COMMITTEE AGENDA

TO	**Infrastructure, Development & Enterprise Committee**
DATE	Tuesday, March 1, 2016
LOCATION	Council Chambers, Guelph City Hall, 1 Carden Street
TIME	5:00 p.m.

DISCLOSURE OF PECUNIARY INTEREST AND GENERAL NATURE THEREOF

CONFIRMATION OF MINUTES – February 2, 2016 Open Meeting Minutes

PRESENTATIONS (Items with no accompanying report)

a) None

CONSENT AGENDA

The following resolutions have been prepared to facilitate the Committee's consideration of the various matters and are suggested for consideration. If the Committee wishes to address a specific report in isolation of the Consent Agenda, please identify the item. The item will be extracted and dealt with separately. The balance of the Infrastructure, Development & Enterprise Committee Consent Agenda will be approved in one resolution.

ITEM	CITY PRESENTATION	DELEGATIONS	TO BE EXTRACTED
IDE-2016.3 Backflow Prevention By-law	Rob Reynen, Chief Building Official		√
IDE-2016.4 2015 Annual and Summary Water Services Report (compliance)			
IDE-2016.5 Sign By-law Variances – 299 Scottsdale Drive			
IDE-2016.6 Sign By-law Variances – 102 Wyndham Street North			
IDE-2016.7 Heritage Redevelopment Reserve Grant Application for 15 Wyndham Street North (Petrie Building)			

Resolution to adopt the balance of the Infrastructure, Development & Enterprise Committee Consent Agenda.

ITEMS EXTRACTED FROM CONSENT AGENDA

Once extracted items are identified, they will be dealt with in the following order:

1) delegations (may include presentations)
2) staff presentations only
3) all others.

STAFF UPDATES AND ANNOUNCEMENTS

ADJOURNMENT

NEXT MEETING – April 5, 2016

Infrastructure, Development & Enterprise Committee
Held in the Council Chambers, Guelph City Hall
Tuesday, February 2, 2016 at 5:00 p.m.

Attendance

Members:	Chair B. Bell	Councillor L. Piper *(arrived at 5:06 p.m.)*
	Mayor C. Guthrie	Councillor M. Salisbury
	Councillor D. Gibson	
Councillors:	Councillor C. Downer	
	Councillor M. MacKinnon	
Staff:	Ms. A. Pappert, CAO	
	Mr. S. Stewart, Deputy CAO – Infrastructure, Development & Enterprise	
	Ms. K. Dedman, City Engineer/General Manager, Engineering and Capital Infrastructure Services	
	Mr. D. Kudo, Manager, Infrastructure Services/Deputy City Engineer	
	Mr. P. Cartwright, General Manager, Business Development & Enterprise	
	Ms. D. Black, Council Committee Coordinator	

Call to Order *(5:00 p.m.)*

Chair Bell called the meeting to order.

Disclosure of Pecuniary Interest and General Nature Thereof

There were no disclosures.

Confirmation of Minutes

1. Moved by Mayor Guthrie
   Seconded by Councillor Salisbury

   That the open meeting minutes of the Infrastructure, Development & Enterprise Committee held on December 8, 2015 be confirmed as recorded.

VOTING IN FAVOUR: Mayor Guthrie, Councillors Bell, Gibson and Salisbury (4)
VOTING AGAINST: (0)

CARRIED

Consent Agenda

The following items were extracted from the February 2, 2016 Consent Agenda to be voted on separately:

IDE-2016.01 Parking Agreement with the Western Hotel Executive Suites Limited, 72 Macdonell Street, Guelph
IDE-2016.02 Stormwater Funding Study

Extracted Consent Items

IDE-2016.01 Parking Agreement with the Western Hotel Executive Suites Limited, 72 Macdonell Street, Guelph

1. Moved by Councillor Gibson
   Seconded by Mayor Guthrie

   1. That Report IDE-BDE-1601 titled "Parking Agreement with the Western Hotel Executive Suites Limited, 72 Macdonell St, Guelph", be received.

   2. That staff be directed to proceed with the finalisation of a parking agreement as described in this report between The Western Hotel Executive Suites Limited and the City of Guelph, subject to the satisfaction of the Deputy CAO, Infrastructure, Development and Enterprise and the City Solicitor, and that the Mayor and Clerk be authorized to execute the agreement.

VOTING IN FAVOUR: Mayor Guthrie, Councillors Bell, Gibson, and Salisbury (4)
VOTING AGAINST: (0)

CARRIED

Councillor Piper arrived at the meeting.

IDE-2016.02 Stormwater Funding Study

Mr. Don Kudo, Manager, Infrastructure Services/Deputy City Engineer, Arun Hindupur, Infrastructure Planning Engineer and Mike Gregory, Consultant, provided a presentation regarding the Stormwater Funding Study.

Staff advised this report will go forward to the March 21st Council meeting and they will provide specific examples to show the dollar amount impacts on the various property types.

The following spoke to this item:
Brent Beam
Hugh Whiteley

3. Moved by Councillor Piper
   Seconded by Councillor Gibson

   1. That Stormwater Funding Study, dated February 2, 2016, be received.

   2. That the transition of the stormwater service from a tax funded service to a dedicated variable user fee based on impervious area be approved.

   3. That staff be directed to proceed with developing an implementation strategy with the following considerations:

      a) Develop a variable user fee based on impervious area using the Equivalent Residential Unit (ERU) methodology;
      b) Determine an appropriate level of service and funding including a phasing schedule;

c) Develop a credit program/policy to allow for property owners the opportunity to reduce fees through the implementation of on-site stormwater measures.

VOTING IN FAVOUR: Mayor Guthrie, Councillors Bell, Gibson, Piper and Salisbury (5)
VOTING AGAINST: (0)

CARRIED

Staff Updates and Announcements

There were no staff updates or announcements.

Adjournment *(7:08 p.m.)*

6. Moved by Councillor Piper
Seconded by Mayor Guthrie

That the meeting be adjourned.

CARRIED

_____
Dolores Black
Council Committee Coordinator

INFRASTRUCTURE, DEVELOPMENT & ENTERPRISE COMMITTEE
CONSENT AGENDA

March 1, 2016

Members of the Infrastructure, Development & Enterprise Committee.

SUMMARY OF REPORTS:

The following resolutions have been prepared to facilitate the Committee's consideration of the various matters and are suggested for consideration. If the Committee wishes to address a specific report in isolation of the Consent Agenda, please identify the item. The item will be extracted and dealt with immediately. The balance of the Infrastructure, Development & Enterprise Committee Consent Agenda will be approved in one resolution.

A Reports from Administrative Staff

REPORT	DIRECTION
IDE-2016.3 BACKFLOW PREVENTION BY-LAW 1. That Report 16-09 from Infrastructure, Development and Enterprise dated March 1, 2016 regarding the Backflow Prevention By-law, be received. 2. That a new, stand-alone, Backflow Prevention By-law, included as Attachment 2 to Report 16-09, be enacted.	Approve
IDE-2016.4 2015 ANNUAL AND SUMMARY WATER SERVICES REPORT (COMPLIANCE) 1. That the 2015 Annual and Summary Water Services Report (compliance) be received.	Receive
IDE-2016.5 SIGN BY-LAW VARIANCES - 299 SCOTTSDALE DRIVE 1. That Report 16-12 from Infrastructure, Development and Enterprise dated March 1, 2016 regarding sign by-law variances for 299 Scottsdale Drive, be received. 2. That the request for variances from the Sign By-law for 299 Scottsdale Drive to permit one (1) illuminated freestanding sign with an area of 7.4m^2 and a height of 2.7m above the adjacent road, be approved.	Approve

IDE-2016.6 SIGN BY-LAW VARIANCES - 102 WYNDHAM STREET NORTH

Approve

1. That Report 16-13 from Infrastructure, Development and Enterprise dated March 1, 2016 regarding sign by-law variances for 102 Wyndham Street North, be received.

2. That the request for variances from the Sign By-law to permit one (1) double faced sign with a sign face area of $0.74m^2$ to be located perpendicular to the building on the second storey of 102 Wyndham Street North, be approved.

IDE-2016.7 HERITAGE REDEVELOPMENT RESERVE GRANT APPLICATION FOR 15 WYNDHAM STREET NORTH (PETRIE BUILDING)

Approve

1. That Report 16-10 regarding the proposed Heritage Redevelopment Reserve grant application for 15 Wyndham Street North (Petrie Building) from Infrastructure, Development and Enterprise dated March 1, 2016, be received.

2. That the Heritage Redevelopment Reserve grant application for 15 Wyndham Street North (Petrie Building) be approved in principle as per the Heritage Redevelopment Reserve Policy with an upset maximum total grant payment limit of $91,000 (or a lesser amount if the actual calculated property tax increase created by the commercial development of the subject property is less than estimated). Installments would be payable annually (approximately $9,100 per year) over a maximum of 10 years.

3. That the City Solicitor be directed to prepare a comprehensive Tax Increment-based Grant Financial Assistance Agreement between the owner and the City of Guelph to the satisfaction of the General Manager of Finance generally in accordance with provisions outlined in Report 16-10.

4. That the City and owner enter into a Heritage Conservation Easement Agreement involving the Petrie Building at 15 Wyndham Street North to the satisfaction of the General Manager of Planning, Urban Design and Building Services and the City Solicitor prior to any grant payments being issued to the owner.

attach.

STAFF REPORT

TO	Infrastructure, Development and Enterprise Committee
SERVICE AREA	Infrastructure, Development and Enterprise
DATE	March 1, 2016
SUBJECT	**Backflow Prevention By-law**
REPORT NUMBER	16-09

EXECUTIVE SUMMARY

PURPOSE OF REPORT
To create an updated, stand-alone, Backflow Prevention By-law.

KEY FINDINGS
The proposed amendments to the Backflow Prevention By-law incorporate recent changes in the Ontario Building Code, CSA Standard B64-10, reflect current industry standards and best practices.

FINANCIAL IMPLICATIONS
None

ACTION REQUIRED
Infrastructure, Development and Enterprise Services Committee to approve the recommended stand-alone Backflow Prevention By-law.

RECOMMENDATION
1. That Report 16-09 from Infrastructure, Development and Enterprise dated March 1, 2016 regarding the Backflow Prevention By-law, be received.
2. That a new, stand-alone, Backflow Prevention By-law, included as Attachment 2 to Report 16-09, be enacted.

BACKGROUND
A new by-law to protect potable water was enacted by City Council in 2000 as the result of a cross connection to the potable water supply in 1997. This cross connection caused contamination to a significant portion of the City's water supply. This by-law created backflow prevention regulations and Building Services subsequently initiated a program to implement these regulations. The by-law was subsequently amended in 2008 as a result of changes to legislation and to reflect current industry standards.

The Ministry of the Environment and Climate Change has recommended that all municipalities protect the public potable water supply from the potential hazards of a cross connection by implementing and maintaining a Backflow Prevention Program. It

is noted this is a voluntary program that a municipality may enact at its discretion. A cross connection is an actual or potential connection between any part of a potable water system and any source of pollution or contamination. A Backflow Prevention Program is designed to eliminate cross connections and protect the potable water supply. The program regulates the selection, installation and maintenance of backflow preventers. A backflow preventer is a mechanical device installed in either the public or private potable water delivery systems designed to prevent the reversal of the normal flow of water within these delivery systems. The program also requires a survey of facilities every 5 years to ensure cross connections are identified and corrected.

Other municipalities which have implemented similar programs include Woodstock, London, Brantford, St. Catherines, Kitchener, Cambridge, Centre Wellington, Midland, Peterborough, Toronto, Halton Region, Waterloo and Barrie. Guelph was the first municipality in the Province to successfully complete the first stage of a Backflow Prevention Program which involved the retrofitting of all industrial, commercial, institutional and large multi-residential (ICI) facilities within the City to comply with the by-law requirements. The City has achieved a compliance rate of over 99% of all known ICI properties. Staff currently monitors almost 2,600 properties containing more than 6,000 individual testable backflow preventers.

Staff consulted with our industry partners (the majority of whom are mechanical contractors), reviewed updated regulations & standards and the results of a testing program for lower hazard installations. This review concluded that a number of enhancements and improvements to the regulations and program should be made that will benefit our customers and increase administrative efficiencies while continuing to protect the City's water supply system. These are indicated in Attachment 1 and the significant changes are noted below. Legal Services also recommended that this by-law should be a stand-alone by-law for administrative reasons and not a schedule to the "Supply of Water By-law".

REPORT

The proposed amendments to the By-law incorporate recent changes in the Ontario Building Code, CSA Standard B64-10, reflect current industry standards & best practices and the results of ongoing testing & research by Building Services staff.

Building Services staff undertook an inspection and testing program where they conducted annual tests on 25 backflow prevention devices in different facilities for 5 years. There were also amendments to the Building Code that reduced protection requirements in certain situations. Based on the results of this program, staff concluded that devices in certain minor hazard locations will provide the required protection and not compromise the safety of the water supply if they are tested every 5 years as opposed to annual testing. The amendments allow for the reduction of the testing frequency to every 5 years for certain minor hazard facilities which can be done in conjunction with the required 5 year surveys. This change will reduce the cost of testing the backflow devices by the owners and

tenants of these facilities. We estimate this will affect approximately 200 individual facilities with a savings of approximately $25,000 a year for our customers.

The amendments contain a new section to address residential properties that contain an auxiliary water supply such as a private well. This approach allows an owner to utilize auxiliary water on their property for water conservation or other purposes while also protecting the potable water.

The amendments allow a property owner to utilize their own qualified employees to perform most functions under this program. Currently, only persons employed by a plumbing contractor were allowed to perform this work. A number of property owners employ their own plumbers and this change will allow those owners to better control the work and should result in a cost savings to them.

A penalty section has been added to the by-law which allows the City to charge a property owner for a violation. Currently, the by-law only allows the City to turn off the water supply for a violation. This option avoids a potential water interruption, especially for a minor offence.

All new and revised sections of the proposed by-law are highlighted in yellow in Attachment 2 to this report. All other sections are as per the current provisions of Schedule A to By-law (2008)-18660. The Supply of Water By-law (1991)-13791 is also being amended to allow the proposed new by-law to be a stand-alone by-law.

CORPORATE STRATEGIC PLAN:

1.3 Build robust systems, structures and frameworks aligned to strategy.
2.2 Deliver public services better.
3.1 Ensure a well-designed, safe, inclusive, appealing and sustainable City.

FINANCIAL IMPLICATIONS:

None

DEPARTMENTAL CONSULTATION:

Legal Services, Water Services

COMMUNICATIONS:

The new by-law and key changes will be communicated to our industry partners and customers involved in Backflow Prevention.

ATTACHMENTS

Attachment 1	Summary of Proposed Significant Amendments
Attachment 2	Proposed New Backflow Prevention By-law with appendices.

STAFF REPORT

Report Author
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Backflow Prevention Officer

Report Author
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Approved By
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ATTACHMENT 1
SUMMARY OF SIGNIFICANT AMENDMENTS TO BACKFLOW PREVENTION BY-LAW

EXISTING CLAUSE	PROPOSED AMENDMENT
nil	2.0 Added new definition for "accredited organization"
nil	2.0 Added new definition for "area isolation"
2.0 "potable water system","qualified person", "zone isolation"	2.0 Amended these definitions for clarification and to reflect current practice.
nil	5.1 Added this clause to reflect current industry standards for qualification.
nil	5.2 Added this clause to reflect current industry standards for qualification.
nil	7.2.2 Added this clause to reference section 8 for device selection.
nil	8. Added new section "Auxiliary Water Supply" to reflect best practices and building code requirements.
nil	9.1 Added to clarify owner's responsibility.
9.0.4	10.0.4 Changed the term "by-pass" to "parallel system" to clarify the intent of this section.
9.2.3	Deleted former clause which was to notify the City if device fails. This is not necessary as any failed devices are to be repaired or replaced immediately.
nil	10.3 Added to allow minor hazard facilities with no additional testable backflow devices other than the premise device, to be tested every 5 years when the building is re-surveyed. Previously these devices required annual testing.
nil	10.4 Added to clarify that certain devices related to auxiliary water require annual testing.
10.0	Deleted former redundant clause as reference is now included in the by-law to the City's Power of Entry By-law.
nil	11.0 Added new requirement that buildings containing auxiliary water require an inspection by the City every 5 years. This is to ensure no additional cross connections have been created.
nil	13 Added new penalty section for non-compliance.
nil	14 Created a stand-alone by-law for administrative reasons.
Appendix "A"	Amended to allow a property owner to use their own qualified employees to perform work. Also allows an apprentice sprinkler fitter to perform certain work.
Appendix "B"	Amended "Office Building" and "Commercial Premises" to allow a minor classification to reduce frequency of annual testing.

Attachment 2
THE CORPORATION OF THE CITY OF GUELPH

By-law Number (2016)-xxxxx

A by-law to amend By-law Number (1991)-13791 as previously amended by By-law Number (2008)-18660, relating to backflow into the City's water public utility.

WHEREAS the City is authorized under the *Municipal Act, 2001* to provide a water public utility and to regulate backflow into the City's water supply;

AND WHEREAS the City has enacted By-law Number (1991)-13791 to regulate the supply of water;

AND WHEREAS the City has enacted By-law Number (2008)-18660 to amend By-law Number (1991)-13791 to regulate backflow into the City's water supply;

AND WHEREAS the City wishes to update its by-laws regulating backflow into its water public utility;

AND WHEREAS the City wishes to create under the *Municipal Act, 2001*, a stand-alone by-law with respect to Backflow Prevention;

AND WHEREAS the City has enacted By-law Number (2009)-18776 to regulate the power of entry onto land and to apply to any by-law of the City passed under the *Municipal Act, 2001*;

NOW THEREFORE THE CORPORATION OF THE CITY OF GUELPH ENACTS AS FOLLOWS:

1. SHORT TITLE

1.0 This by-law may be cited as the "Backflow Prevention By-law".

2. INTERPRETATION

2.0 For the purposes of this by-law, the following terms shall have the corresponding meanings:

"*accredited organization*" means a governing body that certifies individuals in the field of backflow prevention, including The Ontario Water Works Association (OWWA), and American Society Of Sanitary Engineers (ASSE).

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

"*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 by-law;

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

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

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

"*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;

"*City*" means the Corporation of the City of Guelph and includes its employees, servants and agents;

"*cross connection*" means any actual or potential connection between a system providing potable water 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 *City* containing information related to the types of *cross connections* 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 *B64.10-11/B64.10.1-11 Selection and installation of backflow preventers/Maintenance and field testing of backflow preventers* published in 2011 by the Canadian Standards Association, or any 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 system*" means water that is supplied by the *City;*

"*premise isolation*" means isolation of the water located within a *building* or *structure* from the *City's* water supply;

"*property"* means any land within the City of Guelph and includes all *buildings* or *structures*;

"*qualified person"* means a person who is certified by an *accredited organization*;

"*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* acceptable to the *City* 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 kit. 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 *City* containing information related to the make, model, serial number, size, type, location, purpose, installation address and test history of the *backflow prevention device*;

"*untreated water*" means any water not subject to the requirements of the Safe Drinking Water Act, and/or water that is not under the direct control of the Water Purveyor;

"*water meter*" means the *water meter* installed within a premises to record the amount of water supplied to such premises by the *City*; and

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

3. APPLICATION OF BY-LAW

3.0 This by-law applies to existing 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 332/12 (the Ontario Building Code) or any successor thereof.

