup> Journeyman Plumber with CCCS Certificate	<sup>3</sup> Apprentice Plumber with CCCS Certificate	<sup>4</sup> Journeyman Sprinkler and Fire Protection Installer with CCCS Certificate	<sup>5</sup> Apprentice Journeyman Sprinkler and Fire Protection Installer with CCCS Certificate	<sup>6</sup> Certified Water Operator with CCCS Certificate	Irrigation System Installer with CCCS Certificate
1.	Carry out a Cross Connection Survey required under this By-law	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>NO</b>	<b>YES</b> Regarding a Fire Protection Process System Only	<b>NO</b>	<b>NO</b>	<b>NO</b>
2.	Test/Repair a Backflow Preventer required under this By-Law	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b>	<b>YES</b> Within a Fire Protection Process System Only	<b>YES</b> Within a Fire Protection Process System Only	<b>YES</b> Within a Municipal Drinking Water System Only	<b>YES</b> Within a Lawn Irrigation System Only

**Footnotes:**

<sup>1</sup>Required to be under the direction of a Professional Engineer

<sup>2</sup>Required to be employed by a Plumbing Contractor

<sup>3</sup>Required to be employed by a Plumbing Contractor and under the direct supervision of a Journeyman Plumber (in-house)

<sup>4</sup>Required to be employed by a Sprinkler and Fire Protection Contractor

<sup>5</sup>Required to be employed by a Sprinkler and Fire Protection Contractor and under the direct supervision of a Journeyman Sprinkler and Fire Protection Installer (in-house)

<sup>6</sup>Required to be employed by City of Barrie Water Operations Branch

For the purposes of Schedule A; "CCCS Certificate" mean a *Cross Connection Control Specialist Certificate*

**APPENDIX “B”**  
**Meeting Notes Backflow By-Law Revisions Discussion**  
**Friday May 26, 2017**  
**9:00am – 10:30am**

**Present:** **Barrie:**  
**J.F. Thompson (JFT); Chris Marchant (CM), Diane Moreau (DM), Brennan Quan (BQ)**  
**Hassey et al:**  
**Colin Hassey (CH), Chris Langford (CL), Ray Duhamel (RD)**

**Absent:** **Michael Hassey (MH)**

	<b>ACTION BY</b>
<p><b>1.</b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- First concern is the multi-residential inspections and how can every cross connection concern be determined without going into every unit and inspecting every unit? How can the potential concerns be seen by only inspecting a few units?</li> <li>- City</li> <li>- Different hazard levels combined with qualified persons skills and experience would determine how thorough they need to investigate. It's based on risk, experience and certifications and qualifications of the qualified persons (QP).</li> <li>- RD</li> <li>- Does it say anywhere that there is some discretion with qualified people with regards to how many units need to be inspected? Where does this number come from? Is it in the survey or by-law or an unwritten rule? Where do the professionals know that they have the right to decide how many to check? Where is that?</li> <li>- City</li> <li>- Qualified persons (as one of their requirements) are required to complete a 5 day Cross Connection Control Specialist (CCCS) certification course; the training received during this course speaks to the hazard levels within the CSA B64 Standard and the risk based cross connection survey process. The decision of which units or how many units to inspect is a dependent on the hazard levels (as established in CSA B64) and the risk to the drinking water system. Before the qualified person even enters the premise they begin to make an assessment. For example, funeral and embalming businesses would be considered high risk and clearly require a detailed survey. Whereas a simple office unit containing a washroom and kitchen would be considered a minor to moderate hazard. The Ontario Water Works Association (OWWA) Cross Connection Control Specialist course re-enforces the use of a risk based approach within the training environment.</li> <li>- When qualified persons conduct inspections they will often ask the owner (or their rep.) for the number of units, if there are any vacant units, and usually inspect those first in an effort to avoid disruptions to tenants. If the units have standard residential water uses (ie: water closet, dish washer, toilet etc.), it is deemed to be a low risk. If each unit is similar and there are several different units, based on knowledge, experience and understanding of cross connections and the risk associated within units, a decision of how many units to access (and survey) can be made. If there are no concerns in first unit visited the QP may wish to look at a few more and determine that it is low risk. The process is risk based in accordance with the hazard levels identified in the CSA B64 standard.</li> </ul>	
<p><b>2.</b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- Suggestion to include the specific uses that are considered more at risk within the by-law.</li> <li>- City</li> <li>- Each property varies (as do the potential hazards) and assessment is made by qualified professionals based on their professional judgement. Potential hazards/risk change and can do so very quickly with even minor plumbing alterations. To provide a specific list of</li> </ul>	

