



Finance, Administration and Operations Committee

Tuesday, February 21, 2017, 4:15 pm
City Hall, Council Chambers

Committee Members

Councillor L. Bursey,
Chair
Councillor T. Blanchard
Councillor P. Deery
Councillor J. Fullarton
Mayor D. Henderson,
Ex-Officio

Areas of Responsibility:

Clerk's Office	CRCA
Environmental Services	Cemetery
Finance Department	Health Unit
Fire Department	Joint Services
Human Resources Dept.	Committee
Operations Department	PLMG
Airport Commission	Police Services Board
Arena Advisory Board	Safe Communities
Brockville Municipal	Coalition
Accessibility Advisory	St. Lawrence Lodge
Committee (BMAAC)	Management Board
	Volunteer Awards

All legal matters
[excepting the purchase
and sale of land]

Page

AGENDA

DISCLOSURE OF INTEREST

DELEGATION(S) AND PRESENTATION(S)

- 5 - 15 1. The Healthy Communities Partnership:
Lanark, Leeds and Grenville
Dr. Paula Stewart

Dr. Stewart will present the Healthy Community Report, Summary Report and a plaque to the committee.

CORRESPONDENCE

Nil.

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February 21, 2017

STAFF REPORTS

- 16 - 39 1. 2017-019-02
 2016 Annual Water Quality Report
 Brockville Drinking Water System
- THAT the 2016 Annual Water Quality Report on the Brockville Drinking Water System, Attachment 1 to Report 2017-019-02, be received; and*
- THAT the Director of Environmental Services be designated to sign the 2016 Annual Water Quality Report on the Brockville Drinking Water System.*
- 40 - 59 2. 2017-018-02
 2016 Annual Summary Report
 Water Pollution Control Centre
- THAT the 2016 Annual Summary Report on the City of Brockville's Water Pollution Control Centre, Attachment 1 to Report 2017-018-02 be received; and*
- THAT the Director of Environmental Services be designated to sign the 2016 Annual Summary Report on the City of Brockville's Water Pollution Control Centre; and*
- THAT the 2016 Annual Summary Report on the City of Brockville's Water Pollution Control Centre be forwarded to the MOECC District Office - Kingston.*
- 60 - 62 3. 2017-016-02
 Proposed Parking Restrictions
 Liston Avenue
- THAT parking be restricted on the south side of Liston Avenue from Millwood Avenue to 32.0 metres west of Millwood Avenue (one parking space west of the Camelot entrance)*
- THAT Schedule "1" of Subsection 72 of By-law 119-89 be amended accordingly.*

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- 63 - 74 4. 2017-021-02
By-law to Establish and Adopt
Terms of Reference for the
Brockville Cemetery Board

THAT Council approve the Establishing By-law and Terms of Reference for the Brockville Cemetery Board; and

THAT the necessary by-law be enacted.

- 75 - 81 5. 2017-020-02
2016 Interim Variance Report

THAT Council receives the Final Interim Variance Report for the year ended December 31, 2016 for information purposes.

NEW BUSINESS

- 82 1. Hydro One Rates
Councillor Bursey

WHEREAS there is inequity between the cost of hydro for rural residents as compared to urban residents due to higher distribution charges; and

WHEREAS this practice targets and negatively affects rural residents, especially those who are already unable to pay for the high cost of hydro;

NOW THEREFORE BE IT RESOLVED THAT the City of Brockville request the Province to re-evaluate the structural changes to address the unfair practice of charging more for delivery for rural residents.

2. Guaranteed Annual Income Pilot Project
Councillor Bursey

WHEREAS the Province of Ontario has already earmarked funding for a Guaranteed Annual Income Pilot Project; and

WHEREAS public consultations concluded last month and the province is now deciding the parameters of the pilot project, as

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well as where the pilot project will take place; and

WHEREAS communities across Ontario are beginning to apply for consideration for the pilot project, considering the funding has already been announced; and

WHEREAS this funding stream has support from across the political spectrum, and could lead to a positive microeconomics impact on a small urban setting like Brockville, including increased food security and poverty reduction, as well as local commerce;

THEREFORE BE IT RESOLVED THAT the Corporation of the City of Brockville formally express our interest in being considered for a Guaranteed Annual Income Pilot Project that has already been announced by the Province of Ontario.

FAO - CONSENT AGENDA

ADJOURNMENT

THAT the Finance, Administration and Operations Committee adjourn its meeting until the next regular meeting scheduled for March 21, 2017.



Healthy Communities:

City of Brockville

2016



BROCKVILLE
CITY OF THE 1000 ISLANDS



Prepared by:

Healthy Communities Partnership: Lanark, Leeds & Grenville

Healthy Communities Vision Lanark, Leeds and Grenville

Healthy people in Lanark, Leeds & Grenville live, learn, work and play in healthy communities



All community members have the opportunity to make the choices that enable them to live a healthy life, regardless of income, education, or ability.

Healthy community environments promote well being and quality of life and contribute to integrated community sustainability (cultural vitality, economic health, environmental responsibility and social equity).

Physical Activity

All community members have the necessary knowledge, interest, resources and opportunities to be physically active, including being active outdoors in nature.

Healthy Eating

All community members have food knowledge and skills, and access to local, safe, healthy, affordable and culturally appropriate food.

Mental Well Being and Resiliency

All community members are engaged and connected and have access to resources, and are able to cope with life's challenges within a safe, supportive community.

Substance/Alcohol Misuse Prevention

All community members have a responsible attitude towards alcohol and other drugs, and the community supports skills and knowledge for healthy decision making and risk reduction.

Tobacco Use/Exposure Prevention

All community members have knowledge about tobacco use, skills for risk reduction and have less exposure to tobacco smoke in public and recreation settings.

Injury Prevention

All community members have the knowledge and skills to prevent injuries, and a healthy environment in which to live, learn, work and play.

INTRODUCTION

Healthy communities are vibrant and connected. They support healthy choices and enhance learning, growth and development. Economic benefits include less school and workplace absenteeism, more innovation, and less use of the health care system. People are drawn to healthy communities.

The Healthy Communities Partnership (HCP) was formed in Lanark, Leeds and Grenville in 2010 to bring communities (e.g., geographic, population) together to mobilize organizations and leaders to develop policies and environments that promote healthy living. The Partnership developed the Municipal Healthy Community Initiative to celebrate what municipalities are currently doing to support a healthy community, and to provide a platform for municipalities to learn from each other.

The objectives of the Municipal Healthy Community Initiative are to:

- Introduce municipal councils and staff to the Healthy Communities Vision, and encourage them to endorse the Vision;
- Highlight what municipalities are currently doing to support a healthy community through the completion of the Healthy Community Asset Inventory Tool (HCAIT);
- Support and provide resources for the work municipalities undertake as they continue their journey towards a Healthy Community by building on current assets and initiatives;
- Track progress towards and celebrate the success of municipal activities to create Healthy Communities across Lanark, Leeds, and Grenville.

The HCP held focus groups across Lanark, Leeds and Grenville region to create the Healthy Communities Vision (page 2) that guides the work of the HCP and the Municipal Healthy Community Initiative. The questions posed to participants were: what does a healthy community look like to you, and how do we make the healthy choice the easy choice? Initial drafts of the Vision were shaped by many of these same organizations resulting in a “made in Lanark, Leeds and Grenville” statement of what a healthy community means to residents. Collectively there is much we can do to make the vision a reality, and many municipalities, organizations and individuals have already endorsed the Lanark, Leeds, Grenville Healthy Community Vision.

Staff from three local municipalities – Rideau Lakes, Beckwith and Smiths Falls – developed a Municipal Questionnaire to collect information on what municipalities are currently doing to support a health community.

This report celebrates the work the City of Brockville is doing to create a healthy community and make the “healthy choice, the easy choice” for the residents of their city. Brockville staff completed the Municipal Questionnaire.

BROCKVILLE SUPPORTS A HEALTHY COMMUNITY

PHYSICAL ACTIVITY

Vision: All community members have the necessary knowledge, interest, resources and opportunities to be physically active, including being active outdoors in nature.

Section 1: PROGRAMMING AND FACILITIES

Facilities and Programs

The city has the following facilities in the community provided either by the city itself, in partnership, or privately. Some are in high demand (***) , others in medium (**), and some in low demand (*). Many have specific programs for the residents.

- Soccer field ** with a soccer program.
- Baseball diamond ** with baseball program
- Indoor swimming pool ** with swimming program
- Ice arena *** with a hockey and ice skating program
- Outdoor skating rink ***
- Public beach ** with a swimming program
- Community centre ** with dance, art, cards and fitness programs
- Running track **
- Tennis courts *
- Curling club ** with a curling program
- Skateboard park **
- Bike paths **
- Walking trails *** with a walking program
- Lawn bowling pitch **
- Splash pad/wading pool ***
- Football and rugby fields ** with programs



Brockville has Ontario's first Paved Pump Track at Rotary Park.

Safety is taken seriously and the city ensures there is lighting, appropriate signage, and enhanced police coverage for major events.

All facilities, playing fields, and parks are smoke free.

Reaching out to the Residents

Recognizing that children and adults have different interests, programs for the following groups are offered through private or community organizations:

- Young children (age birth to 6)
- Children age 7 to 12
- Youth age 13 to 18
- Adult and seniors
- Families (children and parents together)
- Children and Youth with disabilities/special needs
- Adults with disabilities/special needs
- Intergenerational (mix of children, youth, adults, seniors)
- Ethnic/cultural groups
- Low Income individuals / families



A variety of methods are used to communicate information about recreation facilities and opportunities:

- Website
- Social media
- Notices at recreation facilities
- Notices sent out by other agencies/partners

Section 2: BUILT ENVIRONMENT

Part A: Land Use Planning

Land use planning around both new and existing developments provides opportunities to create built environments that promote being physically active in a safe place.

A Complete Streets approach includes elements for designing and maintaining streets with safe access for all users. Brockville includes the following elements of a Complete Streets approach in its policy for designing and maintaining streets:

- Specify that 'all users' includes pedestrians, bicyclists, transit vehicles and users, and motorists, of all ages and abilities
- Aim to create a comprehensive, integrated, connected street network for all users, not only motorists
- Recognize the need for flexibility: that all streets are different and user needs will be balanced
- Apply to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right of way
- Direct the use of the latest and best design standards
- Direct that complete street solutions fit into the context of the community

With new development, Brockville has several policies and practices in place to further support physical activity as part of healthy living:

Current

- Safe places to walk (e.g. sidewalks or walking paths)
- Bicycle paths
- Shops that are accessible by walking or bicycle.
- Schools that are accessible by walking or bicycle
- Sport and recreation facilities that are accessible by walking or bicycle
- Parkland or green space that is accessible by walking or bicycle
- Complete, mixed-use communities with good access to employment, shopping, education, recreational opportunities, and health care to help reduce car trips.
- Using a percentage of development charges to support recreation.
- For the recreation department to have the opportunity to provide input on subdivision development plans.
- Preferentially accepting green space/parkland from developers instead of the option of 5% cash in lieu
- Criteria for the acceptability of green space/parkland (e.g.: in terms of location or terrain) received from developers
- Requiring trails to be included as part of the infrastructure of development plans

Part B: Active Transportation:

Policies and settings that promote active transportation (walking, biking, wheeling, etc.) have both the environmental benefits of reducing emissions and promoting physical activity during the commute to work or school and for leisure.

To support active Brockville has

- An Active Transportation Plan
- A Cycling Plan

The following policies and/or features are in place to promote active transportation

- Linkages of trails, sidewalks and street crossings that connect to public institutions (i.e. schools, seniors centres, retirement homes), offices, commercial and multi-residential areas
- Bike lanes
- Bike racks located on municipal property
- Shared use paths or trails
- Lighting or traffic calming measures that enhance personal safety



Residents enjoy 9 km of shared use paths and bike lanes and 105 km of sidewalks within the city.

To further support active transportation, the City of Brockville has appointed a Cycling Advisory Committee as a committee of City Council.

Section 3: OUTDOOR AND NATURAL ENVIRONMENT

Being outdoors in nature has been shown to have benefits for physical and mental health. The City of Brockville supports being outdoors in nature by:

- Maintaining a network of trails for:
 - * walking/hiking
- Providing parks and playgrounds with an established system to repair and/or upgrade the parks/playgrounds
 - * 42 parks
 - * 2 fully accessible playgrounds

Section 4: ACCESSIBILITY

It is important that opportunities for physical activity are available for all members of the community. Partnerships with other organizations help to leverage limited resources and connect individuals in the community with assistance in accessing physical activity.

To support accessibility Brockville provides the following:

- Reduced or eliminated membership fees/rates or usage fees
- Municipally-run facilities in the community are fully accessible to children, youth and adults with disabilities or special needs.
- Offering free universal programs

HEALTHY EATING

Vision: All community members have food knowledge and skills, and access to local, safe, healthy, affordable and culturally appropriate food.

Part A: Healthy food choices

Healthy eating can be supported for those using municipal facilities or attending municipal events – including municipal employees, elected officials and members of the public.

In Brockville:

- For employees workplace supports for healthy eating include:
 - * Refrigerator access
 - * Microwave access
 - * Suitable separate space for employees to eat a healthy lunch/snack
 - * Suitable break times for employees to eat a healthy lunch/snack
- For residents, the city provides access to municipal (non-bottled) water at no cost at municipal facilities and events. They have installed water bottle filler adapters on water fountains at municipal facilities.

Part B: Municipal plans and policies around local food systems

Locally grown and produced foods can play a key role in healthy eating as well as support the local economy and protect the environment by reducing the distance that food is transported.

Brockville provides support with policy, projects, and support for the production, preparation, distribution and retailing of local food and management of food-related waste as follows:

- Includes access to healthy food in the Integrated Community Sustainability Plan
- The municipal zoning by-law is structured to be permissive in allowing compatible large and small scale agriculture uses and supporting accessory uses across a variety of zones (e.g. zoning that allows: back yard chickens, farm gate sales, small scale value added production of agricultural goods in a general ‘rural’ zone, secondary dwelling permitted for season farm workers etc.)
- Providing financial or in kind support for community gardens
- Providing municipal support for training and technical assistance in processing and business management for local processing businesses
- Running or providing financial or in kind support for farmers markets

SUMMARY

The City of Brockville has done much to create a healthy environment for residents. It provides many places and programs to encourage physical activity, through the city itself, in partnership, or privately with a strong emphasis on accessibility for all residents. It recognizes the value of healthy eating and the importance of supporting the local food system.

By endorsing the Healthy Community Vision the City of Brockville has publicly affirmed its commitment to continue its work to make the “healthy choice the easy choice” for residents. The Healthy Community Partnership applauds this work and commits to support the city going forward.

ACKNOWLEDGEMENTS

A big **thank you** to the following people who have contributed to the production of this report:

Development of the Healthy Community Asset Inventory Tool:

- Carole Chang, RD - Public Health Nutritionist, Leeds, Grenville & Lanark District Health Unit
- Dr. Catherine Dickson - University of Ottawa
- Susan Dunfield - Manager of Community and Leisure Services, Township of Rideau Lakes
- Michael Dwyer - CAO, Township of Rideau Lakes
- Susan Healey - Communications Coordinator, Leeds, Grenville & Lanark District Health Unit
- Richard Kidd - Reeve, Township of Beckwith
- Elaine Mallory - Director of Planning and Development, Township of Leeds and Thousand Islands
- Cassandra McGregor - Executive Assistant/EDC/Recreation, Township of Beckwith
- Nicole McKernan - Senior Planner, Town of Smiths Falls
- Elaine Murkin, RD - Manager, Healthy Living Department, Leeds, Grenville & Lanark District Health Unit
- Suzanne Rivard - Community Member, Gananoque
- Dr. Paula Stewart - Medical Officer of Health, Leeds, Grenville & Lanark District Health Unit, Chair of Healthy Communities Partnership: Lanark, Leeds & Grenville, Stewardship Committee
- Lois Dewey - Coordinator, Healthy Communities Partnership: Lanark, Leeds & Grenville

Completion of the Asset Inventory for the City of Brockville:

- Conal Cosgrove, Director of Operations, City of Brockville

Production of the Healthy Community Report for the City of Brockville:

- Jodi Drummond - Production Specialist, Leeds, Grenville and Lanark District Health Unit
- Dr. Paula Stewart - Medical Officer of Health, Leeds, Grenville & Lanark District Health Unit, Chair of Healthy Communities Partnership: Lanark, Leeds & Grenville, Stewardship Committee
- Lois Dewey - Coordinator, Healthy Communities Partnership: Lanark, Leeds & Grenville



HEALTHY COMMUNITIES:

City of Brockville

SUMMARY REPORT 2016

PHYSICAL ACTIVITY



Vision: All community members have the necessary knowledge, interest, resources and opportunities to be physically active, including being active outdoors in nature.