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 system*.

4. *CROSS CONNECTION* PROHIBITED

4.0 No person or *owner* shall connect, cause to be connected, or allow to remain connected to the *City's 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, area isolation and zone isolation* in every *building* or *structure*.

5. PERSONS PERMITTED TO CARRY OUT WORK

5.0 Only the persons listed in the a*uthorized functions list* shall carry out the corresponding functions set out in such list.

5.1 Every *qualified person* shall complete and pass a cross-connection control course in backflow preventer testing, and shall have a certificate issued by an *accredited organization*.

5.2 Every *qualified person* must maintain active status with an *accredited organization* and provide proof of same to *City*.

6. APPLICATION OF *CSA STANDARD*

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 by-law are in conflict, the provisions of this by-law 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 *City*, 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:

7.0.1 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

7.0.2 shall ensure that the completed *cross connection control survey form* is provided to the *City* within 14 days of the survey being conducted.

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*, *area or zone isolation* shall be determined:

7.2.1 using the *Selection Guide*,

7.2.2 from section 8 of this by-law, or

7.2.3 when the type of *cross connection* is not identified in the *selection guide*, by the *City;*

7.3 Despite section 7.2 of this by-law, the *City* 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 *City* may permit an existing *backflow prevention device* if previously approved and as long as the safety of the *potable water system* is maintained to the satisfaction of the *City* 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. AUXILIARY WATER SUPPLY

8.0 Buildings of residential occupancy that are exempted from this by-law in section 3.0, are required to be protected if they have access to an *auxiliary water supply.*

8.0.1 *Premise isolation* shall be provided by a dual check valve.

8.0.2 The *potable water system* shall be protected by a dual check valve for *source isolation* where a clothes washer is supplied by both an *auxiliary water supply* and a *potable water system.*

8.0.3 The *potable water system* shall be protected by a reduced pressure backflow assembly or an air gap for *source isolation* where make up water is provided for an *auxiliary water supply.*

8.1 Buildings that are not supplied by the *potable water system* shall have all *cross connections* protected.

9. INSTALLATION OF *BACKFLOW PREVENTION DEVICES*

9.0 Every person installing a *backflow prevention device* shall ensure that:

9.0.1 such device is installed in accordance with manufacturers specifications and the requirements of the *CSA Standard*;

9.0.2 such device is located in such a manner so that in the event of *backflow* the device prevents contamination of the *potable water system*;

9.0.3 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 *City*;

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

9.0.5 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 labeled "non-potable water".

9.1 Every *owner* shall ensure that a backflow prevention device is installed where required by this by-law.

9.2 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.

10. TESTING OF DEVICES

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

10.0.1 Except as permitted in section 10.3 and 10.4, such device is tested by a *qualified person* when it is first installed and annually thereafter or when requested by the *City* and also when it is cleaned, repaired, overhauled or relocated;

10.0.2 a *test report* is provided to the *City* within 14 days of the test being conducted;

10.0.3 in the event that such device is malfunctioning or otherwise not in proper working order, the device is immediately repaired or replaced; and

10.0.4 in the event that the water supply to the device cannot be shut down in order to facilitate annual testing, a parallel system shall be installed, with a suitable *backflow prevention device* installed to allow for annual testing of both devices.

10.1 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.

10.2 Every person who tests a *backflow prevention device* shall:

10.2.1 provide a legible *test report* to the *owner* in respect of such test;

10.2.2 upon completing such test, complete and affix a *test tag* to the device or immediately adjacent to the device on the piping connected thereto.

10.3 Any building with *premise isolation* that is considered a minor hazard and has no other *cross connections* that require a testable device may have its *premise isolation* device tested every 5 years.

10.4 Buildings with an *auxiliary water supply* referenced in section 8 of this by-law with a reduced pressure backflow assembly shall have the device tested annually.

11. INSPECTIONS

11.0 Buildings with an *auxiliary water supply* referenced in section 8 of this by-law shall be inspected by the *City* every 5 years to ensure no other *cross connections* exist.

12. GENERAL PROVISIONS

12.0 In addition to any other provision 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 of a *cross connection.*

12.1 Where an *owner* does not comply with any provision of this by-law, the *City* may:

12.1.1 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;

12.1.2 shut off the water supply to the *property* or any portion thereof until such time as all provisions of this by-law are met.

12.2 Appendices "A" & "B" shall form part of this by-Law.

13 PENALTIES

13.0 Every person who contravenes any provision of this by-law is guilty of an offence.

13.1 A person convicted of an offence under this by-law is liable, on a first conviction, to a fine of not more than $10,000 and, on a subsequent conviction, to a fine of not more than $25,000.

14 AMENDING PRIOR BY-LAWS

14.0 By-law Number (1991)-13791, as amended by By-law Number (2008)-18660, be and hereby is amended by deleting section 33 in its entirety and Schedule "A" in its entirety.

APPENDIX "A"

Of City of Guelph By-law Number 2016-xxxxx

AUTHORIZED FUNCTIONS LIST

ITEM	FUNCTION	Journeyperson Plumber with Tester's License	* Apprentice Plumber with Tester's License	Journeyperson Sprinkler and Fire Protection Installer with a Tester's License	**Apprentice Fire Sprinkler and Fire Protection Installer 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	Repair 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 work under the direct supervision of a Journeyperson Plumber.
** Required to work under the direct supervision of a Journeyperson Sprinkler Fitter.

APPENDIX "B"

Of City of Guelph By-law Number (2016)-xxxxx

BACKFLOW PREVENTION DEVICE SELECTION GUIDE

INTERPRETATION

In addition to those terms defined in section 2.0 of By-law "A", 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, air space type (ASVB)" means a manufactured device with a visible integral space between the inlet and outlet of the fitting that prevents backflow;

"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;

BACKFLOW PREVENTION GUIDE TO DEGREE OF HAZARD

Type of *Cross Connection*	Degree of Hazard	Type of *Cross Connection*	Degree of Hazard
Agricultural chemicals (sprayers)	Severe	Garbage disposal unit	Severe
Air compressor oil cooler	Moderate	Garbage can washer	Severe
Animal watering	Moderate	Heat Exchanger	Minor to Severe
Aspirator (toxic)	Severe	Heating System (copper/plastic; no chemicals)	Minor
Aspirator (non-toxic)	Moderate	Heating System (no chemicals added)	Moderate
Autoclave	Severe	Heating System (chemicals added)	Severe
Autopsy and mortuary equipment	Severe	Heating System (single family dwelling)	Moderate
Auxiliary water supply	Severe	Hose bib, sediment faucet	Minor to Severe
Baptistery	Moderate	Hose bib, sediment faucet, connected to high hazard	Severe
Basin	Moderate	Hose bib, sediment faucet (residential)	Minor to Moderate
Bathtub (all)	Moderate	Humidifier	Moderate
Bedpan washer	Severe	Humidifier with sump	Severe
Beverage dispensing equipment (no carbonator)	Minor	Hydrotherapy bath	Moderate
Beverage dispensing equipment (with carbonator)	Moderate	Ice Machine for commercial restaurant	Moderate to Severe
Bidet	Moderate to Severe	Ice making equipment for sports arena	Severe
Bottle washer	Moderate to Severe	Industrial fluid system	Severe
Bread making equipment	Minor to Moderate	Irrigation system (chemical injected)	Severe
Canopy washer	Severe	Irrigation system (no chemical added)	Moderate
Chemical feed tank	Severe	Lab bench equipment (toxic)	Severe
Chiller tank (no chemical)	Moderate to Severe	Lab bench equipment (non toxic)	Minor
Chiller tank (with chemical)	Severe	Laboratory	Severe
Chlorinator	Severe	Laboratory Faucet	Moderate to Severe
Clothes washer (residential)	Moderate	Laundry, commercial coin-operated	Moderate
Coffee machine	Minor	Laundry machine, commercial	Moderate
Condensate tank (top feed)	Moderate	Laundry machine, residential	Minor
Condensate tank	Severe	Laundry tub faucet with hose bib connection	Moderate
Cooking kettle	Minor	Lavatory	Moderate
Cooling condenser (solenoid upstream)	Minor	Lethal substance	Severe
Cooling condenser (solenoid downstream)	Severe	Livestock equipment	Severe
Cooling tower	Severe	Mixing tee with steam and water	Moderate
De-aerator (top feed)	Moderate	Mop sink faucet with hose bib connection	Moderate
De-aerator (bottom feed)	Severe	Mortuary or Morgue	Severe
Degreasing equipment system	Severe	Non-*potable water*	Severe
Deionized water	Severe	Optician or Ophthalmology equipment	Minor to Moderate
Dental Vacuum pump	Severe	Pedicure Chair	Moderate to Severe
		Photo lab sink	Severe
Dental Cuspidor (with internal air gap)	Minor	Pipette washer	Severe
Dental Cuspidor (no air gap)	Severe	Piping to chemical dispensers	Minor to Severe
Dental Delivery system	Minor	Plating tank	Severe
Detergent dispenser	Severe	Potato peeler	Moderate
Dipper well in ice-cream parlour or restaurant	Moderate	Poultry barn	Severe
Dish rinse unit with flex hose	Moderate	Pressure washer (no aspirator)	Minor
Dishwasher (commercial)	Moderate	Pressure washer (with aspirator)	Severe
Dishwasher (residential)	Minor to Moderate	Private fire hydrant	Moderate
Distiller	Minor	Private water source	Severe
Dockside Marine Facility	Severe	Pump primer line (toxic)	Severe
Dry sprinkler or standpipe system	Moderate	Pump primer line (non-toxic)	Moderate
Fire Hydrant	Moderate	Radiator flushing equipment	Severe
Flexible shower head with hose	Minor to Severe	Restricted area	Severe
Floor drain with flushing rim	Severe	Reverse osmosis	Minor
Flush tank	Moderate	Reverse osmosis with backwashing	Moderate
Flushing equipment device	Severe	Reverse osmosis with chemical cleaning	Severe
Flushometer	Severe	Serrated faucet	Severe
Fountain, ornamental	Moderate to Severe	Sewage ejector	Severe
Fountain, ornamental (chemical added)	Severe	Sewage pump	Severe
Fume hood	Severe	Shampoo sink	Moderate

BACKFLOW PREVENTION GUIDE TO DEGREE OF HAZARD

Type of *Cross Connection*	Degree of Hazard	Type of *Cross Connection*	Degree of Hazard
Sizing vat	Severe	Swimming pool (direct connection)	Moderate
Solar hot water systems (residential - no chemicals added)	Minor to Moderate	Swimming pool makeup tank	Moderate
Solar hot water systems (residential - relatively harmless heat transfer fluid)	Minor to Moderate	Teeth cleaning equipment (veterinary type)	Moderate
Solar hot water systems (residential - toxic heat transfer fluid)	Severe	Trap primer	Severe
Solar hot water systems (commercial - single wall heat exchanger)	Moderate to Severe	Vending machine with no carbonators	Minor
Solar hot water systems (all types double wall heat exchanger)	Minor	Wash rack	Severe
Solar hot water systems (make-up water connection to the heat transfer piping loop)	Minor to Severe	Wash tank	Moderate
Solution tank	Severe	Wash tank (toxic)	Severe
Spa or hot tub	Moderate	Water closet (tank type)(N/A if constructed after 1995)	Moderate
Specimen tank	Severe	Water closet (flushometer type)	Moderate
Steam table	Minor to Moderate	Water hauling equipment (non-toxic)	Moderate
Steam generator	Moderate	Water hauling equipment (toxic)	Severe
Steam cleaner	Moderate	Water softener, commercial	Minor
Sterilizer (condensate cooling only)	Moderate	Water softener drain	Moderate
Sterilizer (connection into chamber)	Severe	Wok table (for oriental cooking with submerged inlet	Moderate
Still	Minor	X-ray equipment	Severe
Swimming pool (residential)	Minor		
Swimming pool (other than residential)	Moderate		

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 NFPA-13. These are best described as food-grade chemicals.
- Antifreeze solutions must be **tested** to verify compliance with above conditions. Any other antifreeze solution 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 any *backflow prevention device* 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		System Not Made with *Potable Water* System Materials	
		Minor Hazard(2) Residential Partial Flow-Through System	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
B64.4.1	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*".

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 feed lot	Moderate to Severe	Petroleum processing or storage facility	Severe
Animal stock yard	Moderate to Severe	Pharmaceutical manufacturing facility	Severe
Apartment *building* (within the scope of Part 3 of the Ontario Building Code)	Moderate	Photo processing facility	Severe
Aquaculture farm	Severe	Plant using radioactive material	Severe
Aquarium (public)	Severe	Plastic manufacturing plant	Severe
Arena	Moderate	Plating shop	Severe
Asphalt plant	Severe	Poultry farm	Severe
Auto body shop	Severe	Power generating facility	Severe
Auto dealership	Moderate	Premise where access prohibited or restricted	Severe
Automotive Plant	Severe	Printing plant	Severe
Automotive repair shop	Severe	Pulp and/or paper plant	Severe
Beverage processing plant	Severe	Radiator shop	Severe
Blood clinic	Severe	Recycling facility	Severe
Camp site	Moderate	Refinery, petroleum processing	Severe
Camp site with RV hookups or dump station	Severe	Rendering facility	Severe
Car wash	Severe	Research *building*	Severe
Church	Moderate	Residential premises-multi-tenant	Moderate
College	Moderate	Restaurant	Moderate
Commercial premises	Minor to Severe	School	Moderate
Concrete plant	Severe	Sewage dump station	Severe
Dental office	Moderate	Sewage treatment plant	Severe
Dental surgery facility	Severe	Shopping Mall	Moderate
Dockside marine facility	Severe	Steam boiler plant	Severe
Dry cleaning plant	Severe	Steel manufacturing plant	Severe
Dry cleaning facility (no dry cleaning process on premise)	Moderate	Storage Warehouse	Moderate
Duplex housing with shared service	Minor	Swimming pool facility	Moderate
Dye plant	Severe	Technical institute	Moderate
Exhibition ground	Severe	Townhouse (shared service)	Minor
Farm	Moderate to Severe	Track-side facilities for trains	Severe
Film processing facility	Severe	University	Moderate to Severe
Fire Service main connected to more than one of the following different sources of supply: (i) *City* water supply system (ii) a private water supply system or (iii) a source of non-*potable water*	Moderate to Severe	Veterinary clinic	Moderate to Severe
Fire station	Moderate to Severe	Veterinary clinic (special equipment)	Severe
Fish farm or hatchery	Severe	Waste disposal	Severe
Food processing plant	Severe	Waste water facility	Severe
Fuel dispensing facility	moderate	Waste water pump station	Severe
Funeral Home	Moderate to Severe	Waste water treatment plant	Severe
Garbage transfer facility	Severe	Water filling station	Severe
Golf course	Moderate to Severe	Water park	Moderate
Grocer	Moderate	Water treatment plant	Severe
Hair salon	Moderate	Water treatment pump station	Severe
Hospital	Severe	Zoo	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		
Multi-service interconnected Facility	Moderate		
Nursing Home	Moderate		
Office Building	Minor to Moderate		
Oil Refinery	Severe		

Selection Guide for *Backflow* Preventers					
		Degree of Hazard			
Type of Device	***CSA Standard* Designation**	**Minor**	**Moderate**	**Severe**	**Device Under Continuous Pressure**
Air gap	--	✓	✓	✓	No
ASVB	B64.1.4	✓	✓	✓	No
AVB	B64.1.1	✓	✓	✓*	No
DCAP	B64.3	✓	✓†	--	Yes
DCAPC	B64.3.1	✓	✓	--	Yes
DCVA	B64.5	✓	✓	--	Yes
DuC	B64.6	✓	--	--	Yes
DuCV	B64.8	✓	✓†	--	Yes
HCDVB	B64.2.1.1	✓	✓†	✓*	No
HCVB	B64.2	✓	✓†	✓*	No
LFVB	B64.7	✓	✓†	✓*	No
PVB	B64.1.2	✓	✓	✓	Yes
RP	B64.4	✓	✓	✓	Yes
SRPVB	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, area protection with a DCVA *backflow* preventer, or an *air gap* shall also be required.

STAFF REPORT

TO	Infrastructure, Development and Enterprise Committee
SERVICE AREA	Infrastructure, Development and Enterprise
DATE	March 1, 2016
SUBJECT	**2015 Annual and Summary Water Services Report (compliance)**
REPORT NUMBER	

EXECUTIVE SUMMARY

PURPOSE OF REPORT

As required by provincial legislation, the 2015 Annual and Summary Water Services report (the Report) is a compilation of information that demonstrates to the water system Owner and all stakeholders the ongoing delivery of an adequate and safe supply of drinking water to customers located within the City of Guelph Drinking Water System (Guelph DWS) and the Gazer Mooney Subdivision Distribution System (Gazer Mooney SDS, located in the Township of Guelph/Eramosa). Through the Report, system owners, senior leaders, and customers are informed of the performance of Water Services for the period January 1 to December 31, 2015.

KEY FINDINGS

In 2015, Water Services maintained a high level of regulatory compliance and fulfilled its mandate to deliver both an adequate and safe supply of drinking water to its customers in the City of Guelph and Guelph/Eramosa Township. A score of 88.69% was achieved in the 2014-2015 Ministry of the Environment and Climate Change (MOECC) Annual Inspection Report for the Guelph DWS. While the City always strives to achieve a score of 100%, a score of 88.69% related to administrative issues does not represent any impacts to public health.

A score of 100% was achieved in the 2015-2016 MOECC Annual Inspection Report for the Gazer Mooney SDS.

FINANCIAL IMPLICATIONS

All financial implications related to the Report are accounted for in the Council approved Water Services Operating and Capital Budgets.

ACTION REQUIRED

As mandated by provincial regulation under Section 19 of the Safe Drinking Water Act 2002: Standard of Care for Municipal Drinking Water System, the Guelph City Council, as the Owner of the system receives the findings of the Annual Water Systems Report for 2015.

STAFF REPORT

RECOMMENDATION

1. That Guelph City Council receives the 2015 Annual and Summary Water Services Report (compliance).

BACKGROUND

As required by provincial legislation, Water Services is presenting information to support the Owner's compliance with Section 19 of the ***Safe Drinking Water Act, 2002: Standard of care, municipal drinking water system***. The "Owner" is defined as City Council, the CAO, and the Deputy CAO – Infrastructure, Development and Enterprise. Under the standard of care, the Owner is required to receive annual water system reports prepared by the system operator (Guelph Water Services).