<p>business types or uses within the by-law could actually end up exposing the water system and occupants to increased risk requiring constant updates of the by-law to capture new uses or technologies that could pose a threat.</p> <ul style="list-style-type: none"> <li>- The qualified persons are trained and use professional judgement to determine by individual basis the hazard level, the risk associated and the mitigation measures required.</li> </ul>	
<p><b>3.</b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- How does the city deal with a condominium with regards to definition of owner?</li> <li>- City</li> <li>- Testing is the responsibility of the specific property owner, whoever is listed on taxation records. They will be the person/corporation contacted for a cross connection survey.</li> </ul>	
<p><b>4.</b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- How does the Cross Connection Control Specialist work in terms of surveying within a commercial building environment?</li> <li>- City</li> <li>- The QP Uses professional judgement and considers at the various business types which reveals a lot about what potential hazards exist in each unit and the requisite areas of focus during the survey process.</li> <li>- RD</li> <li>- Do they need to inspect every unit?</li> <li>- City</li> <li>- If the QP feels they need to, it is at the discretion of the qualified person. They can make assumptions of where risk is minimal and focus on where risk is higher, while considering the CSA B64 Standard and the hazard level.</li> </ul>	
<p><b>5.</b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- We have learned a lot talking to you, is there an opportunity to review this and some language and include the risk based approach? Is there an opportunity for us to propose language that explains, or we can work together, to find language that explains the risk based approach in the by-law? There is no linkage to the OWWA CCCS course currently within the by-law.</li> <li>- City</li> <li>- The CCCS course will continue to evolve over time and the by-law cannot be updated constantly to include updated course information. The by-law references qualified persons (QPs) and having relevant and up to date training that includes the assessment of risk based on the hazards present.</li> </ul>	
<p><b>6.</b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- Qualified people were spoken to and no one explained this risk based approach. Is there a risk at trying to share; is there a consultant that that has more recently taken the course and can speak of this risk based approach? Someone who is qualified?</li> <li>- City</li> <li>- Ontario Water Works Association has committees, specifically the Cross Connection Control Committee, that consists of people qualified in the field. The website lists the committees and the stakeholders that are on those committees. If their contact information is unavailable, Chris Marchant can be contacted.</li> <li>- Mark Pinkney is a specific recommendation (due to his considerable tenure with the committee) as well as anyone else listed, they will all likely be able to answer the specific concerns of the course and the risk based approach to survey completion.</li> </ul>	

<p><b>7.</b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- Would the City consider language within the by-law that connects the by-law to the risk based approach taken by qualified persons?</li> <li>- City</li> <li>- Evaluation of the by-law and language used will be considered if the revisions benefit the entire program and all individuals involved, rather than solely one group of individuals at the potential disbenefit of other groups.</li> <li>- The by-law has been in place for 9 years and there have been no problems with survey completion using this approach so far, the current compliance rate is approximately 85%.</li> <li>- There needs to be a positive impact to the program as a whole in order to change language.</li> </ul>	
<p><b>8.</b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- Hassey is looking for clarity that a risk based approach is used in undertaking cross connection surveys and that there is discretionary power in deciding the number of units inspected. Meaning, not necessarily every unit and fixture needs to be assessed.</li> <li>- The concern with the existing by-law will be lessened if the burden of checking every unit is reduced. The issue of whose responsibility the inspection is will not be an issue if the scope of the inspections has lessened. If the burden is reduced, the property owner will take on the responsibility.</li> <li>- What we don't want is an obligation to check every unit.</li> <li>- City</li> <li>- The city is not expecting to have every unit tested but that the risks are reduced to the extent feasible based on the approach.</li> </ul>	
<p><b>9. <i>Adjournment/Next Meeting</i></b></p> <ul style="list-style-type: none"> <li>- RD</li> <li>- We will speak with a representative from the OWWA Cross Connection Control Committee to gain a better understanding of the risk based approach taken when completing cross connection control surveys.</li> <li>- Provide proposed language for consideration as it relates to this approach to survey completion.</li> <li>- City</li> <li>- Is Hassey et al still requesting that the cost of the CCCS not be billed to the property owner but rather to the individual tenants of Multi-Res buildings, as had been requested at our previous meeting?</li> <li>- RD (after conferring with Colin Hassey)</li> <li>- No that is no longer the request.</li> </ul> <p>All It was generally agreed that the meeting was worthwhile and productive</p>	