The City of Brockville provides many places and opportunities to be active, through the city itself, in partnership, or privately. The city provides the following: Ontario's first Paved Pump Track at Rotary Park, soccer fields, baseball diamond, indoor swimming pool, indoor ice arena, outdoor skating rink, public beach, community centre, running track, tennis courts, curling club, skateboard park, bike paths, walking trails, and lawn bowling pitch, splash pad/wading pool, and football and rugby fields. The most popular places are the: paved pump track, soccer fields,

baseball diamond, indoor swimming pool, ice arena, outdoor skating rink, public beach, community centre, running track, curling club, skateboard park, bike paths, walking trails, lawn bowling pitch, splash pad/wading pool, and football and rugby fields. ice arena, outdoor skating rink, public beaches, community centres, tennis courts, curling club, skateboard park, bike paths, walking trails, lawn bowling pitch, splash pad/wading pool, and football and rugby fields.

Programs are available for all age groups offering: soccer, baseball, swimming, hockey, skating, curling, walking, dance, art, fitness and cards, football and rugby. This city uses a variety of means to notify residents of recreation programs and opportunities including: print, e-based, and notices sent by other agencies/partners.

City of Brockville shows its concern for safety through the provision of lighting, signage, enhanced police coverage for major events.

City of Brockville residents and visitors have opportunities to choose active means to reach schools, shops, recreation facilities, parkland and employment. Bike lanes on roads, schools that are accessible by walking or bicycle, bike racks on municipal property, shared use paths or trails and lighting or traffic calming measures are in place.

This city is active in maintaining trails, parks and playgrounds.

Accessibility is a priority in City of Brockville, demonstrated by: reduced or eliminated fees, their provision of facilities accessible to all, offering free universal programs and their partnership with public and private sectors to provide opportunities for recreation.

HEALTHY EATING

Vision: All community members have food knowledge and skills, and access to local, safe, healthy, affordable and culturally appropriate food.

Residents and employees have access to municipal water at meetings and events and water bottle filler adapters have been installed on water fountains at municipal facilities.

Local food systems are supported in the City of Brockville as follows:

- Access to healthy food is included in the Integrated Community Sustainability Plan
- The municipal zoning by-law is structured to be permissive in allowing compatible large and small scale agriculture uses and supporting accessory uses across a variety of zones
- Provide financial or in kind support for community gardens
- Providing municipal support for training and technical assistance in processing and business management for local processing businesses
- Support of farmers markets

The City of Brockville is active in the creation of a healthy community environment for residents and visitors.

By endorsing the Healthy Community Vision the City of Brockville has publicly affirmed its commitment to continue its work to make the “healthy choice the easy choice” for residents. The Healthy Community Partnership applauds this work and commits to support the city going forward.



FEBRUARY 10, 2017

REPORT TO FINANCE, ADMINISTRATION, OPERATIONS COMMITTEE –
FEBRUARY 21, 2017

2017-019-02

2016 ANNUAL WATER QUALITY REPORT
BROCKVILLE DRINKING WATER SYSTEM

PETER RAABE, P. ENG.
DIRECTOR OF
ENVIRONMENTAL SERVICES

RECOMMENDATION

THAT the 2016 Annual Water Quality Report on the Brockville Drinking Water System, Attachment 1 to Report 2017-019-02, be received; and

THAT the Director of Environmental Services be designated to sign the 2016 Annual Water Quality Report on the Brockville Drinking Water System.

ORIGIN

The Safe Water Drinking Water Act, 2002 - Ontario Regulation 170, Schedule 22 requires that members of Council shall be given the annual water quality report for the preceding calendar year for their approval no later than March 31st. This report covers the period from January 1st, 2016 through December 31st, 2016.

ANALYSIS

Provided is a complete annual water quality report summarizing the plant description and design, flow data and water quality parameters. The 2016 Annual Water Quality Report is available at the Water Treatment Plant and on the City's website.

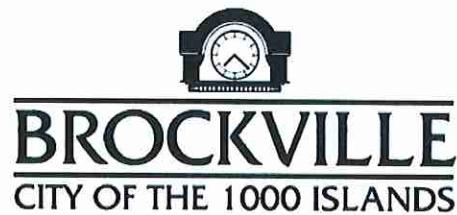


P. Raabe, P. Eng.
Director of Environmental Services

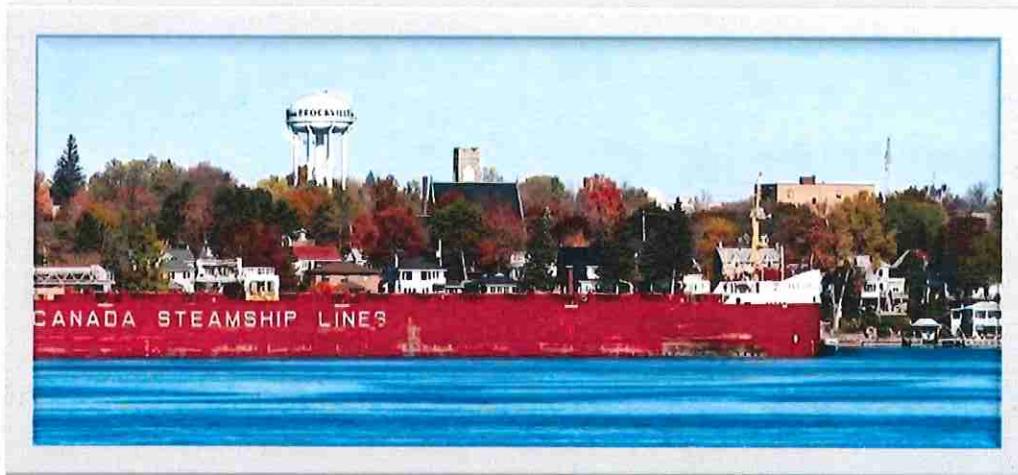


B. Casselman
City Manager

ATTACHMENT 1 TO REPORT 2017-019-02



BROCKVILLE DRINKING WATER SYSTEM



2016 ANNUAL WATER QUALITY REPORT

P. Raabe, P. Eng., Director of Environmental Services
D. Richards, Supervisor Water Systems

DATE: February 2, 2017



Brockville Drinking Water System Annual Water Quality Report 2016

EXECUTIVE SUMMARY

The City of Brockville's Water Systems Division is pleased to provide the 2016 Annual Drinking Water Quality Report. The purpose of this report is to keep the public and Council informed regarding the quality of the City's drinking water and the performance and maintenance of our water treatment and distribution systems.

The City of Brockville is dedicated to delivering a safe, reliable, drinking water supply while remaining compliant with all regulatory requirements. Achievement of those commitments is supported by risk-based process evaluation, staff competency, effective communication, and appropriate contingency/incident response measures. The managers and employees of the City of Brockville who are directly involved in the production and delivery of safe drinking water are committed to and share in the responsibilities for implementing, maintaining, and contributing to the continual improvement of the drinking water quality. The water delivered to the consumers in the City of Brockville and a portion in the Township of Elizabethtown-Kitley continues to be safe, meeting all drinking water quality regulatory standards.

This Annual Drinking Water Quality Report is prepared in accordance with the Municipal Drinking Water Licence, Drinking Water Works Permit for the Brockville Drinking Water System and Ontario Regulation 170/03, Section 11 and Schedule 22. Included with this report are analytical data, plant flow, adverse water quality incidents and corrective action resolutions, as well as a process flow schematic of the facility.

Peter Raabe, P. Eng.
Director of Environmental Services

Don Richards
Supervisor - Water Systems



Brockville Drinking Water System Annual Water Quality Report 2016

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Brockville Drinking Water System Annual Water Quality Report 2016

LIST OF ACRONYMS & DEFINITIONS

AWQI	Adverse Water Quality Incidents
	Examples of adverse water results:
	<ul style="list-style-type: none"> ▪ An analytical result that exceeds a health-based water quality standards ▪ Any evidence that disinfection may not have been effective ▪ Low chlorine residuals
C of A	Certificate of Approval
CFU	colony forming units
CGSB	Canadian General Standards Board
DWQMS	Drinking Water Quality Management Standard
GUDI	groundwater under the direct influence of surface water
L/s	litres per second
m ³ /d	cubic metres per day
mg/L	milligrams per litre
mL	milliliter
ML/d	Mega (million) litres per day
MOECC	Ministry of the Environment and Climate Change (Ontario)
MOH	Medical Officer of Health
PVC	Poly Vinyl Chloride
O. Reg.	Ontario Regulation
PTTW	Permit to Take Water
R.R.O.	Revised Regulations Ontario (1990)
SCADA	Supervisory Control and Data Acquisition
SDWA	Safe Drinking Water Act, 2002
WTP	Water Treatment Plant



Brockville Drinking Water System Annual Water Quality Report 2016

1. INTRODUCTION

This Annual Water Quality Report is for the period from January 1st to December 31st, 2016 and includes reporting for both the municipal drinking water treatment and distribution systems that the City of Brockville owns and operates and the water distribution system that the Township of Elizabethtown-Kitley owns and the City of Brockville operates.

This report contains three different reports required for the City of Brockville and the Elizabethtown-Kitley Drinking Water Systems:

- Section 11 Annual Report, as per Section 11 of O. Reg. 170/03
- Summary report as per Schedule 22 of O. Reg. 170/03
- Summary of the raw water values that were submitted to the Ministry of the Environment and Climate Change under O. Reg. 387/04

This annual report is available to the public at no charge. Users of this drinking water system have been notified that this annual report is available by placing a notice on the City of Brockville's website and water billing inserts. The 2016 Annual Water Quality Report is available to the public at no charge at the following locations:

- City of Brockville's website - www.brockville.com
- City of Brockville – Public Library
- City of Brockville –Revenue Office, City Hall
- City of Brockville – Water Systems Division, 20 Rivers Ave., 613-342-8772 ext. 5510.
- Township of Elizabethtown-Kitley's website - <http://www.elizabethtown-kitley.on.ca>
- Township of Elizabethtown-Kitley's Municipal Office – 6544 New Dublin Road, RR#2 Addison

2. LEGISLATED REQUIREMENTS

2.1 Drinking-Water Systems Regulation (O. Reg. 170/03)

Under Schedule 22 of the Drinking Water Systems Regulation (O. Reg. 170/03), Summary Reports for Municipalities, annual reports to the owners of large municipal residential systems and small municipal systems are required. The summary report must be submitted no later than March 31st to members of municipal council. The contents must list the requirements of the *Safe Drinking Water Act, 2002*, the regulations, the system's approval and any order that the system failed to meet at any time during the reporting period covered, specify the duration of the failure, and the measures taken to correct the failure.

In addition, the report must include a summary of the quantities and flow rates of the water supplied during the period covered by the report, including monthly averages, maximum daily flows and daily instantaneous peak flows. The summary must be compared to the rated capacity and flows provided in the system's Municipal Drinking Water Licence.



Brockville Drinking Water System Annual Water Quality Report 2016

The City of Brockville is the Owner of the Water Treatment Plant, trunk and local water distribution systems, and the City of Brockville is the Operating Authority for the Township of Elizabethtown-Kitley's water distribution system.

2.2 Summary of Regulatory Requirements

Acts and Regulations

Regulated systems must meet the requirements of Ontario's *Safe Drinking Water Act, 2002* and its regulations. Most notably, the Drinking Water Systems Regulation sets out treatment and testing requirements for all categories of regulated water systems, including small non-municipal and seasonal operations.

Safe Drinking Water Act, 2002

In the Part Two Report of the Walkerton Inquiry, Justice O'Connor recommended that the Ontario government enact a *Safe Drinking Water Act, 2002* to deal with matters related to treatment and distribution of drinking water. As articulated by Justice O'Connor, the purpose of the *Safe Drinking Water Act, 2002* is to gather in one place all legislation and regulations relating to the treatment and distribution of drinking water.

Summary of Provincial Legislation Significant to Water Operations

ACT	O. Reg.
WATER OPPORTUNITIES ACT	
➤ Water Opportunities Act, 2010	
CLEAN WATER ACT, 2006	
➤ Source Protection Areas and Regions	O. Reg. 284/10
➤ Source Protection Committees	O. Reg. 288/10
➤ Terms of Reference	O. Reg. 287/07
SAFE DRINKING WATER ACT, 2002	
➤ Drinking Water Systems Regulation	O. Reg. 170/03
➤ Certification of Drinking-Water System Operators and Water Quality Analysts	O. Reg. 128/04
➤ Drinking Water Testing Services - relating to laboratory licensing	O. Reg. 248/03
➤ Schools, private schools and day nurseries	O. Reg. 243/07
➤ Compliance and Enforcement Regulation	O. Reg. 242/05
➤ Ontario Drinking Water Quality Standards	O. Reg. 169/03
➤ Definitions of Words and Expressions Used in the Act	O. Reg. 171/03
➤ Definition of Deficiency and Municipal Drinking Water System	O. Reg. 172/03
➤ Licensing Of Municipal Drinking-Water Systems	O. Reg. 188/07
➤ Financial Plans	O. Reg. 453/07



Brockville Drinking Water System Annual Water Quality Report 2016

ONTARIO WATER RESOURCES ACT	
➤ Licensing of Sewage Works Operators	O. Reg. 129/04
➤ Approval Exemption	O. Reg. 525/98
➤ Wells	R.R.O. 1990, Reg. 903
➤ Revoking Ontario Regulation 459/00	O. Reg. 175/03
➤ Revoking Ontario Regulation 505/01	O. Reg. 176/03
➤ Water Taking	O. Reg. 387/04
➤ Charges for Industrial and Commercial Water Users	O. Reg. 450/07

ENVIRONMENTAL PROTECTION ACT	
➤ Certificate of Approval Exemptions - Air	O. Reg. 524/98

ENVIRONMENTAL BILL OF RIGHTS ACT	
➤ Prescribing the Safe Drinking Water Act, 2002	O. Reg. 257/03

3. ANNUAL WATER QUALITY SUMMARY FOR 2016

The City of Brockville's Water Systems Division is responsible for the Brockville Drinking Water System under O. Reg. 170/03 including water treatment plant, trunk water distribution system (elevated storage, reservoirs, booster stations) and local water distribution systems. Staff's primary responsibility is water treatment and distribution in compliance with all applicable legislation and municipal drinking water licences and drinking water works permits. Routine water quality testing and continuous monitoring of water quality and quantity is conducted to ensure compliance. All data from SCADA, process control point data, in-house laboratory results and external laboratory results are all captured in a WaterTrax data management system.

3.1 Water Quality Data

Raw and treated water is sampled and tested for chemical, physical and microbiological parameters in accordance with the requirements of O. Reg. 170/03 and individual municipal licences and permits. Sampling is also conducted in the distribution system primarily for bacteriological indicators and evidence of sustained chlorine residuals. Enhanced sampling programs are also defined by the Water Systems Division, and testing procedures followed and where necessary submitted to external accredited laboratory for analysis. This level of water quality monitoring ensures public health and public confidence in the water supply.

The majority of analysis is conducted by an external accredited laboratory, with some specialized analysis contracted to other accredited laboratories. In accordance with Schedule 16 of O. Reg. 170/03, all required notifications of adverse water quality incidents are provided to the Spills Action Centre and Medical Officer of Health.



Brockville Drinking Water System Annual Water Quality Report 2016

Operational Testing:

The following table is a summary of the operational testing completed in 2016 (as per O. Reg. 170/03, Schedules 6 and 7).

PARAMETER TESTED:	# of Grab Samples	RANGE OF RESULTS:	
		Minimum	Maximum
Turbidity – Raw (NTU)	Continuous monitoring	0.09	4.99
Turbidity – Filter 1 (NTU)	Continuous monitoring	0.02	0.73
Turbidity – Filter 2 (NTU)	Continuous monitoring	0.02	0.26
Turbidity – Treated (NTU)	Continuous monitoring	0.02	1.00
Chlorine – Pre Filter (mg/l)	Continuous monitoring	0.00	3.0
Chlorine – Reservoir (Main Plant) (mg/l)	Continuous monitoring	0.91	3.38
Chlorine – Plant Effluent (mg/l)	Continuous monitoring	1.25	2.37
Chlorine – Distribution System Parkedale Reservoir (mg/l)	Continuous monitoring	1.23	2.19
Chlorine – Elizabethtown-Kitley Distribution System (mg/l)	52	1.05	1.46
Fluoride – Plant Effluent (mg/l)	Continuous monitoring	0.00	2.0
UV Dosage (mJ/sq. cm.)	Continuous monitoring	0	3277
UV Intensity (microW/sq cm)	Continuous monitoring	0	10.24
UV Transmittance (%)	365	95	95

Additional Testing as Required by the Municipal Drinking Water Licence, Order or Other Legal Instrument for 2016:

TYPE OF LEGAL INSTRUMENT:	PARAMETER
Municipal Drinking Water Licence 152-101 Section 1.5	TSS Residue – Monthly
Residue Management – Composite Sample	6 mg/L (annual average)

Microbiological Testing:

Microbiological testing completed under the Schedule 10, 11 or 12 of O. Reg. 170/03 during this reporting period.