REPORT

Water Services is requesting that the Owners review the attached ***Summary Water Services Report – Report Card.*** The full report is available on the City's website at: http://guelph.ca/living/environment/water/drinking-water/water-testing/. Click on the link for "Annual & Summary Water Services Report – 2015". Significant highlights of the report are as follows:

- Water Services had no health-related exceedances of provincial water quality parameters;
- Water Services took reasonable precaution and effort to comply with all provincial regulations;
- Water Services (as the Operating Authority) maintained the requirements for Accreditation, as required under the provincial Municipal Drinking Water Licensing Program, with no significant issues;
- All regulatory microbiological and chemical quality samples were taken by certified operators;
- All tests were performed by accredited, licensed laboratories on water samples collected throughout the drinking water system;
- The system provided approximately 17.1 million cubic meters of treated water (17.1 billion litres) in 2015;
- Implementation of SDWA, Section 19 "Standard of Care" - On December 31, 2012, Standard of Care provisions under Section 19 of the Safe Drinking Water Act (SDWA), 2002, came into force. City staff, the Mayor and Council received training on this subject in May and September, 2015;
- Water Services experienced two events that were considered "adverse water quality incidents" as defined by the Safe Drinking Water Act; all events were resolved to the satisfaction of the MOECC (see Table 1 in the Report);

- There were four incidents of non-compliance (described in Section A of the Report) associated with the Guelph DWS in 2015. The MOECC Drinking Water Inspector endorsed the City's prudent corrective action in response to these incidents and requires no further action. Staff are taking additional steps in 2016 to prevent these incidents from reoccurring with the goal of again achieving an inspection score of 100% in 2016 (previously achieved in 2014).
- A score of 88.69% was achieved in the 2014-2015 MOECC Annual Inspection Report for the Guelph DWS. While the City always strives to achieve a score of 100%, a score of 88.69% related to administrative issues does not represent any impacts to public health.
- A score of 100% was achieved in the 2015-2016 MOECC Annual Inspection Report for the Gazer Mooney SDS.

CORPORATE STRATEGIC PLAN

1.2 Develop collaborative work teams and apply whole systems thinking to deliver creative solutions;
1.3 Build robust systems, structures and frameworks aligned to strategy;
2.3 Ensure accountability, transparency and engagement.

DEPARTMENTAL CONSULTATION

Feedback from Water Services staff (e.g. management, supervisory, compliance, conformance, technical, and operations) was requested on the contents of this report. Comments and feedback submitted have been incorporated into this report.

COMMUNICATIONS

Water Services will continue to make regular reports to Council (i.e. the drinking water system Owners) on the continuing suitability, adequacy and effectiveness of Water Services' quality management system to ensure the ongoing delivery of an adequate and safe supply of drinking water. Copies of both the Report and Report Card are available on the City's web site.

ATTACHMENTS

Attachment 1 Annual & Summary Water Services Report – Report Card
Attachment 2 The full report is available on the City's website at: http://guelph.ca/living/environment/water/drinking-water/water-testing/
Click on the link for "Annual & Summary Water Services Report – 2015".

STAFF REPORT

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CITY OF Guelph

Making a Difference

Water Services 2015 Report Card

As per the Accessibility for Ontarians with Disabilities Act (AODA), this document is available in an alternate format by e-mailing waterservices@guelph.ca or by calling 519-837-5627.

INTRODUCTION

This report card provides a summary of the City of Guelph's 2015 Water Services Annual & Summary Report. The full report is available at guelph.ca/tapwater. If you have questions about this report card, please contact Water Services at waterservices@guelph.ca or 519-837-5627.

This report card includes information from both the **Guelph Drinking Water System** and the **Gazer Mooney Subdivision Distribution System** for the period of January 1 to December 31, 2015 (unless otherwise noted). This report card provides information related to responsibilities and accomplishments of the Water Services division. This report card also shows Water Services' results on key performance indicators.

REPORT CONTENTS

GOVERNANCE STRUCTURE

Departments at the City of Guelph report to Council through standing committees.

Water Services is part of the Infrastructure, Development and Enterprise (IDE) Service Area and reports through the IDE standing committee of Council.

Guelph's water utility owners are City Council, the CAO and the Deputy CAO–IDE. They provide oversight of the work of Water Services including:

- Financial plans
- Budgets: resources and staffing
- Infrastructure master planning
- Major programs
- Emergency response
- Customer service

The responsibility for **safe drinking water** is shared by:

The Province:
- Ministry of the Environment and Climate Change (MOECC); and
- Ministry of Health and Long-term Care (MOHLC)

Public Health:
- Wellington-Dufferin-Guelph Public Health (WDGPH)

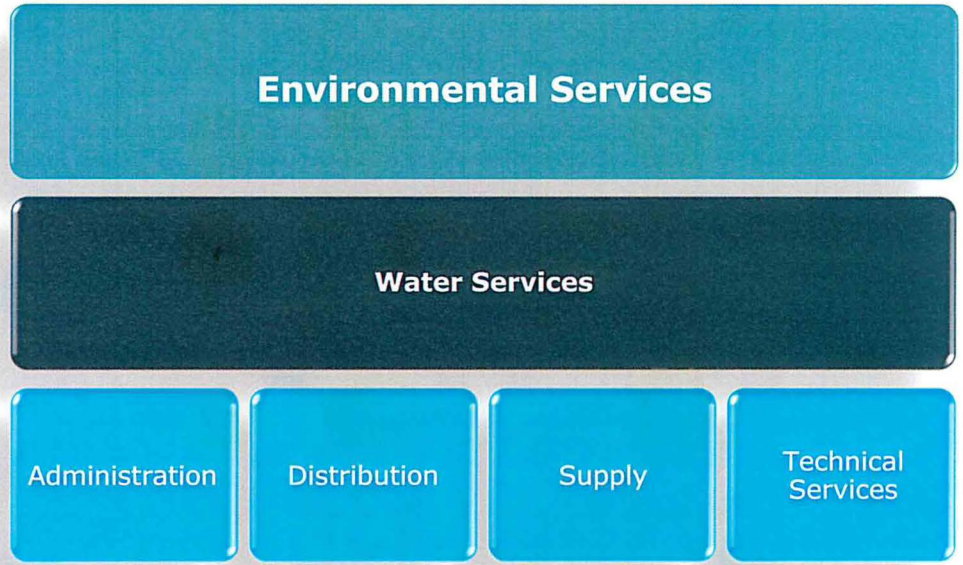
The Municipality's Drinking Water System Owner:
- City of Guelph Council, CAO and Deputy CAO–IDE (Guelph Drinking Water System)
- Township of Guelph / Eramosa (Gazer Mooney Subdivision Distribution System)

The Operating Authority:
- City of Guelph Water Services ("Accredited Operating Authority")

WATER SERVICES STRUCTURE

Water Services work falls into four key areas: Administration, Distribution, Supply and Technical Services. Work provided by these areas is described below.

Water Services Structure



Administration

- Customer Service – phone, email, social media, walk-in
- Locates Program Administration
- Payroll and Purchasing Administration
- Budget Administration
- Management Team Support
- Metering and Billing Administration

Distribution

- Design and build water distribution infrastructure (e.g. feeder mains, water mains, service lines)
- Replace aging infrastructure
- Repair water main breaks
- Flush and clean water mains, and test fire hydrants
- Continuously monitor the water distribution system

Supply

- Monitor water quality monitoring and provide treatment
- Monitor supply facilities (e.g. wells)
- Ensure continuous power throughout water system
- Provide security of our water supply
- All staff in this area are Provincially certified operators

Technical Services

- Operational Project support and management
- Capital Project support and management
- Compliance and Conformance support
- Training and Certification support
- Health and Safety program support

GUELPH'S MULTI-BARRIER APPROACH TO WATER SUPPLY

Guelph is a groundwater community: our water comes from deep underground and is pumped from wells at Arkell Springs and in and around our city. Guelph has:

- 31 water facilities (e.g. wells, treatment stations, storage facilities);
- 21 operational groundwater wells; and
- a shallow groundwater collector system.

1. Source water protection

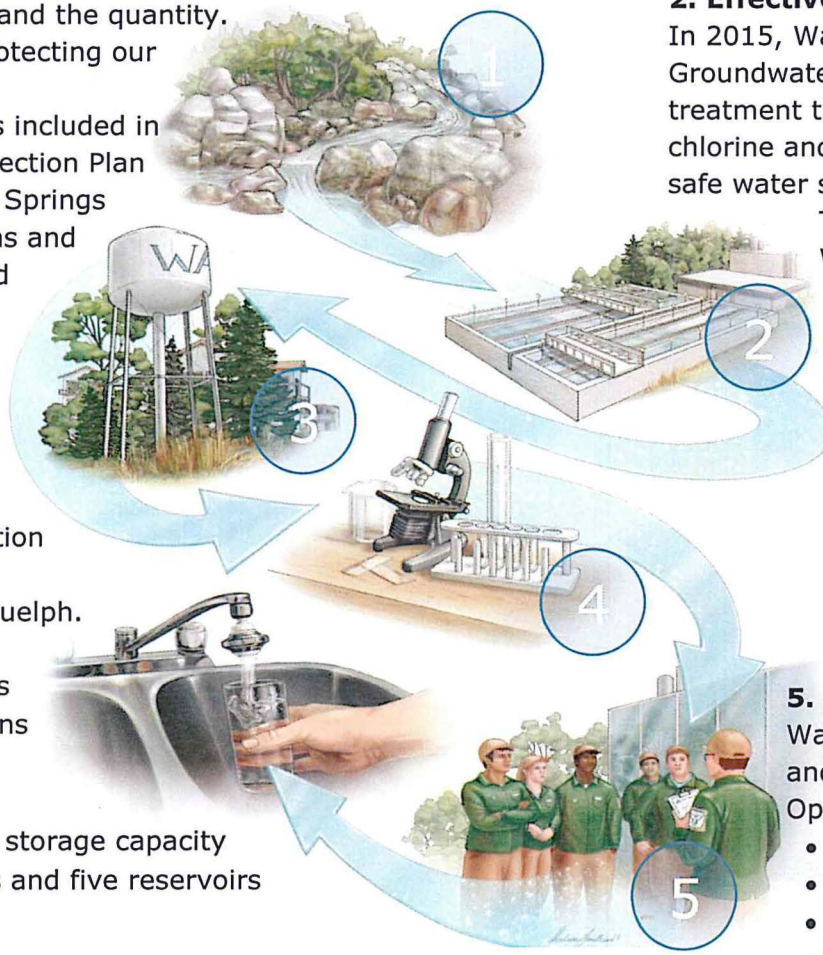
Source Water Protection is the protection of our water supply, both the quality and the quantity. Here are some ways we are protecting our source water:

- Source protection policies as included in the Grand River Source Protection Plan
- Forest stewardship at Arkell Springs
- Water conservation programs and education for businesses and residents
- Outside Water Use By-law
- Leak detection program

3. Secure distribution

Water Services provides continuous and secure distribution of water to more than 42,000 residences and businesses in Guelph. This system includes:

- 6.38 kilometres of aqueducts
- 549 kilometres of water mains
- 4,135 water main valves
- 2,749 fire hydrants
- about 50 million litres water storage capacity including three water towers and five reservoirs



2. Effective treatment

In 2015, Water Services treated 17.1 billion litres of water. Groundwater is naturally filtered and generally requires less treatment than surface water supplies. Water Services uses chlorine and/or UV lights to destroy bacteria and ensure a safe water supply.

This treatment is applied at wells or at the F.M. Woods pumping station.

4. Effective monitoring & reporting

Water Services continuously monitors various water supply factors including quality, quantity and pressure. Water quality samples are taken by certified operators and tests are performed by accredited, licensed laboratories, as required by Safe Drinking Water Act.

5. Effective management

Water Services provides around-the-clock service and is continuously improving operations. Operation includes regulatory certifications:

- Municipal Drinking Water Licence;
- Drinking Water Works Permit;
- Permits to Take Water;
- Drinking Water Quality Management Standard accreditation;
- Certified operators; and
- NSF certification of parts and chemicals.

Image courtesy of Conservation Ontario

Map of Guelph's Drinking Water System

Our Drinking Water System has two pressure zones. This shows the divide between these two zones as well as the location of booster stations, wells, storage reservoirs and water towers.

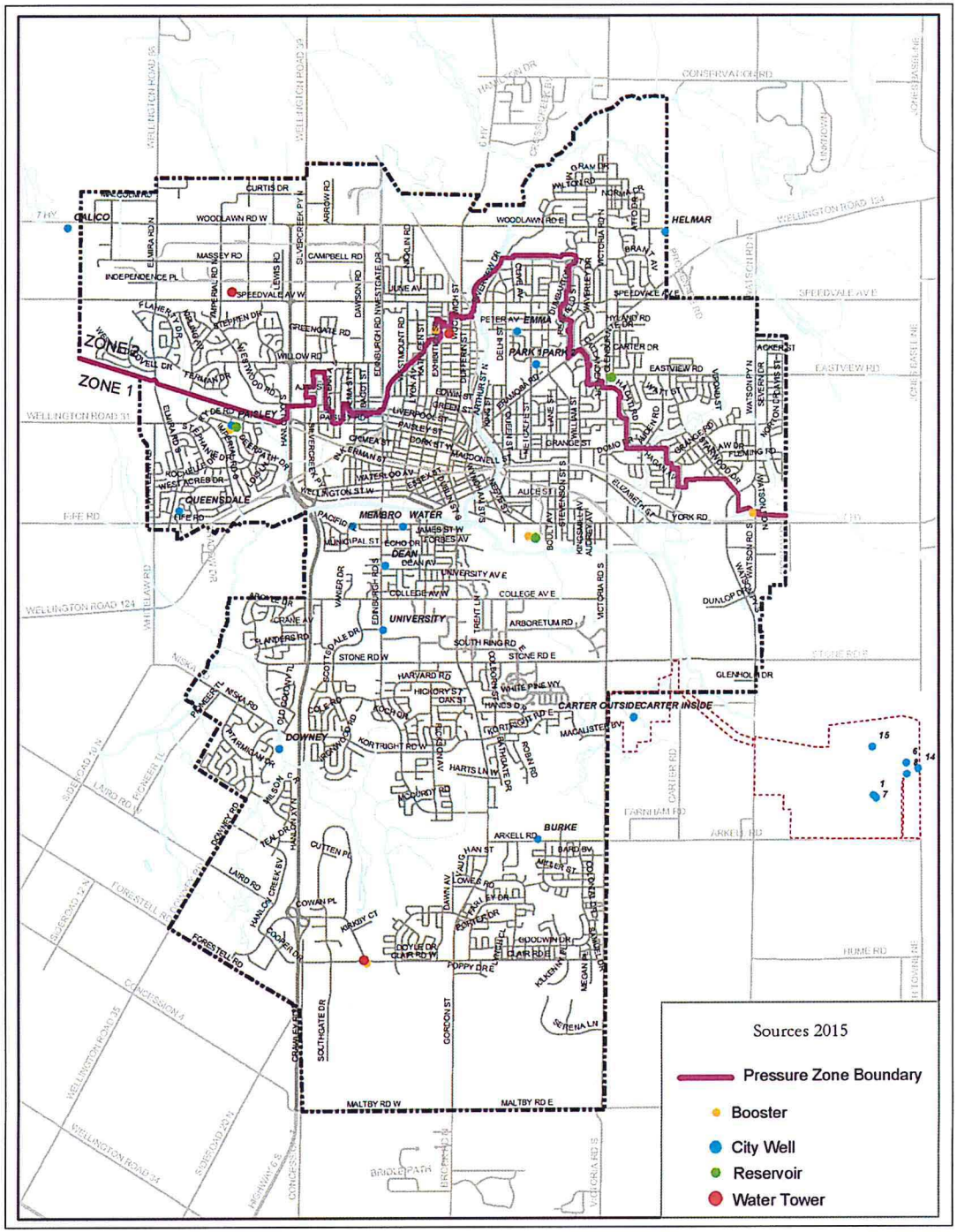
There are two main water sources for Guelph's drinking water system:

- true groundwater, and
- groundwater under the direct influence of surface water with effective in-situ filtration (GUDI-WEF)

True groundwater requires only chlorination treatment. The GUDI-WEF system requires chlorination with UV treatment because that water source is "under influence" of surface water.

Owners and Operating Authorities are responsible for ensuring their drinking water systems:

- Provide water that meets all drinking water quality standards;
- Operate in accordance with the *Safe Drinking Water Act* and its regulations;
- Are kept in a fit state of repair;
- Are appropriately staffed and supervised by qualified persons;
- Comply with all sampling, testing and monitoring requirements; and
- Meet all notification and reporting requirements.



PERFORMANCE SCORECARDS

The performance scorecards for Water Services consist of both key performance indicators and statistics for effective management. Additional information is included in the full version of this report that can be accessed online at www.guelph.ca/tapwater. Performance summaries are for:

a) Incidents of regulatory non-compliance
b) Incidents of adverse drinking water tests
c) Deviations from critical control point limits and response actions
d) The effectiveness of the risk assessment process
e) Internal and third-Party audit results
f) Results of emergency response testing
g) Operational performance and statistics
h) Raw and treated water quality: Guelph Drinking Water System
i) Treated water quality: Gazer Mooney Subdivision Distribution System
j) Status of ongoing and emerging water quality and supply initiatives
k) Expected future changes that could affect the drinking water system or quality management system
l) Consumer feedback
m) Quality management system resources
n) The Results of Infrastructure review
o) Operational plan currency, content and updates
p) Staff suggestions

DEFINITIONS

Key Performance Indicator (KPI): A measurement of the degree or status of progress towards goals and objectives. It is a measurement that you can impact.

Statistic: A measurement that provides information on trends or events. You often have minimal impact on statistics, such as number of customer calls or quantity of visits. Statistics inform activity that can impact the key performance indicators.

Status:

Results are positive and within target; no action is necessary.

Results are in range of the target but not yet achieving it; action may be necessary.

Results are outside the target range and corrective actions are needed to correct performance.

A) INCIDENTS OF REGULATORY NON-COMPLIANCE

There were four incidents of non-compliance associated with the Guelph Drinking Water System in 2015 (January 1 to December 31) that were identified by Water Services staff and corrected prior to the MOECC Annual Inspection. The MOECC Drinking Water Inspector endorsed the City's prudent corrective action in response to these incidents and requires no further action. Staff are taking additional steps in 2016 to prevent these incidents from reoccurring with the goal of again achieving an inspection score of 100% in 2016 (previously achieved in 2014). A score of 88.69% was achieved in the 2014-2015 Ministry of the Environment and Climate Change (MOECC) Annual Inspection Report for the Guelph DWS. While the City always strives to achieve a score of 100%, a score of 88.69% related to administrative issues does not represent any impacts to public health. A score of 100% was achieved in the 2015-2016 MOECC Annual Inspection Report for the Gazer Mooney SDS.

B) ADVERSE WATER QUALITY INCIDENTS

An Adverse Water Quality Incidents (AWQI) refers to any unusual test result from treated water that does not meet a provincial water quality standard, or a situation where disinfection of the water may be compromised. An AWQI indicates that on at least one occasion, a water quality standard was not met. From January 1 to December 31 there were two AWQIs in the Guelph Drinking Water System and no AWQIs in the Gazer Mooney Subdivision Distribution System. A summary of AWQI events is included below.