**APPENDIX "C"**  
**Backflow Prevention By-Law revised wording - Cross Connection Surveys**

**From:** Ray Duhamel [<mailto:RDuhamel@jonesconsulting.com>]  
**Sent:** September 15, 2017 10:16 AM  
**To:** Chris Marchant <[Chris.Marchant@barrie.ca](mailto:Chris.Marchant@barrie.ca)>  
**Cc:** Michael Hassey ([michael@hasseyrealty.com](mailto:michael@hasseyrealty.com)) <[michael@hasseyrealty.com](mailto:michael@hasseyrealty.com)>; Colin Hassey <[colin@hasseyrealty.com](mailto:colin@hasseyrealty.com)>; Chris Langford ([chris@EMEng.com](mailto:chris@EMEng.com)) <[chris@EMEng.com](mailto:chris@EMEng.com)>  
**Subject:** RE: Backflow Prevention By-Law revised wording - Cross Connection Surveys

Hi Chris,

I met with Michael and Colin Hassey this morning to discuss your email from last Friday. Michael and Colin appreciate the work you have done and feel that we are collectively moving in the right direction.

The proposed wording changes satisfy their concerns relating to the multiple residential uses. However, they remain concerned with the requirement to inspect every fixture in every commercial and industrial unit, particularly when the majority of their tenants pose virtually no cross contamination risk.

In an effort to move this forward and find a compromise, they request that you consider modifying the by-law to identify the commercial and industrial uses that would automatically be subject to the standard inspection/survey requirements, and all others would be afforded the same exemption as you have identified for multiple residential. More specifically, we ask you to consider the following:

1. The Zoning By-law contains a full list of all permitted uses in the commercial and industrial zones. All of the uses highlighted on the attached Zoning By-law Tables 6.2 (Commercial) and 7.2 (Industrial) would be subject to the inspection and survey requirements of your proposed by-law.
2. All uses in Tables 6.2 and 7.2 that are not highlighted would be exempt from a cross connection survey unless a severe hazard is known and/or brought to the attention of the qualified person. This exemption would ensure that uses such as professional offices, that pose virtually no risk, would be exempt from the survey.

We look forward to your review of their request, and we would welcome a meeting to discuss further if you have any concerns with this proposal.

Thanks.

Ray

**From:** Chris Marchant [<mailto:Chris.Marchant@barrie.ca>]  
**Sent:** Friday, September 08, 2017 11:05 AM  
**To:** Ray Duhamel <[RDuhamel@jonesconsulting.com](mailto:RDuhamel@jonesconsulting.com)>  
**Subject:** Backflow Prevention By-Law revised wording - Cross Connection Surveys

Good morning Ray,

As just discussed; in an effort to address the concerns raised regarding Cross Control Surveys and what is required/expected of Qualified Persons when completing surveys of ICI/Multi-Residential properties, we have added the following wording under Section 6.0 - *Cross Connection Surveys* within the By-law:

- 6.5 An individual residential dwelling unit within an industrial, commercial, institutional, agricultural, multi-residential property is exempt from a cross connection survey unless a severe hazard is known and/or brought to the attention of the qualified person.

We believe this verbiage aids in clarifying the intention of the survey process and addresses the concerns raised by the Hassey's following our last meeting in May, while continuing to maintain the integrity of the program and the provision of safe, reliable drinking water.

Should you have any questions please give me a shout.

Kind regards,

**Chris Marchant**

Manager of Water Operations

Ext 6145

 Please consider the environment before printing this email.

**APPENDIX "D"**  
**Highlighted Zoning By-law – Table 6.2 and 7.2**

**6.0 COMMERCIAL PROVISIONS** 6-1

**6.0 COMMERCIAL**

**6.1 GENERAL**

No person shall hereafter use any land or erect, *alter*, enlarge or use any *building* or *structure* in any Commercial Zone except in accordance with the provisions of this section and Section 4.0 of this By-law.