Sample Description:	Number of Samples	Range of E.Coli Or Fecal Results CFU/100ml		Range of Total Coliform Results CFU/100ml		Number of HPC Samples	Range of HPC Results CFU/ml	
		Min.	Max.	Min.	Max.		Min.	Max.
Raw	52	0	24	0	>400	52	<10	1150
Treated	52	0	0	0	0	52	<10	20
Distribution	422	0	0	0	1	163	<10	60



Brockville Drinking Water System Annual Water Quality Report 2016

Chemical Testing:

The following Tables are a summary of the chemical testing completed in 2016 (as per O. Reg. 170/03, Schedule 13).

Schedule 23

Summary of Inorganic parameters tested during this reporting period or the most recent sample results:

Parameter	Sample Date	Result Value	Unit of Measure	Exceeded the Standard	Exceeded Half the Standard
Antimony	Jan. 5/16	.0001	mg/l	No	No
Arsenic	Jan. 5/16	0.0007	mg/l	No	No
Barium	Jan. 5/16	0.021	mg/l	No	No
Boron	Jan. 5/16	0.023	mg/l	No	No
Cadmium	Jan. 5/16	<0.00002	mg/l	No	No
Chromium	Jan. 5/16	<0.002	mg/l	No	No
Mercury	Jan. 5/16	<0.00002	mg/l	No	No
Selenium	Jan. 5/16	0.001	mg/l	No	No
Sodium	Jan. - Dec. (17 samples)	14.65*	mg/l	No	n/a
Uranium	Jan. 5/16	0.00031	mg/l	No	No
Nitrite	Quarterly (4 samples)	<0.10*	mg/l	No	No
Nitrate	Quarterly (4 samples)	0.30*	mg/l	No	No

*average

n/a – not applicable

Schedule 24

Summary of Organic parameters sampled during this reporting period or the most recent sample results:

Parameter	Sample Date	Result Value	Unit of Measure	Exceeded the Standard	Exceeded Half the Standard
Alachlor	Jan. 5/16	<0.3	ug/l	No	No
Atrazine + N-dealkylated metabolites	Jan. 5/16	<0.5	ug/l	No	No
Azinphos-methyl	Jan. 5/16	<1	ug/l	No	No
Benzene	Jan. 5/16	<0.5	ug/l	No	No
Benzo(a)pyrene	Jan. 5/16	<0.005	ug/l	No	No
Bromoxynil	Jan. 5/16	<0.3	ug/l	No	No
Carbaryl	Jan. 5/16	<3	ug/l	No	No
Carbofuran	Jan. 5/16	<1	ug/l	No	No
Carbon Tetrachloride	Jan. 5/16	<0.2	ug/l	No	No
Chlorpyrifos	Jan. 5/16	<0.5	ug/l	No	No
Diazinon	Jan. 5/16	<1	ug/l	No	No
Dicamba	Jan. 5/16	<5	ug/l	No	No
1,2-Dichlorobenzene	Jan. 5/16	<0.1	ug/l	No	No
1,4-Dichlorobenzene	Jan. 5/16	<0.2	ug/l	No	No
1,2-Dichloroethane	Jan. 5/16	<0.1	ug/l	No	No
1,1-Dichloroethene	Jan. 5/16	<0.1	ug/l	No	No
Dichloromethane	Jan. 5/16	<0.3	ug/l	No	No
2-4 Dichlorophenol	Jan. 5/16	<0.1	ug/l	No	No
2,4-Dichlorophenoxy acetic acid (2,4-D)	Jan. 5/16	<5	ug/l	No	No
Diclofop-methyl	Jan. 5/16	<0.5	ug/l	No	No
Dimethoate	Jan. 5/16	<1	ug/l	No	No



Brockville Drinking Water System Annual Water Quality Report 2016

Parameter	Sample Date	Result Value	Unit of Measure	Exceeded the Standard	Exceeded Half the Standard
Diquat	Jan. 5/16	<5	ug/l	No	No
Diuron	Jan. 5/16	<5	ug/l	No	No
Glyphosate	Jan. 5/16	<25	ug/l	No	No
Malathion	Jan. 5/16	<5	ug/l	No	No
2-Methyl-4-Chlorophenoxyacetic acid (MCPA)	Jan. 5/16	<0.00012	ug/l	No	No
Metolachlor	Jan. 5/16	<3	ug/l	No	No
Metribuzin	Jan. 5/16	<3	ug/l	No	No
Monochlorobenzene	Jan. 5/16	<0.2	ug/l	No	No
Paraquat	Jan. 5/16	<1	ug/l	No	No
Pentachlorophenol	Jan. 5/16	<0.1	ug/l	No	No
Phorate	Jan. 5/16	<0.3	ug/l	No	No
Picloram	Jan. 5/16	<5	ug/l	No	No
Polychlorinated Biphenyls(PCB)	Jan. 5/16	<0.05	ug/l	No	No
Prometryne	Jan. 5/16	<0.1	ug/l	No	No
Simazine	Jan. 5/16	<0.5	ug/l	No	No
THM (NOTE: shows latest annual average)	Quarterly (min) (4 samples)	36.82	ug/l	No	No
Terbufos	Jan. 5/16	<0.3	ug/l	No	No
Tetrachloroethylene	Jan. 5/16	<0.2	ug/l	No	No
2,3,4,6-Tetrachlorophenol	Jan. 5/16	<0.1	ug/l	No	No
Triallate	Jan. 5/16	<10	ug/l	No	No
Trichloroethylene	Jan. 5/16	<0.1	ug/l	No	No
2,4,6-Trichlorophenol	Jan. 5/16	0.14	ug/l	No	No
Trifluralin	Jan. 5/16	<0.5	ug/l	No	No
Vinyl Chloride	Jan. 5/16	<0.2	ug/l	No	No

LEAD SAMPLING:

Brockville Drinking Water System (Lead Sampling Exemption – no requirement to sample Winter Period)

Sampling Period - Winter (December 15 th to April 15 th)	Plumbing	Distribution
Number of individual samples	(Lead Sampling Regulatory Relief)	(Lead Sampling Regulatory Relief)
Number of sample points (locations)	N/A	N/A
Number of individual sample exceedances	N/A	N/A
Number of sample points with an exceedance during the period	N/A	N/A
Percentage of sample points with an exceedance		N/A
Is the system required to have a Corrosion Control Plan prepared?	NO	
Do the reduced sampling & frequency requirements apply to the system?	NO	
Do the plumbing sample exemptions apply to the system?	NO	

Sampling Period - Summer (June 15 th to October 15 th)	Plumbing	Distribution
Number of individual samples	(Lead Sampling Regulatory Relief)	(Lead Sampling)
Number of sample points (locations)	N/A	6
Number of individual sample exceedances	N/A	0
Number of sample points with an exceedance during the period	N/A	N/A
Percentage of sample points with an exceedance		N/A
Is the system required to have a Corrosion Control Plan prepared?	NO	
Do the reduced sampling & frequency requirements apply to the system?	YES	
Do the plumbing sample exemptions apply to the system?	YES	



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Elizabethtown-Kiltley Distribution System(Lead Sampling Exemption – no requirement to sample Winter Period)

Sampling Period – Winter (December 15 th to April 15 th)	Plumbing	Distribution
Number of individual samples	(Lead Sampling Regulatory Relief)	(Lead Sampling Regulatory Relief)
Number of sample points (locations)	N/A	N/A
Number of individual sample exceedances	N/A	N/A
Number of sample points with an exceedance during the period	N/A	N/A
Percentage of sample points with an exceedance		N/A
Is the system required to have a Corrosion Control Plan prepared?	NO	
Do the reduced sampling & frequency requirements apply to the system?	NO	
Do the plumbing sample exemptions apply to the system?	NO	

Sampling Period - Summer (June 15 th to October 15 th)	Plumbing	Distribution
Number of individual samples	(Lead Sampling Regulatory Relief)	(Lead Sampling)
Number of sample points (locations)	N/A	6
Number of individual sample exceedances	N/A	0
Number of sample points with an exceedance during the period	N/A	N/A
Percentage of sample points with an exceedance		N/A
Is the system required to have a Corrosion Control Plan prepared?	NO	
Do the reduced sampling & frequency requirements apply to the system?	YES	
Do the plumbing sample exemptions apply to the system?	YES	

4. BROCKVILLE DRINKING WATER SYSTEM

4.1 Water System Description

Drinking-Water System Number:	220001263
Drinking-Water System Name:	Brockville Drinking Water System
Drinking-Water System Owner:	City of Brockville
Accredited Operating Authority:	City of Brockville
Municipal Drinking Water Licence:	152-101
Drinking Water Works Permit:	152-201
Permit To Take Water:	8577-5ZCP45
Drinking-Water System Category:	Large Municipal
Design Capacity:	36.4 ML/D
Treatment:	Direct Filtration Class III
Local Distribution:	Class II
Trunk Distribution:	Class III
Source Water:	St Lawrence River
Population Served:	22,000



Brockville Drinking Water System Annual Water Quality Report 2016

Connected Drinking-Water Systems:

Drinking-Water System Number:	260007777
Drinking-Water System Name:	Elizabethtown-Kitley Distribution System
Drinking-Water System Owner:	Township of Elizabethtown-Kitley
Accredited Operating Authority:	City of Brockville
Municipal Drinking Water Licence:	257-101
Drinking Water Works Permit:	257-201
Drinking-Water System Category:	Large Municipal Class I
Water Source:	City of Brockville DWS
Population Served:	350

4.1.1 Water Treatment Plant

The City of Brockville's Water Treatment Plant is a Class III direct filtration facility located at 20 Rivers Avenue, located on the St. Lawrence River and serves the City of Brockville (population 22,000), and a portion of the Township of Elizabethtown-Kitley (population 350). The Water Distribution System is separated into a Trunk Water Distribution System and Local Water Distribution System. The Trunk WDS is a Class III System (Certificate #3811) and the Local

System is a Class II System (Certificate #2193). A 900 mm raw water intake pipe equipped with zebra mussel control lies on the bottom of the St. Lawrence River extending 300 metres off shore at a depth of 10.5 metres. The treatment process has a design maximum flow rate of 36.4 ML/d and is composed of a number of sub-units:

- low lift pumping station
- coagulation and flocculation using polyaluminum chloride (PAC)
- pre- and post-filter disinfection with chlorine gas
- two granular activated carbon filters
- fluoride addition
- reservoir and high lift pumping station
- final treated water UV disinfection
- process (filter backwash residuals) wastewater treatment.

4.1.2 Treatment Chemicals Used

All chemicals used in the operation of the drinking water system meets all applicable standards set by both the American Water Works Association ("AWWA") and the American National Standards Institute ("ANSI") safety criteria standards NSF/60 and NSF/61

Chemical	Application	Supplier
Chlorine Gas	Pre, Post Filter, Plant Effluent (Primary Disinfection)	Brenntag Canada
Poly Aluminum Chloride XL-6 (SternPAC) PAX XL-1900 (ACH)	Pre Filter(Coagulant)	Kemira Water Solutions
Hydrofluorosilicic acid	Plant Effluent (Fluoride)	Brenntag Canada
Sodium Hypochlorite	Parkedale Reservoir (Secondary Disinfection)	Brenntag Canada



Brockville Drinking Water System Annual Water Quality Report 2016

4.1.3 Water Distribution System – Trunk and Local Systems

The City of Brockville's Distribution system comprises of a Class III Trunk Distribution and a Class II Local Distribution. The distribution system consists of a number of underground pipes ranging in size from 100 mm in diameter to 600 mm diameter and are made of a variety of materials including, cast iron, ductile iron, poly vinyl chloride, concrete, steel, HDPE and asbestos cement. In addition there are over 8,330 service connections, 890 fire hydrants and 2,800 valves. The distribution also consists of a number of treated water storage facilities and booster stations as indicated below.

➤ Parkedale Avenue Reservoir

The Parkedale Avenue Reservoir, Booster Pumping Station and Re-chlorination Facility services two geographical areas which are Zone 1, which is the area South of Highway 401, and Zone 2 which is the area North of Highway 401. It is a 7,600 m³ capacity reservoir at-grade, single cell, concrete, non-baffled, treated water reservoir.

➤ Perth Street Elevated Storage Tank (Water Tower)

The City of Brockville has a 1,900 m³ overhead storage tank located on Perth St. It is a single cell, steel, non-baffled treated water storage tank.

➤ Water Booster Stations

There are three (3) booster pump stations (First Ave., Sunset Blvd., Parkedale Ave.) which are part of the distribution system. The purpose of booster stations is to ensure consistent pressure is maintained throughout the system.

➤ Feeder Main & Local WDS

600 mm single feeder main from the WTP to the Church St./Perth St. area where flow splits between the Water Tower and the Local and Trunk distribution systems.

4.2 2016 Flow Summary

In 2016 the maximum or peak daily raw water flow was 35,376 L/min which occurred on June 14, 2016 and was above the permitted maximum amount of 25,278 L/min, or 140% of the Permit as indicated in the table below. In addition, the annual average daily raw water flow to the WTP was 10,231,478 L/day or 28% of its maximum approved treatment capacity of 36,400,000 L/day.

Maximum Permitted Water Taking – WTP

Condition:	Maximum Permitted Water Taking
Maximum Amount of Water Taken per Minute	35,376.00 (L/min)
Maximum Amount of Water Taken per Day	36,400 (m ³ /d)



Brockville Drinking Water System Annual Water Quality Report 2016

The Permit to Take Water specifies the maximum flow into individual treatment systems as indicated below.

Maximum Flow to Treatment System – WTP

Treatment System/Stage:	Maximum Flow Rate (m ³ /d)
GAC Filters – Flow	19,600 each
UV Disinfection System	36,400

The summary of the volume of water taken daily and the flows of the water supplied during the 2015 calendar year is provided in **Appendix D**, and includes 2015 flow data and historical flow of past years of pumping at the WTP.

The historical total plant effluent flow is also displayed in **Appendix D**. The total annual plant effluent flow for 2016 is 5.7% less than the total annual plant effluent flow from 2015. This information is provided for interest and to evaluate the treatment system trends over time in order to prepare for any future improvements required to meet this demand.

4.3 Adverse Test Results

In accordance with Schedule 16 of O. Reg. 170/03, all required notifications of adverse water quality incidents were provided to the Medical Officer of Health (MOH) and the Spills Action Centre (SAC). In 2016 there were a total of four (4) reports filed with SAC as summarized below.

AWQI Incident Date	Parameter	Result	Corrective Action	Corrective Action Date
March 10, 2016 AWQI #128534	Low pressure	< 20 PSI	Restored pressure, flushed and sampled	March 11, 2016
September 8, 2016 AWQI #131136	Total Coliform (TC)	TC (1) Brockville Museum sample	Flushed / resampled, all resample results clean and documentation sent to MOH & SAC	September 12, 2016
September 10, 2016 AWQI 131160	Fluoride	2.0 mg/L residual spike during main plant power failure during diesel backup operation.	Shutdown chemical feed system, flushed trunk distribution system. All documents submitted to MOH & SAC.	September 10, 2016
September 11, 2016 AWQI #131162	Fluoride	2.0 mg/L residual spike during chemical feed system startup.	Shutdown chemical feed system, flushed trunk distribution system. All documents submitted to MOH & SAC. Power surge from thunderstorm altered dosage settings on chemical feed pump causing residual spike. Dosage program adjusted and surge protection installed on power supply.	September 12, 2016

4.4 Operator Certification

The *Certification of Drinking-Water System Operators and Water Quality Analysts* (O. Reg. 128/04) requires owners to ensure that every operator employed in the facility holds a license applicable to that type of facility. All operators in the Water Systems Division hold the required certifications for treatment and distribution.



4.5 Capital Projects

The 2016 Capital Project Highlights can be found in **Appendix B** of this Report. All works are subject to the annual budget process and approval by Council. A 30 Year Capital Replacement Equipment Plan has been developed that includes an extensive breakdown of all capital equipment that requires allocated funds for refurbishment or replacement. This is not included in the Annual Summary Report this year, but can be made available upon request.

5. TOWNSHIP OF ELIZABEHTOWN-KITLEY WATER DISTRIBUTION SYSTEM

5.1 Water System Description

The City of Brockville provides treated water from its Water Treatment Plant to the Elizabethtown-Kitley Water Distribution System (Class I) west of the City. This is facilitated through a 10 kilometer water main that extends along County Road #2 to the Country Club, through a meter chamber and associated appurtenances. This distribution system services approximately 350 residential customers. This system was installed in 1996 by the Ministry of Transportation and the Ontario Clean Water Agency and turned over to the Township of Elizabethtown-Kitley.