#	Date	Guelph DWS AWQI #	Loca-tion	Description	Corrective action	Re-sample results good	Deviation from Critical Control Point
1	Apr 10	123135	Paisley Inlet Sample Tap (D218)	Lead (Pb) result of 12.4 ppb at the Paisley Inlet Sample Tap (D218)	Wellington-Dufferin-Guelph Public Health, MOECC, and Spills Action Centre were notified. Re-samples showed non-detect results for Lead (Pb) at D218 plus upstream and downstream locations (D0248 and S045 respectively). Sampling at D218 continues quarterly until 2 consecutive samples have results below the ½ MAC [1](5 ppb).	Yes	No
2	Apr 21	123338	College Ave. Sample Station (D0249)	Secondary Disinfection Free Chlorine Residual <0.05 mg/L	Wellington-Dufferin-Guelph Public Health, MOECC, and Spills Action Centre notified. Flushed the local Distribution System; raised the secondary disinfection residual at 2 local treatment facilities; performed free residual and bacti sampling over a period of 4 days – all results were good. No further action required.	Yes	Yes

[1] "½ MAC" means half of the maximum allowable concentration.

C) DEVIATIONS FROM CRITICAL CONTROL POINT LIMITS AND RESPONSE ACTIONS

This section describes any deviation (change) from essential steps or points in the drinking water system at which control can be applied to prevent or eliminate a drinking water hazard or to reduce it to an acceptable level. These essential steps or points are known as critical control points (CCPs). CCPs are used to identify control measures to address hazards and hazardous events. CCPs are in part stipulated by regulation and in part determined by risk assessment of the drinking water system. Deviations from CCPs are reported to both the owners of the drinking water systems as well as top management, and are summarized in the tables included in Section B) Adverse Water Quality Incidents. There was one confirmed deviation from CCP Limits in 2015, reported as AWQI #123338 (see Section B above).

Water Services' Critical Control Points include:

- primary disinfection,
- secondary disinfection, and
- backflow prevention.

D) EFFICACY OF THE RISK ASSESSMENT PROCESS

The annual risk assessment review described in **QMS 07 Risk Assessment** was conducted by members of Water Services' Continuous Improvement Team on January 20, 2015 and approved at a Management Review Meeting on January 27, 2015. The results are presented in this **Executive summary of risk assessment outcomes** table:

Process	Hazardous event	Risk rating[2]	City physical control measures[3]	City operational control measures	External control measures (if applicable)
Water supply	Source degradation and contamination: **non-City sources**	Moderate	**Outside of City control**		Ontario Environmental Protection Act, Clean Water Act, Source Protection Plans
	Source degradation and contamination: **City sources**	Moderate			Ontario Environmental Protection Act, Clean Water Act, Source Protection Plans

[2] Risk Ratings are based on the risk calculation (likelihood rating x consequence rating), as included in the "QMS 08 Risk Assessment Outcome" document. "Low" risk: 1 to 5; "Moderate" risk: 6 to 11; "High" risk: 12 or higher. "QMS 21 Continual Improvement" describes how continual improvement actions are tracked, measured and evaluated for effectiveness.

[3] Cells in GREEN indicate that Water Services has multiple measures to control risk. Cells in YELLOW indicate control measures exist, but require more attention. Cells in **RED** indicate that these risks are outside of City control.

Process	Hazardous event	Risk rating[2]	City physical control measures[3]	City opera-tional control measures	External control measures (if applicable)
	Source water infrastructure failures	Low			-
	Water supply / demand (current supply meeting current / future demand)	Low			-
Treatment (chlorination at all sites + UV disinfection where applicable)	Inadequate chemical supply	Low			Chemicals' NSF certification
	Treatment infrastructure failure	Low			-
	Reservoir / contact chamber failure	Low			-
	PLC failure	Low			-
Storage	Insufficient secondary disinfection	Low	+[4]	+	-
	Storage infrastructure failure	Moderate	+	+	-
Distribution	Distribution infrastructure failure	Moderate	+		-
	Cross-connection or backflow	Moderate	+	+	-
	Deterioration of secondary disinfection	Moderate	+	+	-
	Infrastructure damage from construction	High	+	+	Ontario One Call (ON1Call)
Security	Unauthorized entry	Low			-
Monitoring and reporting	Failure of Monitoring Equipment	Low			-
	Failure of Communications Equipment	Low	+		-
Power	Power failure	Low			Mutual aid agreements
	MCC failure	Low			

[2] Risk Ratings are based on the risk calculation (likelihood rating x consequence rating), as included in the "QMS 08 Risk Assessment Outcome" document. "Low" risk: 1 to 5; "Moderate" risk: 6 to 11; "High" risk: 12 or higher. "QMS 21 Continual Improvement" describes how continual improvement actions are tracked, measured and evaluated for effectiveness.

[3] Cells in GREEN indicate that Water Services has multiple measures to control risk. Cells in YELLOW indicate control measures exist, but require more attention. Cells in RED indicate that these risks are outside of City control.

[4] + Improvements are being made

E) INTERNAL AND THIRD-PARTY AUDIT RESULTS

Internal and third-party auditing fulfills mandatory requirements of the Drinking Water Quality Management Standard (DWQMS). The purpose of audits is to evaluate the level of conformance of Water Services to the DWQMS. Audits identify both conformance and non-conformance with the DWQMS as well as opportunities for improvement. Internal audit is completed by trained internal staff.

Internal audits are completed by trained internal staff. The 2015 internal process audits were completed January 14–16 and December 4-15, 2015. Internal audit findings are related to improved document and records control, communications, tracking of service request status, training, preventive maintenance, emergency preparedness, and continual improvement tracking. Water Services continuously strives to address issues identified in internal audits. The next internal audit is scheduled for December 2016.

Third-party (external) on-site audits were completed June 9–11, 2015. The audit identified one non-conformity related to document and records control (QMS 05). Noted opportunities for improvement by the auditor were related to improving the following processes: QMS awareness (QMS 04); internal audits (QMS 19) and tracking improvement items (QMS 21). The auditor will follow up on these opportunities for improvement at the next on-site audit scheduled for June 8–10, 2016.

F) RESULTS OF EMERGENCY RESPONSE TESTING

Emergency response testing is completed regularly as a component covered by the Water Services' quality management system. This testing ensures that Water Services maintains a reasonable readiness to deal with emergencies. The ability to deal with emergencies is critical in demonstrating that Water Services has taken a diligent approach to operating the Guelph Drinking Water System. Feedback from this testing and from actual events is gathered during debriefing sessions, and improvement items are incorporated into the Water Services Emergency Plan and /or daily operations.

During the winter of 2015, Guelph experienced 376 frozen services (with more than 275 temporary lines installed)—the greatest number in one season since 1993. Historically, there has been an average of six frozen service lines per winter season. For each frozen service event, immediate actions were taken by staff to prevent further complications.

Water Services staff are actively working on closing corrective actions identified in debrief meetings related to the 2014–15 winter frozen service events. Council approved the Frozen Water Pipe Policy on Nov. 23rd. More information is available at: http://guelph.ca/wp-content/uploads/council_agenda_112315.pdf.

The table on the next page includes the dates of Completed Emergency Response Tests for the past three years.

Completed Emergency Response Tests

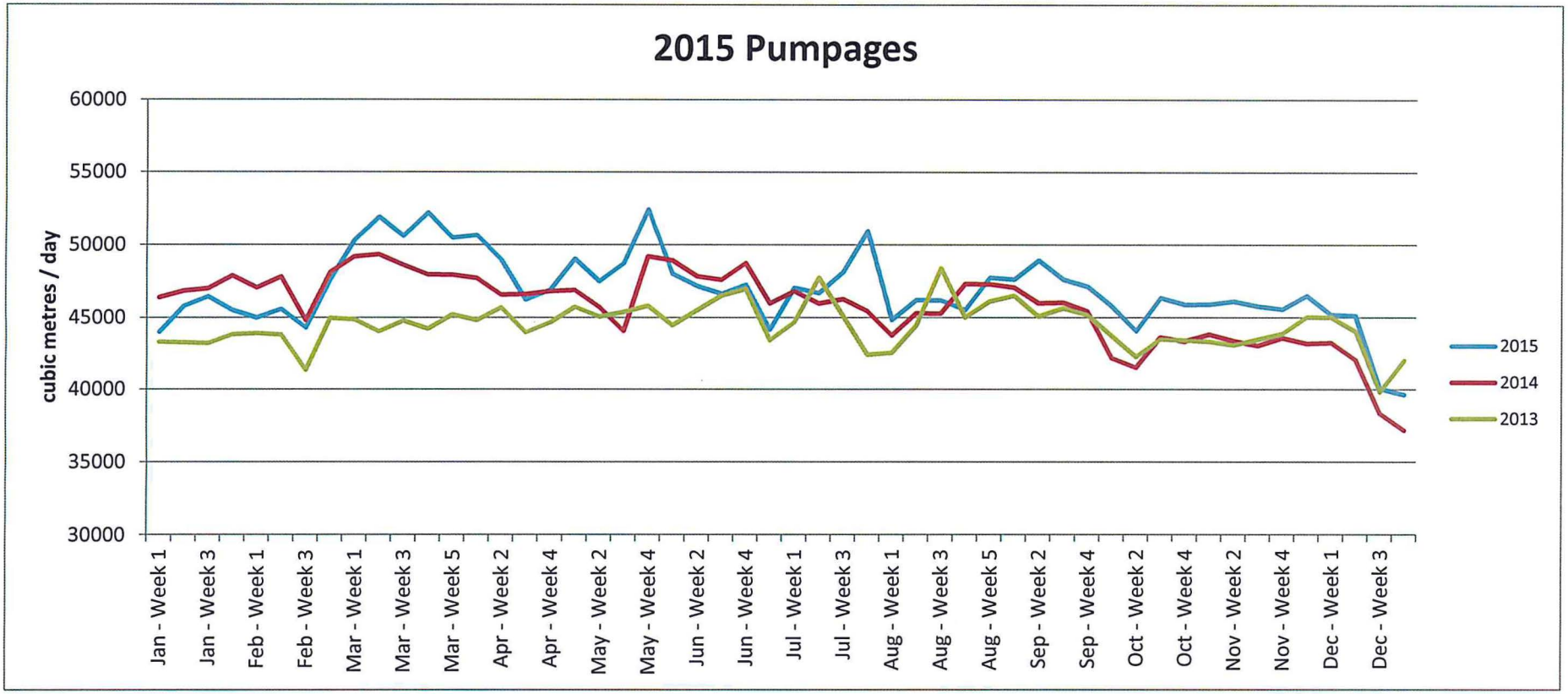
Hazardous Event / Hazard[5]	2013	2014	2015
Long-term impacts of climate change			
Source water supply shortfall			Feb-Apr, 2015
Extreme weather events (e.g. tornado, ice storm)	Apr. 12 and Dec. 22		
Sustained extreme temperatures (e.g. heat wave, deep freeze)		Feb-Mar, 2014	Feb-Apr, 2015
Chemical spill impacting source water			
Sustained pressure loss			
Backflow / Cross-connection		Feb. 11, 2014	
Terrorist threat			
Vandalism			
Sudden changes to raw water characteristics (e.g. turbidity, pH)			
Failure of equipment or process associated with primary disinfection (e.g. UV, chlorination)	Apr. 12/Dec. 22 (Power); Aug. 2 (SCADA)		
Failure of equipment or process associated with secondary disinfection (e.g. chlorination)	Apr. 12/Dec. 22 (Power); Aug. 2 (SCADA)		
City of Guelph Corporate-Level Test by the EOCG	Jun. 21, 2013	Jul-Aug, 2014	Nov. 23, 2015

G) OPERATIONAL PERFORMANCE AND STATISTICS

This section describes the information that is used to gauge the performance of the drinking water system, including explanations for changes or observations. The following information is related to the amount of water pumped:

[5] The Hazardous Event / Hazard list has been updated to reflect MOECC's mandated "Potential Hazardous Events for Municipal Residential Drinking Water Systems to Consider in the Risk Assessment" document.

Additional information can be found in the full version of the report available at www.guelph.ca/tapwater.



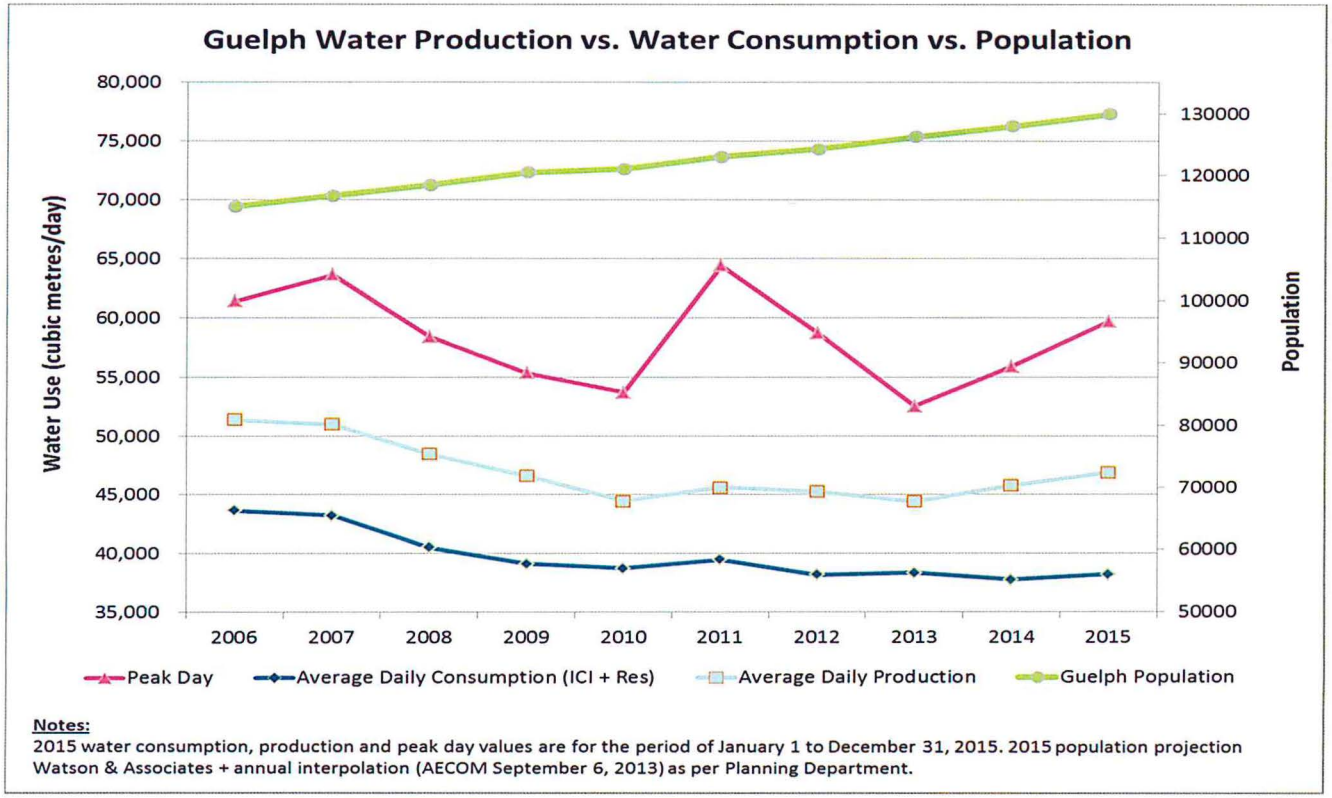
Water Services pumped 17,108,611 cubic metres (17.1 billion litres) of water to the distribution system in 2015. This represents 2.4 per cent more water being supplied to the distribution system in 2015 compared to the same time period in 2014, and 5.3 per cent more water than in 2013. The average daily water demand was 46,873 cubic metres (46.9 million litres). The maximum day production of water in 2015 was 59,737 cubic metres (59.7 million litres) and occurred on March 13, 2015. The minimum day production of water in the same time period was 34,637 cubic metres (34.6 million litres) and occurred on December 26, 2015.

Conservation and efficiency

The City of Guelph aims to reduce water use by 8.7 million litres per day by 2019 (from 2006 average daily water use). Water Conservation & Efficiency Program goals aimed at achieving this target include:

- **Affordability** through conservation, the most cost effective source of new water capacity; conservation also limits capital and operating and maintenance costs
- **Source sustainability** through efficient use of water supplies which limits impacts from growth and extends the life of water-related infrastructure
- **Source optimization** by reducing operational and environmental impacts of peak season demands
- **Compliance** by meeting requirements for Provincially-approved Permits to take Water and the regulations under the *Water Opportunities Act*.
- **Community Awareness** by fostering responsible water use and resource stewardship.
- **Emergency Preparedness** through short-term management of water demand and public engagement in emergency scenarios
- **Future Readiness** by positioning the City to be able to respond to climate change

The graph below shows annual maximum pumpages (peak water days), average daily water production, and average daily water use in cubic metres per day (m^3/day) as compared to Guelph's population



Notes:
2015 water consumption, production and peak day values are for the period of January 1 to December 31, 2015. 2015 population projection Watson & Associates + annual interpolation (AECOM September 6, 2013) as per Planning Department.

Collector Flows

The Arkell Spring Grounds Collectors ("Collectors") is one of Guelph's water sources. This system consist of a gravity-fed under-drain system that collects shallow overburden groundwater that feeds into the City's water supply. The Collectors has been in use since the early 1900s and provides as much as 40 per cent of Guelph's total daily water production. When the use of this source is reduced, Water Services must make up the difference from other water supplies.