**6.2 PERMITTED USES**

6.2.1 The permitted uses in the Commercial Zone are listed in Table 6.2.

Table 6.2					
Uses	Zones				
	Central Area Commercial (C1)	Transition Centre Commercial (C2)	Shopping Centre Commercial (C3)	General Commercial (C4)	Convenience Commercial (C5)
<b>Commercial Uses</b>					
Adult Entertainment Parlour				X	
Arcade or Game Establishment			X		
Automotive Leasing Establishment				X	
Automotive Repair Establishment			X	X	
Automotive Sales Establishment				X	
Automotive Service Station	X	X	X	X	
Bake Shop	X	X	X	X	X
Bank	X	X	X	X	X
Bed and Breakfast Establishment	X	X	X	X	X
Bingo Hall			X	X	
Building Supply Centre	X	X	X	X	
Bus Terminal	X	X		X	
Bus Transfer Station	X	X	X	X	
Car Wash			X	X	
Conference Centre	X	X		X	
Custom Workshop	X	X	X	X	
Data Processing Centre	X	X	X	X	
Drive-Through Facility			X	X	
Entertainment Establishment	X	X	X	X	
Fitness or Health Club	X	X	X	X	
Fitness or Health Club, Local					X
Florist	X	X	X	X	X
Funeral Establishment	X	X		X	
Golf Driving Range (indoor)			X	X	
Hotel, Motel	X	X		X	
Kennel in wholly enclosed building			X	X	

Table 6.2

Uses	Zones				
	Central Area Commercial (C1)	Transition Centre Commercial (C2)	Shopping Centre Commercial (C3)	General Commercial (C4)	Convenience Commercial (C5)
Laundry or Dry Cleaning Depot	X	X	X	X	X
Local Convenience Retail	X	X	X	X	X
Marina				X	
Miniature Golf (outdoor)				X	
Nightclub	X	X		X	
Nursery or Garden Supply Centre	X	X	X	X	
Office	X	X	X	X	X
Office, Medical (if not a pharmacy)	X	X	X	X	X
Outdoor Display and Sales Area	X	X	X	X	
Parking Lot	X	X	X	X	
Personal Service Store	X	X	X	X	X
Photography Studio	X	X	X	X	
Private Club (if not a medical)	X	X	X	X	
Recreational Establishment	X	X	X	X	
Rental Store	X	X	X	X	X
Restaurant	X	X	X	X	X
Retail Store	X	X	X	X	
Service Store	X	X	X	X	X
Shopping Centre	X	X	X	X	
Theatre	X	X	X	X	
Trade Centre	X	X		X	
Veterinary Clinic	X	X	X	X	
<b>Institutional Uses</b>					
Arena	X	X		X	
Art Gallery	X	X	X	X	
Assembly Hall (if not a school)	X	X	X	X	
City Hall	X	X			
Commercial School (if not a school)	X	X	X	X	
Community Centre	X	X	X	X	
Court House	X	X			
Day Nursery	X	X	X	X	X
Garage	X	X			
Library	X	X	X	X	
Museum	X	X			
Nursing Home	X	X			
Place of Worship	X	X	X	X	
Religious Institution	X	X			
Rest Home	X	X			
Retirement Home	X	X			
Senior Citizens Home	X	X			
Social Services Facility	X	X	X	X	

Table 6.2

Uses	Zones				
	Central Area Commercial (C1)	Transition Centre Commercial (C2)	Shopping Centre Commercial (C3)	General Commercial (C4)	Convenience Commercial (C5)
<i>Training and Rehabilitation Centre (if Center)</i>	X	X			
<b>Residential Uses</b>					
<i>Dwelling Unit(s) in conjunction with permitted commercial uses except defined automotive uses</i>	X	X	X	X	X
<i>Residential uses permitted in the Second Density RA2 Zone</i>	X	X	X		
<i>Group Home</i>	X	X			

**6.2.2 Arcade or Game Establishment**

Any arcade or game establishment shall be located a minimum distance of 300m from a school.

**6.2.3 Adult Entertainment Parlour**

Any adult entertainment parlour shall be located a minimum distance of 300m from any Residential or Institutional Zone or from any other adult entertainment parlour.

**6.2.4 Highway 400 Commercial**

Notwithstanding the Permitted Uses in Table 6.2, where a lot adjoins the right-of-way of Highway 400, only an arena, assembly hall, bank, building supply centre, office, conference centre, data processing centre, drive through facility, entertainment establishment, hotel, medical office, motel, nursery or garden supply centre, outdoor display and sales area, recreational establishment, restaurant, retail store, shopping centre, theatre and trade centre shall be permitted.