A booster station at Lily Bay provides for increased pressure only. The Township Fire Department is aware of this operational constraint and does not use the distribution system for firefighting or training purposes. An automated flushing station at the end of the service line is required to maintain free chlorine residual above the regulated minimum level of 0.20 mg/L. City Staff operate and maintain this system on behalf of the Township as the "Operating Authority".

Township of Elizabethtown-Kitley

Drinking-Water System Number:	260007777
Drinking-Water System Name:	Elizabethtown-Kitley Distribution System
Drinking-Water System Owner:	Township of Elizabethtown-Kitley
Accredited Operating Authority:	City of Brockville
Municipal Drinking Water Licence:	257-101
Drinking Water Works Permit:	257-201
Drinking-Water System Category:	Large Municipal Class 1
Water Source:	City of Brockville DWS
Population Served:	350

5.2 Adverse Test Results

No adverse water quality incidents reported to SAC in 2016 for the Elizabethtown-Kitley WDS.



Brockville Drinking Water System Annual Water Quality Report 2016

5.3 Historical Flow Results

A summary of the volume of water taken daily and the flows of the water supplied during the 2016 calendar year is provided in **Appendix D**.

The historical flow is also displayed in **Appendix D**. The total flow for 2016 is 8.89% less than the total flow from 2015. This information is provided for interest and to evaluate the system flow trends over time in order to prepare for any future improvements required to meet this demand.

CONCLUSION

The City of Brockville serves approximately 22,000 residents and about 350 residents in the Township of Elizabethtown-Kitley. One of the City's most important responsibilities is to protect public health by providing its residents with clean, safe drinking water. Routine water quality testing and continuous monitoring of the water quality and quantity is completed by City Staff at the Water Treatment Plant and throughout the distribution systems to demonstrate that the City consistently meets or exceeds the standards set by the MOECC.

In Ontario, water taking, treatment and distribution are governed by a number of Acts and Regulations. This report fulfills the reporting requirements of the Drinking Water System Regulation (O. Reg. 170/03) made under the Safe Drinking Water Act for all of the municipal drinking water treatment systems in the City of Brockville and the Township of Elizabethtown-Kitley, and covers the period from January 1st to December 31st 2016. As required under this same regulation, the report is prepared prior to March 31st and is filed for review and approved by both the City of Brockville's and Elizabethtown-Kitley's municipal council. Copies of the report are also on hand at the Public Library, the Revenue Office at City Hall, the Water Treatment Plant at 20 Rivers Avenue, Brockville and the Township of Elizabethtown-Kitley's Municipal Office at 6544 New Dublin Road, RR#2 Addison.

The contents of this report highlight the requirements of the Safe Drinking Water Act, the regulations, and the systems' approval including any reportable events and the corresponding corrective actions undertaken in 2016. In addition, the report also includes a summary of the quantities and flow rates of the water supplied during the calendar year, including monthly averages, maximum daily flows, and daily instantaneous peak flow rates. The summaries are compared to the rated capacity and flow rates in the system approvals.

The Water Systems Division has taken all necessary steps to comply with all regulatory requirements in the production and distribution of safe drinking water and to conform to the requirements of implementing and maintaining a Drinking Water Quality Management System. The dedication and commitment of all Water Systems Staff ensures a safe reliable drinking water supply to consumers of the City of Brockville and the a portion of the Township of Elizabethtown-Kitley.



Brockville Drinking Water System Annual Water Quality Report 2016

7. KEY CONTACTS

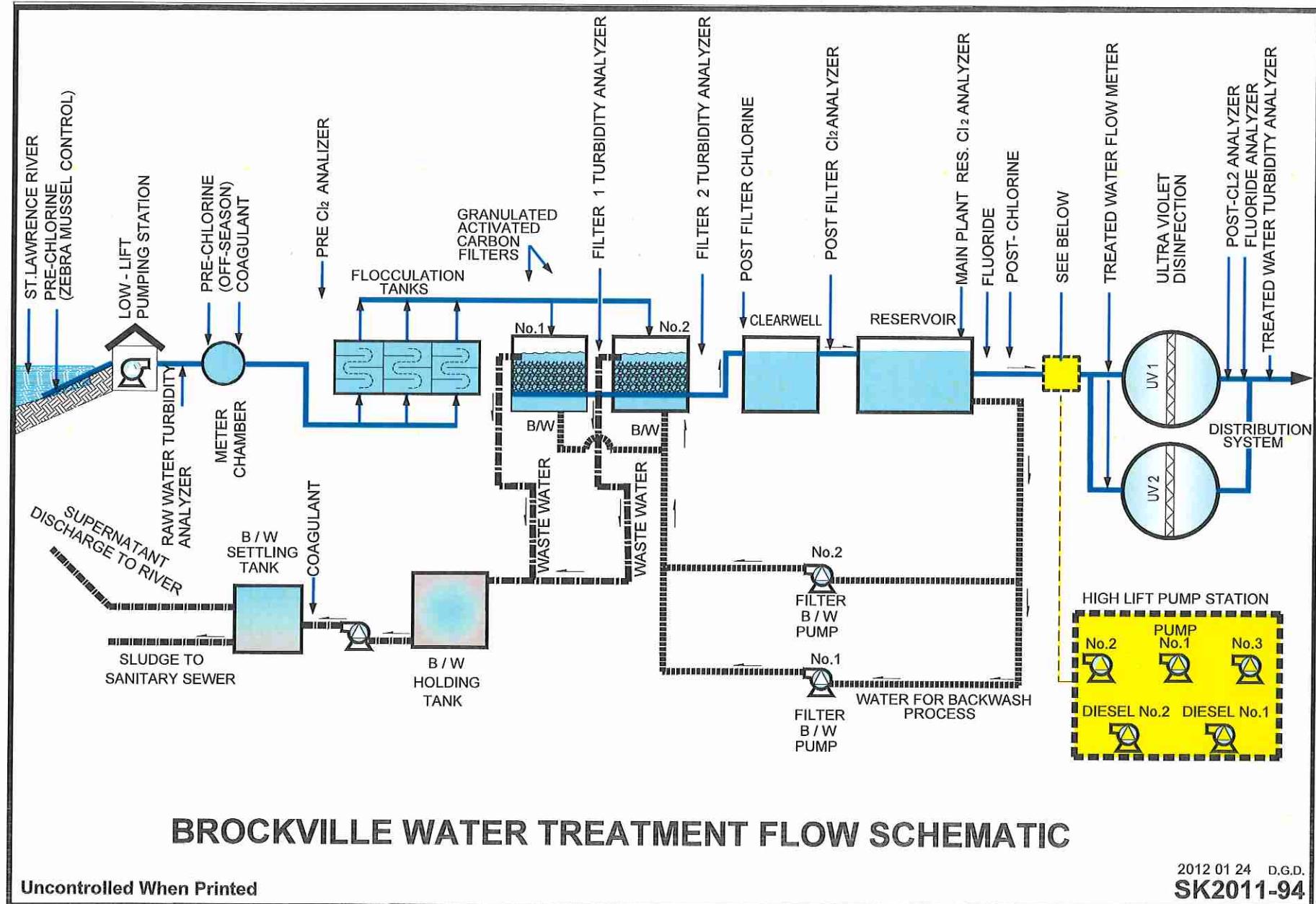
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City of Brockville Drinking Water Operational Plan

FIGURE 6.1 - DRINKING WATER SYSTEM PROCESS DIAGRAM



2016 PROPOSED CAPITAL PROGRAM

<u>PROJECT NAME:</u>	Water Equipment/Construction	<u>YEAR PROPOSED:</u>	2016
<u>LOCATION:</u>	Brockville Water Treatment Plant, Trunk Distribution System and Booster Stations	<u>Cost Centre:</u>	08WTPW
<u>HISTORY:</u>	LENGTH OF PROJECT: YEAR FIRST INTRODUCED:	Ongoing 2001	
<u>SCOPE:</u>	Provides for the capital needs of the Water Treatment Plant, Trunk Distribution System and Booster Stations. Funding is provided through water revenues.		
PROJECT ID:	PROJECT DESCRIPTION:	PRJ. MGR:	BUDGET:
9403010			
	WATER TREATMENT BLDG. & PROPERTY MNTE:		
	Security Measures & Monitoring (Additional card entry locks)		9,500
	Main Plant Brick/Exterior (Brick Repairs)		10,000
	Fencing (Security barrier gate main plant parking lot)		8,500
	Heating Systems (Clara-vac / filter building)		25,000
	Building Structure (Workshop / mezzanine main plant)		55,000
	WATER TREATMENT PLANT:		
	Filter Surface Wash System (Bearing replacement / wash nozzle fittings)		7,500
	Level Transmitters (5)		17,500
	PARKEDALE RESERVOIR & BOOSTER STNS:		
	Zone II, Pump #1 (refurb)		12,500
	Electrical (Replace control switches Zone I panel)		10,000
	BOOSTER STATIONS		
	LOW/LIFT STATION		
	PLC (Low PLC expansion)		20,000
	Pump #2 (refurb)		12,500
	OVERHEAD TANK		
	Retaining Wall (Repairs)		10,000
	Water Tower Structure (Reserve Contribution)		75,000
	TRUNK WATER FEEDER MAIN		
	Twin WTP Discharge Line (Reserve Contribution)		100,000
	CONTINGENCY:		22,380
			395,380
<u>WHY REQUIRED:</u> Advantages & Benefits	Allows for coordinated planning of the Capital Requirements required to meet the needs of the Water Treatment system through the Water Distribution Reserve. This also ensures that all costs are being captured and financed through the water rates.		

BROCKVILLE WATER SYSTEMS ANNUAL FLOW REPORT 2016

<u>Month</u>	<u>WTP Raw Avg Flow (m3/day)</u>	<u>WTP Raw Max Flow (m3/day)</u>	<u>WTP Raw Peak Flow (L/min)</u>	<u>WTP Raw Total Flow (m3)</u>	<u>WTP Treated Avg Flow (m3/day)</u>	<u>WTP Treated Max Flow (m3/day)</u>	<u>Rated Capacity (m3/day)</u>	<u>Rated Flow Capacity (%)</u>	<u>WTP Treated Total Monthly Flow (m3)</u>
January	9,572	11,226	21,181	296,761	9,731	11,588	36,400	32%	301,685
February	9,902	11,260	18,789	287,168	9,924	11,171	36,400	31%	287,811
March	10,092	11,194	19,369	312,852	9,953	10,423	36,400	29%	308,571
April	9,917	10,902	28,165	297,530	9,867	10,470	36,400	29%	296,012
May	10,780	13,290	32,541	334,184	10,618	12,912	36,400	35%	329,165
June	11,384	13,265	35,376	341,520	11,106	12,287	36,400	34%	333,204
July	11,666	13,589	32,108	361,675	11,413	13,080	36,400	36%	353,833
August	12,114	14,327	35,019	375,552	11,745	13,895	36,400	38%	364,117
September	10,365	11,085	32,046	310,952	10,229	10,873	36,400	30%	306,890
October	9,876	11,052	25,696	306,160	9,571	10,348	36,400	28%	296,719
November	9,380	10,325	21,268	281,404	9,244	9,860	36,400	27%	277,327
December	9,325	10,039	21,918	289,103	9,335	10,080	36,400	28%	289,386
TOTAL				3,794,868					3,744,720

BROCKVILLE WATER SYSTEMS HISTORICAL ANNUAL FLOW

<u>Year</u>	<u>Total Flow (m3)</u>	<u>Year</u>	<u>Total Flow (m3)</u>
1963	5,468,128	1991	5,297,094
1964	5,792,558	1992	5,037,999
1965	7,026,093	1993	5,013,019
1966	6,652,020	1994	5,548,256
1967	6,531,729	1995	5,467,001
1968	6,302,901	1996	5,148,340
1969	6,174,018	1997	5,698,474
1970	6,447,978	1998	5,519,157
1971	6,246,122	1999	5,631,225
1972	5,876,886	2000	5,565,808
1973	6,179,755	2001	5,726,410
1974	6,552,608	2002	5,032,500
1975	7,049,823	2003	5,117,740
1976	6,157,384	2004	5,238,190
1977	5,862,139	2005	5,625,869
1978	6,283,413	2006	5,308,800
1979	6,340,110	2007	5,189,831
1980	6,905,996	2008	4,715,116
1981	6,324,999	2009	4,332,102
1982	5,685,995	2010	4,128,747
1983	6,119,997	2011	4,291,115
1984	5,894,998	2012	4,213,592
1985	5,451,999	2013	3,815,746
1986	5,780,998	2014	3,822,724
1987	5,515,998	2015	3,972,362
1988	5,319,997	2016	3,744,720
1989	6,034,455		
1990	5,064,771		

EILZIBETHTOWN-KITLEY WATER DISTRIBUTION ANNUAL FLOW REPORT

<u>Month</u>	<u>Avg Flow</u> (m3)	<u>Max Flow</u> (l/min)	<u>Total Flow</u> (m3)
January	129	1,710	3,510
February	133	1,206	3,863
March	104	1,345	3,228
April	115	1,605	3,475
May	167	1,426	5,185
June	187	1,455	5,613
July	176	1,605	5,471
August	151	2,601	4,698
September	113	2,604	3,410
October	102	2,788	3,189
November	99	1,277	2,979
December	107	1,407	3,344
TOTAL			47,965

ELIZABETHTOWN WATER DISTRIBUTION HISTORICAL ANNUAL FLOW

<u>Year</u>	<u>Total Flow</u> (m3)
2004	81,913
2005	101,402
2006	99,254
2007	113,068
2008	128,460
2009	98,782
2010	95,876
2011	74,052
2012	76,372
2013	71,552
2014	62,873
2015	52,646
2016	47,965

APPENDIX D

**2016 WATER LOSS REPORT**

2016

	(m ³)
Water Treatment Plant	3,744,720
Accounted for Water	
Water sold to customers	
Residential	1,120,548
Industrial	1,698,896
Sales to Elizabethtown-Kitley (East of Brockville)	68,733
Sales to Elizabethtown-Kitley (West of Brockville) totalizer meter	47,966
Total Billed Water	2,936,143
Total NRW	808,577
NRW Accounted for	21.6%
Flat Rate Water Users	29,982
Industrial Fire flow testing	15,000
Chlorinator Flow	19,961
Watermain Breaks	237,301
Anti-Freeze Taps	20,422
Fire Fighting and Training	3,106
Hydrant Fire Flow testing and flushing	30,616
Water for Low Lift manual vacuum priming sysyem	0
Flushing Stations	71,758
Parks and Recreation Water Use	10,871
NRW used (accounted for)	439,017
	11.7%
Total Lost Water	369,560
	Percentage of Lost Water
	9.87%

Steve Allen, C.E.T.

Jason Barlow, C.Tech

January 31, 2017

APPENDIX E



Township of Elizabethtown-Kitley

2016 WATER LOSS REPORT

2016

(m³)

Flow Through Totalizer meter	47,966
TOTAL METERED WATER	47,966
Water sold to Residential Customers (west of totalizer)	47,235
Total Billed Water	47,235
Total NRW	731
	1.5%
NRW Accounted for	
Watermain Breaks	0
Localized Flushing for Sampling and Complaints	0
Hydrant Fire Flow testing	0
Flushing Stations	1,636
NRW Used (accounted for)	1,636
	3.4%
Total Lost Water	-905
Percentage of Lost Water *	-1.89%

Steve Allen, C.E.T.
 Jason Barlow, C.Tech
 January 31, 2017

* Within range of water meter accuracy

FEBRUARY 10, 2017

**REPORT TO FINANCE, ADMINISTRATION, OPERATIONS COMMITTEE –
FEBRUARY 21, 2017**

2017-018-02

**2016 ANNUAL SUMMARY REPORT
WATER POLLUTION CONTROL CENTRE**

**PETER RAABE, P. ENG.
DIRECTOR OF
ENVIRONMENTAL SERVICES**

RECOMMENDATION

THAT the 2016 Annual Summary Report on the City of Brockville's Water Pollution Control Centre, Attachment 1 to Report 2017-018-02 be received; and

THAT the Director of Environmental Services be designated to sign the 2016 Annual Summary Report on the City of Brockville's Water Pollution Control Centre; and

THAT the 2016 Annual Summary Report on the City of Brockville's Water Pollution Control Centre be forwarded to the MOECC District Office - Kingston.

ORIGIN

This annual summary report covers the period January 1, 2016 through December 31, 2016, and is a requirement under our Environmental Compliance Approval 7875-9Q7JVZ, Section 10 (6).

ANALYSIS

We are pleased to present the 2016 Annual Summary Report for the Water Pollution Control Centre. This report provides a summary of the flow data, summary of compliance results, sampling results, abatement initiatives, sludge disposal, bypass and overflow events, and operational highlights. The annual summary report will be posted on the City's website.