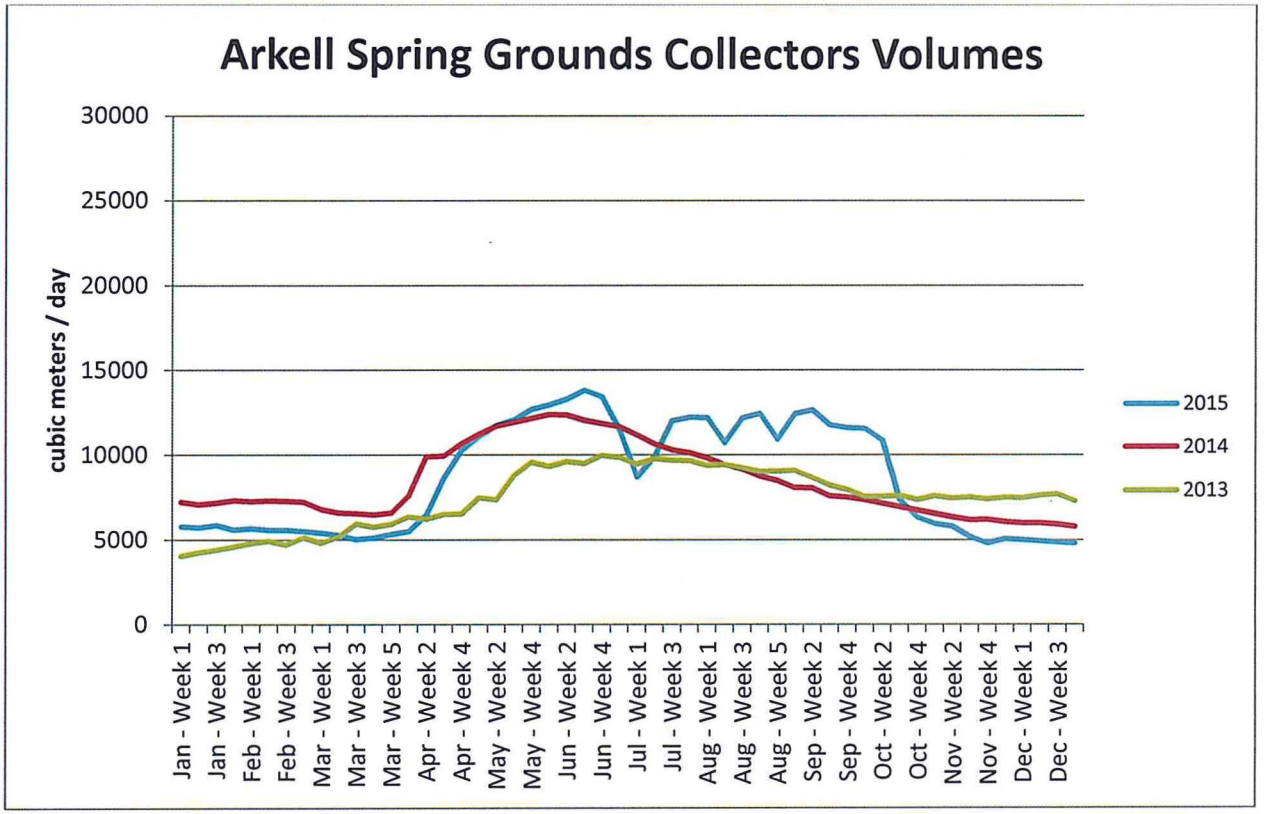
The following graph shows the Collectors flow rate as an average weekly volume.

Throughout the year, the production from this water supply varies from an approximate low of 4,000 cubic metres (4 million litres) up to an approximate high of 20,000 cubic metres (20 million litres) per day.

The Collectors can also be used as a measurable index of the state of the environment (i.e. very dry to very wet) as they respond to rainfall and other environmental conditions.

The volume of water that the Collectors produce is one of the benchmarks used in the decision-making process to determine the appropriate level of outside water use for the City.

The Collectors have produced 3,137,775 cubic metres (3.1 billion litres) of water in 2015. This represents 2.0 per cent less water as compared to the same time period in 2014 and 13.7 per cent more water than in 2013.



Major water supply maintenance:

SUPPLY MAJOR MAINTENANCE ACTIVITY	Well Site(s)
Diesel generator rentals	Burkes, Arkell #14
Diesel generator service	F.M. Woods
Diesel generator service and load test	All Sites
Fence repair	F.M. Woods
HVAC preventive maintenance (annual)	F.M. Woods
Instrumentation calibration and verifications	Various sites
Pump & head replacement – booster pump	Downey
Pump and motor rebuild	Robertson (pump #1)
Pump motor (75HP) – purchase of spare	Various sites
Reliability-centered maintenance program (ongoing)	All sites
Reservoir cleaning	Queensdale, Downey
Shower and eyewash station installations	Various sites
Snow removal (seasonal)	Various sites
UV maintenance	F.M. Woods, Emma and Water Street Wells
Well pump replacement	University
Well rehabilitation	Carter, Downey, Queensdale

Number of locate requests:

Month	City of Guelph	Arkell / Carter	Gazer Mooney	Total
January	310	0	0	310
February	310	1	0	311
March	543	1	1	545
April	1,222	18	2	1,242
May	1,312	4	2	1,318
June	1,105	8	3	1,116
July	1,111	13	2	1,126
August	897	6	5	908
September	851	4	4	859
October	689	2	3	694
November	540	4	0	544
December	281	1	0	282
2015 Total	**9,171**	**62**	**22**	**9,255**

Distribution system maintenance:

DISTRIBUTION JOB TYPE	2015
Acoustic leak – dry	1
Blow off install	0
Dig to find leak	1
Hi/low jumper install	0
Hydrant install (by Water Services)	0
Hydrant remove	0
Hydrant repair	9
Hydrant repair hit	0
Hydrant replace (by Water Services)	1
Hydrant replace hit	0
Main break	71
Other (e.g. exploratory excavations, miscellaneous repairs, etc.)	4
Re-route water main	0
Sample station install	0
Sample station replace	0
Service cut off	5
Service lowered	0
Service new install	0
Service repair	99
Service replace lead	2
Service replace non-lead	25
Valve install (by Water Services)	6
Valve remove	0
Valve repair	5
Valve replace (by Water Services)	14
Meters new	553
Meters exchanged	625
Hydrants new/replaced by Engineering Services	52
Total City hydrants	2,749
Valves new/replaced by Engineering Services	122
Total City main valves	4,135
Water mains new/replaced by Engineering Services (km)	9.13
Total watermains excluding aqueduct (km)	548.5
Water mains cleaned (km)	107.1
Water mains re-lined (m)	0

Summary of 2015 Forms 1 and 2:

Date	Form # - Description of Authorized and/or Minor Modifications
January	Form 1 – Extension of a 300 mm diameter watermain on Paisley Road from Elmira Road to 100 m past the City limits.
January	Form 1 – New watermain: 300 m of 200 mm and 285 m of 150 mm for new subdivision at 11 Starwood Drive.
February	Form 1 – New Pressure Zone 3 watermain and appurtenances on Hawkins Drive (Poppy Drive to Clair Road East), and Clair Road East (Hawkins Drive to 230 m East of Dallan Drive).
March	Form 2 – The addition of a 10" HDPE raw water bypass of the Carter Aqueduct complete with a combination valve at its high elevation point and three drain valves.
March	Form 2 – The addition of a 6" Static Injection Mixer at Emma to allow for thorough mixing of the sodium hypochlorite with the UV disinfected water. The removal of a redundant 12"butterfly isolation valve was required to accommodate the mixer.
April	Form 1 – Replacement of existing 200 mm watermain on Elizabeth Street between Victoria Road and Industrial Avenue.
May	Form 1 – New watermain connected to existing 150 mm watermain on Kirvan Court and 300 mm watermain on MacAlister Boulevard.
June	Form 2 – Addition of a 24" butterfly valve on the 24" concrete watermain at Dodds and Bell Avenue. This allows for the ability of improved main isolation.
August	Form 1 – New watermain constructed in the McCann St., Kirvan Dr. and McAlister Blvd right-of-ways (Kortright Subdivision Phase 3B).
September	Form 2 – New 6" gate valve installed on the 6" cast iron watermain on Mary Street in front of #82 Water Street.
September	Form 2 – New 6" gate valve installed on the 6" cast iron watermain on Palmer Street in front of #262.
September	Form 2 – New 12" gate valve installed on the 12" PVC watermain on Edinburgh Road South in the north side of the intersection with McCurdy Road.
October	Form 2 – New 6" gate valve installed on the 6" cast iron watermain on Oak Street in front of #34 Oak Street.
November	Form 2 – Replacement and extension of existing 100 mm watermain with 150 mm watermain on Wheeler Ave., from Elizabeth St. to Ferguson Street.
November	Form 2 – New 6" gate valve installed on the 6" cast iron watermain on Dumbarton Street in front of #109 Dumbarton Street.
November	Form 2 – New 6" gate valve installed on the 6" cast iron watermain on Hickory Street in front of #27 Hickory Street.
November	Form 2 – New contact chamber re-circulation and wasting system at Burke Well and Treatment Facility.
November	Form 2 – New contact chamber re-circulation and wasting system at Downey Well and Treatment Facility.

H) RAW AND TREATED WATER QUALITY

Under the *Safe Drinking Water Act* (SDWA), municipalities are required to monitor both the raw and treated quality of water supplied. This monitoring is performed for both regulatory compliance and due diligence. Any results not meeting the criteria listed in the table below are reported under section B) Adverse Water Quality Incidents.

Operational and microbiological sampling						
Parameter	**Location**	**Number of analyses**	**Criteria**	**Number outside criteria**	**Results range**	**Regulatory reference**
Free chlorine residual	Guelph Zone 1	365	0.05-4.0 mg/L	0	0.45-1.10 mg/L	O. Reg. 170/03 Schedule 7-2
Free chlorine residual	Guelph Zone 2	365	0.05-4.0 mg/L	0	0.51-1.01 mg/L	O. Reg. 170/03 Schedule 7-2
Raw – *E. coli* (bacteria)	Raw sources, no disinfection	945	n/a	n/a	0-1 cfu/100 mL	O. Reg. 170/03 Schedule 10-4
Raw – Total coliform (bacteria)	Raw sources, no disinfection	945	n/a	n/a	0-3 cfu/100 mL	O. Reg. 170/03 Schedule 10-4
Raw – HPC	Raw sources, no disinfection	0	n/a	n/a	n/a	O. Reg. 170/03 Schedule 10-4
Raw – background	Raw sources, no disinfection	945	n/a	n/a	0-470 cfu/100 mL	O. Reg. 170/03 Schedule 10-4
Raw river – *E. coli* (bacteria)	Raw sources, no disinfection	26	n/a	n/a	2 – OG cfu/100 mL	O. Reg. 170/03 Schedule 10-4
Raw river – Total coliform (bacteria)	Raw sources, no disinfection	26	n/a	n/a	46 – OG cfu/100 mL	O. Reg. 170/03 Schedule 10-4
Raw river– background	Raw sources, no disinfection	26	n/a	n/a	92 – OG cfu/100 mL	O. Reg. 170/03 Schedule 10-4
Pont of Entry (POE) – E. coli (bacteria)	Disinfected ("treated") water at point of entry	581	0	0	0 cfu/100 mL	O. Reg. 170/03 Schedule 10-3
POE – Total coliform (bacteria)	Disinfected (treated) water at point of entry	581	0	0	0 cfu/100 mL	O. Reg. 170/03 Schedule 10-3
POE – HPC	Disinfected (treated) water at point of entry	577	n/a	n/a	0-6 cfu/mL	O. Reg. 170/03 Schedule 10-3
POE – background	Disinfected (treated) water at point of entry	581	n/a	n/a	0-1 cfu/100 mL	O. Reg. 170/03 Schedule 10-3
POE – free chlorine residual	Disinfected (treated) water at point of	546	0.05-4.0 mg/L	0	0.60-1.40 mg/L	O. Reg. 170/03 Schedule 6-3

Operational and microbiological sampling						
Parameter	**Location**	**Number of analyses**	**Criteria**	**Number outside criteria**	**Results range**	**Regulatory reference**
	entry					
Distribution – *E. coli* (bacteria)	Disinfected (treated) water in distribution system	1,637	0	0	0 cfu/100 mL	O. Reg. 170/03 Schedule 10-2
Distribution – total coliform (bacteria)	Disinfected (treated) water in distribution system	1,637	0	0	0 cfu/100 mL	O. Reg. 170/03 Schedule 10-2
Distribution – HPC	Disinfected (treated) water in distribution system	781	n/a	n/a	0-97 cfu/mL	O. Reg. 170/03 Schedule 10-2
Distribution – background	Disinfected (treated) water in distribution system	1,637	n/a	n/a	0-610 cfu/100 mL	O. Reg. 170/03 Schedule 10-2
Distribution – free chlorine residual	Disinfected (treated) water in distribution system	2,345	0.05-4.0 mg/L	0	0.25–1.25 mg/L	O. Reg. 170/03 Schedule 6-3
Raw source turbidity	Raw sources, no disinfection	977	n/a	n/a	0.04-0.40 ntu	O. Reg. 170/03 Schedule 7-3
POE – free chlorine residual	Continuous monitoring	once every 5 minutes	0.05 mg/L	0	n/a	O. Reg. 170/03 Schedule 6-5
UV dose at F.M. Woods	Continuous monitoring	once every 5 minutes	24 mJ/cm^2	0	n/a	MOECC UV treatment criteria
UV dose at urban wells	Continuous monitoring	once every 5 minutes	40 mJ/cm2	0	n/a	MOECC UV treatment criteria

The table below includes relevant information about chemical, organic and inorganic sampling results due to their presence or significance within the Guelph Drinking Water System. Only parameters with Ontario Drinking Water Quality Standards Maximum Allowable Concentration (MAC) limits and above minimum detection limits (MDL) are included. There was no instance of an adverse result in 2015. The full version of the Annual & Summary Report provides results for all chemical sampling. Any results outside criteria in the table below are reported under section **B) Adverse Water Quality Incidents**.

Chemical sampling (all data reported in mg/L)									
Parameter	Number of samples	Sampling frequency	Criteria MAC	Criteria ½ MAC	Number outside criteria	Results range		Average	Regulatory reference
						Min	Max		
Trihalomethanes – distribution system samples	7	once every 3 months	0.100[A]	n/a	0	0.0242	0.0534	0.0386	O. Reg. 170/03 Schedule 13-6
Nitrate + Nitrite (as nitrogen)	50	once every 3 months	10	5	0	< 0.10	5.17	1.25	O. Reg. 170/03 Schedule 13-7
Nitrate + Nitrite (as nitrogen) – F.M. Woods raw sources (operational sampling)	35	once every 3 months	n/a	n/a	n/a	0.28	6.22	1.69	O. Reg. 170/03 Schedule 13-7
Nitrate + Nitrite (as nitrogen) – University of Guelph Well raw source (operational sampling)	2	once every 3 months	n/a	n/a	n/a	0.21	0.35	0.28	O. Reg. 170/03 Schedule 13-7
Nitrate + Nitrite (as nitrogen) – Paisley Well raw (operational sampling)	4	once every 3 months	n/a	n/a	n/a	1.73	1.83	1.77	O. Reg. 170/03 Schedule 13-7
Tetrachloroethylene (perchloroethylene)	136	once every 3 months	0.03	0.015	0	< 0.0001	< 0.0001	n/a	O. Reg. 170/03 Schedule 24
Trichloroethylene	136	once every 3 months	0.005	0.0025	0	< 0.0001	0.00219	0.00072	O. Reg. 170/03 Schedule 24
Trihalomethanes[B]	142	once every 3 months	0.100[A]	n/a	0	< 0.0002	0.0534	0.01517	O. Reg. 170/03 Schedule 24
Antimony	1	once every 36 months	0.014	0.007	0	< 0.0005	< 0.0005	n/a	O. Reg. 170/03 Schedule 23
Arsenic	1	once every 36 months	0.025	0.0125	0	< 0.001	< 0.001	n/a	O. Reg. 170/03 Schedule 23
Barium	1	once every 36 months	1.0	0.5	0	0.046	0.046	0.046	O. Reg. 170/03 Schedule 23
Boron	1	once every 36 months	5.0	2.5	0	0.021	0.021	0.021	O. Reg. 170/03 Schedule 23
Cadmium	1	once every 36 months	0.005	0.0025	0	0.00011	0.00011	0.00011	O. Reg. 170/03 Schedule 23
Chromium	1	once every 36 months	0.05	0.025	0	< 0.005	< 0.005	n/a	O. Reg. 170/03 Schedule 23

Mercury	1	once every 36 months	0.001	0.0005	0	< 0.0001	< 0.0001	n/a	O. Reg. 170/03 Schedule 23
Selenium	1	once every 36 months	0.01	0.005	0	< 0.002	< 0.002	n/a	O. Reg. 170/03 Schedule 23
Uranium	1	once every 36 months	0.02	0.01	0	0.00068	0.00068	0.00068	O. Reg. 170/03 Schedule 23
Sodium	27	once every 12 months[C]	20 & 200[D]	n/a	27	21	150	58.037	O. Reg. 170/03 Schedule 13-8
Fluoride	20	once every 60 months	1.5 & 2.4[E]	n/a	0	0.13	0.77	0.292	O. Reg. 170/03 Schedule 13-9

A – This standard is expressed as a running annual average
B – This subset of trihalomethane samples represents sampling from treated sources and does not refer to the previous distribution system sampling
C – Sodium is sampled on a more frequent basis due to the fact that for every treated source except F.M. Woods (currently), sodium levels are above the lower reportable limit of 20 mg/L
D – The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.
E – Where supplies contain naturally occurring fluoride at levels higher than 1.5 mg/L but less than 2.4 mg/L the Ministry of Health and Long Term Care recommends an approach through local boards of health to raise public and professional awareness to control excessive exposure to fluoride from other sources.

I) TREATED WATER QUALITY: GAZER MOONEY SUBDIVISION DISTRIBUTION SYSTEM

Related to Section **H) Raw and Treated Water Quality**, this section describes the regulatory water quality monitoring that has been collected in the Gazer Mooney Subdivision Distribution System in 2015. Any results outside criteria in the table below are reported under section **B) Adverse Water Quality Incidents**.

Operational and microbiological sampling						
Parameter	**Location**	**Number of analyses**	**Criteria**	**Number outside criteria***	**Results range**	**Regulatory reference**
Free chlorine residual	Gazer Mooney	365	0.05-4.0 mg/L	0	0.48-1.16 mg/L	O. Reg. 170/03 Schedule 7-2
Distribution – *E. coli* (bacteria)	Disinfected (treated) water in distribution system	52	0	0	n/a	O. Reg. 170/03 Schedule 10-2
Distribution – Total coliform (bacteria)	Disinfected (treated) water in distribution system	52	0	0	n/a	O. Reg. 170/03 Schedule 10-2

Operational and microbiological sampling						
Parameter	**Location**	**Number of analyses**	**Criteria**	**Number outside criteria***	**Results range**	**Regulatory reference**
Distribution – HPC	Disinfected (treated) water in distribution system	52	n/a	n/a	0-5 cfu/mL	O. Reg. 170/03 Schedule 10-2
Distribution – background	Disinfected (treated) water in distribution system	52	n/a	n/a	n/a	O. Reg. 170/03 Schedule 10-2
Distribution– free chlorine residual	Disinfected (treated) water in distribution system	365	0.05-4.0 mg/L	0	0.48-1.16 mg/L	O. Reg. 170/03 Schedule 10-2

Chemical sampling (all data reported in mg/L)								
Parameter	**Number of samples**	**Sampling frequency**	**Criteria MAC**	**Criteria ½ MAC**	**Number outside criteria***	**Results range**		**Average**	**Regulatory reference**
						Min	**Max**		
Trihalomethanes	4	once every 3 months	0.100[A]	n/a	0	0.0174	0.0419	0.0244	O. Reg. 170/03 Schedule 13-6
Sodium	1	once every 12 months	20 & 200[B]	n/a	1	22	22	22	O. Reg. 170/03 Schedule 13-8

A – This standard is expressed as a running annual average
B – The aesthetic objective for sodium in drinking water is 200 mg/L. The local Medical Officer of Health should be notified when the sodium concentration exceeds 20 mg/L so that this information may be communicated to local physicians for their use with patients on sodium restricted diets.