**6.2.5 Tattoo Parlours, Body Piercing Parlours, Pawn Shops, and Payday Loan Establishments**

Within the Central Area Commercial (C1) and Transition Centre Commercial (C2) Zones, no lot occupied by a tattoo parlour, body piercing parlour, pawn shop, or payday loan establishment shall be located closer than 100 m to another lot occupied by a tattoo parlour, body piercing parlour, pawn shop, or payday loan establishment. (By-law 2011-108)

**6.2.6**

Where nightclubs and restaurants are permitted within the City Centre Revitalization Area, the capacity of the restaurant or nightclub shall not exceed 350 persons which, for the purpose of this section, shall include any seasonal or permanent outdoor commercial patio area in association with the use, and may

## 7.0 INDUSTRIAL

## 7.1 GENERAL

7.1.1 No person shall hereafter use any lands, nor erect, alter, enlarge or use any buildings or structures in any Industrial Zone except in accordance with the provisions of this section and Section 4.0 of this By-law.

## 7.2 PERMITTED USES

7.2.1 The permitted uses in the Industrial Zone are listed in Table 7.2. (By-law 2015-068)

Uses	Zones				
	Business Park (BP) (Formerly EM1-Business Park)	Light Industrial (LI) (Formerly EM1-Business Park and EM3-Service Industrial Zones)	Highway Industrial (HI) (Formerly EM2-Highway 400 Industrial)	General Industrial (GI) (Formerly EM4-General Industrial)	Restricted Industrial (RI) (Formerly EM5-Restricted Industrial)
<b>Industrial Uses</b>					
Abattoir					X
Animal Shelter		X		X	
Bakery		X	X	X	
Concrete Product Manufacturing				X	
Concrete Ready Mix Plant					X
Excavation and Processing of Mineral Aggregate Resources					X
Foundry				X	X
Manufacturing and Processing in Wholly Enclosed Buildings	X	X	X	X	X
Manufacturing, Refining, or Rendering of Noxious Products					X
Material Recovery Facility				X <sup>(1)</sup>	X <sup>(1)</sup>
Medical Marijuana Production Facility				X	
Outdoor Storage		X	X	X	X
Outdoor Storage of Sand, Gravel, Stone, Soil or Salt					X
Printing and Publishing	X	X	X	X	
Rail Transfer Facility		X	X	X	
Recyclable Materials Transfer Station				X <sup>(1)</sup>	X <sup>(1)</sup>
Recycling Facility Concrete					X

Table 7.2

Uses	Zones				
	Business Park (BP) (Formerly EM1-Business Park)	Light Industrial (LI) (Formerly EM1-Business Park and EM3-Service Industrial Zones)	Highway Industrial (HI) (Formerly EM2-Highway 400 Industrial)	General Industrial (GI) (Formerly EM4-General Industrial)	Restricted Industrial (RI) (Formerly EM5-Restricted Industrial)
<i>And/Or Asphalt</i>					
<i>Rental Store Excluding Video and Electronic Rentals</i>		X		X	
<i>Research/Development Facility</i>	X	X	X	X	
<i>Self Storage</i>		X		X	
<i>Truck Terminal</i>				X	
<i>Warehousing in wholly enclosed buildings excluding self storage</i>	X	X	X	X	
<i>Wholesale Establishment</i>		X	X	X	
<b>Commercial Uses</b>					
<i>Accessory Employee Use</i>	X	X	X	X	X
<i>Accessory Retail</i>	X	X	X	X	
<i>Adult Entertainment Parlour</i>				X	
<i>Assembly Hall (if L.I.)</i>	X	X	X		
<i>Automotive Repair Establishment</i>		X		X	
<i>Bank</i>	X	X	X (As part of a multi-tenant building)		
<i>Building Supply Centre <sup>(2)</sup></i>		X	X <sup>(2)</sup> (As part of a multi-tenant building)	X	
<i>Car Wash</i>		X		X	
<i>Conference Centre (L.I.)</i>	X	X	X		
<i>Custom Workshop</i>		X		X	
<i>Data Processing Centre</i>	X	X	X	X	
<i>Drive Through Facility</i>	X	X	X	X	
<i>Dry Cleaning Establishment</i>		X		X	
<i>Fitness or Health Club</i>	X	X			
<i>Golf Driving Range (outdoor)</i>				X	
<i>Hotel, Motel</i>	X	X	X		
<i>Miniature Golf (outdoor)</i>		X			
<i>Nursery or Garden Supply</i>		X		X	