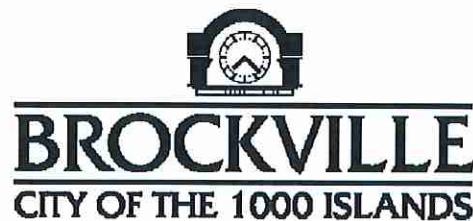


P. Raabe, P. Eng.
Director of Environmental Services



B. Casselman
City Manager

ATTACHMENT 1 TO REPORT 2017-018-02



CITY OF BROCKVILLE WATER POLLUTION CONTROL CENTRE

2016 ANNUAL SUMMARY REPORT FOR COUNCIL

Peter Raabe, P. Eng., Director of Environmental Services
Ed Malcomson, Supervisor – Wastewater Systems Division

DATE: January 17, 2017
FILE: E03-04

2016 ANNUAL SUMMARY REPORT FOR COUNCIL
CITY OF BROCKVILLE – WPCC

EXECUTIVE SUMMARY

The enclosed 2016 Annual Summary Report is prepared in accordance with the Environmental Compliance Approval (ECA) for the City of Brockville's Water Pollution Control Centre (WPCC) for submission to the Ontario Ministry of the Environment and Climate Change (MOECC). A copy of this report is also made available at City Hall and on the City's website for public viewing. Included with this report are analytical data, plant flow, bypass and overflow events, biosolids data, as well as a process flow schematic of the facility.

In all cases, the City of Brockville's WPCC sampling and analysis program met or surpassed the requirements outlined in the plant's ECA. The annual report will discuss the level of performance with regard to effluent limits specified in the ECA. In 2016 the monthly and annual plant averages for loading and discharge effluent were compliant with the limits set out in our ECA. In 2016 there were two bypass events at the Main Pumping Station.

Each year, the City of Brockville focuses on capital and operational targets to improve the quality of the Wastewater Treatment System. In 2016 these improvements included:

- **WPCC Buildings and Property** – Replacement of building boiler hot water heaters in Alum bay and East Service Building
- **WPCC General Equipment** – Replacement of SCADA computers, purchase of Siemens MCC spare parts and upgrade of Dewatering and East Service Building old Programmable Logic Controllers (PLC) 5 with modern PLC controllers
- **Primary Clarifiers** – Purchase of wear plates for long collectors
- **Aeration Tanks** – Purchase of six (6) dissolved oxygen probes
- **Pumping Stations** – Rebuild of both pumps at West End Pumping Station and purchase of two (2) new pumps for Bayview and Elizabeth Street Pumping Stations
- **Main Pumping Station** – Roof repair including new shingles, eaves, downspouts and fascia
- **East/West Service Building** – Replacement of natural gas Boiler #503, maintenance service on natural gas/digester gas Boiler #504, replacement of two (2) hot water booster pumps
- **Dewatering Operations** – Repairs to centrifuge knife gates and cake conveyor systems

Peter Raabe, P. Eng.
Director of Environmental Services

Ed Malcomnson
Supervisor – Wastewater Systems

2016 ANNUAL SUMMARY REPORT FOR COUNCIL
CITY OF BROCKVILLE – WPCC

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2016 ANNUAL SUMMARY REPORT FOR COUNCIL
CITY OF BROCKVILLE – WPCC

1. INTRODUCTION

We are pleased to present the 2016 Water Pollution Control Centre Annual Summary Report for Council. The purpose of this report is to provide a performance summary on the facility for the period January 1st to December 31st, 2016, and is a legal requirement under Section 10 (6) of Environmental Compliance Approval (ECA) number 7875-9Q7JVZ, made under section 20.2 of Part II.1 of the Environmental Protection Act R.S.O. 1990, c. E19 (Environmental Protection Act). This Annual Report must be forwarded to the Ministry of the Environment and Climate Change no later than March 31st, 2017.

2. FACILITY DESCRIPTION

Brockville's wastewater treatment facility is a Class IV Secondary Treatment Plant with a capacity of 21,800 m³/day and a peak design of 62,500 m³/day. The plant is classified as a conventional secondary treatment process inclusive of screening, grit removal, primary clarification, activated sludge process with nitrification, secondary clarification, ultraviolet disinfection, with phosphorus removal, anaerobic digestion of sludge, centrifuge dewatering of sludge, centrate return to the primary clarifiers and sludge cake recycling. The main plant was built in the 1960's, and was upgraded in several phases, the most recent in 1991, 1995 and 2010 with the Secondary Treatment Upgrade. These works also included a major upgrade to the Main Pumping Station on Water Street in 1994. **Appendix A: WPCC Process Flow Schematic** is provided.

The wastewater treatment plant services a population of approximately 22,000 as well as nearby Elizabethtown-Kitley Township retirement homes (3), the Brockville Psychiatric Hospital and the St. Lawrence Valley Correctional and Treatment Centre. There are 12 pumping stations located throughout the community to transfer wastewater to the treatment facility. The treated effluent receiver is the St. Lawrence River.

3. APPROVALS AND CERTIFICATION

3.1 Environmental Compliance Approval

The City of Brockville's WPCC (Works #120000122) operates under Environmental Compliance Approval (ECA) Number 7875-9Q7JVZ which includes Limited Operational Flexibility (Reference # 6247-9NYK5V). The facility is a Class IV facility in accordance with the Licensing of Sewage Works Operators Regulation (O. Reg. 129/04) made under the Ontario Water Resources Act.

The ECA for Brockville's WPCC establishes final effluent limits for 5-day Carbonaceous Biochemical Oxygen Demand (CBOD₅), Total Suspended Solids (TSS), Total Ammonia Nitrogen (TAN), Total Phosphorus (TP), pH, E. Coli and Toxicity. The limits are based on monthly averages, and apply to concentration as well as total daily loading. The limits are used to determine compliance with the

2016 ANNUAL SUMMARY REPORT FOR COUNCIL
CITY OF BROCKVILLE – WPCC

ECA. The limits are found in the lower area below the monthly data of **Appendix B: 2016 WPCC PARS Report**.

The ECA also establishes the rating of the facility for average daily flow (ADF). The ADF is the cumulative total flow of sewage to the sewage works during the year divided by the number of days of flow. A rating is also determined for peak flow (the maximum rate of sewage flow for which the plant was designed). The rated ADF for the WPCC is 21,800 m³/day and the peak flow rating is 62,500 m³/day.

3.2 Operator Certification

The Licensing of Sewage Works Operators Regulation (O. Reg. 129/04) requires owners to ensure that every operator employed in the facility holds a license applicable to that type of facility (s. 14 (1)). The City continues to ensure all operators employed at the WPCC hold a valid license for its facility.

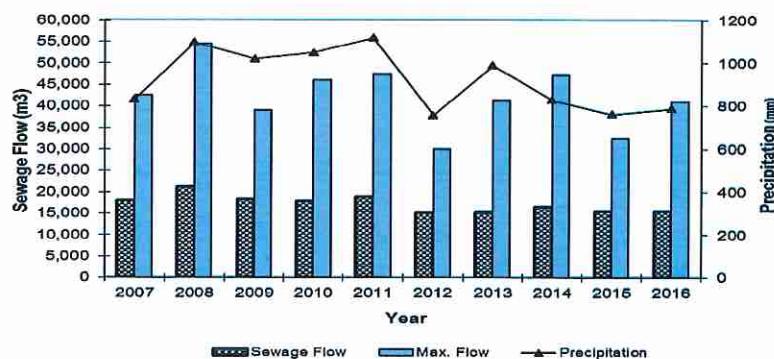
O. Reg. 129/04 also requires the designation of an overall responsible operator (ORO) for the facility and that the ORO holds a license applicable to and of the same class as or higher than the class of the facility or one level below for no longer than six months. Phil Wood, P. Eng., Chief Operator of Wastewater Systems, is the designated ORO holding a Class 4 Wastewater Treatment License and Class 3 Wastewater Collection License.

4. FLOW MONITORING DATA

4.1 Plant Flow

The wastewater flow during the reporting period is outlined in **Appendix B: 2016 WPCC PARS Report**. The total flow received during the 2016 reporting period was 5,671,464 m³ with an annual ADF of 15,507 m³ or 71% of the plant's current rated capacity. The maximum daily flow of 41,116 m³ occurred on March 10th, and the minimum daily flow of 9,772 m³ occurred on September 5th. The ADF at the WPCC for 2016 compared to 2015 showed an increase of 0.5%. **Figure 1** shows the precipitation and flow graphically.

Figure 1: Brockville WPCC Average Annual Daily Flow vs Precipitation 2007 - 2016



2016 ANNUAL SUMMARY REPORT FOR COUNCIL
CITY OF BROCKVILLE – WPCC

4.2 Bypasses, Spills and Overflow Events

The occurrence of a spill, bypass or overflow event results in the generation of an event report and entry into the operational log.

There were two bypass events at the Main Pumping Station in 2016. See **Appendix C: 2016 Bypass Summary Report.**

4.3 Chemical Usage

Ultraviolet radiation is used for disinfection.

Aluminum sulfate (Alum) is used to aid in phosphorus removal.

The consumption of chemicals that aid in achieving effluent criteria are tracked by the treatment facility, and are outlined in **Appendix D: 2016 WPCC Annual Chemical Summary.**

5. ANALYTICAL DATA

5.1 Background

WPCC staff perform analysis on the samples collected, and participate in a Proficiency Testing Program as part of their quality assurance program. WPCC staff also send out some samples to an outside lab that is accredited with the Canadian Association for Laboratory Accreditation (CALA). WPCC staff schedule the sampling days, and maintain a sampling schedule for the WPCC that meets the requirements of the ECA.

5.2 Sampling and Analysis Program

WPCC staff maintain a schedule of sampling raw influent and final effluent weekly as per the ECA, as well as primary effluent, raw sludge, digested sludge, activated sludge, return activated sludge, waste activated sludge and other process samples. The frequency of sampling and the testing performed met or exceeded the minimum requirement in the ECA.

Toxicity tests for 2016 were all 0% mortality.

The ECA requirement for pH of the final effluent is 6.0 to 9.5. In 2016 the final effluent pH ranged from 6.40 to 8.67, which was in compliance.

5.3 Abatement Program

Waste Survey Reports continue to be updated and reviewed by abatement staff.

Abatement staff continued to monitor and work with local industry in 2016.

2016 ANNUAL SUMMARY REPORT FOR COUNCIL
CITY OF BROCKVILLE – WPCC

5.4 Effluent Quality Performance – Compliance and Objective Limits

The analysis results of the routine sampling at the WPCC are shown by month in **Appendix B: 2016 WPCC PARS Report** for both the raw influent and final effluent samples. Compliance and objective was achieved in both concentration and loading for CBOD₅, TSS, TP and TAN.

Quarterly reports were submitted to City Council and monthly reports were submitted to the MOECC.

6. OPERATIONS AND MAINTENANCE

6.1 Operations Log

The use of an operational log book, as required under the Licensing of Sewage Works Operators Regulation (O. Reg. 129/04, s. 19 (1)), to record departures from normal operating procedures, unusual or abnormal conditions, and equipment that was taken out of service, ceased to operate, underwent maintenance or repair, is kept by the facility. The highlights captured in the operational log are detailed in **Appendix E: 2016 WPCC and Pumping Stations Operational Highlights**.

6.2 Maintenance Programs

The City of Brockville uses the Work Tech preventative maintenance program to coordinate and track all plant maintenance as recommended by the original equipment manufacturer (OEM). Inspection, testing and calibration of electrical, mechanical, instrumentation and SCADA equipment is performed and documented by fully trained and qualified technicians. The equipment includes process digester gas systems, overhead cranes and gantries, fall protection devices, heating, ventilation and air conditioning (HVAC) systems, standby generator equipment and high voltage switchgear, to name a few. Critical process equipment found to be malfunctioning is repaired or replaced immediately.

6.3 Biosolids Management and Disposal

The City of Brockville processed the digested sludge through our centrifuge and produced a dry biosolids product.

Appendix F: 2016 WPCC Centrifuge Sludge Feed and Cake Disposal Summary. In 2016 our cake was hauled to DES Environmental's facility for recycling. DES Environmental has a C of A to receive this material.

2016 ANNUAL SUMMARY REPORT FOR COUNCIL
CITY OF BROCKVILLE – WPCC

6.4 Effluent Monitoring Devices & Calibrations

Instrumentation equipment is maintained in accordance with OEM recommendations, or better. Historical calibration sheets are completed each time, and if the instrument is out of calibration, corrective action is implemented along with the contractor performing the calibration. The calibration report is included in **Appendix G: 2016 Calibration Report Summary**. Various programs are in place to ensure we are current with new technologies, replace end-of-life equipment and maintain a high level of quality assurance.

6.5 WPCC & Pumping Stations – Completed and Planned Works

Appendix H: 2016 Capital Project Manager's Sheet contains the 2016 Capital Projects for the WPCC and pumping stations. The City allocated \$384,500 in Capital to replace various pieces of equipment at the WPCC and pumping stations that were nearing the end of their life cycle. This included replacement of building boiler hot water heaters in Alum bay and East Service Building, replacement of SCADA computers, purchase of Siemens MCC spare parts, upgrade of Dewatering Building and East Service Building old PLC components to new PLC Logic controllers, purchase of wear plates for primary clarifier long collectors, purchase of six (6) dissolved oxygen probes, rebuild of both pumps at West End Pumping Station, purchase of two (2) new pumps for Bayview and Elizabeth Street Pumping Stations, roof repairs at the Main Pumping Station, replacement of Boiler #503, maintenance service on Boiler #504, replacement of two (2) hot water booster pumps and repairs to centrifuge knife gates and cake conveyor systems. These projects have been integral to refurbishing or replacing aging assets in order to maintain efficient operation and redundancy. This program utilizes risk analysis, maintenance costs and replacement analysis to give the best 10 year model possible. As always, not all risks are known and sometimes unforeseen breakdowns do occur. Excellent coordination between staff and various contractors and suppliers allows the work to be assessed and performed while keeping on track from a budget standpoint.

7. KEY CONTACTS AND REFERENCES

For further information on this report, enquiries on a related topic, or to arrange a plant tour of the wastewater treatment facilities, please contact:

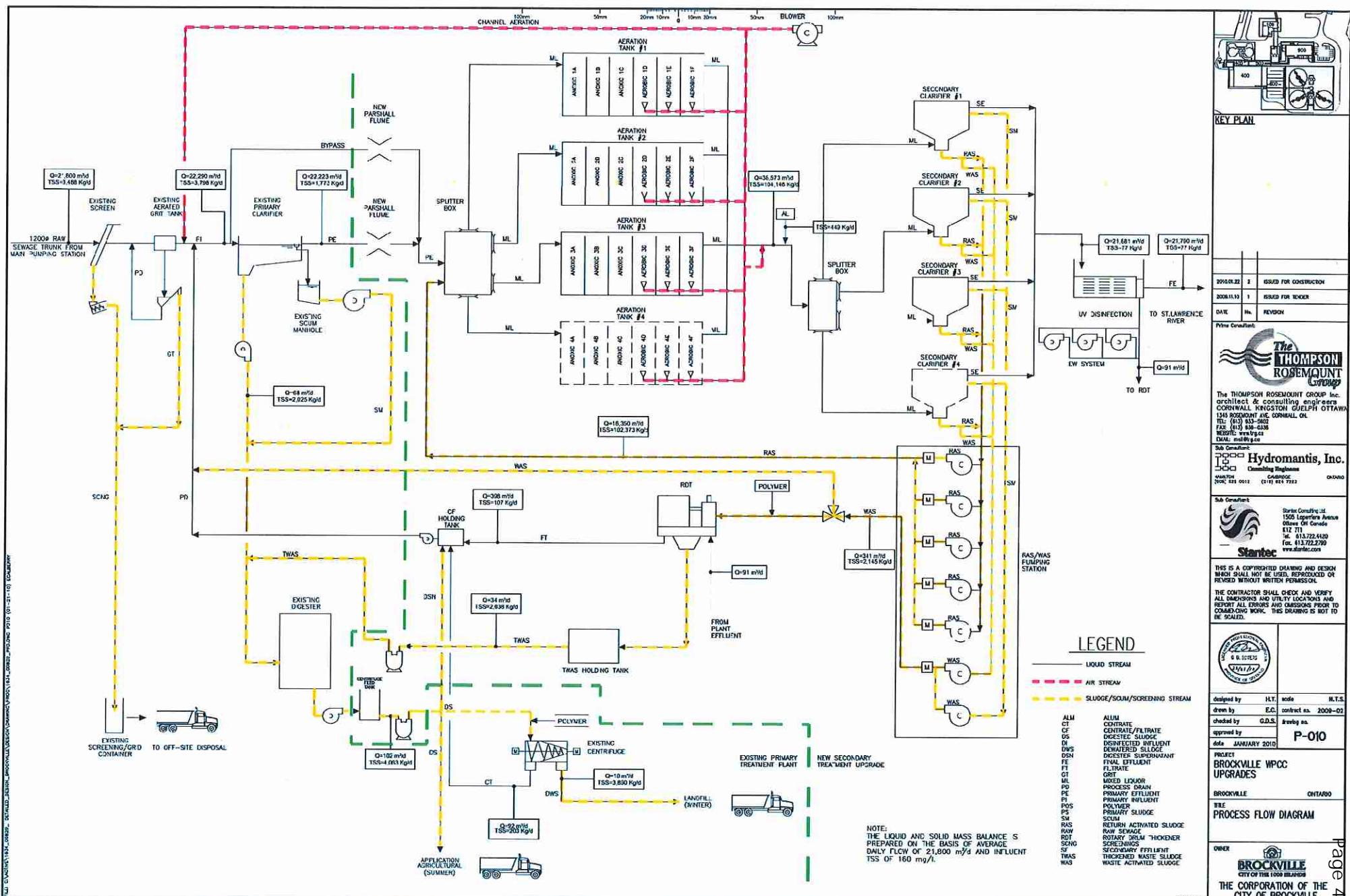
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Ministry of the Environment and Climate Change
Ontario Water Wastewater Certification Office
Water Environment Federation
Water Environment Equipment Association of Ontario
Ontario Agriculture and Food

www.ene.gov.on.ca
www.owwco.ca
www.wef.org
www.weao.org
www.gov.on.ca/omafra

APPENDIX A



APPENDIX B

BROCKVILLE WATER POLLUTION CONTROL CENTRE SEWAGE PLANT PERFORMANCE ASSESSMENT REPORT

MUNICIPALITY: BROCKVILLE
PROJECT: BROCKVILLE
WORKS NUMBER: 120000122

DESCRIPTION: A Secondary Treatment Facility, complete with two anaerobic digesters, two centrifuges for sludge thickening and two RDT's for sludge co-thickening and utilizing Alum for phosphorus removal and UV for effluent disinfection