J) STATUS OF ONGOING AND EMERGING WATER QUALITY / SUPPLY INITIATIVES

Water Conservation and Efficiency

Water Services continues to promote the ongoing sustainability of finite local water resources through Water Conservation and Efficiency programming. The following is a summary of work implemented in 2015:

- Initiated the update to the Water Conservation and Efficiency Strategy (WCES) and an update to the Water Efficiency Strategy.
- Celebrated Canada Water Week with the third annual H2O GO Festival that included over 1,000 participants of all ages.
- In collaboration with community partners, organized H2Awesome for 800 grade 8 students from Guelph elementary schools.
- Initiated a Level 1 Yellow water restriction under its Outdoor Water Use Program on June 1st and August 10th.

- Initiated a detailed design for phase 2 of the Guelph Transit Rainwater Harvesting System in April.
- Launched the annual Leak Detection Program in April including sounding and correlation of 287 km metallic watermains. This program identified and fixed 22 potential system leaks equal to approximately 3,100 m^3/day of servicing capacity.
- Initiated work to develop a residential customer mobile app (Watr) to motivate local residents to conserve water.
- Initiated the annual Healthy Landscapes Home Visit Program in May, with 384 home visits completed by August 31, 2015. This year's program resulted in approximately 28.4 m^3/day savings (based on 74 litres per day saved per household).
- Hosted an annual Water Services Open House in May that showcases Water Services' programs and resources.
- Conducted 41 interactive water conservation presentations reaching 3,564 Grade 2 & Grade 8 students in 2015.
- Conducted guided educational tours of Water Services' facility to 444 local grades 7, 8 and high school students.
- Continued to support as a partner, sponsor and contributor to the Waterloo Wellington Children's Groundwater Festival.
- Optimized existing conservation programs (e.g. Residential Rebate Programs, Blue Built Home, ICI Capacity Buyback), contributing to 183 m^3/day in daily water servicing capacity reclaimed in 2015.

Arkell Springs Forest Stewardship Project

- The Arkell Spring Grounds cover an area of 804 acres. The area is comprised of old and new forested areas, which makes it necessary for monitoring, maintenance and new planting plans. The objective of the Arkell Springs Forest Stewardship Project is to manage past plantings and prevent losses while monitoring general forest health. Delicate forest stands require continued maintenance and observation to ensure the prevention of any unnecessary and undesired losses.
- Since 2007, the Community Environmental Leadership Program (CELP, on a volunteer basis) has planted 19,500 trees on 18 acres, and Bartram Woodlands (on-site contractor) has planted 23,150 trees on another 16 acres. In addition, funding was secured through the Ontario Ministry of Natural Resources' 50 Million Tree Program—part of the United Nations Billion Tree Campaign. The Ontario portion of the fund is committed to planting 50 million trees by 2025. This funding allowed the City to plant 6,050 seedlings in fields adjacent to Watson Road.

Source Water Protection Plan

- The Lake Erie Source Protection Committee (LESPC) submitted the Proposed Grand River Source Protection Plan to the Ministry of the Environment and Climate Change (MOECC) for review and approval. The Plan includes a number of proposed policies to manage significant drinking water threats (identified in the Assessment Report) for the City of Guelph. The Grand River Source Protection Plan was approved by the Minister on November 26, 2015 with an effective date of July 1, 2016.
- Currently, City staff are working on: the development of education and outreach materials for stakeholders, development of guidelines for the preparation of risk management plans, and working with internal City of Guelph departments to ensure conformance with the proposed policies in the Source Protection Plan. The City is also assessing the data management and information needs that will be required to administer the program once the Source Protection Plan is in effect.
- For more information on Guelph's Source Water Protection Program visit: guelph.ca/sourcewater

Lead Reduction Plan

- In August 2014, based on the success of the program, the City was granted full regulatory relief from Schedule 15.1 of O.Reg 170/03 (in its entirety) in Schedule D of the City's Municipal Drinking Water Licence issue number 6.
- 29 Lead Verification samples were collected where none were above five µg/L indicating presence of a lead service line.
- 14 Lead Service Lines were replaced; for a total of 194 privately-owned lead service lines replaced since 2010.

Additional information about all programs under the Lead Reduction Plan can be accessed in the full version of this report at www.guelph.ca/water.

K) EXPECTED FUTURE CHANGES THAT COULD AFFECT THE DRINKING WATER SYSTEM OR THE QUALITY MANAGEMENT SYSTEM

Operational testing plan and adaptive management plan (OTP / AMP) - The purpose of the OTP / AMP is to carry-out a detailed assessment of the Arkell area aquifer and pumping conditions to determine a sustainable capacity with respect to local environmental considerations. Monitoring and data collection and assessment are ongoing.

Arkell Well #15 has been reassessed as a GUDI WEF Source (Groundwater Under the Direct Influence of Surface Water with Effective In Situ Filtration). A DWWP (Drinking Water Works Permit) Amendment Application has been approved by the MOECC with supporting documentation that demonstrates the appropriateness of the requested re-classification and the ability of the existing treatment system at F.M. Woods to treat this source.

Carter monitoring program – Operational Testing - The Permit to Take Water for Carter Well requires that the Carter Wells be operated at increased levels in conjunction with monitoring in the Torrence Creek Subwatershed. The purpose of the monitoring is to attempt to quantify impacts within this subwatershed.

Membro Well - In November 2014, fecal bacteria was found for a short period in untreated well water from the Membro municipal well which resulted in Water Services staff removing the well from service and performing an investigation to determine the bacteria source and identify actions to prevent a reoccurrence of this poor water quality event. At all times prior to the Membro well being removed from service, including during the past 19 years of operation, properly disinfected and safe water was provided to customers that met all regulatory guidelines. The investigation has included consultation with both the MOECC and Wellington-Dufferin-Guelph Public Health, and has led Water Services to remove a defective nearby monitoring well, install a more secure replacement pumping well, and initiate plans to enhance the disinfection system for the Membro well water. Staff plan to return Membro well to service in 2016 with both the replacement well and the enhanced disinfection system in service.

Ontario's GUDI (Groundwater Under the Direct Influence of Surface Water) Terms of Reference are under review and may result in classification changes to source waters. The GUDI Terms of Reference are expected in 2016.

Ontario's water main disinfection procedure - Municipal operating authorities are required to use AWWA Standard C651 (Disinfecting Water Mains) for addition, replacement or repair of pipes forming the distribution system, as per condition 2.3.2 of

Drinking Water Works Permits. Ontario's Watermain Disinfection Procedure outlines minimum requirements for compliance, and operating authorities will be able to use their discretion to adopt more stringent standard operating procedures. Requirements for disinfection will also apply to temporary watermains, as well as service pipes of 100 mm diameter or greater. Water Services anticipates implementation of procedure by May 2016.

Upcoming policy changes under Source Water Protection - The Ministry of the Environment has released Source Protection Standard Operating Policies for Source Protection Prescribed Instruments relating to the installation, operation, and maintenance of municipal sewer infrastructure in the vicinity of municipal water supply wells. Staff are currently working with the Ministry to better define these requirements and the impacts they may have on current City capital replacement and operating programs. Staff will update Council on these requirements and impacts once they are confirmed.

Gazer Mooney municipal drinking water licence renewal - The application deadline for licence renewal for the Gazer Mooney Subdivision Distribution System was Aug. 2, 2015. Water Services submitted to the Township of Guelph / Eramosa an updated Operational Plan and Raw Water Assessment early July. Gazer Mooney's Municipal Drinking Water Licence is anticipated to be renewed by Feb. 1, 2016.

Operator certification compliance management - The Water Certification Specialist reports to Management on a quarterly basis (and to the Owner bi-annually through this report) regarding the status of Operators' certifications. Verifications of qualification are completed six months prior to certificate expiries to ensure enough lead time for Operators' continued certifications.

Expiring Permits to Take Water (PTTWs)
Three PTTWs were renewed in 2015:

1. Arkell Well No. 1 PTTW (expiry 2015-05-31)
2. Burke Well PTTW (expiry 2015-05-31)
3. Carter Wells PTTW (expiry 2015-05-31)

Six PTTWs are scheduled for review and/or renewal in 2016:

1. Arkell Infiltration Gallery PTTW (expiry 2016-10-31)
2. Carter Wells PTTW (expiry 2016-05-31)
3. Emma Well and Park Wells 1 & 2 PTTW (expiry 2016-10-31)
4. Helmar Well PTTW (expiry 2016-05-31)
5. Paisley Well PTTW (expiry 2016-10-31)
6. Water St. Wellfield (Water, Dean, University, Membro) PTTW (expiry 2016-10-31)

Legal and other requirements
Various updates related to Water Services' legal and other requirements are noted in the full report. Only items that directly affect Guelph Water Services are further discussed above in this section.

Ontario's updated Drinking Water Quality Management Standard (DWQMS)

In November, the MOECC posted the updated DWQMS on the Environmental Bill of Rights for comment, highlighting revisions included to clarify existing DWQMS requirements. Most significant revisions are included in risk assessment and continual improvement elements of the standard.

QMS 03 – Water Services conducted an orientation session for Council in May and hosted site tours in September to satisfy the Safe Drinking Water Act requirements related to Statutory Standard of Care.

QMS 05 – Water Services continues to implement initiatives to improve compliance with the City's Records Retention By-law (No. (2014)-19770).

The nonconformity identified in this past external audit related to QMS 05 Documents & Records Control has resulted in an improved QMS 05 procedure.

A corporate initiative for using an alternate resource to the City's existing Electronic Document Management System (EDMS) may be implemented this year.

QMS 07/08 – Following the MOECC's posting of the "Potential Hazardous Events for Municipal Residential Drinking Water Systems to Consider in the DWQMS Risk Assessment" document on the Environmental Bill of Rights in December, Water Services initiated a more detailed review and update of its risk assessment procedure, ratings and tables that will form part of the January 2016 record.

The following hazardous events will be added: drought, aqueduct infrastructure failure, frozen services, cross-connection of Guelph and Gasport Aquifers impacting source water quality, terrorism, vandalism.

QMS 09 – Organizational update – The job title for Supervisor of Water Supply Operations & Maintenance has been replaced with two job titles: Supervisor of Water Supply Maintenance and Supervisor of Water Supply Operations. The following new positions also exist: General Manager of Environmental Services, Meter Installer, Lead Hand – Locates, and Locates Technician.

QMS 18 – A Frozen Water Services Policy was presented to Council in the fall that takes into account all noted opportunities for improvement from experiences of the past two winters' frozen services events.

QMS 21 – Working on improved tracking and progress reporting on noted opportunities for improvement from various sources (e.g. emergency debriefs, internal audits, external audits, meetings, etc.).

New Element 21 requirements of the DWQMS have expanded to include a more formal process for identification of, tracking of, and verifying effectiveness of corrective and preventive actions taken to prevent occurrence and/or recurrence of non-conformities.

L) CONSUMER FEEDBACK

The table below represents all consumer calls received during office hours and after hours in 2015:

Type	# Calls [6]		
	2013	2014	2015
Billing	-	-	9
Discoloured Water	-	-	160
Distribution	-	-	72
Flushing	22	32	27
Frozen	-	-	695
Hydrant - Accident Report	-	-	2
Hydrant – Investigation	18	46	38
Hydrant Out-of-Service	-	-	65
Lead	-	-	9
Leak	-	-	52
Meter	-	-	36
Other	93	199	127
Pressure	85	146	95
Private Issue	146	306	18
Service Box Repairs	-	-	254
Swabbing	22	32	47
Trench Investigation	-	-	9
Valve	-	-	27
Water Quality / Appearance	113	144	47
Watermain	56	124	67
Watermain Break Investigation	-	-	54
Well Interference Inquiries	6	2	2

[6] This column generally represents the number of calls received, not necessarily the number of individual issues. Previous years' calls were not collected with the same level of detail as current year, and therefore dashes exist in the table.

M) RESOURCES NEEDED TO MAINTAIN THE QMS

Water Services currently has one full-time Quality Assurance Coordinator who is also the Quality Management System (QMS) Representative. This position has access to four Water Services Technicians, a Compliance Coordinator, and a Customer Service Clerk for reporting and documentation requirements of the QMS.

New regulations and ongoing challenges such as lead replacement, frozen services, Ontario 1Call and metering continue to drive the need for additional staffing support.

N) RESULTS OF INFRASTRUCTURE REVIEW

Engineering and Water Services staff update the Water Services infrastructure specifications at annual review meetings.

During the annual budget preparation process, Engineering Services and Water Services review parameters such as infrastructure conditions, inventory age, and the capital asset prioritization system. From this evaluation, Engineering Services and Water Services finalize the list of priority projects that also considers the priorities of Wastewater Services and of road reconstruction projects to schedule concurrent replacement, minimizing costs and reducing community inconvenience. New linear infrastructure (pipes, roads, etc.) reviews are primarily driven by staff in Engineering Services.

Annual summaries of road reconstruction, sewer and water main projects are identified on an infrastructure map that is released in annually in early spring.

Backflow Prevention Program

The protection of Guelph's drinking water quality is supported by the City's *Backflow Prevention Regulations By-law* ("By-law", Number (2008) – 18660). As per the By-law, backflow means the flowing back or reversal of the normal direction of flow of water. The By-law requires that no connections be made to the City's water supply without the installation of a backflow prevention device to isolate premises, sources, and zones in order to prevent cross-connections in every building or structure where a City water supply or other potable water supply exists. The By-law requires owners to:

- ensure a qualified person conducts annual testing of backflow prevention devices;
- submit test reports within 14 days of the test being conducted for each backflow prevention device; and
- survey and resurvey with respect to buildings' or structures' cross-connections (once every five years).

2015 Backflow Report: Number of letters sent regarding annual testing and re-survey

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Annual testing - first letter	134	172	149	195	288	161	143	164	139	139	168	123	1975
Annual testing - second letter	66	86	92	77	92	162	55	87	122	75	67	72	1053
Annual testing - third letter	12	14	24	23	19	29	43	14	19	10	19	13	239
Re-survey and testing (combined), first letter	23	34	26	36	34	4	0	36	3	3	4	4	207
Re-survey and testing (combined), second letter	5	18	25	21	36	28	3	1	34	2	2	2	177
Re-survey and testing (combined), third letter	0	0	3	3	0	5	10	9	2	0	1	0	33
Water service disconnected	0	0	0	0	0	0	0	0	0	1	0	0	1
Number of new devices installed						90						69	159

O) OPERATIONAL PLAN CURRENCY, CONTENT AND UPDATES

See section **K) Expected future changes that could affect the drinking water system or the quality management system** for Operational Plan updates.

P) STAFF SUGGESTIONS

Staff suggestions are discussed during staff and operational meetings and taken into account during annual budget processes. Improvement items that were implemented by staff are tracked and reported in the full version of the Annual & Summary Report.

WATER SERVICES CHALLENGES AND OPPORTUNITIES

1. Financial sustainability and affordability.
2. Water demand reduction, optimization and development of local groundwater supplies to support provincially mandated growth.
3. Source protection to ensure sustainability of quality and quantity of existing supplies.
4. Infrastructure sustainability and asset management.
5. Maintaining and growing an effective work force.
6. Existing system optimization, including:
    - Adding redundancy to the distribution system
    - Adding treatment for iron and manganese removal
    - Potential to add treatment for VOC removal
    - Optimization of chlorination to improve water taste
7. Ensuring a lead-free water system.
8. Maintaining and improving customer service.
9. Reduction of non-revenue water through leak reduction and accurate metering.

The full version of this report is available on the City's website at: http://guelph.ca/living/environment/water/drinking-water/water-testing/ under the "Annual & Summary Water Services Report Update – 2015" link.

STAFF REPORT

TO	Infrastructure, Development and Enterprise Committee
SERVICE AREA	Infrastructure, Development and Enterprise
DATE	March 1, 2016
SUBJECT	**SIGN BY-LAW VARIANCES 299 Scottsdale Drive**
REPORT NUMBER	16-12

EXECUTIVE SUMMARY

PURPOSE OF REPORT
To advise Council of sign by-law variance requests for 299 Scottsdale Drive.

KEY FINDINGS
The City of Guelph Sign By-law Number (1996)-15245, as amended, restricts freestanding signs to a size of $3m^2$, a height of 1.8m above an adjacent roadway and does not permit them to be illuminated in a Park (P.5) Zone.

The Sign Depot Inc. has submitted a sign by-law variance application on behalf of Sifton Properties Limited to permit an illuminated freestanding sign with an area of $7.4m^2$ and a height of 2.7m above the adjacent roadway at 299 Scottsdale Drive.

The requested variance from the Sign By-law is recommended for approval for the following reasons:

- The request is reasonable given that the sign is 2.1m high and it is the grading of the property that elevates the height to 2.7m above the adjacent road;
- There was a previous sign variance which permitted an illuminated freestanding sign;
- Representatives of Sifton Properties Limited have provided a signed declaration stating that the message will only change once every twenty-four hours, therefore the sign will not flash or be animated;
- The sign will comply with all other provisions of the Sign By-Law; and
- The proposed sign will not have a negative impact on the streetscape or surrounding area.

FINANCIAL IMPLICATIONS
N/A

ACTION REQUIRED
To approve the requested sign by-law variances for 299 Scottsdale Drive.

STAFF REPORT

RECOMMENDATION

1. That Report 16-12 from Infrastructure, Development and Enterprise dated March 1, 2016 regarding sign by-law variances for 299 Scottsdale Drive, be received.
2. That the request for variances from the Sign By-law for 299 Scottsdale Drive to permit one (1) illuminated freestanding sign with an area of 7.4m^2 and a height of 2.7m above the adjacent road, be approved.

BACKGROUND

The Sign Depot Inc. had submitted a sign permit application on behalf of Sifton Properties Limited at 299 Scottsdale Drive (see "Schedule A– Location Map) to replace the existing illuminated sign which was previously permitted by an approved sign variance report dated November 4, 2002. Upon review of the application it was observed that the new proposed sign exceeds the maximum permitted size of 3m^2, the maximum permitted height of 1.8m above an adjacent roadway and is illuminated which is not permitted by the Sign Bylaw. For this reason, the permit could not be issued.

REPORT

The Sign Depot Inc. has submitted a sign by-law variance application on behalf of Sifton Properties Limited to permit an illuminated freestanding sign with an area of 7.4m^2 and a height of 2.7m above the adjacent roadway; see "Schedule B- Sign Variance Drawing" for illustration.

The requested variances are as follows:

	By-law Requirements	Request
Maximum sign face area per face	3m^2	7.4m^2
Lighting	None	Illuminated
Maximum height above adjacent roadway	1.8m	2.7m

The requested variance from the Sign By-law is recommended for approval for the following reasons:

- The request is reasonable given that the sign is 2.1m high and it is the grading of the property that elevates the height to 2.7m above the adjacent road;
- There was a previous sign variance which permitted an illuminated freestanding sign;
- Representatives of Sifton Properties Limited have provided a signed declaration stating that the message will only change once every twenty-four hours, therefore the sign will not flash or be animated;
- The sign will comply with all other provisions of the Sign By-Law; and
- The proposed sign will not have a negative impact on the streetscape or surrounding area.