Table 7.2

Uses	Zones				
	Business Park (BP) (Formerly EM1-Business Park)	Light Industrial (LI) (Formerly EM1-Business Park and EM3-Service Industrial Zones)	Highway Industrial (HI) (Formerly EM2-Highway 400 Industrial)	General Industrial (GI) (Formerly EM4-General Industrial)	Restricted Industrial (RI) (Formerly EM5-Restricted Industrial)
Centre					
Office	X	X	X	X	
Office, Medical (i.e. <i>dentist</i> )	X	X	X		
Outdoor Display and Sales Area		X		X	
Photography Studio	X	X			
Private Club (i.e. <i>clubhouse</i> )		X			
Recreational Establishment		X			
Restaurant as part of multi-tenant building	X	X	X	X	
Service Store	X	X		X	
Trade Centre		X	X		
Transmission Establishment, Cellular and Electronic				X	X
Veterinary Clinic	X	X	X	X	
<b>Agricultural Uses</b>					
Heavy Equipment Dealer				X	
Kennel				X	
Kennel in wholly enclosed buildings		X			
<b>Institutional Uses</b>					
Commercial School (i.e. <i>school</i> )	X	X	X		
Day Nursery	X	X			
Industrial School (i.e. <i>school</i> )		X	X	X	
Place of Worship		X			
Funeral Service Provider		X			

(1) Shall be conducted only within a fully enclosed building. No outdoor storage or accessory outdoor storage will be permitted in association with these uses.

(2) Shall be restricted to a multi-tenanted building, to a maximum of 25% of the gross floor area of the total gross floor area of the building, to a maximum of 1000m<sup>2</sup>, and that the provisions of Section 7.2.2 "Accessory Retail Uses" shall not apply. (By-law 2015-068)



**APPENDIX “F”**  
**Summary of Proposed Changes to the Backflow Prevention and Cross Connection Control By-Law**

	Section Number	Current Backflow Prevention and Cross Connection Control By-Law 2010-102	Proposed Revisions, Deletions and Additions	Rationale
1.	ENTIRE ORDINANCE		General housekeeping changes to: Definitions Sections and Section titles	<p>Refined definitions based on the following principles:</p> <ul style="list-style-type: none"> <li>• Limit as much as possible</li> <li>• Avoid defining commonly held meaning</li> <li>• Define common word only when used differently</li> <li>• If only used once, define in Section only</li> </ul> <p>Revised titles on Section 6.0, 8.0, 14.0, and 15.0.</p> <p>Minor edits throughout to:</p> <ul style="list-style-type: none"> <li>• Maintain consistency with definitions</li> <li>• Reference applicable standards</li> <li>• Improve readability</li> </ul>
2.	2.0 DEFINITIONS	"Owner" means the registered owner of the lands and premises or the person or his authorized agent in lawful control of the premises, building or occupancy and who permits the operation or maintenance of any business;	<p>Revise definition of "Owner"</p> <p>"owner" shall include any person or any firm or corporation that is the registered owner of the property under consideration or any agent thereof, a person entitled to a limited estate in land, a trustee in whom land is vested, a committee of the estate of a mentally incompetent person, an executor, an administrator or a guardian;</p> <p>Addition of "individual residential dwelling unit"</p>	Proposed revised definition to provide clarification and consistency with the City's Water/Wastewater Billing By-Law 2011-104. The original definitions did not consider the property owner's overall responsibility of the water supply in a multi-tenant application.

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			"individual residential dwelling unit" means a single room or series of rooms of complementary use, operated under a single tenancy, for residential occupancy, and includes dwelling units, individual guest rooms in motels, hotels, boarding houses, rooming houses and dormitories;	Proposed definition to provide clarification with the requirements of a cross connection survey.
3.	3.0 APPLICATION OF BY-LAW	3.1 This By-law applies to all existing and future industrial, commercial, institutional and multi-residential buildings and structures, except buildings of residential occupancies as described in Division A, Article 1.1.2.4 of Ontario Regulation 350/06 (The Ontario Building Code) or any successor thereof. In addition to and notwithstanding Section 3.1 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 municipal drinking water system. In addition to and notwithstanding Section 3.1 of this By-Law, this By-law applies to plumbing in residential occupancies having connections to the municipal drinking water system <i>and</i> any auxiliary water supply, lawn sprinkler or irrigation system, or fire protection system (except for a residential full flow through fire sprinkler system).	Revise Section in its entirety to read:  3.1 This By-law applies to all <i>properties</i> connected to the <i>municipal drinking water system</i> .	This Section identifies who is applicable to the By-Law requirements and can be interpreted as to permit cross connections in select residential properties.  Proposed change provides clarity in the intent of the By-Law, which is to protect the municipal drinking water system from all sources of contamination.  Residential occupancies containing less than four (4) self-contained units will not be impacted by this change unless an immediate public health concern regarding a backflow incident is identified.
4.	5.0 BACKFLOW PREVENTION		Add text to Section as follows:	Proposed addition as a result of the proposed change to Section 3.0 to