YEAR: 2016
WATER COURSE: ST. LAWRENCE RIVER
DESIGN CAPACITY: 21,800 x 1000m³/day
PEAK DESIGN CAPACITY: 62,500 X 1000m³/day

MONTH	FLOWS			BOD/CBOD			SUSPENDED SOLIDS				PHOSPHORUS			TOTAL AMMONIA NITROGEN		E. COLI	
	TOTAL FLOW 1000M3	Avg Day Flow 1000M3	Max Day Flow 1000M3	Avg Raw BOD (mg/L)	Avg Eff CBOD (mg/L)	Total Loading Eff CBOD (kg/day)	Avg Raw SS (mg/L)	Avg Eff SS (mg/L)	Total Loading Eff SS (kg/day)	Percent Removal	Avg Raw Phos. (mg/L)	Avg Eff Phos. (mg/L)	Total Loading Eff Phos. (kg/day)	Percent Removal	Avg Eff TAN (mg/L)	Total Loading Eff TAN (kg/day)	E. Coli (Org/100 ml) (GEOMEAN)
DEC 16	492.22	15,878	22,589	241.00	5.57	88.44	270.29	8.57	136.07	96.8	3.24	0.36	5.72	88.9	7.94	126.07	2
NOV 16	402.28	13,409	21,555	306.50	4.20	56.32	357.20	8.50	113.98	97.6	4.22	0.53	7.11	87.4	3.23	43.31	2
OCT 16	413.66	13,344	24,917	299.33	4.25	56.71	384.89	10.00	133.44	97.4	4.36	0.61	8.15	86.0	3.85	51.37	2
SEP 16	335.41	11,180	13,315	333.20	3.11	34.77	447.30	6.00	67.08	98.7	4.44	0.39	4.36	91.2	1.63	18.22	1
AUG 16	365.87	11,802	14,966	313.62	4.54	53.58	410.38	6.08	71.76	98.5	4.59	0.59	6.96	87.1	1.86	21.95	1
JUL 16	390.99	12,613	21,592	214.10	3.80	47.93	271.10	6.90	87.03	97.5	3.64	0.64	8.07	82.4	1.94	24.47	1
JUN 16	408.71	13,624	20,156	218.89	5.56	75.75	269.22	8.78	119.62	96.7	3.56	0.64	8.72	82.0	1.96	26.70	1
MAY 16	450.37	14,528	16,674	156.00	3.44	49.98	205.17	6.89	100.10	96.6	3.01	0.61	8.86	79.7	7.57	109.98	6
APR 16	602.14	20,071	30,321	124.50	5.29	106.18	145.63	8.63	173.21	94.1	2.24	0.60	12.04	73.2	1.84	36.93	15
MAR 16	750.30	24,203	41,116	108.36	4.78	115.69	116.09	7.11	172.08	93.9	2.07	0.46	11.13	77.8	2.76	66.80	1
FEB 16	561.40	19,359	33,330	136.38	5.67	109.77	157.00	10.67	206.56	93.2	2.39	0.43	8.32	82.0	1.90	36.78	2
JAN 16	498.10	16,068	29,755	144.64	6.10	98.01	162.18	13.00	208.88	92.0	2.75	0.52	8.36	81.1	1.50	24.10	4
AVG		15,507		216.38	4.69	74.43	266.37	8.43	132.48	96.08	3.38	0.53	8.15	83.25	3.17	48.89	3
MAX			41,116	333.20	6.10	115.69	447.30	13.00	208.88	98.66	4.59	0.64	12.04		7.94	126.07	
Objective Limit						15.00			15.00				0.80			12.0 (Nov. 1 to Apr. 30) 8.0 (May 1 to Oct. 31)	
Compliance Limit			21,800			25.00	545.00		25.00	545.00			1.00	21.80		18.0 (Nov. 1 to Apr. 30) 16.0 (May 1 to Oct. 31) 392 (Nov. 1 to Apr. 30) 349 (May 1 to Oct. 31)	100
																	200

MONTH	TOTAL LOADINGS			COMMENTS:
	TOTAL RAW BOD (kg/day)	TOTAL RAW SS (kg/day)	TOTAL RAW PHOS. (kg/day)	
DEC 16	3,827	4,292	51	
NOV 16	4,110	4,790	57	
OCT 16	3,994	5,136	58	
SEP 16	3,725	5,001	50	
AUG 16	3,701	4,843	54	
JUL 16	2,700	3,419	46	
JUN 16	2,982	3,668	49	
MAY 16	2,266	2,981	44	
APR 16	2,499	2,923	45	
MAR 16	2,623	2,810	50	
FEB 16	2,640	3,039	46	
JAN 16	2,324	2,606	44	
AVG	3,116	3,792	49	
MAX	4,110	5,136	58	

APPENDIX C

Facility Name: Brockville Water Pollution Control Centre Report Year: 2016

2.0 Pumping Station and Plant Bypass Monthly Summary:

MONTH	MAIN PUMPING STATION BYPASS			WPCC BYPASS/OVERFLOW		
	No. of Days (days)	Duration (hours)	Volume (1,000 m ³)	No. of Days (days)	Duration (hours)	Volume (1,000 m ³)
January						
February	1	3.32	6.973			
March						
April						
May						
June						
July	1	0.07	0.088			
August						
September						
October						
November						
December						
TOTAL	2	3.39	7.061	0	0	0
Volume of Bypass as % of *			0.12%			%
Average Daily Flow (ADF)						

$$\text{ADF} = \boxed{15,507} \quad \boxed{15.507} \text{ (1,000 m}^3\text{/d)}$$

* % = Volume of Bypass divided by ADF divided by 365 multiplied by 100

Comments Area - Pumping Stations and Plant Bypasses

Associated with heavy precipitation and snow melt

APPENDIX D

2016 WPCC Annual Chemical Summary

Totals	011 Chemicals		
	064 Alum dose (mg/L)	063 Alum use (L) (L)	062 Alum use (kg) (kg)
Average	62.05579235	680.7867131	898.5822404
Minimum	19.2	407.52	537.92
Maximum	99.79	924.48	1220.31
Count	366	366	366
Total		249167.937	328881.1
95 Percentile			
Exceedences	0	0	0

* indicates Geometric Mean

** indicates Intraday Average

APPENDIX E

2016 WPCC AND PUMPING STATIONS OPERATIONAL HIGHLIGHTS**1st Quarter (January, February, March)****1. Main Plant:**

- Primary Clarifiers #3 and #4 currently not in use (on standby)
- Secondary Clarifier #3 currently not in use (on standby).
- 2015 4th Quarter Federal Wastewater Systems Effluent Regulations (WSER) Report submitted to Environment Canada.
- Digester #1 cleanout completed and the digester is back online.

2. Main Pumping Station:

- Bypasses:
 - On February 24th, 2016 there was a 3 hour and 19 minutes bypass at the Main Pumping Station due to heavy precipitation/snow melt. Approximate volume of the bypass was 6,973 m³. MOE was notified of the event. Chlorination was established and samples taken.
- Vibration analysis completed on all three pumps. Pump #2 not recommended for long term use.
- The 8" bypass valve is leaking and can't be taken out of service for repair.
- As per Council's approval, the City has completed the Expression of Interest (EOI) to apply for Small Communities Funding (SCF) for the replacement of the Main Pumping Station at Centeen Park. This application has made it to the second round.

3. Pumping Stations:

- WPCC Staff responded to fifteen (15) mechanical problems.
- WPCC Staff responded to fourteen (14) communication calls.
- Communication failures are still occurring at the Main Pumping Station, West End Pumping Station, Central Avenue Pumping Station and Georgina Street Pumping Station. New wireless equipment has been delivered and installed. Commissioning at West End Pumping Station to begin in June.

4. Power Outages:

- No power outages to report.

5. Wastewater Collection System:

- 44 blocked sewer/camera inspections.
- 1 sanitary sewer lateral dig-up and repair.
- 1 blocked main.
- Contract 2016-21 Wastewater Main Line Cleaning was awarded to Clean Water Works Inc.

2nd Quarter (April, May, June)**1. Main Plant:**

- Primary Clarifiers 1 and 2 currently not in use (on standby)
- Primary Clarifiers 3 and 4 were reconditioned and brought on line
- Secondary Clarifier 2 currently not in use (on standby)
- 2016 1st Quarter Federal Wastewater Systems Effluent Regulations (WSER) Report submitted to Environment Canada
- Annual flow meter calibrations were completed
- Semi-annual service completed on main plant diesel generator

APPENDIX E

2016 WPCC AND PUMPING STATIONS OPERATIONAL HIGHLIGHTS

- 2015 National Pollutant Release Inventory (NPRI) Report was submitted to Environment Canada
- Supervisory control and data acquisition (SCADA) computer terminals replaced (2016 Capital)
- Quotes received for the repair of the Operations Centre Elevator
- Due to operational issues and high flows, Westport WPCC trucked in 200 m³ of wastewater to the Brockville WPCC.

2. Main Pumping Station:

- Bypasses: No bypasses to report
- The 8" bypass valve is leaking and can't be taken out of service for repair
- As per Council's approval, the City has completed the Expression of Interest (EOI) to apply for Small Communities Funding (SCF) for the replacement of the Main Pumping Station at Centeen Park - this application has made it to the second round
- Semi-annual wet well scum blanket removal was completed

3. Pumping Stations:

- WPCC Staff responded to fourteen (14) mechanical problems
- WPCC Staff responded to fourteen (14) communication calls
- Communication failures are occurring at the following pumping stations: Main, West End, Central Avenue, Georgina Street and Chelsea Street. New wireless equipment has been delivered and installed. Commissioning at West End Pumping Station is waiting for CISCO firewall configuration
- All pumping stations painted and re-labelled
- Pigging of 4" and 6" Leachate force mains completed

4. Power Outages:

- There were two (2) power outages, one at the Main Pumping Station and the other at Elizabeth Street and Oxford Avenue - no issues to report

5. Wastewater Collection System:

- 48 blocked sewer/camera inspections
- 6 sanitary sewer lateral dig-ups and repairs
- 0 blocked mains
- Contract 2016-21 Wastewater Main Line Cleaning was completed

3rd Quarter (July, August, September)1. Main Plant:

- Primary Clarifiers 1 and 2 currently not in use (on standby)
- Primary Clarifiers 3 and 4 on line
- Secondary Clarifier 2 currently not in use (on standby)
- 2016 2nd Quarter Federal Wastewater Systems Effluent Regulations (WSER) Report submitted to Environment Canada
- Operations Centre elevator was repaired and is back in service
- Boiler 503 replacement is in progress (Capital)
- MOECC plant inspection was conducted on August 16th, 2016. Final report received September 27th, 2016.
- Annual effluent instrument servicing and calibrations initiated
- Semi-annual gas meter calibrations completed

APPENDIX E

2016 WPCC AND PUMPING STATIONS OPERATIONAL HIGHLIGHTS2. Main Pumping Station:

- Bypasses: No bypasses to report
- The 8" bypass valve is leaking and can't be taken out of service for repair
- The City's was unsuccessful in obtaining Small Communities Funding (SCF) for the replacement of the Main Pumping Station at Centeen Park. As per the Environmental Services Director's request, Wastewater Systems staff prepared a cost estimate for the equipment that requires replacement or repair.
- Annual servicing of automatic transfer switch completed

3. Pumping Stations:

- WPCC Staff responded to four (4) mechanical problems
- WPCC Staff responded to seven (7) communication calls
- Communication failures are occurring at the following pumping stations: Main, West End, Central Avenue, Georgina Street and Chelsea Street. New wireless equipment has been purchased. Final commissioning at West End, Central and Georgina Pumping Stations to be completed in 2016.
- Thomas Street Pumping Station Pump #1 was rebuilt and is back in service
- West End Pumping Station Pump #1 being rebuilt
- New Flygt pumps have been purchased for Bayview and Elizabeth Street Pumping Stations – still to be installed (Capital)
- Riverview Pumping Station level transmitter failed. A new one to be installed.
- Leachate Pumping Station Pump #4 being rebuilt (Capital)

4. Power Outages:

- There were six (6) power outages. August 10th the Main Pumping Station transfer switch failed and has since been repaired. September 10th Bayview Pumping Station transfer switch failed and has since been serviced. No other issues to report.

5. Wastewater Collection System:

- 63 blocked sewer/camera inspections
- 5 sanitary sewer lateral dig-ups and repairs
- 3 blocked mains

4th Quarter (October, November, December)1. Main Plant:

- Primary Clarifier 4 is currently not in use (on standby)
- Primary Clarifiers 1, 2 and 3 are on line
- Secondary Clarifier 2 is currently not in use (on standby)
- 2016 3rd Quarter Federal Wastewater Systems Effluent Regulations (WSER) Report submitted to Environment Canada
- Boiler 503 is installed and running (Capital)
- Dewatering cake conveyor chute gate rebuild complete (Capital)
- Primary clarifier chain wear components purchased (Capital)
- PLC 5 upgrade (Dewatering and East Service Building) complete (Capital)
- New replacement heaters installed in East Service Building (Capital)
- New heater installed in alum bay in the Dewatering Building (Capital)

APPENDIX E

2016 WPCC AND PUMPING STATIONS OPERATIONAL HIGHLIGHTS2. Main Pumping Station:

- Bypasses: No bypasses to report
- The 8" bypass valve is leaking and can't be taken out of service for repair without incurring a bypass.
- The City has applied for CWWF funding for the replacement of the Main Pumping Station
- Roof repairs were completed (Capital)

3. Pumping Stations:

- WPCC Staff responded to two (2) mechanical problems
- WPCC Staff responded to five (5) communication calls
- Communication failures were occurring at the following pumping stations: West End, Central Avenue, Georgina Street and Chelsea Street. New wireless equipment was purchased, installed and commissioned at West End, Central and Georgina Pumping Stations and has currently run without interruption since commissioning.
- All remote pumping station wet wells were cleaned
- West End Pumping Station Pump #1 rebuild complete (Capital)
- New Flygt pumps have been purchased for Bayview and Elizabeth Street Pumping Stations installation in progress (Capital)
- Riverview Pumping Station level transmitter failed. A new one to be installed.
- Leachate Pumping Station Pump #4 was disassembled and found to be worn out beyond repair and requires replacement (Capital)

4. Power Outages:

- There was one (1) power outage - no issues to report

5. Wastewater Collection System:

- 76 blocked sewer/camera inspections
- 3 sanitary sewer lateral dig-ups and repairs
- 1 blocked main

APPENDIX F

2016 WPCC Centrifuge Sludge Feed and Cake Disposal Summary

Totals	221 Centrifuge - Sludge Feed			222 Centrifuge - Cake	27 Cake Weight Recycling - DES Environmental (kg)
	% Total Solids (%)	% Volatile Solids (%)	Sludge Volume to Centrifuge (cu.m)	% Total Solids (%)	
Average	1.795416667	65.26340426	73.51738764	24.398125	8297.5
Minimum	1.17	54.35	27.57	21.14	1560
Maximum	2.74	71.27	140.12	27.36	11710
Count	48	47	356	48	188
Total			26172.19		1559930
95 Percentile Exceedences	0	0	0	0	0

* Indicates Geometric Mean

** indicates Intraday Average



APPENDIX G

1602 Old Wooler Rd. Tel: (613) 398-0296
 Wooler, ON Fax: (613) 398-0294
 K0K 3M0 cell (416) 779-1456

City of Brockville
 PO Box 5000.
 Brockville Ontario
 K6V 7A5

May 13, 2016

Attention: Phil Wood

Re: 2016 Annual Waste Water Flow Meter Calibrations

Flowmetrix thanks you for the opportunity to provide our flow meter calibration services. Mr. Dan Matchett and Tyler McNally attended your Brockville PCP facility on April 18th and April 22 2016 to verify the calibrations of your flow meters as directed. Please accept the letter as a summary of the flow meters verified, corresponding results and a brief description of the verification procedures used.