STAFF REPORT

CORPORATE STRATEGIC PLAN:
3.1- Ensure a well-designed, safe, inclusive, appealing and sustainable City

FINANCIAL IMPLICATIONS:
N/A

DEPARTMENTAL CONSULTATION:
N/A

COMMUNICATIONS:
N/A

ATTACHMENTS

Attachment 1	Location Map
Attachment 2	Sign Variance Drawing

Report Author:
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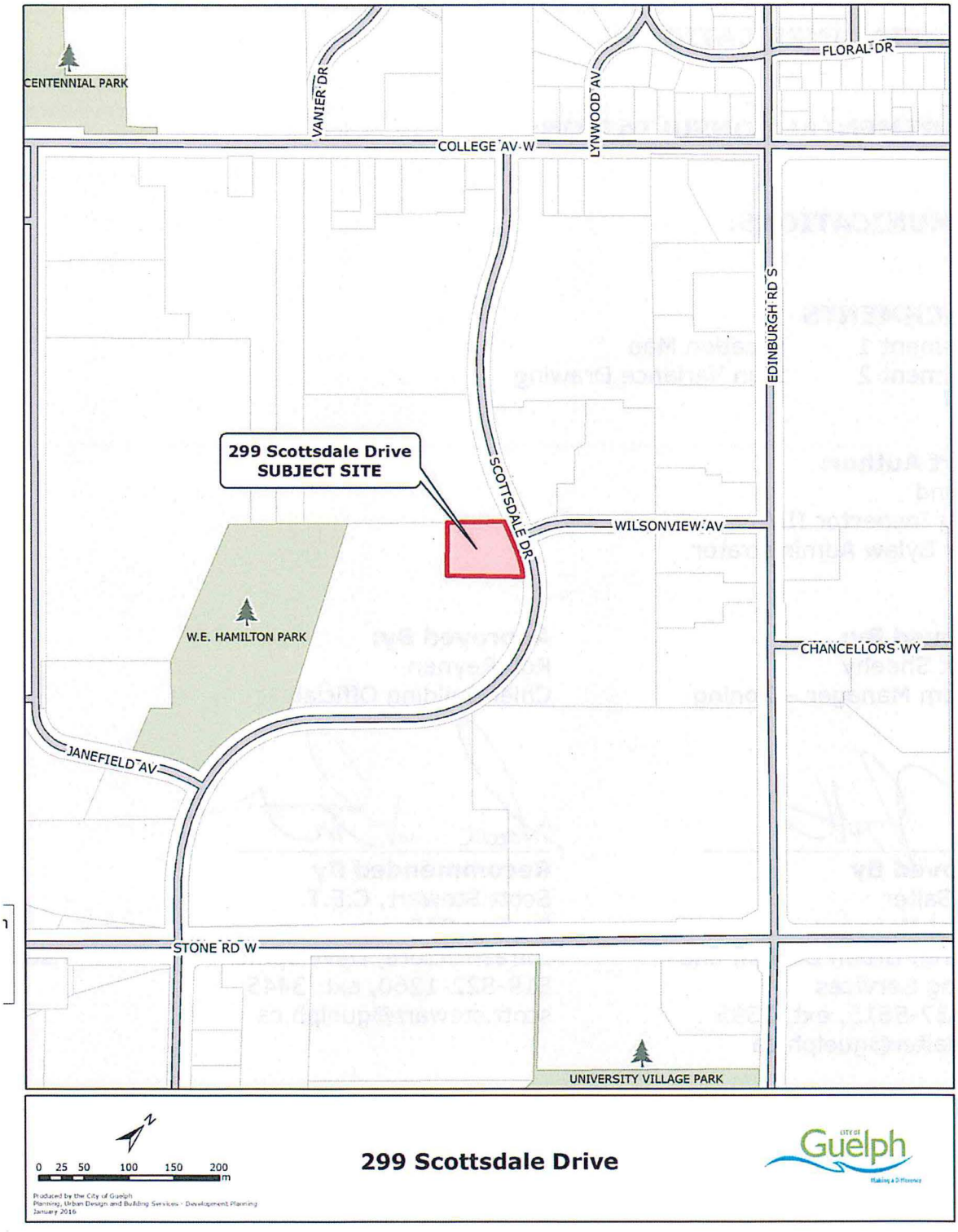
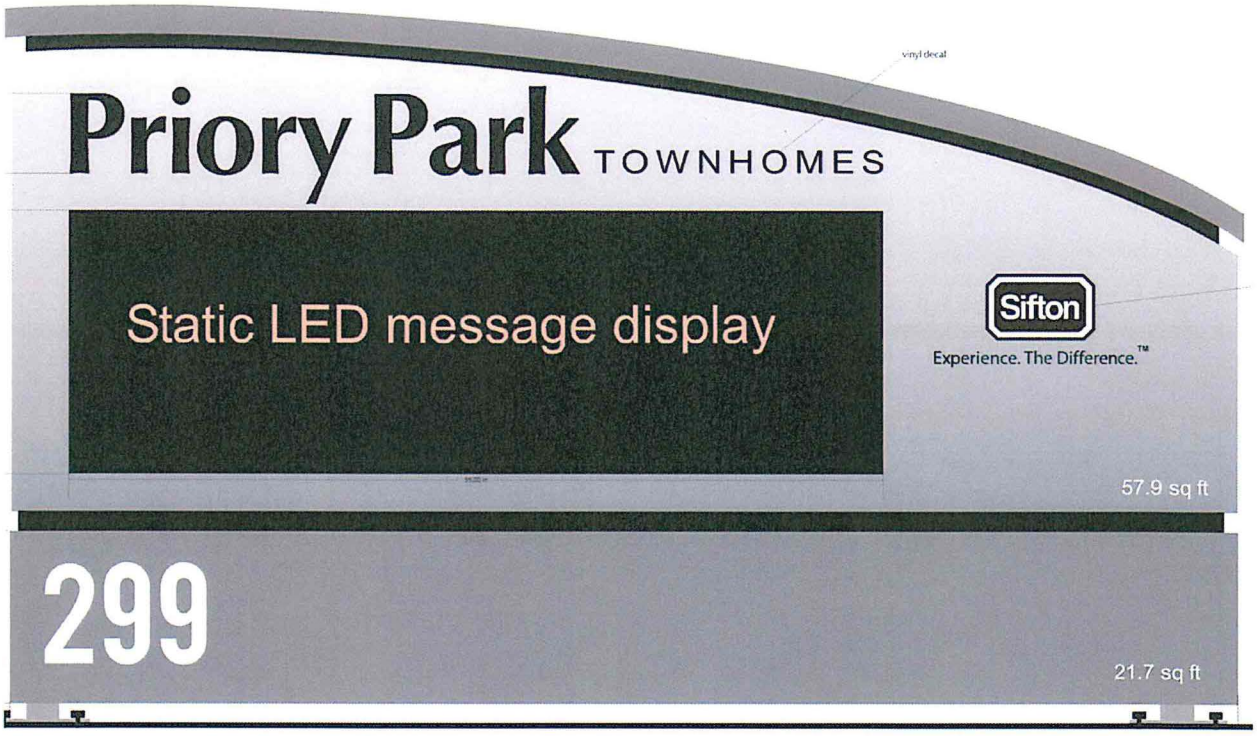
ATTACHMENT 1- Location Map



ATTACHMENT 2 - Sign Variance Drawing

Signage



Sign Face Area 7.4m^2
Illuminated static LED area 2.04m^2

STAFF REPORT

TO	Infrastructure, Development and Enterprise Committee
SERVICE AREA	Infrastructure, Development and Enterprise
DATE	March 1, 2016
SUBJECT	**SIGN BY-LAW VARIANCES 102 Wyndham Street North**
REPORT NUMBER	16-13

EXECUTIVE SUMMARY

PURPOSE OF REPORT

To advise Council of sign by-law variance requests for 102 Wyndham Street North.

KEY FINDINGS

The City of Guelph Sign By-law Number (1996)-15245, as amended, restricts a sign that is perpendicular to a building face to the first storey of a building and to a maximum sign face of $0.6m^2$ in the Central Business District (CBD) Zone.

2427205 Ontario Limited operating as Fast Sign Guelph has submitted a sign by-law variance application on behalf of BioPed to permit one (1) double faced BioPed sign with a sign face area of $0.74m^2$ to be located perpendicular to the building on the second storey of 102 Wyndham Street North.

The requested variance from the Sign By-law is recommended for approval for the following reasons:

- The signage will assist the public in locating this downtown business;
- Alternative locations on the Wyndham Street side of the building are limited given the existing signage of the business which shares the same building;
- The sign will not contain lighting and complies with other provisions of the Sign By-Law;
- The proposed location on the second storey will not detract from the appearance of the building; and
- The proposed sign will not have a negative impact on the streetscape or surrounding area.

FINANCIAL IMPLICATIONS

N/A

ACTION REQUIRED

To approve the requested sign by-law variances for 102 Wyndham Street North.

STAFF REPORT

RECOMMENDATION

1. That Report 16-13 from Infrastructure, Development and Enterprise dated March 1, 2016 regarding sign by-law variances for 102 Wyndham Street North, be received.
2. That the request for variances from the Sign By-law to permit one (1) double faced sign with a sign face area of 0.74m^2 to be located perpendicular to the building on the second storey of 102 Wyndham Street North, be approved.

BACKGROUND

2427205 Ontario Limited operating as Fast Sign Guelph had submitted a sign permit application on behalf of BioPed at 102 Wyndham Street North (see "Schedule A– Location Map). Upon review of the application it was observed that the proposed sign has a sign face area of 0.74m^2 and is proposed to be located on the second storey of the building, perpendicular to the building face. The City of Guelph Sign By-law Number (1996)-15245, as amended, restricts a sign that is perpendicular to a building face to the first storey of a building and to a maximum sign face of 0.6m^2 in the Central Business District (CBD) Zone. For these reasons, the permit could not be issued.

REPORT

2427205 Ontario Limited operating as Fast Sign Guelph has submitted a sign by-law variance application on behalf of BioPed to permit one (1) double faced BioPed sign with a sign face area of 0.74m^2 to be located perpendicular to the building on the second storey of 102 Wyndham Street North.

The following is a summary of the reasons that have been supplied by the applicant in support of the variance requests:

- BioPed shares the same building with another business and due to the large awning, they have no visibility on Wyndham Street; and
- the only available area is on the second floor level above the other business' awning.

The requested variances are as follows:

	By-law Requirements	Request
Maximum sign face area per face	0.6m^2	0.74m^2
Permitted location on a building or structure	1st Storey	2nd Storey

The requested variance from the Sign By-law is recommended for approval for the following reasons:

- The signage will assist the public in locating this downtown business;
- Alternative locations on the Wyndham Street side of the building are limited given the existing signage of the business which shares the same building;
- The sign will not contain lighting and complies with other provisions of the Sign By-Law;

- The proposed location on the second storey will not detract from the appearance of the building; and
- The proposed sign will not have a negative impact on the streetscape or surrounding area.

CORPORATE STRATEGIC PLAN:
3.1- Ensure a well-designed, safe, inclusive, appealing and sustainable City

FINANCIAL IMPLICATIONS:
N/A

DEPARTMENTAL CONSULTATION:
N/A

COMMUNICATIONS:
N/A

ATTACHMENTS

Attachment 1	Location Map
Attachment 2	Sign Variance Drawings

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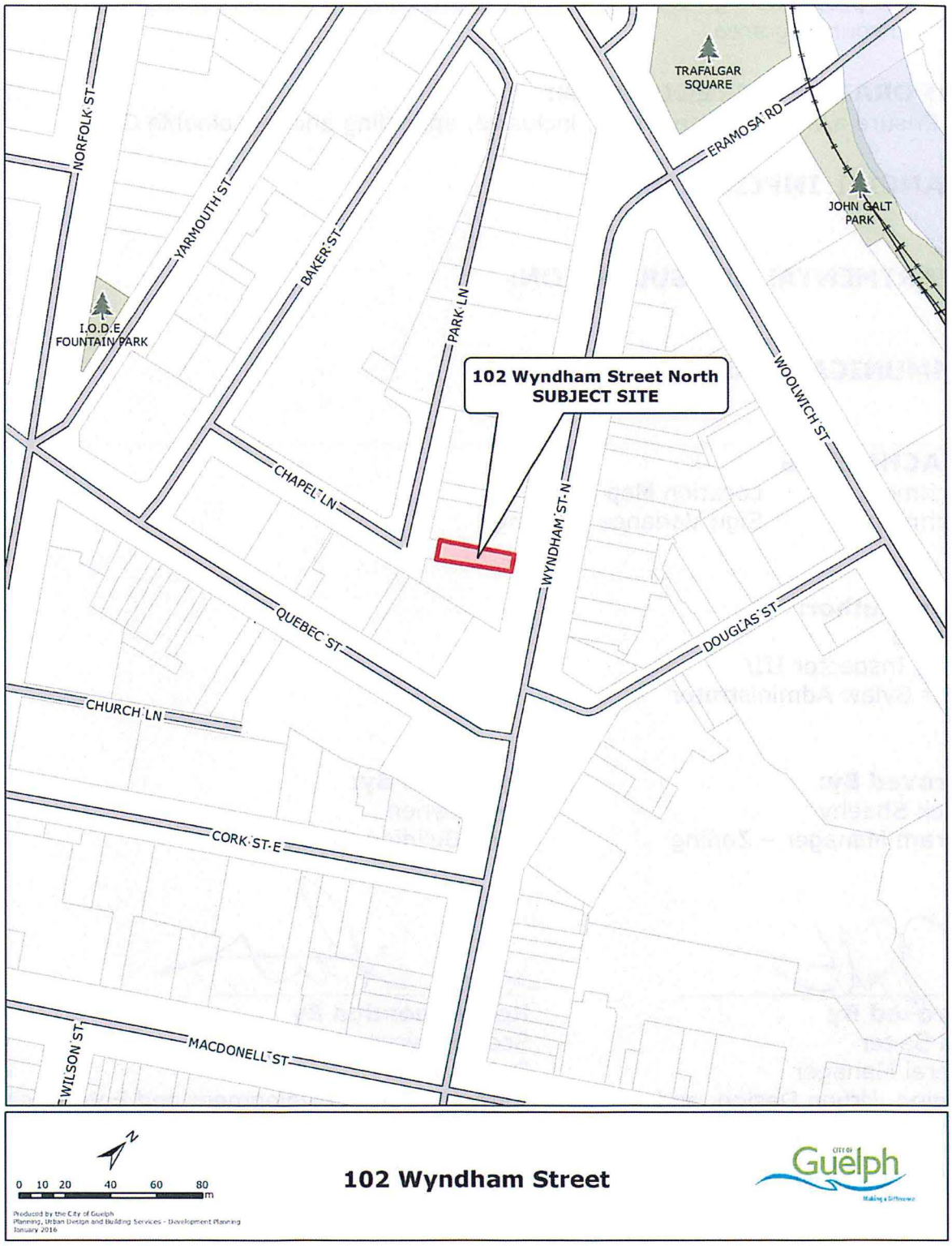
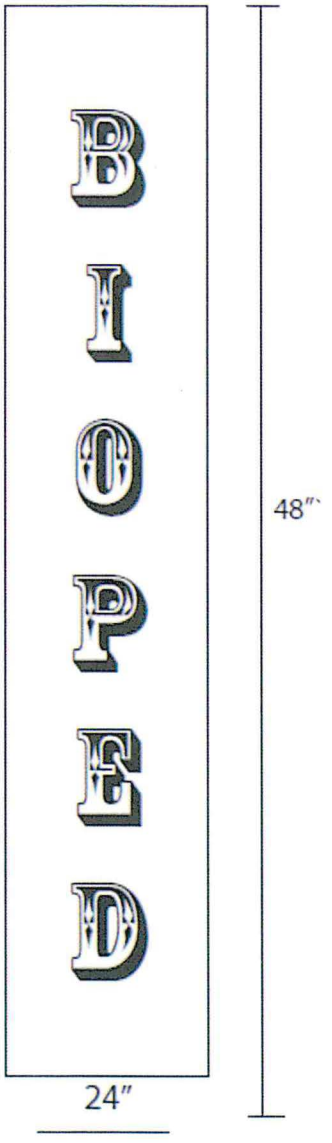
ATTACHMENT 1- Location Map

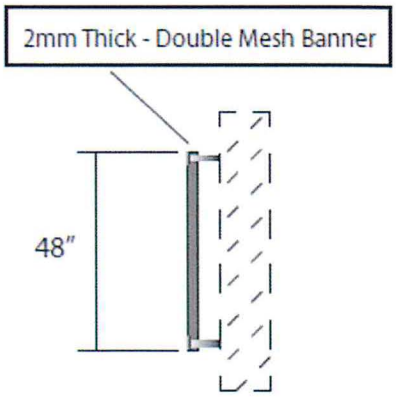


ATTACHMENT 2- Sign Variance Drawings

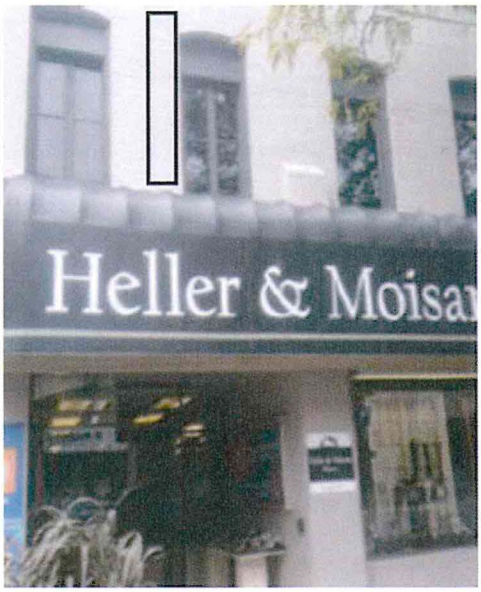
Signage



Protrusion from building:
Banner Sign: 24"
Wall Bracket: 4"
TOTAL Protrusion: 28"



Proposed Location



STAFF REPORT

TO	Infrastructure Development and Enterprise Committee
SERVICE AREA	Infrastructure, Development and Enterprise
DATE	March 1, 2016
SUBJECT	**Heritage Redevelopment Reserve Grant Application for 15 Wyndham Street North (Petrie Building)**
REPORT NUMBER	16-10

EXECUTIVE SUMMARY

PURPOSE OF REPORT

To recommend that Council approve a grant from the Heritage Redevelopment Reserve as a contribution to the costs of stabilization and repair of the historic front façade of the Petrie Building at 15 Wyndham Street North. This is a tax increment-based grant (TIBG) that would support physical stabilization of the heritage attributes of a landmark building in Guelph's downtown – an architectural showpiece that for many years has needed proper conservation of its historic galvanized metal façade.

KEY FINDINGS

Provisions of the Ontario Heritage Act allow Council to provide financial support for appropriate alteration of designated heritage property.

The City of Guelph's Heritage Redevelopment Reserve has been established to provide incentive for projects to develop or renovate property that would involve the restoration or refurbishment of heritage elements of the property through tax increment-based financing.