	Section Number	Current Backflow Prevention and Cross Connection Control By-Law 2010-102	Proposed Revisions, Deletions and Additions	Rationale
	AND PROTECTION FROM CONTAMINATION		5.4 In accordance with the provisions of this By-law, every owner of industrial, commercial, institutional, agricultural, multi-residential property shall ensure a testable Backflow Preventer is installed in respect of premise isolation.	provide clarity as to when a testable Backflow Preventer is required.  This change was made to ensure the Backflow Prevention By-Law aligns with the CSA B64.10-11 Standard "Selection and Installation of Backflow Preventers" as industrial, commercial, institutional, agricultural, multi-residential properties primarily fall in the Moderate or Severe hazard category.
5.	6.0 REQUIRED SURVEYS	6.1 Every owner of a building or structure as set out in Section 3 of this By-law shall cause to be carried out a cross connection survey of the plumbing system associated with each of his or her buildings and structures and shall ensure that such survey is undertaken by approved personnel pursuant to the Authorized Functions List (see Schedule "A") at the Owners expense.	Revise Section as follows:  6.1 Every <i>owner of industrial, commercial, institutional, agricultural, multi-residential property</i> shall cause to be carried out a <i>cross connection survey of the plumbing system</i> associated with his or her <i>property</i> and shall ensure that such survey is undertaken by <i>qualified person</i> pursuant to the <i>Authorized Functions List</i> (see Schedule "A") at the <i>owners expense</i> .  6.5 An individual residential dwelling unit within an industrial, commercial, institutional, agricultural, multi-residential property is exempt from a cross connection survey unless a severe hazard is known and/or brought to the attention of the qualified person.	Proposed addition as a result of the proposed change to Section 3.0 to provide clarity as to when a cross connection survey is required.  This change was made to ensure that Section 6.0 is consistent with Section 5.0.  Proposed addition to provide clarification on the requirement of a cross connection survey. The exclusion of the requirement to survey individual residential dwelling units aligns with common practice within the industry.

	Section Number	Current Backflow Prevention and Cross Connection Control By-Law 2010-102	Proposed Revisions, Deletions and Additions	Rationale
6.	7.0 APPLICATION OF STANDARDS AND SELECTION OF METHODS	7.2 Every owner shall ensure that every backflow prevention device required for premise isolation on his or her property is a testable device and is the proper device to be used pursuant to Section 5.2 of this By-law.	Delete Section	Proposed deletion as a result of the proposed addition of Section 5.4.

	Section Number	Current Backflow Prevention and Cross Connection Control By-Law 2010-102	Proposed Revisions, Deletions and Additions	Rationale
7.	8.0 INSTALLATION OF BACKFLOW PREVENTION DEVICES	c) where such device is installed in respect of premise isolation, such device is located within a maximum of 3.0 meters 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 City;	Revise Section as follows:  c) where such device is installed in respect of <i>premise isolation</i> , such device is located within a maximum of 3.0 meters downstream of the <i>water meter</i> , except where circumstances require the device to be installed in an alternative location and such location is to the satisfaction of the <i>City</i> ;	Proposed revision to accommodate flexibility in the location of premise isolation. In certain situations, this will reduce installation costs while maintaining the required level of protection.
		d) where such device is installed in respect of premise isolation, all piping between the water meter and such device is clearly and permanently labelled "no connections permitted";	Revise Section as follows:  d) where such device is installed in respect of <i>premise isolation</i> , all piping between the <i>water meter</i> and such device shall have no connections and is clearly and permanently labelled "no connections permitted" unless otherwise directed by the <i>City</i> ; and	Proposed revision to explicitly address unpermitted connections. The recommendation clarifies the intent of the Section.
		f) where such device is installed in a public pool as defined in the Ontario Building Code (Ontario Regulation 403197) as amended; all exposed water piping within the water treatment service room shall be colour coded by means of: a. painting the entire outer surface of the piping, or b. coloured bands at least 25mm (1 inch) in width that are spaced along the piping at intervals of not more than 1200mm (4 feet 1 inch); c. colour coding referred to in (a) and (b) shall be yellow for chlorine and green for potable water.	Delete Section	Proposed deletion as this is a requirement of the Health Protection and Promotion Act R.R.O 1990, REGULATION 565: Public Pools and is enforced by the Ministry of Health and Long-Term Care.
8.	11.0		Revise section in its entirety to read:	This Section contained no provisions to permit permanent removal of a