Electromagnetic Flow meters

The calibration of electromagnetic flow meters is typically verified using the appropriate manufacturer's calibrated flow simulator. The flow simulator when connected to the convertor in place of the flow tube delivers a precise signal back to the convertor that simulates a specific, calculable flow condition that is comparable of specific flow values. The local display and local outputs are checked and documented for accuracy at each specific test point.

Level Instruments, Milltronics & Greylime

The calibration of ultrasonic level meters is typically verified using a solid level plate and measure ruler. In situations where safety or continuous operations limit direct access to the existing level sensor, the customers' level sensor is removed and a temporary secondary level sensor is attached to the transmitter allowing a ruler and level plate to be used to simulate a specific, calculable liquid level condition. The local display and local outputs are checked and documented for accuracy at each specific test point. These types of instruments are typically associated with a primary device allowing a flow calculation, and it is assumed to be programmed to provide the correct relationship between flow and level.

If you have any questions or require further details or information please do not hesitate to contact me at your convenience.

Kind Regards

A handwritten signature in blue ink, appearing to read "Curtis King".

Curtis King

Calibration Summary

	Instrument	Result	Comment
1	FIT 353	Pass	None
2	Sludge Feed Line	Pass	None
3	FIT 367	Pass	None
4	FIT 511	Pass	none
5	FIT 512	Pass	none
6	FIT 561	Pass	none
7	FIT 602	Pass	none
8	FIT 603	Pass	none
9	FIT 713	Pass	none
10	FIT 721	Pass	none
11	FIT 722	Pass	none
12	FIT 723	Pass	none
13	FIT 724	Pass	none
14	FIT 801	Pass	none
15	FIT 834	Pass	none
16	FIT 944	Pass	none
17	FIT 953	Pass	none
18	FIT 973	Pass	none
19	FIT 975	Pass	none
20	FIT 995	Pass	none
21	Raw Sludge # 1	Pass	none
22	Raw Sludge # 2	Pass	None
23	Main PS	Pass	none
24	Leachate Effluent	Pass	none
25	Leachate Overflow	Pass	none

APPENDIX H
2016 CAPITAL PROGRAM

<u>PROJECT NAME:</u>	Water Pollution Control Centre Equipment Replacement Program	<u>YEAR PROPOSED:</u> <u>ITEM NO:</u>	2016 6.2
<u>LOCATION:</u>	Sewage Treatment Plant and Pumping Stations		
<u>HISTORY:</u>	LENGTH OF PROJECT: YEAR FIRST INTRODUCED:	Ongoing - through Sewer Rate Reserve 1997	
<u>SCOPE:</u>	Replacement of Capital Equipment for the Water Pollution Control Centre and associated structures and pumping stations. This is to be accomplished from the Sewer Rate Reserve Fund.		
9406010	<u>WPCC BUILDINGS AND PROPERTY:</u> Building Boiler Hot Water Heater Replacement 20,000 Roof Maintenance - Main pumping Station 20,000 <u>WPCC GENERAL EQUIPMENT:</u> SCADA/Instr./Comm. (Replace SCADA PC's) 10,000 Seimens MCC Spare Parts 35,000 #REF! Upgrade old PLC 5 to match new PLC Logic (2nd Part) 65,000 <u>WPCC OUTFALL PIPE:</u> Concrete Structure @ Entry to River (Rebuild) 60,000 <u>PRIMARY CLARIFIERS:</u> Replace long (8) Chain and Flight - Wear plates 10,000 <u>DIGESTER OPERATIONS:</u> Digester #2 Clean Out 40,000 <u>AERATION TANKS:</u> D.O. Probes (9) - Replace 6 15,000 <u>PUMPING STATIONS:</u> Pump STN'S - Ladders & Platforms 10,000 MAIN PS - 48" Motorized By-Pass Gate & Safety Equip. 15,000 MAIN PS - Backflow Preventer (replace) 10,000 BAYVIEW PS - Replace (2) Pumps/Motors 2Hp. 10,000 BAYVIEW PS - Replace Check Valves 5,000 ELIZABETH ST. PS - Replace (2) Pumps/Motors 3Hp. 15,000 ELIZABETH ST. PS - Check Valves & Appurtenances 5,000 LEACHATE PS - Referb. (2) 4" Pumps // Rebuild 1 7,500 LEACHATE PS - Referb. (2) 6" Pumps // Rebuild 1 12,000 WEST END PS - Referb. (2) Pumps/Motors 7.5 Hp. 5,000		
C4060-WPCE-CONT	CONTINGENCY:		<u>15,000</u> <hr/> <u>384,500</u>
<u>WHY REQUIRED:</u> Advantages & Benefits	See the attached 10 Year Plan - Water Pollution Control Centre Capital Needs Routing such purchases through the WPCC Sewer Rate Reserve Fund provides the opportunity to account for all Capital Costs associated with the Water Pollution Control Centre in one place and to finance such work through the Sewer Use Rate User Fee. As well it allows the expenditure to take place while keeping the tax rate smooth.		

PREPARED BY (PROJECT MANAGER):

Ed Malcommson

DATE:

September 4, 2015

February 09, 2017

REPORT TO FINANCE, ADMIN. & OPERATIONS COMMITTEE – FEB. 21, 2017

**2017-016-02
PROPOSED PARKING RESTRICTIONS
LISTON AVENUE**

**MATTHEW LOCKE
TRANSPORTATION SERVICES
C.J. COSGROVE, P.ENG.
DIRECTOR OF OPERATIONS**

RECOMMENDED

THAT parking be restricted on the south side of Liston Avenue from Millwood Avenue to 32.0 metres west of Millwood Avenue (one parking space west of the Camelot entrance)

THAT Schedule "1" of Subsection 72 of By-law 119-89 be amended accordingly.

PURPOSE/BACKGROUND

Transportation Services staff were requested by a local resident to review the on-street parking on Liston Avenue adjacent to the Camelot (21 Liston Avenue) parking entrance. Residents at this address had expressed concern that when vehicles are parked on the street adjacent to the parking entrance it is difficult to see oncoming traffic when merging onto Liston Avenue.

ANALYSIS

After reviewing the site and survey responses, the Transportation Services Division has made the following observations:

- There is currently a parking restriction on the south side of Liston Avenue from 61.0m west of Millwood to 13.0 westerly; this restriction prevents vehicles from parking in front of the Camelot building entrance.
- Reduced sightlines are caused by the narrow entrance to the parking entrance for 21 Liston Avenue, and vehicles parked abutting the parking entrance make it difficult for motorists to see oncoming traffic when turning from the parking entrance onto Liston Avenue.
- Thirty-four residences on Liston Avenue and fifty apartment units at 21 Liston Avenue (the Camelot) were provided with surveys requesting their input on the proposed amendment to parking by-law #119-89.
- Sixteen residents provided responses to the survey, ten of which were in favour of the proposed parking restrictions, and six of which provided responses not relating to the survey.
- Appendix 'A' illustrates the location of the proposed parking restriction.

2017-016-02
Proposed Parking Restrictions
Liston Avenue

Page 2

POLICY IMPLICATIONS

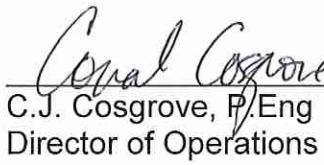
An amendment to the City's Parking By-Law 119-89 requires Council authorization.

FINANCIAL CONSIDERATIONS

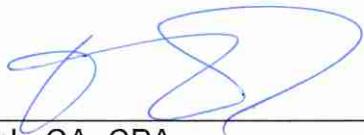
Annually, Public Works budgets for the installation of a variety of signs throughout the City. There are sufficient funds in the Public Works 2017 Operating Budget account 01-5-745436-2010 to accommodate the estimated installation cost of \$250 per sign.

CONCLUSION

It is recommended that a parking restriction be implemented as detailed.



C.J. Cosgrove, P.Eng
Director of Operations



D. Dick, CA, CPA
Director of Corporate Services



Matthew Locke
Supervisor of Transportation
Services



B. Casselman
City Manager



BROCKVILLE
CITY OF THE 1000 ISLANDS
TRANSPORTATION SERVICES

North:



Legend:

Notes:

- 1) All drawings, specifications and related documents are the copyright property of the City of Brockville and must be returned upon request.
- 2) Reproduction of drawings, specifications, and related documents in part or whole is forbidden without the City of Brockville's written permission.
- 3) Drawings are provided for information only and are not to be scaled.

DRAWING NAME
LISTON AVENUE PARKING BY-LAW
#119-89 AMENDMENT
APPENDIX 'A'

Rev.	Date	Comments
1	FEB 9/17	-

Drawn By:	JPB
Date:	February 9, 2017

Report to Finance, Administration and Operations Committee
February 21, 2017

2017-021-02

**By-law to Establish and Adopt
Terms of Reference for the
Brockville Cemetery Board**

Sandra MacDonald
City Clerk

RECOMMENDED

THAT Council approve the Establishing Bylaw and Terms of Reference for the Brockville Cemetery Board; and

THAT the necessary bylaw be enacted.

PURPOSE

The purpose of this report is to secure approval of the Terms of Reference for the Brockville Cemetery Board.

BACKGROUND

The Brockville Cemetery Board has been in existence since 1861 and has been managed by a cemetery board for most of its existence. The Cemetery was recently inspected by the Bereavement Authority of Ontario (formerly cemeteries were under the mandate of the Ministry of Government and Consumer Services).

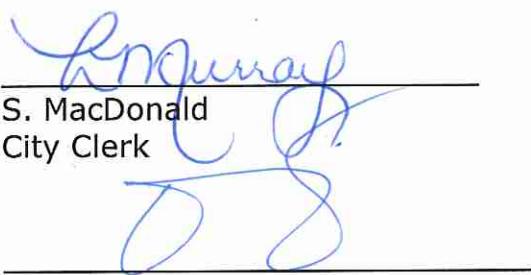
As a result of this inspection, changes to the board membership, and the desire to have clear terms of reference for this board, and to ensure compliance with applicable legislation, the board and staff have revised the terms of reference.

ANALYSIS/OPTIONS

The proposed Terms of Reference (Attachment 1) have been reviewed and accepted by the Brockville Cemetery Board, and also reviewed by legal counsel and staff to ensure compliance with legislation.

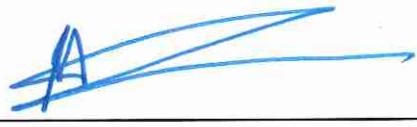
FINANCIAL CONSIDERATIONS

None at this time.



S. MacDonald
City Clerk

D. Dick, CPA CA
Director of Corporate Services



B. Casselman
City Manager

Attachment 1

THE CORPORATION OF THE CITY OF BROCKVILLE
By-law Number xxx-2017

Being a By-law to Establish and Adopt the Terms of Reference for the Brockville Cemetery Board for the Corporation of the City of Brockville

WHEREAS Section 10 of the Municipal Act, 2001, S.O. 2001, c.25, as amended, in part provides that a single-tier municipality may pass By-laws respecting the governance and structure of its local boards; and

WHEREAS Council passed By-law 018-2016 on March 8, 2016 being a by-law to establish the maintenance, management, regulation and control of the Brockville Cemetery and to repeal previous By-laws; and

WHEREAS on January 18, 2017 the Ministry of Consumer Services, Consumer Protection Branch, Cemeteries Regulation filed/approved By-law 018-2016;

WHEREAS Council deems it advisable to establish by By-law the Brockville Cemetery Board to operate and maintain The Brockville Cemetery in accordance with the rules and regulations of By-law 018-2016, and as may be amended, revised or superseded from time to time in accordance with the provisions of the *Funeral, Burial and Cremations Services Act, 2002*, S.O. 2002, c.33 and applicable Regulations, as approved by the Ministry of Consumer and Business Services;

NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE CITY OF BROCKVILLE ENACTS AS FOLLOWS:

1. Board Title

That a Board to be known as "The Brockville Cemetery Board" is hereby established to operate and maintain the Brockville Cemetery.

2. Definitions

2.1 "Corporation" – shall mean the Corporation of the City of Brockville

2.2 "Municipality" – shall mean the City of Brockville

Bylaw Number xxx-2017
To Establish and Adopt Terms of Reference
For the Brockville Cemetery Board

Page 2

3. Policies/Procedures

- 3.1 The Brockville Cemetery Board shall establish policies and procedures in accordance with the *Municipal Act, 2001*, S.O. 2001, c.25. The Board may choose to adopt the policies and procedures of the Corporation.
- 3.2 That policies, practices and procedures governing the provisions of its goods or services are consistent with the Corporation's Accessibility Standards for Customer Service Policy and Procedures as adopted in accordance with the requirements of the Accessibility for Ontarians with Disabilities Act (AODA), Customer Service Standard – Ontario Regulation 429/07.
- 3.3 That the rules and regulations of By-law 018-2016 as may be amended, revised or superseded from time to time in accordance with the provisions of the *Funeral, Burial and Cremations Services Act, 2002*, S.O. 2002, C.37, and applicable Regulations as amended, and approved by the Ministry of Consumer Services, Consumer Protection Branch, Cemeteries Regulation, shall govern all operations and proceedings of the Brockville Cemetery Board.

4. Records

That the records of the Brockville Cemetery Board shall be retained and preserved in accordance with the provisions of the Corporation Records Retention By-law and are subject to the *Municipal Freedom of Information and Protection of Privacy Act, R.S.O. 1990, c.M.56*

5. Composition

That the Brockville Cemetery Board shall consist of a minimum of five (5) members appointed by Council as follows:

- 5 members who are residents and/or ratepayers of the Municipality, being a minimum of 18 years of age and not an employee of the Municipality. All being voting members.

Bylaw Number xxx-2017
To Establish and Adopt Terms of Reference
For the Brockville Cemetery Board

Page 3

6. Term of Office

That members at large shall be appointed by Council for staggered terms, consistent with intervals for the term of office of Council, or until their successors are appointed. Council may re-appoint any member whose term has expired and otherwise has discretion in filling any vacancy by appointment for the remainder of any applicable term. There shall be no limit on the number of terms a member may be appointed and all appointments shall be at the discretion of Council. In the event a Board member resigns prior to the completion of their term, a replacement appointed by Council will assume the duties to the completion of the term.

7. Mandate

The goals, mandate and Terms of Reference of the Brockville Cemetery Board are set out in Schedule "A" attached hereto and forming part of this By-law.

That in carrying out the provisions of this By-law, the Board shall at all times be the agent of the Municipal Corporation and while acting *bona fide* within the limits of the authority of this By-law neither the Board nor any member thereof shall incur any liability by reason of anything done or left undone by the Board; provided however, that nothing in this section contained shall authorize or empower the Board to incur any debt, liability or obligation for which the Municipal Corporation shall become liable without having previously obtained the consent of the Council of the City of Brockville.

The Brockville Cemetery is comprised of those lands formerly known as the Oakland Cemetery, Old Brockville Cemetery, Old St. Peter's Cemetery and New St. Peter's Cemetery which are owned by the Corporation and operated by the Brockville Cemetery Board.

10. Repeal of By-laws

That By-law 029-2003 pertaining to the establishment of the Brockville Cemetery Board is hereby repealed.

Bylaw Number xxx-2017
To Establish and Adopt Terms of Reference
For the Brockville Cemetery Board

Page 4

11. Force and Effect

That this By-law comes into force and takes effect upon the final passing thereof.

Given under the Seal of the Corporation of the
City of Brockville and Passed this
xx day of xx, 2017

Mayor

City Clerk

Bylaw Number xxx-2017
To Establish and Adopt Terms of Reference
For the Brockville Cemetery Board

Page 5

Schedule "A" to By-Law xxx-2017

Brockville Cemetery Board Terms Of Reference

Mandate and Goals

To ensure that all operations and proceedings of the Brockville Cemetery Board shall be governed by the rules and regulations of By-law 018-2016, and as may be amended, revised or superseded from time to time in accordance with the provisions of the *Funeral, Burial and Cremations Services Act, 2002*, S.O. 2002, c.37, and applicable regulations as may be amended and in accordance with the *Municipal Act, 2001*, S.O. 2001, c. 25, and applicable regulations as may be amended, and other applicable legislation.