Tyrcathlen Partners are investing well over $300,000 in the rehabilitation of the front façade of the Petrie Building, a designated heritage building, in conjunction with their current proposed commercial development of the Petrie Building (and the neighbouring property at 19 Wyndham Street North) to activate 7,600 sq. ft. of commercial space and 3,100 sq. ft. of office space within the property. The value of both properties combined and improved are estimated be in the range of $1.25M which would equate to a tax increase of about $9,100 per year. Determination of the final upset limit for the TIBG grant is calculated in the Financial Agreement based on the official and actual property value assessment post-renovations. Any reduction in that re-assessed value would result in a corresponding decrease in the grant amount.

In 2015, through the Downtown CIP, the project was awarded Downtown Minor Improvement Grants were awarded for both 15 and 19 Wyndham Streets. These grants target the interior redevelopment of both buildings' vacant and derelict upper storeys and do not contribute to the stabilization and restoration of the designated façade restoration.

FINANCIAL IMPLICATIONS

There is currently approximately $290,000 available/uncommitted from the Heritage Redevelopment Reserve grant allocation for new applications.

ACTION REQUIRED

Council is asked to approve the proposed financial contribution to the stabilization and repair of the Petrie Building façade from the Heritage Redevelopment Reserve and to direct staff to enter into a comprehensive Tax Increment-based Grant Financial Agreement and a Heritage Conservation Easement Agreement between the owner and the City of Guelph.

RECOMMENDATION

1. That Report 16-10 regarding the proposed Heritage Redevelopment Reserve grant application for 15 Wyndham Street North (Petrie Building) from Infrastructure, Development and Enterprise dated March 1, 2016, be received.

2. That the Heritage Redevelopment Reserve grant application for 15 Wyndham Street North (Petrie Building) be approved in principle as per the Heritage Redevelopment Reserve Policy with a upset maximum total grant payment limit of $91,000 (or a lesser amount if the actual calculated property tax increase created by the commercial development of the subject property is less than estimated). Installments would be payable annually (approximately $9,100 per year) over a maximum of 10 years.

3. That the City Solicitor be directed to prepare a comprehensive Tax Increment-based Grant Financial Assistance Agreement between the owner and the City of Guelph to the satisfaction of the General Manager of Finance generally in accordance with provisions outlined in Report 16-10.

4. That the City and owner enter into a Heritage Conservation Easement Agreement involving the Petrie Building at 15 Wyndham Street North to the satisfaction of the General Manager of Planning, Urban Design and Building Services and the City Solicitor prior to any grant payments being issued to the owner.

BACKGROUND

According to Section 39(1) of Part IV of the *Ontario Heritage Act*,

> …the council of a municipality may pass by-laws providing for the making of a grant or loan to the owner of a property designated under this Part for the

purpose of paying for the whole or any part of the cost of alteration of such designated property on such terms and conditions as the council may prescribe.

In 2007, the Guelph City Council established the Heritage Redevelopment Reserve as a tax increment-based financing incentive program that calculates a grant on the higher property tax that is generated from development (the tax increment) that puts heritage buildings that might not otherwise be developed, back into productive use. The Heritage Redevelopment Reserve has been funded through contributions from the operating budget as approved by Council during the annual budget process.

On September 4, 2007, Guelph City Council approved the Heritage Redevelopment Reserve Policy to provide guidelines on the allocation of funds for the Heritage Redevelopment Reserve.

Funds from the Heritage Redevelopment Reserve are used to provide financial assistance to property owners who wish to undertake projects to develop or renovate property that would involve the restoration or refurbishment of heritage elements of the property. The City's contribution is used solely to offset the allowable project costs for work on heritage elements of the property and various design enhancements on new aspects of the project to ensure compatibility with the heritage elements. Funds are not to be used for new construction or restoration of existing buildings with no heritage resources.

The grant program is based on the principle of tax increment-based financing. The total financial assistance to be provided would be limited by the anticipated increase in tax revenue to be generated by the project over an appropriate timeframe not to exceed 10 years. This helps to ensure that the cost of the TIBG is offset by the increase in property taxes, with the tax increase generated by the project benefiting the City after this period elapses. In essence, the City is acknowledging that the increase in tax revenue would not occur without the redevelopment of the property and defers the collection of this increased revenue until after the timeframe elapses.

To date, the Heritage Redevelopment Reserve has entered agreements provided financial support to the following designated heritage properties:

Stewart Mill (Phase 1 & 2)	60 Cardigan St	$775,000
Gummer Building	1-7 Douglas St	$1,500,000
Victoria Hotel Building	67-71 Wyndham St N	
Stewart Building	65 Wyndham St N	
Stelle (Wellington Cakes)	9 Douglas St	$26,700

According to the Heritage Redevelopment Reserve Policy, in order for a proposed project to be considered for financial assistance, the following criteria must be met:

1. The applicant must be the registered owner of the property to be developed.
2. The project must result in commercial or residential intensification.
3. The applicant must agree to designate the property under the *Ontario Heritage Act* and to provide a heritage conservation easement to the City of Guelph in order to protect the City's investment in future years. This heritage easement would afford the City third party decision-making authority on the heritage elements of the property.

Allowable Costs:

Costs permitted for reimbursement on qualifying projects may include:

1. 100% of the cost of heritage retention measures;
2. 50% of the cost of enhanced design elements that provide better compatibility of the required new work to the existing heritage resource;
3. 50% of the cost of architectural, structural and environmental consultants including testing and inspections necessary to determine the heritage retention and adaptive re-use potential of the property.

The specific costs to be reimbursed in each instance would be detailed in a comprehensive Financial Assistance Agreement between the applicant and the City of Guelph.

Downtown CIP: Minor Activation Grant 2015

The 15 and 19 Wyndham Street North properties were awarded Minor Activation Grants in 2015 through the Downtown Community Improvement Plan annual program application process. The combined total of the grants was $240,000 and are targeted toward the interior renovation of the derelict upper storeys of both buildings. The estimated renovation project to bring the buildings to habitable and usable space, not including the façade restoration, was over $1,000,000. (See Attachment 5, Information Report IDE-BDE-1508).

REPORT

Tyrcathlen Partners Inc. is a Guelph-based business that owns, develops and manages urban heritage properties including the "Granary Building" at 111 Farquhar Street and "Boarding House Arts" at 6 Dublin Street South.

Tyrcathlen Partners Inc. has purchased 15 Wyndham Street North (the historic Petrie Building) and 19 Wyndham Street North in order to develop both properties together with new commercial uses in the first, second and third floors of the combined property. An important aspect of the development is their proposal to stabilize and repair the designated Petrie Building metal-clad front façade – a unique landmark in Guelph's downtown and Canada's architectural history. The proponent is requesting Council's consideration of financial assistance in the form of a grant from the Heritage Redevelopment Reserve for work that serves to conserve the heritage attributes of the Petrie Building's front façade. Based on the estimated

increase in property taxes resulting from the renovation/re-use of the building, the maximum total grant payment or upset limit would be $91,000. Installments would be payable annually (approximately $9,100 per year) over a maximum of 10 years. The annual grant payment cannot exceed the calculated property tax increase created by the development of the subject property. Payments would begin only after the building is re-assessed post-renovation and the actual amount of the increment is confirmed.

Description of the Historic Significance of the Petrie Facade

The Petrie Building, a local landmark building, was built in 1882 for Alexander Bain Petrie, a local pharmacist and one of the city's most successful and influential businessmen. Designed by Guelph architect John Day, the four-storey structure boasts an ornate façade of stamped galvanized iron that is further distinguished by a large mortar and pestle within its pediment. It is one of only three documented buildings erected in Canada prior to 1890 with a full sheet-metal façade. Designated by the City under Part IV of the *Ontario Heritage Act* through By-law (1990)-13553. The designation by-law protects the entire exterior of the original building.

The ground floor of the Petrie Building had been occupied by the Apollo Eleven restaurant since 1976, but the upper floors have remained vacant for some decades. The purchase of the Petrie Building by Tyrcathlen Partners marks the start of an exciting new chapter in the story of the Petrie Building and for commercial development in Guelph's downtown core.

Proposed Project Work Plan

The work plan for the Petrie Building façade improvements is scheduled in 3 phases and is expected to cost $300,000. Tyrcathlen Partners have applied for the maximum amount allowed for their property from the Heritage Redevelopment Reserve.

Phase 1

Tyrcathlen Partners began the first phase of their project work plan in April 2015 by engaging heritage professionals in a preliminary assessment of the condition of the Petrie façade and to review options and acquire basic cost estimates for stabilization and ongoing rehabilitation. The owner has investigated the scale of missing lower level façade elements and has developed an initial plan for the transition between the historic façade and functioning street level windows and entrance(s). Options have been assessed for updating and weather proofing the front façade windows.

In the past year the property owner has joined with the Guelph and Wellington Branch of the Architectural Conservancy of Ontario (ACO) through a Joint Venture Agreement so that together they may be eligible to apply for approval of a crowdfunding platform. The Guelph/Wellington ACO Branch plans to launch 4 to 6 month crowdfunding campaign targeted at replacing missing elements of the Petrie Building façade.

At Heritage Guelph meetings held October 21, 2015 and December 14, 2015 Tyrcathlen Partners and there heritage architect received strong support from Heritage Guelph regarding their plans for the adaptive re-use of the Petrie Building that would include rehabilitation of the historical metal façade. At their meeting of February 8, 2016 Heritage Guelph carried the following motion:

> That Heritage Guelph supports the request by Tyrcathlen Partners for a grant from the Heritage Redevelopment Reserve as a financial contribution to the stabilization and restoration of the front façade of the Petrie Building at 15 Wyndham Street North.

Tyrcathlen Partners' current application for financial assistance from the City of Guelph seeks funding to support the next two phases of the Petrie Building project. Budget estimates are based on an aggregate of estimates received from heritage restoration professionals: Heather & Little Ltd., Empire Restoration Inc., and Paradigm Shift Customs.

Phase 2 - Initial Stabilization and Repair (March 2016 – June 2016)
Budget estimate for Phase 2: $150,0000 – $175,000

a. Scaffolding to cover façade for a period of 2-3 months

b. First round of stabilization to include selective rust conversion treatment

c. Sheet metal replacement where needed to make building watertight

d. Sealing weak areas which cannot be repaired at this time

e. Enforcing attachment or removing ornaments where needed for safety reasons

f. Install (transitional) lower level façade section to make building water tight and allow completion of street level section as well as fire separation between first and second floors

g. Rehabilitation of second floor window frames, work on third and fourth floor frames dependent on budget and over-all condition

h. Repoint and repair stone masonry along the sides of the metal façade

Phase 3 - Initial Rehabilitation (July 2016 – December 2016 or TBD)
Budget estimate for Phase 3: $75,000 - $125,000

a. Replace second, third and fourth floor windows (likely with non-operating windows) in the same style as original windows

b. Enhance lower level façade section with funds raised by ACO

c. Replace weakened areas if budget permits

d. Apply coating to preserve surface and prevent rust/deterioration

Table 1: Overall cost summary
The overall façade project cost is $300,000. The eligible amount for a grant from the Heritage Redevelopment Reserve is approximately $91,000 (the estimated property tax increase resulting from the overall redevelopment of the property. This scenario presents a ratio of private investment being 3.3 times more than the City's grant contribution.

Address	Proposed Improvement	Estimated Façade Project Total	Estimated Property Tax Increase	Grant Request
15 Wyndham St N	Stabilization and repair of heritage attributes	$300,000	$91,000	$91,000
	Estimated Investment Ratio Private : City Dollars	**3.3:1**		

CORPORATE STRATEGIC PLAN
City Building – Strategic Directions 3.1: Ensure a well-designed, safe, inclusive, appealing and sustainable City.

FINANCIAL IMPLICATIONS
There is roughly $290,000 available/uncommitted from the Heritage Redevelopment Reserve grant allocation for new applications.

The existing Downtown CIP Minor Activation grants on the subject property are fully funded through the Downtown Renewal Office's 'Grants' operating budget. These grants leverage over $1,000,000 in construction costs toward the rehabilitation of the interior derelict spaces.

DEPARTMENTAL CONSULTATION
IDE: Business Development and Enterprise/Downtown Renewal
Corporate Services: Finance

COMMUNICATIONS
None

ATTACHMENTS
Attachment 1 – Location Map
Attachment 2 – Petrie Building (c. 1882)
Attachment 3 – Property in current ownership (January 2016)
Attachment 4 – Key to sheet metal ornaments on the 1882 Petrie facade
Attachment 5 – Downtown CIP Grant Awards - Report IDE BDE 1508 (See link - http://guelph.ca/wp-content/uploads/info_items_091815.pdf#page=2)

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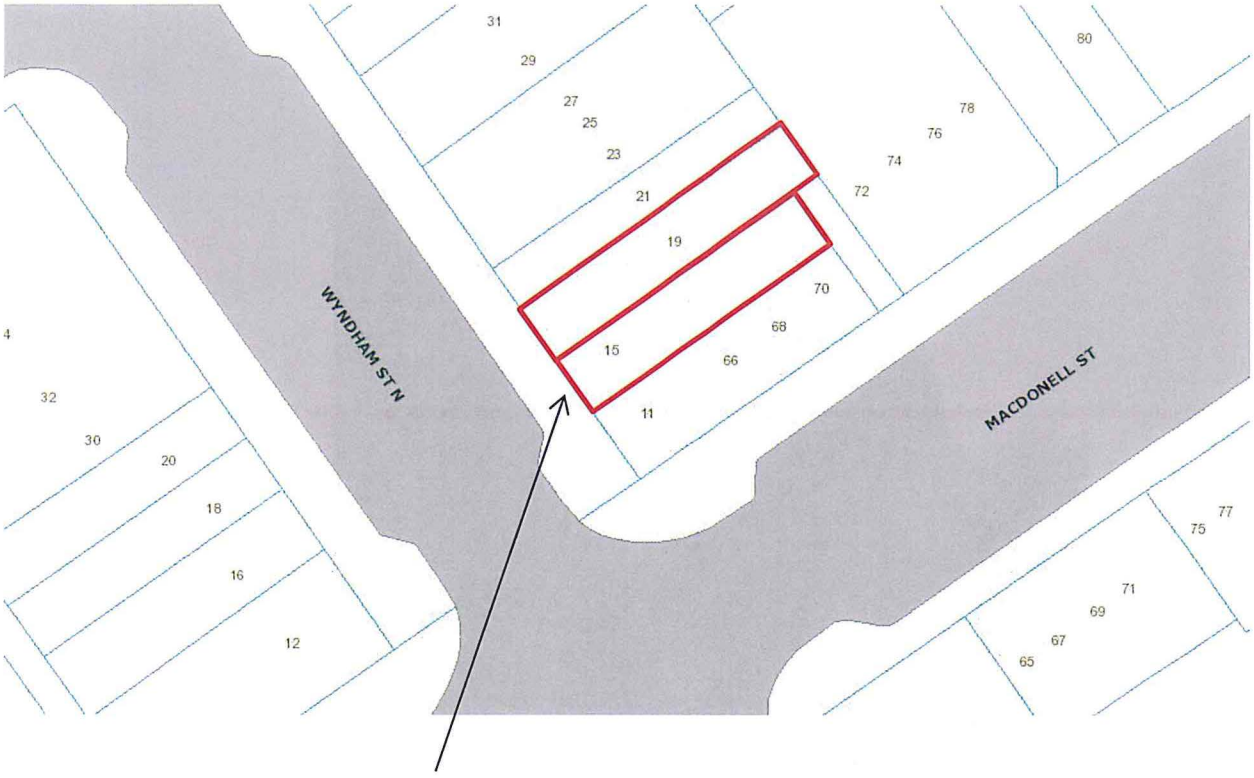
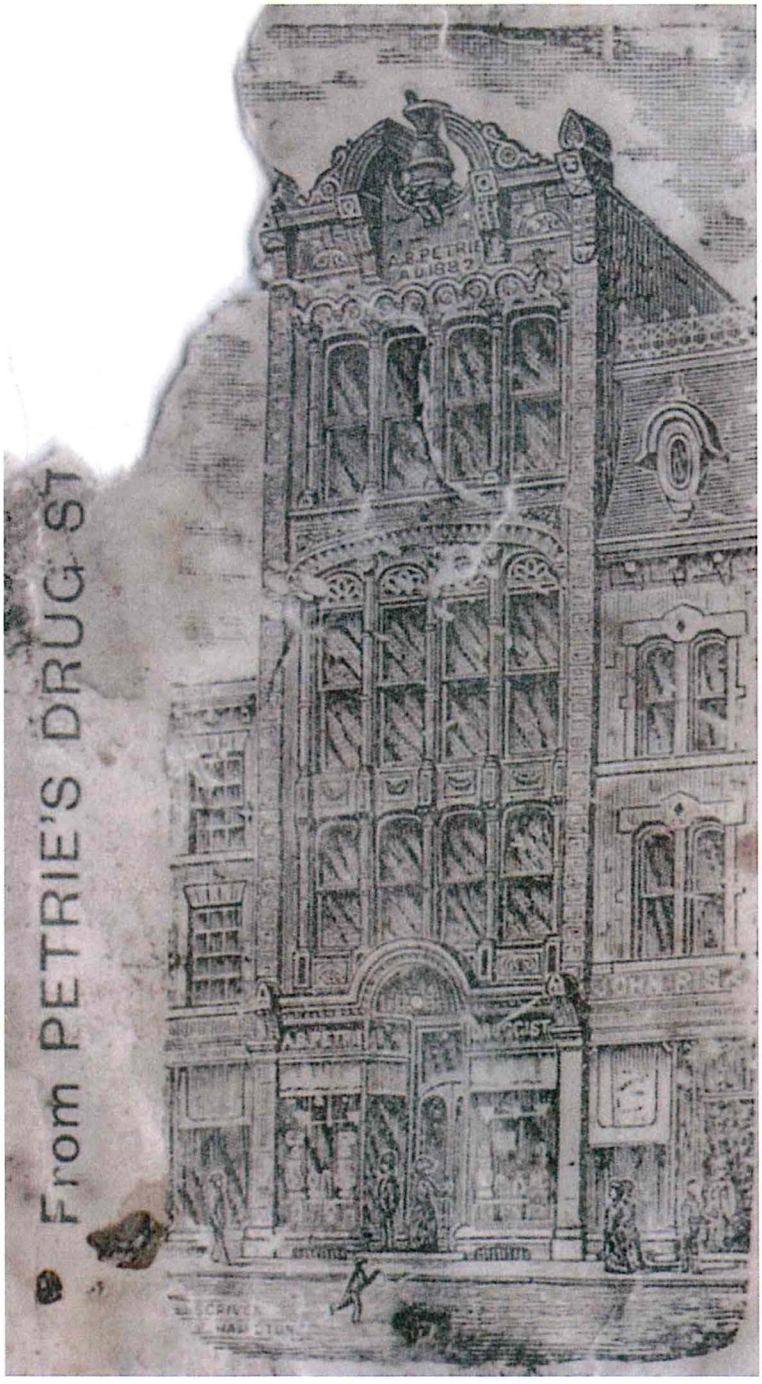
ATTACHMENT 1 – Location Map



15 and 19 Wyndham Street North

ATTACHMENT 2

Petrie Building (c. 1882)



ATTACHMENT 3

Property in current ownership (January 2016)

ATTACHMENT 4

Key to sheet metal ornaments on the 1882 Petrie facade