	Section Number	Current Backflow Prevention and Cross Connection Control By-Law 2010-102	Proposed Revisions, Deletions and Additions	Rationale
	REMOVAL OF BACKFLOW PREVENTION DEVICES PROHIBITED	11.1 No owner of a building or structure in which a backflow prevention device is installed shall cause or permit the removal of such device or part thereof unless such removal is to replace the device with another device that meets or exceeds the provisions of this Bylaw.	<p>11.1 No <i>person</i> shall remove a <i>Backflow Preventer</i> required under this Bylaw, or any part thereof, after it has been installed, and no <i>owner</i> of a <i>property</i> where such a <i>Backflow Preventer</i> is installed shall cause or permit the removal of such a device, unless such removal is:</p> <ul style="list-style-type: none"> <li>a) to facilitate the repair of the device, with the device replaced immediately after the repair is carried out;</li> <li>b) to replace the device with another one that meets or exceeds the provisions of this By-law;</li> <li>c) a result of the <i>cross connection</i> to which the <i>Backflow Preventer</i> was isolating has been permanently removed; or</li> <li>d) to facilitate the disconnection of the <i>private service</i> from the <i>municipal drinking water system</i> in accordance with the written approval from the <i>City</i>, or any combination of the foregoing</li> </ul> <p>11.2 Whenever a <i>Backflow Preventer</i> required under this By-law has been permanently removed or the type of device has been changed, the <i>owner</i> of the property must notify the <i>City</i> in writing immediately of such change.</p>	Backflow Preventer. The proposed revision is intended to provide a clear understanding on when the removal or replacement of a Backflow Preventer is permitted.

	Section Number	Current Backflow Prevention and Cross Connection Control By-Law 2010-102	Proposed Revisions, Deletions and Additions	Rationale
9.	14.0 PERMITTED PERSON AND AUTHORIZED FUNCTIONS		<p>Add text to Section as follows:</p> <p>14.3 No <i>Qualified Person</i> listed on the <i>Authorized Functions List</i> (see Schedule "A") shall carry out any of the corresponding authorized functions unless the <i>Qualified Person</i> has registered with the <i>City</i>, provided all requested documentation to the <i>City</i>, paid the applicable fee and received a <i>City</i> registration number, all in accordance with the Table set out in Schedule B.</p> <p>14.4 No <i>Qualified Person</i> shall submit any documentation to the <i>City</i> as part of the registration process that contains inaccurate or false information.</p> <p>14.5 The registration with the <i>City</i> referred to in subsection 14.3 is an annual requirement.</p> <p>14.6 The <i>City</i> may suspend or revoke a <i>Qualified Person's</i> designation within the <i>City's</i> Backflow Prevention Program, as described in the "Backflow Qualified Person Policy"; as amended from time to time.</p>	Proposed addition delineates the requirements and responsibilities of the persons authorized to complete functions pertaining to this By-Law.

	Section Number	Current Backflow Prevention and Cross Connection Control By-Law 2010-102	Proposed Revisions, Deletions and Additions	Rationale
10	15.0 HYDRANTS		Add text to Section as follows:  15.2 No connection for water supply, other than a fire protection system, shall be made to a fire protection piping system.	Proposed addition is intended to protect the functionality of the fire protection system. This recommendation stems from best engineering practices.
		15.2 With the exception of water used for fire fighting and municipally approved maintenance or operations, any other use of a City owned, or private fire hydrant for water supply is prohibited without first acquiring a Hydrant Use Permit.  15.3 Hydrant Use Permit holders shall abide by the requirements as set out in the City Hydrant Use Permit Program.  15.4 Any hydrant situated within the road allowance is the property of the City and shall be maintained by the City. Permits will be required for any non-fire use.	Delete Section	Proposed deletion as hydrant use is outlined in the "City of Barrie Water Transmission and Distribution Policies and Design Guidelines"
11	SCHEDULE "A" – AUTHORIZED FUNCTIONS LIST		Revision of table	Simplification of the Authorized Function List for improved readability. The recommendation does not alter the pre-existing authorities.