Terms of Reference

1. General
 - 1.1. Board Meetings will be conducted in accordance with a Procedural By-law as adopted by the Board and records shall be maintained in accordance with the Municipality's Records Retention By-law.
 - 1.2. Members shall follow policies and procedures as adopted by the Board and comply with applicable legislation, and shall act in accordance with the *Municipal Conflict of Interest Act*, R.S.O. 1990, c. M.50.
 - 1.3. Members shall ensure that policies, practices and procedures governing the provisions of its goods or services are consistent with the Corporation's Accessibility Standards for Customer Service Policy and Procedures as adopted in accordance with the requirements of the Accessibility for Ontarians with Disabilities Act (AODA), Customer Service Standard – Ontario Regulation 429/07.
 - 1.4. The Board shall hold regular monthly meetings, as required, unless otherwise agreed by a majority vote of the members.
 - 1.5. The Board shall elect a chairperson and may elect a vice-chairperson annually, at its first meeting, or as soon as

Bylaw Number xxx-2017
To Establish and Adopt Terms of Reference
For the Brockville Cemetery Board

Page 6

practicable, from among the members. In the absence of the chairperson, and vice-chairperson as the case may be, an acting chairperson may be appointed by a majority vote of the members present to preside at the meeting where the chairperson is absent.

- 1.6. The Board may appoint, as it deems necessary, sub-committees to act in an advisory capacity to the Board.
- 1.7. The Board shall provide recommendations to the Finance, Administration and Operations Standing Committee on matters referred by Council to the Board.
- 1.8. The Board may liaise with community groups and individuals to maintain an awareness of their goals and mandate in order to gain support for approved initiatives and is authorized to work jointly with other Municipal Boards, Committees and/or services in encouraging its goals.
- 1.9. The Board will review and ensure the maintenance and operation of all cemeteries under the jurisdiction of the Municipality within budget specifically approved by Council.
- 1.10. Approved minutes for each Board meeting shall be forwarded to the City Clerk to be posted on the Council portal (website).
- 1.11. The Chair shall submit an annual report outlining the Board activities both past and current and proposed work plan for the upcoming year, to be presented to the Finance, Administration and Operations Committee.

2. Roles and Responsibilities

2.1. The Board

- The Board is responsible for the general mandate as set out in Section No. 1 of the Terms of Reference, above.
- The Board is the legal employer of its employees and is therefore responsible for the following:
 - Managing the day to day operations of the cemetery;
 - Maintaining and managing physical resources;

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To Establish and Adopt Terms of Reference
For the Brockville Cemetery Board

Page 7

- Managing human resources, including but not limited to: the preparation and overview of job description; annual salary surveys and assessments; completion of employee performance reviews; compliance with all applicable statutes and regulations; and
- Liaising with City officials to access administrative support for, if or as required, in accordance with the administrative support chart attached as Schedule "A.1" hereto.
- The Board is responsible for completing all requisite administrative functions necessary to manage the cemetery operations, including but not necessarily limited to:
 - Preparing agendas and minutes in respect to regular Board meetings;
 - Records management in accordance with the *Municipal Act, 2001*, as amended and City Records Retention bylaw;
 - Deeds and Certificate Registration in accordance with Ministry requirements;
 - Financial records, including: budget preparation and overview; variance analysis, financial analysis for St. Francis Church billing; maintenance and renewal of service contract with St. Francis Church; overview and renewal of house rental leases; maintenance of accounts payable and accounts receivable.

2.2. Chairperson:

- Provide leadership to the Board
- Chair Board meetings in accordance with the Procedural By-law
- In conjunction with the Recording Secretary prepare agendas for meetings
- Report to Council annually and at other times as required
- Ensure that adopted minutes are forwarded to the City Clerk in a timely manner

Bylaw Number xxx-2017
To Establish and Adopt Terms of Reference
For the Brockville Cemetery Board

Page 8

- Act as spokesperson for the Board
- Express consensus as reached by Board
- Ensure that the By-laws and Policies and other applicable legislative requirements are adhered to with respect to all matters
- Ensure that invoices recommended by the Board for payment are forwarded to the Finance Department for processing in a timely manner.

2.3. Vice-Chairperson:

- Act in the position of the Chairperson in the absence of the Chairperson.
- Otherwise, regular Board member role.

2.4. Board Members:

- Attend regular Board meetings
- Advise the Chairperson if unable to attend a meeting
- Actively participate in Board meetings
- Actively participate in the annual review of the budget and maintenance requirements for the Brockville Cemetery Board
- Actively participate in carrying out the responsibilities of the Brockville Cemetery Board

2.5. Recording Secretary:

- The duties of the Recording Secretary include the recording, processing and distribution of minutes and agendas, and the Recording Secretary shall maintain the files of the Board, including but not limited to Minutes, Agendas, policies, correspondence and other file information, in accordance with the Records Retention By-law.
- When the Recording Secretary is an employee or has a service contract with the Board, such Recording Secretary is a non-

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member, with no voting privileges.

- When the Recording Secretary is a Member of the Board, the Member Recording Secretary may retain voting privileges.
- The Recording Secretary shall ensure that the draft meeting minutes are prepared within seven (7) days following the holding of the meeting and distributed to the Chair for inclusion on upcoming agenda;
- The Recording Secretary shall also ensure that all meeting minutes once approved by the Board are forwarded to the City Clerk or designate for inclusion on the Council Portal (website).

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Schedule "A.1"

The City of Brockville will provide administrative support, if or as requested, to assist the Brockville Cemetery Board (BCB) to fulfill its responsibilities, as outlined in the chart below. The policy and procedure manual will provide details of each item.

NO.	ITEM	COMMENTS
1.	Payroll	Payroll processing by the City. Issued for the BCB. Annual review required. Pay slip to show BCB
2.	T4 slips	Processed by the City but the BCB is otherwise responsible for substantive preparation. Issued for the BCB. Annual review required. T4 slip to show BCB
3.	Group Benefits	BCB may obtain employee's benefits coverage through the City's plan, subject to carrier's approval. Annual review required.
4.	Pension	Contributions paid for and administered by the BCB, supported by City HR. Annual review required for plan and employee, overall plan by BCB.
5.	Health and Safety	Quarterly review of policy and procedures. Quarterly audit by BCB. BCB may seek input and recommendation from City. BCB is responsible for training, information, safety gear in place and being used.
6.	Training	BCB is responsible for ongoing employee training. BCB may choose to have their employees participate in training provided by the City, documented. Annual review required.
7.	Equipment	Scheduled service to be provided by the City working with the Cemetery Superintendent, all actions must be documented.
8.	Engineering	Support for proposals and approved projects. To be provided in a timely manner with agreed time lines. A schedule will be assigned to each project
9.	Financial Services	Reports to be generated for the BCB as required and in a timely manner. BCB to follow all policies, procedures and By-Laws for budgets and purchases. Review as required. The City will process the accounting transactions for the Board, and will maintain the continuity and status of the required Care and Maintenance Reserve Funds and other funds as may be required. Annual consultation and reports with respect to all financial processes will be provided by the City.

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10.	Vacation schedule	The BCB shall determine vacation approval for its employees. If requested, the City will record and track approved vacation time. Annual review.
11.	HR	The City will administratively support the BCB for employee relations, hiring, firing, and all personnel issues. Actual decision on HR issues to be determined by BCB in its capacity as employer. Annual review required.
12.	IT Support	The City to provide service and support for Cemetery systems. Upgrades to keep cemetery systems current to be ensured by BCB
13.	Legal	The City will provide legal support at all levels for the Cemetery Board.

February 14, 2017

**REPORT TO FINANCE ADMINISTRATION & OPERATIONS COMMITTEE –
February 21, 2017**

2017-020-02

**2016 INTERIM
VARIANCE REPORT**

**D. DICK
DIRECTOR OF CORPORATE SERVICES
L. FERGUSON
MANAGER OF FINANCE
CHRISTINE WARD
FINANCIAL ANALYST**

RECOMMENDATION

THAT Council receives the Final Interim Variance Report for the year ended December 31, 2016 for information purposes.

PURPOSE

To report to Council the City of Brockville's projected financial position as of December 31, 2016 for General Operations, Water and Wastewater Operating Systems.

BACKGROUND

The City's Corporate Financial Controls which Council adopted in April 2005 requires that a variance analysis of forecasted year-end surpluses/deficits be conducted and reported on throughout the year. The analysis is to be conducted at a sufficient level of detail so that variances of line item activities may be identified in conjunction with the parameters set by the Budgetary Control By-Law.

ANALYSIS/FINANCIAL IMPLICATIONS

This report represents the analyses of operating budgets – General, Water, Wastewater which are provided for information purposes. Attachment 1, 2 and 3 are detailed variance analysis for each department.

Operating Budget

Although the variance has been prepared based on the best information available to date, it is expected to change when all financial information is finalized. Based on our review to date, a surplus of approximately \$24,300 is projected.

Variance Report at December 31, 2016

Significant variances from budget are described below:

- Delay in the issuing of debt for capital acquisitions has resulted in a surplus from budget of \$271,000 for 2016
- Interest and penalties have generated an additional \$100,000 of revenues based on an overall increase in outstanding taxes.
- Criminal record checks have a surplus of \$232,000.
- A surplus on TIERR grants due to prepayment of \$545,000 of CIP/Brownfield tax assistance.
- Overall City hydro charges are over by \$222,000. Hydro charges increased by 22.86% in 2015 and an additional 9.34% in 2016.
- Overall wages increased relative to budget by \$466,000 due to overtime, sick leave coverage and budget issues.
- Legal charges are over by \$210,000.
- Recovery from insurance on 2015 expenses of \$72,000
- Assessments at risk have increased by \$265,000 due to ARB reassessments

Water Rate Administration Budget

A surplus of \$286,000 is expected for the water department.

- \$125,000 surplus on water revenues from increases in consumption and the new rate structure implemented in 2016.
- \$145,000 surplus due to lower water main repairs and hydrant replacements being charged to capital
- \$84,000 surplus in wages and benefits due to the use of contractors and allocation to capital projects
- \$100,000 increase in hydro charges.

Wastewater Rate Administration

A deficit of \$76,000 is expected for the wastewater department

- Overall \$81,000 deficit in revenues primarily due to new rate structure
- \$113,000 increase in hydro charges
- \$66,000 additional legal costs primarily due to the taxation issue related to the wastewater treatment facility
- \$65,000 savings in wages and benefits due to use of contractors and allocation to capital projects

Report 2017-020-02

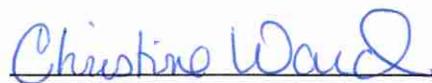
Variance Report at December 31, 2016

Page 3

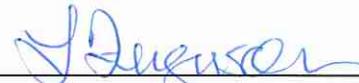
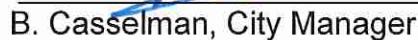
- \$66,000 surplus on chemicals and printing postage and stationary, as well as bad debt write-offs
- \$82,000 savings in debt charges due to timing of debt issuance

CONCLUSION

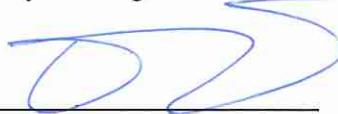
This variance report is being provided to provide council with staff's estimate of our financial projections to December 31, 2016.



C. Ward, Financial Analyst-General

L. Ferguson, CPA, CGA
Manager of Finance

B. Casselman, City Manager



D. Dick, CPA, CA, Director of Corporate Services

Attachment 1



City of Brockville
General Variance Analysis
for period ending December 31, 2016

	Sum of 2016 Budget	Sum of Balance Projection at Year End	Sum of Anticipated Year End Variance
City Management & Services			
Animal Control	78,512	76,908	1,605
Aquarium	210,000	417,371	(207,371)
Arts Centre	158,705	149,036	9,669
City Council/Mayor	211,527	209,910	1,617
City Manager	461,462	455,181	6,281
Clerk	266,009	275,056	(9,047)
Corporate Finance	3,426,732	3,103,652	323,080
Cultural Services	23,463	18,963	4,500
Economic Development	306,578	321,594	(15,016)
Finance	642,067	648,915	(6,848)
Fire Department	4,447,430	4,926,332	(478,902)
GIS	96,085	121,342	(25,257)
Human Resources	316,528	316,013	515
Information Services	386,411	370,568	15,843
Parking	(119,877)	(119,877)	0
Parking Rental	10,897	7,472	3,425
Planning	634,761	534,077	100,684
Tourism	192,016	191,321	695
City Management & Services Total	11,749,306	12,023,834	(274,528)
Operations			
Facilities	334,146	595,408	(261,262)
Fleet	370,484	419,429	(48,945)
Operations/Parks Administration	266,517	272,489	(5,972)
Parks	1,142,029	1,143,108	(1,079)
Pedestrian Vehicle Infrastructure	608,367	646,259	(37,892)
Public Works	2,541,751	2,525,616	16,135
Transit	570,724	624,609	(53,885)
Operations Total	5,834,018	6,226,919	(392,901)
Environmental Services			
Engineering	96,372	61,569	34,803
Solid Waste	1,095,042	994,857	100,185
Environmental Services Total	1,191,414	1,056,426	134,988
City Boards & Committees			
Airport	85,773	60,882	24,891
Cataraqui Reg. Conserv. Authority	181,441	181,164	277
Cemetery	94,605	107,865	(13,260)
Committee Of Adjustment	(170)	383	(553)
Heritage Brockville	9,350	1,840	7,510
Police	7,141,259	6,856,098	285,161
City Boards & Committees Total	7,512,258	7,208,232	304,026



**City of Brockville
General Variance Analysis
for period ending December 31, 2016**

	Sum of 2016 Budget	Sum of Balance Projection at Year End	Sum of Anticipated Year End Variance
Outside Boards			
Downtown Business Improvement Ass.	(255)	0	(255)
Library	676,820	687,267	(10,447)
Long Term Care	920,757	950,696	(29,939)
Museum	255,910	263,360	(7,450)
Public Health Grants	406,729	383,146	23,583
Outside Boards Total	2,259,961	2,284,469	(24,508)
Joint Services			
Joint Services	3,519,677	3,513,388	6,289
Joint Services Total	3,519,677	3,513,388	6,289
Debt Charges			
Debt Charges	1,810,997	1,540,073	270,924
Debt Charges Total	1,810,997	1,540,073	270,924
Social Services			
HUB	0	(0)	0
Special Program	0	0	0
Social Services Total	0	(0)	0
Grand Total	33,877,631	33,853,340	24,291

Attachment 2

City of Brockville
Water Fund Variance Analysis
for period ending December 31, 2016

	Sum of 2016 Budget	Sum of Balance projection at Year End	Sum of Anticipated Year End Variance
Administration	144,976	137,820	7,156
Debt Charges	224,380	198,617	25,763
Engineering	174,682	158,619	16,063
Finance - Water	(2,564,491)	(2,766,166)	201,675
Fleet	45,784	40,704	5,080
Water Distribution Maintenance	820,209	693,255	126,954
Water Treatment	1,154,460	1,251,326	(96,866)
Grand Total	0	(285,824)	285,824

Attachment 3



City of Brockville
Wastewater Fund Variance Analysis
for period ending December 31, 2016

	Sum of 2016 Budget	Sum of Balance projection at Year End	Sum of Anticipated Year End Variance
Administration	141,282	136,743	4,540
Debt Charges	536,699	462,090	74,609
Engineering	149,886	144,186	5,700
Finance - Wastewater	(3,642,754)	(3,540,201)	(102,553)
Wastewater Collection	340,558	300,857	39,701
Water Pollution Control	2,474,329	2,572,744	(98,415)
Grand Total	0	76,420	(76,420)

C-291 -2016

THE TOWNSHIP OF GEORGIAN BAY
Council Agenda

DATE: 14 November 2016

	YEA	NAY
Councillor Bochek	_____	_____
Councillor Cooper	_____	_____
Councillor Douglas	_____	_____
Councillor Edwards	_____	_____
Councillor Kay	_____	_____
Councillor Wiancko	_____	_____
Mayor Braid	_____	_____

MOVED BY:

SECONDED
BY:**REFERRED** _____ **CARRIED** **DEFEATED** _____ **REFERRED** _____

WHEREAS there is inequity between the cost of hydro for rural residents as compared to urban residents due to higher distribution charges;

AND WHEREAS this practice targets and negatively affects rural residents, especially those who are already unable to pay for the high cost of hydro;

NOW THEREFORE BE IT RESOLVED THAT the Township of Georgian Bay request the Province to re-evaluate the structure of hydro in terms of access and delivery and implement structural changes to address the unfair practice of charging more for delivery for rural residents;

AND THAT this resolution be circulated to all municipalities in the Province of Ontario as well as Ontario Small Urban Municipalities (OSUM) and Association of Municipalities of Ontario (AMO).



MAYOR